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INNOVATIVITY AND RESEARCH IN THE FUNCTION OF TECHNICAL AND TECHNOLOGICAL CHANGES IN TRANSPORT, ECOLOGY AND LOGISTICS

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Abstract: *Traffic is an activity related to everyday life and production, whose task is to transport people and goods from one place to another. Due to crowds in traffic, in more developed parts of the world, drivers and passengers in cars spend billions of hours and spend tens of billions of dollars a year. For traffic congestion, solutions are mainly found through projects based on the use of computer systems and simulations of different traffic situations, that is, in combining IT and traffic infrastructure. Using modern information technologies, it is encouraging the establishment of a new infrastructure consisting of networks of roads, railways, airports, stations and ports connected to systems based on the Internet. Future solutions will be based on the use of smarter and environmentally sound vehicles and their connection with infrastructure facilities, such as gas stations, parking lots, garages, etc. The wider application of advanced information technologies, besides communication with vehicles with infrastructure, will also enable communication of vehicles. At the beginning of the 21st century, traffic experts agree that successful solving of the growing problems of traffic and transport is no longer possible without the application of the complete concept and technologies of ITS (Intelligent Transport Systems).*

Key words: *Transport, ITS - systems, innovations, European Union, smart cities, logistics.*

Introduction

The first question that appears regarding new technologies is tricky and simple: Is today really that different? Is there something in today's new technologies - that is qualitatively different from those that marked other periods of technological change?

Each generation tends to exaggerate the degree of change it has gone through, in part because of the immediacy of the stress to which it is exposed, and also because it is easy to underestimate how difficult and unpredictable life has been in the past because it seems to us that life was going on logically and necessarily.

Indeed, fears of the world's downfall were common when many major technological systems first appeared, even though subsequent generations saw them as banal and boring.

In the first days of the railroad, there was a widespread belief that travel at then unimaginable speed could kill passengers, because such technology was clearly contrary to God's will.

Today's new technologies are different, not only in degree but also in type, from those from the past, primarily due to the range, scale and speed of technological change. While previous waves of technological change related to several key technologies, such as railways or electrification, today's technological developments take place along the entire technological composition. Partly thanks to such technologies that are present within a population of seven billion people, we today live on a planet, the first we know of, shaped by one kind. Therefore, the argument that new technologies threaten man argues that new technologies threaten new technologies.

Technological evolution is accelerating, which has significant consequences. The earlier speed of technological change was slow enough to allow for psychological, social, and institutional adjustment, but today technology is changing so fast that technological systems are rapidly

disintegrating with management mechanisms. All these factors working together increase the effect, speed and depth of change. Any technology that is powerful enough to be interesting will inevitably destabilize existing institutions, power relations, social structures, governing economic and technological systems, and cultural assumptions.

Previous waves of technological change - from steam and coal to electricity, railways and the automotive industry - have destabilized and restructured human and natural systems on all scales, unpredictably interacting with modern natural, human and built systems. The railways, for example, opened up the interior of the continents by creating transport infrastructure as a necessary support for industrialized agriculture, which, coupled with advances in fertilizer production and the development of agricultural machinery, created the potential for dramatic population growth.

Following this, areas and ecology have changed dramatically: the American Midwest has become a granary since the prairie, as the railroad connected that agricultural area to the needs of the East Coast and, by steamer, to Europe. The Earth's atmosphere has been partially restructured thanks to the development of internal combustion engines in conjunction with a psychologically powerful automotive technology, which in turn rests on a massive fossil fuel infrastructure. Proposals to address climate change using the so-called "Geoengineering technologies," from inventions that would repel incident light to the application of carbon capture devices in the atmosphere, are explicitly focused on the engineering of major natural systems and cycles. In short, major new technologies are not just new devices; they rather represent unpredictable, sometimes obviously discontinuous shifts in the structure of integrated Earth systems.

So, in an economy where the only certainty is uncertainty, knowledge becomes only sure source of long period competitive advantage. Knowledge becomes the basic capital and lever of development.

PART I - INNOVATIONS

1. Importance of the innovations

In conditions of changing markets, rapid development and expansion of technologies, multiplication of competitors and products overnight, successful companies become those that constantly create new knowledge, share it throughout the organization and quickly integrate it into new technologies and products. These activities define the company as an organization that creates knowledge, whose only and basic job is constant innovation. These are organizations that have realized that learning and new knowledge are becoming the key to success, and education is crucial for future wealth.

The role of knowledge is increasing today, especially when it comes to achieving a competitive advantage in an increasingly challenging and dynamic market. The innovations are created through knowledge and creativity and innovation processes are implemented, which presents the basis for achieving competitive advantage.

One of the most significant carriers of productivity growth and increasing the competitiveness of companies but also the economy as a whole is human capital and its knowledge. Information, learning and working on the latest technologies greatly contribute to the development of a country's economy.

Investing in knowledge results in the creation of innovative products and processes, so investing in knowledge is profitable in the long term period because the returns are much higher than the initial costs. By creating an environment in which human capital comes first, many investments are attracted and the possibility of sustainable increase opens up in the number of investments leading to long-term economic growth and increased competitiveness. This creates a circle where knowledge is transferred from one industry to another, leading to multiple uses of knowledge and expertise with lower costs.

The level of innovation and competitiveness of countries around the world are two related

terms and as such, it is important to study them. The development of the country provides better conditions and a better basis for innovation, retention of young and educated workforce, and such variables affect faster development, design of new trends and innovative products, business models or services and ultimately greatly affect the development of competitiveness of companies and the economy.

2. Conceptual definition of innovation

Innovation is the most important driver of national economic well-being. Due to the marked increase in global competitiveness, shortening of the product life cycle, increasing technological capability and the ever-present variability of customer requirements, innovation is crucial in creating competitive organizations and entire economies. That is why a large number of nations are engaged in achieving a global innovation advantage.

Continuous innovation is the key to the country's sustainable progress. Before going into the topic of the importance of innovation in more detail, it is necessary to define what innovation really is. There is a large number of definitions that describe innovation. The difference between them is reflected in their scope and the types of innovations they define. One of the universal definitions, especially in the business environment, speaks of innovations as activities that are new or different from existing ones.

Very often, we talk about innovations in the context of new technology or results obtained from research and development activities that take place in universities and laboratories of large corporations. When it comes to technology, we can say that it is the knowledge of how to do something. More broadly, technology is considered to encompass the totality of knowledge, methods, techniques and means that serve the process of work, management and for mutual communications.

Although it is not enough to connect innovations with technology or talk about them in the context of new technologies, innovations represent much more than that.

All innovations must contain a novelty, whether it is something new for the company, the market or the whole world. Innovation cannot be anything new, but must create a sustainable business concept.

Interesting definition offers General Electric¹, and the definition is: "To innovate means to challenge and change the status quo in order to improve the consumer experience and provide them with new forms of value."

Nevertheless, those innovations are often understood in the context of technological innovations, which is not entirely true. Namely, it is a partial understanding of this term, which in essence represents much more. The most common consequence of this thinking is the identification of inventions and innovations. It is important to point out that these two concepts are actually very different. In doing so, inventions involve the creation of new ideas or knowledge, which are aimed at solving a technical problems and don't necessarily have to be related with commercialization. More specifically, they generally do not have to become innovations.

3. Why do we need innovation?

We only need innovation in order to be competitive in the world market with our products. Innovation is the foundation of competitiveness, because it gives the product "something" that has no competition. Competitiveness is one of the most important elements of a company and a product. Competitiveness is achieved and assessed only in the market through competition with other competitors. A competitive product on the market is the foundation of a company's success. The competitiveness of a company is the foundation for the competitiveness of a nation.

According to the OECD definition, competitiveness is the country's ability to produce goods and services that pass the test of the international market in free and equal market conditions, while retaining and increasing the real income of the population in the long time period.

So we can say that the competitiveness of the company is a measure of the company's ability to produce goods and services that pass the test of the international market in free and equal market conditions, while maintaining and long-term increase of successful business and company value. The foundation of a company's competitiveness is a competitive product. In order for a product to be successful in the market, in order to be able to be sold, exported and generate income, the company and the company must be competitive. That means it has to be better than any other product on the market.

What is competitive advantage? This is the reason why the customer chooses you, not your competition. That's what sets you apart from others, that's why you're still in business, that's what saves your customers money. Competitiveness is a set of parameters that are evaluated through competition to determine who is better according to selected criteria. And yes, the better one gets the job.

Competitiveness of products is achieved by:

- quality and reliability of the product,
- delivery time,
- technical and innovation level of the product,
- reputation, market appearance and customer satisfaction,
- price.

All these components are closely related and strongly influence the efficiency and success of the business and the success of the market itself. Product innovation level is the level of a product or process measured by the degree of novelty (and originality) in relation to similar products or processes, where the innovation level is expected to bring a competitive advantage in the market.

Technical and innovation level is achieved by:

- creative process of development, new innovative product,
- innovation and improvement of existing products.

Through innovation, we become better than the competition, because it does not have it. This is a great advantage of innovation. Innovation can be found in the market in

¹ General Electric or GE (Official title - The General Electric Company) is an American multinational

company established in New York with head office in Boston, Massachusetts.

different situations. There, it can be a product that is not on the market, but there are similar products that are already in demand, so innovation with its novelty and originality will attract customers.

Research that was once conducted in our companies showed that the greatest innovative activity is present in those companies that show stable and good results over a long period of time. This means that only an orderly, organized and stimulating production organization is the basis for intensifying creativity. In a disorganized, unstimulated and staff-poor environment, there are no conditions for any, least of all for mass creativity, so no slogans and campaigns can do anything about it.

4. A fight with robots for a job is waiting for us

The fact is that some occupations are already dying out, but in the future that number will be even higher, because in the next 15 to 20 years, work automation is expected to affect many jobs and professions.

Workers will experience certain transformations in the future, and in the next 15 to 20 years, due to automation, a quarter of existing jobs will be abolished, while another 27 percent will be transformed, so additional training will be needed to perform them.

This is an assessment of the Organization for Economic Co-operation and Development (OECD), which has conducted a comprehensive study on future changes in the labor market in all 36 OECD member states. It is predicted, in that club of developed countries in the world, that their orders for industrial robots will quadruple by 2020 compared to ten years ago, which, like increasing investment in artificial intelligence, will lead to a reduction in the number of available jobs that will be occupied by automatic machines, especially when it comes to less complicated work operations.

This announcement does not surprise us much given the fact how much the labor market has changed in the past few years.

There is constant talk and writing about how the IT sector is the most promising, and employs the most people, and which lacks the most workers. Therefore, everyone who has any ear for technology is redirected and learning these new skills, and if we go back only five years, such a thing was not even known to us. We already know that due to technology and modern machines, the way of working has changed in large companies, and the work that people used to do, is now very skillfully, even better, done by machines. So there is no longer so much need for people. So we have to worry that one day robots will do everything and that the need for humans will be minimal. However, one IT expert assures us that this will not happen. He says that it is a fact that in certain occupations there will be no more need for people as now, but at the same time new occupations are being born which, however, can't be done without people.

In several IT companies, it can be seen that an increasing number of workers are younger, which shows that this is also a young profession and that the older generations could not be educated for the profession, but it is not that there are none. Namely, there is an increasing number of people who retrain, who change professions.

So there are no rules. We can all already and must prepare for what the future brings us, and that is the modernization of all work processes. As it is happening now with some occupations, in the next 10-15 years it may not be, so it is necessary to learn new things in time, enter new jobs and fight for our place in this even more modern world, because no one said that there will not be a robots at all. It is up to us to show that they are not smarter than us.

Due to automation, in the next 15-20 years, 14 percent of jobs could be eliminated, while 32 percent could undergo a profound transformation, so employees will need lifelong training and new knowledge.

II – TRAFFIC – ISSUES AND CHALLENGES

1. Transport policy in the European Union

In the last 60 years, the development of transport in the EU has advanced significantly, so that transport is still of great importance for well-being and employment in Europe. The transport industry now employs 11.5 million people, accounting for 5.2% of the total number of employees in the EU. Traffic contributes to the economy with 7.0% of the total gross value added in the EU-28 group (548 billion euros). Good transport links are very important for the EU economy in terms of exports, in which transport accounts for 90% of the EU's foreign trade. Many European companies are world leaders in the field of infrastructure, logistics and production of transport equipment. EU households currently spend 13.5% of their income on transport-related products and services, making transport the second largest item in household budgets after household expenditure. Free movement would not be possible without good traffic connections and traffic networks.

That is why the EU's transport policy is always aimed at overcoming obstacles between member states and at creating a single European transport area in which there are conditions for fair market competition within, and between, different types of transport: road, rail, air and water.

In recent decades, changes in European transport policy have contributed to the expansion of the EU's internal market by opening up national markets that were previously dominated by public monopolies, as was the case in air and rail transport. Expansion, modernization and harmonization of infrastructure across the EU are fundamental to creating barrier-free cross-border networks for different types of travel. That is why the policy of trans-European networks were incorporated into the 1992 Maastricht Treaty. As part of the project to complete the European internal market, the interconnection of roads across all 28 member states that make up the European Union is of fundamental importance. This includes building missing links and removing many technical and administrative barriers that impede unhindered traffic and trade flows and create unnecessary bottlenecks in Europe's

transport system. The ultimate goal is to create a single European transport area that will help Europe remain competitive by increasing the efficiency of the entire transport sector for the common good. In addition, the Treaty includes environmental protection requirements in transport policy to help complete the internal market.

2. Future challenges and goals of EU transport policy

Over the last 20 years, EU policy has made significant progress in the transport sector:

- Safer air, sea and road transport, - Decent working hours for people employed in the transport industry, - More types of transport for passengers and companies, - Reduction of traffic pollution.

The development of the infrastructure needed to meet the projected growth in traffic demand in Europe is expected to cost € 1.5 trillion by 2030.

Transport financing under the Connecting Europe Facility for the period 2014-2020. It will be directed to the central transport network. The EU supports research and innovation, and the efficient application of new environmentally friendly transport technologies.

The EU plans to establish a central network within TEN by 2030 to fill in the missing cross-border connections and make the network smarter, and deadlines will ensure that the implementation of all projects contributing to the construction of the central network takes precedence.

The goal is to gradually ensure that by 2050, the majority of citizens and businesses in Europe are no more than 30 minutes away from that extensive network. In addition to easier and faster travel, this network will ensure safer travel with less traffic jams.

The central network will be supported by a comprehensive road network that will contribute to its construction, at regional and national level. Standards have been set to ensure that trains, ships, planes, trucks and cars can use the infrastructure in a safe manner and without technical problems.

In addition to these advances, the EU has other strategic goals and challenges in the field of transport that it must respond to in the future. Demand for traffic will increase, freight road traffic only is expected to grow to 80% by 2050, and the urbanization trend will continue.

Today, traffic policy is at a crossroads. Oil will experience a major shortage in the next decade. There is a need to drastically reduce greenhouse gas emissions. Also, dealing with congestion by expanding road infrastructure is often not a good option.

The new strategies take on the challenge of addressing oil independence and creating modern infrastructure and multimodal mobility with the help of smart governance and information systems. A transport system can be considered smart if it is able to deal with new situations - such as those related to safety, traffic congestion, barriers or modal integration - by connecting all data sources to produce valuable information for transporting users and operators.

The potential of Intelligent Transport Systems (ITS) to help better understand the objectives of transport policy lies in the wide variety of applications in different modes of transport, both for passengers and freight. This is not only the case in road transport, where its applications include, for example: electronic tolls, dynamic traffic management (including variable speed limits, car parking and reservations, and real-time navigation), real-time information and other driver assistance systems such as electronic stability controls and departure warning systems.

One of the worst traffic problems is congestion, especially on roads and in air traffic. Congestion costs Europe about 1% of its GDP annually and produces large amounts of carbon and other non-ferrous emissions. It is the problem that needs to be solved.

It is necessary to increase traffic efficiency, which includes improving logistics and developing smarter "travel behavior" with optimal use of modern ICT systems and satellite technology. Europe needs to better

coordinate all available modes of transport and networks instead of using just one mode of transport, allowing for optimal use of capacity.

By focusing on research and innovation, it should preserve the competitiveness of the European transport sector in the global market and maintain technological progress in the field of infrastructure, complete the trans-European transport network, better integrate road, rail, air and water transport (sea and inland waterways) into an unbroken logistics chain, remove major bottlenecks and build missing links, especially cross-border ones.

Under the new rules, EU members are required to promote clean technologies (electric or water-powered cars, trucks and gas-powered boats) by building a minimum number of power stations and petrol stations.

Since ¼ EU emissions from transport come from urban areas, cities have a key role to play in mitigating the effects of climate change. Many are struggling with congestion and improving poor air quality.

The number of deaths on European roads halved between 2017 and 2018 (from 70,000 to 30,000). Between 2016 and 2018, that number decreased by another 17%. This means that the EU is well on track to achieve its strategic goal of further reducing road deaths by 50% by 2020, i.e. by 2050 there will be 0 or 0% of deaths.

3. Modern traffic issues

Adverse effects related to the conduct of transport activities depend on the time, place and type of traffic and are increasingly present and more pronounced in highly developed and densely populated areas. Peripheral regions and larger parts of some countries are still relatively immune to traffic congestion.

With regard to traffic congestion, three areas are particularly vulnerable: urban traffic, major roads, motorways and access roads. Regarding traffic in cities, in addition to a number of positive effects of traffic for the development and sizing of the city, traffic has recently turned into traffic congestion, low

speeds, increased costs, environmental pollution and other adverse effects. The safety of traffic participants and even the free movement of passengers are increasingly questionable.

Although city roads are not constantly congested, but only at peak loads when demand exceeds existing capacity, congestion is a factor that affects all forms of transportation. Everything affects the quality of daily transport and the mobility of passengers in urban areas, which is significantly endangered. Traffic congestion is not the only unfavorable factor for human health. There are other problems such as lack of safety, traffic noise, limited accessibility and mobility, impact on the natural environment, air pollution, which all affect these social values.

The development of transport infrastructure must be in the function of sustainable and balanced development of the country. The planning and construction of transport systems must be carried out carefully with respect for the environment and the modest use of natural resources. With the growth of traffic, gas emissions should be reduced, especially harmful CO₂ emissions, which are socially dependent on fuel consumption, so, although there is a noticeable decrease in average fuel consumption in road traffic, due to the absolute increase in traffic, the total amount of CO₂ emitted in road traffic is expected. Among the harmful substances that are released into the atmosphere during the combustion of fossil fuels are the chemical compounds carbon dioxide (CO₂), carbon monoxide (CO), hydrocarbons (CH), nitrogen oxides (Nox), sulfur dioxide (SO₂), solid particles, soot and heavy minerals. Currently, greenhouse gas emissions from road transport in the world and the European Union are growing too fast because the representation of rail and inland waterway transport is not adequate. It is necessary to redirect traffic from road to more energy efficient and environmentally friendly forms of transport. Increased pollution in road and air transport contributes to increased pollution in underdeveloped and transition countries. The spread of the harmful effects of transport and traffic on the environment

imposes a new paradigm: reducing the conflict of economic, transport, traffic, environmental and socio-cultural conceptions of sustainable development.

With the growth of economic activities, the problems will become even more pronounced. Therefore, global traffic impact problems can be influenced by certain measures such as education, development of intelligent transport systems, development of modern transport technologies, technological progress of vehicles and scientific research, appropriate price systems with respect to external traffic costs, liberalization and harmonization of traffic and environmental emphasis in transport policy.

Experts of the European Conference of Ministers of Transport unequivocally recommend: by increasing fuel charges to cover external costs, to harmonize the annual load on vehicles with emissions of noise pollutants, to introduce congestion charges, especially when there is already a toll, the introduction of prices in large urban areas. At the basic national level, purposeful financing of roads and harmonization of the fee system with obvious needs and world tendencies and introduction of the "polluter pays" principle, reduction of negative effects on the environment. First of all, a larger amount of funds would be provided for the maintenance and construction of roads.

Frequent short trips with a cold engine greatly increase fuel consumption, and emissions are three to four times higher when the speed is three or four times lower.

Urban transport is therefore to blame for 40% of CO₂ emissions that are responsible for climate change as well as other pollutants that have a worrying impact on the health of the urban population.

Due to the growing congestion in cities and metropolises, it is necessary to use public transport and the existing infrastructure as much as possible.

4. Urban traffic issues

Today, cities concentrate large masses of the world's population, the majority of world industry and other activities of a non-primary nature. In terms of traffic, urban settlements stand out primarily for the pronounced concentration of traffic. In urban settlements, unlike rural settlements, the traffic is up to several tens of times denser per unit area. In some larger cities, however, it is so concentrated that it has necessarily embarked on a vertical conquest of space. In modern conditions, city traffic is getting more and more complex transport requirements, and the conditions of its normal development are becoming very significantly complicated.

The accelerated pace of urban development and the complexity of that development leads to numerous conflict situations in city life. For the more normal functioning of the city organism, there are increasing demands right in front of traffic. In many examples of the world, and even our cities, the sudden development of urban traffic often leads to a worsening of the situation in the city. The cities themselves are much older than the city traffic.

Especially their cores were built for completely different traffic needs than today. The life of the city is most often concentrated in these cores - the main economic and social institutions, which attract a large number of inhabitants of the city and its surroundings. That is why the most significant problems of modern world city traffic occur in the city center. World cities solve these problems in very different ways.

Basically, everyone is trying to relieve the central zones of the city from motor, primarily individual traffic. The strictest shopping malls, neighborhoods or streets have recently been turned into pedestrian zones. Passing intercity traffic is guided by bypass expressways outside the city. In the city itself, the streets are being widened to increase their traffic. To transfer larger masses of passengers, specific forms of fast city traffic are being introduced, the most successful of which so far is the underground and high-speed overhead railways. Individual car traffic tends to be kept on the outskirts of the city, and advantages are given to city public transport. Most of the world's

cities are trying to improve the traffic situation in the city as a whole by introducing more and more modern signaling devices that can be regulated at any time, according to the need for traffic.

Traffic is monitored on a daily basis and via television cameras. The most comprehensive changes in cities in order to improve traffic flows contain radical complex changes in the overall structure of the city. The effort is primarily to avoid the classic scheme of the city organism type center (city) - periphery.

Cities are planned to be built in all components. All parts of the city are equally burdened with functions, in terms of causing equal traffic needs. The best successes have been achieved in the world with the organization of metropolitan areas, where the classic city practically disappears and a more homogeneous symbiosis of settlements and surroundings is created, which above all has a more favorable traffic structure. In these areas, high-speed urban transport with mass transport possibilities, such as high-speed railways, is playing an increasing role. Finally, since recent times, for the most part still in projects, a number of new transport systems and means of transport have been proposed to solve the traffic situation in cities, which mainly go for greater or more complete automation of transport.

The constant expansion of the city, lifestyle changes and the flexibility of the private car combined with not always adequate public transport have caused huge traffic jams in cities over the last 40 years. Increased traffic and congestion in the city go hand in hand with increasing air pollution, noise and traffic accidents.

A significant reason for congestion in city traffic is the search for a free parking space (up to 30 percent of vehicles are circulating because they are looking for a free parking space). If these vehicles could be directed in time towards free parking lots, which are still available in certain city zones and garages, the congestion in city traffic could be significantly reduced. Of course, the best solutions require synergy of all types of traffic with as much use of public transport as possible.

The new transport branch - intelligent transport systems (ITS - intelligent transport systems), ie the development of "smart transport systems" can significantly help.

ITS is developing "smart" vehicles, "smart" roads, wireless "smart" toll cards, dynamic navigation systems, adaptive traffic light intersection systems, more efficient public transport, fast and Internet-supported shipment distribution, automatic reporting and positioning accident vehicles, biometric passenger protection systems.

Considering the problems of pollution, an action for clean public transport was promoted in the cities and an action for obtaining the title of green cities in Europe was initiated. To earn the title of green city, cities must constantly set high environmental standards and be persistent in gaining a sustainable vision or be a role model to others.

The concept of smart cities is becoming increasingly popular around the world. Of course, the key element of any smart city is transport, and this is where initiatives and solutions for intelligent transport systems come into play. Europe is making more and more progress in this segment as the authorities want to reduce traffic congestion, improve safety and reduce pollution.

The successful implementation of smart city projects depends heavily on the technologies - data transmission, cloud, mobility and sensors - that together make up the IoT ecosystem.

These technologies are the basis for smart city projects. Rapid development in these areas in recent years has enabled better connectivity of facilities, resulting in the comprehensive development of smarter ecosystems,"the report said.

5. Road traffic safety in BiH

In 2018, 277 people lost their lives on the roads in Bosnia and Herzegovina, while 10,403 were seriously or lightly injured. Last year, the death rate in Bosnia and Herzegovina was 72 people per million inhabitants, which is far from the European Union average, where 49 out of a million

people die. The largest number of traffic accidents was recorded on the streets in the settlement (37.44 percent), and then on highways roads (29.9 percent), followed by local (18.35 percent), then regional roads (9.88 percent). More than 100 accidents happen every day.

Improper speed and speed not adapted to the conditions on the roads are one of the most common traffic accidents. Traffic accidents caused by alcohol and other intoxicants follow. Among the mistakes of drivers in urban traffic conditions, driving at an insufficient distance between vehicles should be singled out.

It is believed that the very poor infrastructure was mostly affected by a large number of accidents. The data show that eight percent of the 100 thousand inhabitants participated in some traffic accident. It's like one city. The causes are always the same. In the first place is the speed, which is not adequate to the conditions on the road. The second is improper overtaking, and in third place is the inability to drive. There is also the deprivation of the championship of passage.

In order to reduce such black statistics, it is considered necessary to urgently ban drivers who avoid paying fines. In addition, it is necessary to build highways, expressways, but for this it is necessary to mark all dangerous places, and before the construction of city bypasses outside large populated areas.

III PART – INTELLIGENT TRAFFIC MANAGEMENT

1. Intelligent transport systems

Today, traffic policy is at a crossroad. There is a need to drastically reduce greenhouse gas emissions, address congestion, security, and problems related to the functioning of the city.

The new strategies aim to solve all existing transport problems with the help of smart management and information systems. A transport system can be considered smart if it is able to deal with new situations - such as those related to safety, traffic congestion, barriers or modal integration - by connecting

all data sources to produce valuable information for transporting users and operators.

The potential of Intelligent Transport Systems (ITS) to help achieve transport policy goals lies in the wide variety of applications in different modes of transport, both for passengers and freight. This is not only the case in road transport, where its applications include, for example: electronic tolls, dynamic traffic management (including variable speed limits, car parking and reservations, and real-time navigation), real-time information and other driver assistance systems such as electronic stability controls and departure warning systems.

ITS can connect different modes of transport much more easily, for example using integrated multimodal travel planners and tracking services for co-modal freight traffic. Such smart transport solutions are already being implemented across the EU. Although ITS is industrially very innovative and competitive, the benefits of scarce public and private resources remain inefficient. At European level, cooperation is increasing with the aim of achieving a common framework for the coordinated use of ITS that provides continuous customer service across the EU.

The reasons for using ITS stem from devastating data on safety and external traffic costs. According to the World Health Organization (WHO), over 1.2 million people die each year in traffic and 50 million are injured. The total direct and external costs of traffic accidents amount to 3 to 4% of the GDP of individual countries. In the area of passenger information services, static and dynamic information on the traffic network, pre-road and road information services, and support to services that collect, store and manage information for planning transport activities are included.

The benefits and effects of the introduction of ITS solutions, (ITS) is to improve the economy, efficiency and safety of the transport system. The effective implementation of ITS technologies depends in part on the knowledge of which

technologies will most effectively address congestion and security issues.

Therefore, it is very important to understand the benefits of both existing and new technologies. Based on the justified introduction of ITS, ITS implementation brings the following benefits:

- Management systems can potentially reduce delays between 5% and 40%.
- Control system and dissemination of passenger information.
- Highway management systems can reduce collisions by up to 40%, increase capacity and reduce overall travel time by up to 60%.
- Cargo management systems reduce costs for motor carriers by 35% in the implementation of business information systems and vehicle networks.
- Transit management systems can reduce travel time by up to 50% and increase reliability by 35% with automatic vehicle set-up and transit priority signal implementation.
- The incident management system can potentially reduce incident duration by 40% and offer a number of other benefits, such as increased public support for DOT activities and goodwill.
- There is a wide range of benefits that can be obtained from ITS implementation.
- For example, fuel consumption, travel time and delays can be significantly reduced.
- ITS implementation can result in higher travel speeds, improved traffic flow, and more satisfied passengers in all ways.

2. Development and tasks

Traffic flow management and its integrated management in the environment of intelligent transport systems differ in approach, content and level of integration. Traffic management determines the level of service by which the offered traffic capacity can be provided on a particular road.

Important operational tasks of traffic management in ITS are control of network access, mitigation of congestion on roads and their teaching according to other modes,

solving bottlenecks due to incident events, achieving a satisfactory level of traffic safety, traffic logistics of special sports, political, religious, entertainment events, control of adverse effects on the flow of traffic such as weather conditions, aggressive driving, etc., redistribution of modes according to the use of more efficient modes of public transport. The course of development of an intelligent traffic and transport management system begins with the needs and requirements of users. After identifying these needs, the architecture of the MT composition is created, a detailed composition design is developed, prototypes are tested and implemented.

A special functional area of traffic management is defined in the European and American ITS architecture. According to European architecture, the functional area is divided into five functions. Those are:

- traffic flow management, - incident management, - demand management, - provision of meteorological information, - road maintenance. Each driving function also has its components, so the first function has the components of city traffic management, intercity traffic management and traffic management on bridges and tunnels.

Congestion on roads occurs when the amount of vehicles is significantly greater than the capacity of the road, ie when the ratio of traffic volume and operating capacity is such that there is a significant reduction in speed, and sometimes a complete standstill.

In traffic analyzes, two basic types of congestion are distinguished, repetitive and non-repetitive, i.e. predictable and unpredictable. Predictable congestion occurs in the morning or afternoon peak hours, or at predictable intervals and weekends.

The key management action is then to inform and advise passengers and drivers just before peak loads occur. Unpredictable congestion occurs due to unforeseen incidental events such as traffic accidents, vehicle breakdowns and special unannounced or insufficiently prepared events.

The occurrence and spread of congestion and the elimination of incident situations and the normalization of the situation are elaborated in detail within the ITS solution for incident management. Unfavorable consequences of congestion are prolonged travel time, increased risk of accidents, increased fuel consumption and environmental pollution, passenger stress and driver aggression, delayed emergency services, increased traffic on side roads, longer time and higher travel costs.

These continuous changes do not have to cause major traffic disruptions. However, if we keep in mind the real traffic flow, first of all the real characteristics of the "driver" system, then it is logical that in reality the change of the basic parameters of the traffic flow always means certain disturbances in the conditions of traffic.

Along the road in the traffic flow, jump changes in the basic parameters of the traffic flow can also occur. Such changes always cause unfavorable traffic disruptions along the roadway. Similar disturbances in fluid flow cause turbulent movements.

One of the very current solutions for automatic driving of road vehicles is the joint driving of a series of trucks according to the concept of "trains of truck". They are used for longer journeys where groups of vehicles have the same destination or their itineraries coincide in certain parts. But such a principle of mutual tracking travel without the use of automated aids requires that highways have a special backup route.

The effects of the automatic group truck control system can be monitored through several indicators: improved throughput expressed in number of vehicles or percentage, reduction of fuel consumption and pollution for the same transport performance, saving active driver time, increasing safety by reducing the risk of automatic driving.

3. Intelligent crossroads

Traffic lights, electric traffic lights, were introduced at intersections in the 1920s. Their purpose is to organize traffic at

intersections, that is, to reduce traffic accidents and reduce time losses, waiting. Classic systems do not have the ability to dynamically adjust the duration of the cycle, time plans, according to changes in traffic flow and special requirements for the omission of certain priority vehicles. Therefore, automatic traffic management is introduced. "Intelligent intersections" are advanced solutions for adaptive traffic light control at intersections by applying sophisticated detectors and control algorithms with significantly greater efficiency and flexibility.

Of particular importance is the safety effect on the leakage of emergency vehicles and at intersections where vehicle speeds are higher. Detectors at intersections identify the oncoming vehicle, assess its importance, and the control system adjusts the change of lights, ie the passing of emergency vehicles.

These technologies only improve the ability of drivers to make good and safe decisions. Intelligent intersections are part of the traffic management system and are connected to other subsystems of intelligent transport systems.

The intelligent intersection in the physical work of the system consists of the control part, ie the controller, with the properties of adaptability and signaling equipment. Detectors collect and send data on the passage of vehicles and the speed of vehicles approaching intersections. All data goes to city traffic management centers. Priority is given to public transport.

4. The role and importance of intelligent transport systems - ITS in the development of traffic and transport

The term 'Intelligent Transport Systems' and the acronym ITS were introduced after the First World Congress of ITS, held in 1994 in Paris. Prior to that, the term "traffic control" was used in a similar term, i.e. the terms "road transport" were used. telematics "and" intelligent road systems ".

At the beginning of the 21st century, traffic experts agree that successfully solving the

growing problems of traffic and transport is no longer possible without the application of the complete concept and technologies of ITS (Intelligent Transport Systems).

ITS is a management and information-communication upgrade of the classic traffic and transport system, so that significantly higher throughput is achieved. This allows for greater throughput, security, protection and environmental friendliness compared to solutions without ITS applications.

The attribute "intelligent" generally means the ability to act adaptively in changing conditions and situations, where it is necessary to collect enough data and process them in real time. Existing ITS functional areas and services The International Organization for Standardization (ISO) has defined 11 domains of ITS:

1. passenger information, 2. traffic and operations management, 3. vehicles, 4. freight transport, 5. public transport, 6. emergency services, 7. electronic payments related to transport 8. personal safety in traffic transport, 9. weather surveillance conditions and environments, 10. major disaster response management, 11. national security. In the area of passenger information services, static and dynamic information on the traffic network, pre-road and road information services, and support to services that collect, store and manage information for planning transport activities are included.

The pre-trip information service enables users to get useful information about available modes, weather or travel prices from home, ie from their workplace or other public location. On-trip information includes real-time travel information, estimated travel time depending on existing conditions, availability of parking spaces, traffic accidents, etc.

Information is provided through terminals at bus and train stations, squares, transit points, vehicle screens or portable personal terminals. Route guide and navigation services may relate to road and road information on the optimal route or route to a designated destination. The choice of the best route is based on information about the

transport network and public transport and includes multimodal options with solutions such as park and drive (Park & Ride).

Examples of these services are:

- dynamic travel guide in the vehicle, - integrated multimodal travel guide, - pedestrian or bicycle travel guide. There are several services in the ITS domain called traffic management and operations:

- traffic management, - traffic incident management, - demand management, - management and maintenance of transport infrastructure, - identification of violators.

The traffic flow management service refers to the management of traffic flows, both in the network of city roads and outside cities (on highways, etc.). Examples of these services are:

- adaptive control of traffic lights, - ie traffic lights, variable traffic messages, - access control on the highway, - speed control, - parking management, etc.

Surveillance and elimination of incidents on roads include detection, response and clearing of incidents on roads or in their immediate vicinity. Only a smaller number of the total number of incidents relate to traffic accidents involving vehicles and there are injured or fatalities. In addition to a posteriori action, detection and clearing, accident prediction and prevention is performed. Prevention of secondary accidents is especially important. The focus is on traffic accidents and accidents and if the system includes a response to other causes of small incidents (tire puncture, vehicle disappearance, etc.) and major accidents and catastrophes (earthquakes, landslides, large fires, etc.). Demand management services include: - management of public transport tariffs, - control of access to certain city zones, - parking prices, - collection of congestion contributions, - introduction of special lanes for multi-passenger personal vehicles, etc.

Transport infrastructure maintenance management is a group of services based on the application of ITS technologies in the management of road maintenance, ie the associated communication and information infrastructure. The integration of different payment systems and institutions included in the system includes technical-technological and inter-organizational solutions. In the area called personal safety in road transport, several services are defined: - supervision and protection in public transport vehicles, stations and the like, - pedestrian monitoring system, - warning system on road works, etc. In the area called monitoring of weather conditions and environment there are services:

- road weather monitoring, - pollution monitoring, - water or ice level monitoring, etc. The area called major disaster response management connects services and agencies related to natural disasters, terrorism, etc. Examples of services are:

- management of data on major accidents, - coordination of emergency services, etc.

5. Goals of ITS

Comprehensive goal of ITS implementation in Europe is to reduce traffic congestion, which often occurs on motorways and which is a problem for workers traveling to work. ITS can play a significant role in this. In Europe, and at the level of countries, the main problem is traffic on highways. There are many developments and topics to consider in the field of ITS. The goal is to increase the quality of life of workers by reducing traffic and improving its flow.

A serious problem with traffic jams in all city centers during the biggest crowds in the morning and afternoon. More and more people live outside the city centers and have to drive to and from them every morning. Also, if you get off the highway and enter the city centers, you change from five lanes to one or two, and that causes congestion.

What people want to do with ITS is to have a very clear road sign system so you can steer cars and keep drivers informed of where

traffic jams have already occurred. A good example of this is in Brussels, where, if you enter the city, they give you very clear information about how long it will take you to get to a certain area.

Also, in certain German cities on the highway you have information about the situation with parking lots in the city. This will help drivers decide in a timely manner which roads are best to enter and exit the city.

One of the goals of ITS is to reduce the number of incidents and accidents, as well as deaths. The European Commission takes the number of road deaths very seriously and we are trying to bring it closer to zero, adding that a dynamic change in speed limits is one way to increase road safety. The Netherlands is a good example of this. If you drive on Dutch highways, you will have signboards that will give you information about top speed.

The normal speed limit is 130 kilometers per hour, but after entering certain risk zones you will see a reduction in speed to 90 or even 50 kilometers per hour.

6. Development of intelligent vehicles and automated roads

The ITS functionality of the intelligent vehicle is realized through telematics equipment that is upgraded to the basic equipment and devices of motor vehicles and trailers. At the same time, it is necessary to ensure compliance with regulations and ordinances on technical conditions of vehicles in traffic on roads or other roads. ITS includes: - vehicle control devices, - vehicle stop devices, - road lighting devices, - light signaling devices, - normal visibility devices, - reversing devices, - exhaust control and exhaust devices, - devices for coupling towing and trailer vehicles, - other devices and equipment of vehicles.

Road lighting devices and ITS solutions to improve visibility can significantly increase traffic safety while reducing the number and severity of the consequences of traffic accidents.

More than 95 percent of all decisions a driver makes while driving are related to a sense of

visibility. ITS solutions enable: - improved perception of objects, - adaptation to light and darkness when exiting the tunnel and entering the tunnel, - better perception of traffic signs and messages, etc.

Active safety systems are becoming an important part of the vehicle and an important factor in improving traffic safety. Initial estimates that in 10 years ITS will halve the number of fatalities and injuries, have been largely realized. Automated, ie intelligent roads are realized by information and communication upgrade of the classic road, which includes a system of telecontrol, telemetry, telecommand and mobile communication. The initial solutions are:

- telecontrol of vehicle dimensions (using lasers and optical gratings), - video surveillance and flow control, - charging with smart wireless cards, - telemetry of meteorological conditions, - automatic systems for preventing road icing, - control of variable traffic signals, etc.

7. Smart roads

Smart Roads will send information that will be used by vehicles and traffic infrastructure. The roads of the future will be a digital communication channel that will not only share information about traffic, but also information about temperature, precipitation, road conditions and warnings of potentially dangerous situations such as fog, and similar situations in real time.

Also, information about some objects or people on the road will also be immediately available, as well as a report of damage to the roads. Keywords are "real time" and only if the information is collected, processed and transmitted without time interval, it is possible to get a digital image of traffic in real time.

In cities where network coverage is much better a large amount of data can cause a system crash. One solution could be to introduce a 5G standard that far exceeds all previous standards in terms of communication speed. The capacity of the 5G network, which should be introduced by

2020, exceeds the capabilities of the existing 4G LTE standard by 1000 times.

In China: "There are planned and built completely new big cities with traffic solutions according to the requirements of mobility. China is focused on the development of public transport and seeks to reduce the use of cars in cities. In Europe, the room for maneuver is much smaller because most of the infrastructure already exists and cannot be changed but only adapted."

Due to environmental problems, ie chronically high levels of air pollution in urban areas, China insists on finding innovative solutions that would change that. It is therefore not surprising that the Bavarian company SOLMOVE is not building its first solar road in Germany but not far from Beijing.

When solar roads that transmit energy to the vehicles that drive on them are mentioned, it can sound like a perpetuum mobile, and the question is how much their performance would cost. "The cost of maintaining standard asphalt roads is one euro per square meter per year," explains Müller-Judex. "After deducting the investment costs, solar roads can earn eight euros per square meter per year. "There are also ideas about using solar roads as a heat source. Thus, during hot days, the road surface is heated to more than 60 degrees, and that heat could be used to heat buildings near roads and the like.

According to Müller-Judex, asphalt will continue to be the main construction material for road construction. "If they use materials that will be used for energy production or data transmission, it is only a thin layer on the surface, while asphalt will be used for years to build the base layer. "Electricity production with the help of solar cells in the road is just one way because the installation of piezo-electronic elements is also planned.

Unlike solar cells, which produce electricity by the action of the sun, in this case, small amounts of electricity are generated by deformations caused by the passage of vehicles. Although these are small quantities, they would be sufficient to power the sensors, especially in areas where there is no

electrical infrastructure. In addition, the roads will be able to purify the air in the future. The idea is to install stones coated with titanium oxide, which is a photocatalyst, in the slabs and fences along the road.

Therefore, although we will not have flying cars in the near future, all ideas, no matter how unusual, were welcome. "It is important that car manufacturers, designers, architects, urban planners and sociologists work together to find solutions for the mobility of the future." While some of the ideas sound too utopian, in 30 years they could very well be realistic and gradually become a part of our lives.

8. Smart traffic

Saobraćaj je aktivnost vezana za Traffic is an activity related to everyday life and production, whose task is to transport people and goods from one place to another. Due to traffic jams, in more developed parts of the world, drivers and passengers in vehicles spend several billion hours and spend tens of billions of dollars a year. Solutions for traffic jams are mainly found through projects based on the use of computer systems and simulations of different traffic cases, ie in the unification of information and traffic infrastructures. The application of modern information technologies encourages the establishment of new infrastructure consisting of networks of roads, railways, airports, stations and ports connected by Internet-based systems. Efficiency and quality are significantly influenced by intelligent systems that improve the mobility and safety of road users, because they provide proactive maintenance and faster and better diagnostics.

All advanced solutions, significantly, increase the productivity of the company's business. By applying the IoT solution, traffic regulation reduces costs and increases passenger satisfaction, which indirectly reduces the number of traffic accidents.

Future solutions will be based on the application of smarter and more environmentally friendly vehicles and their connection with infrastructure facilities, such as gas stations, parking lots, garages, etc.

Wider application of advanced information technologies, in addition to vehicle communication with infrastructure, will enable vehicle communication.

Examples of the implementation of intelligent transport systems are the integration of traffic control systems (traffic flow management, traffic light management, variable traffic messages, highway access control, speed control, parking management, etc.), public transport management (traffic routing, incident management, violator identification, maintenance transport infrastructure) and information for passengers (delivery of information).

Information delivered by telematics systems (vehicle tracking, navigation, e-toll collection, etc.) is most often transmitted over a 3G or 4G mobile network.

One of the ITS services is real-time traffic monitoring; it is most often realized as a part of the vehicle location and navigation system. In the automotive industry, in addition to the system for monitoring and reporting on the operation of individual parts of the vehicle, we work on providing information on distance from other road users, road conditions, information on the current condition of vehicles, etc. 9. Paying tickets with a smile

In China, there is a pilot project to pay for subway tickets using face recognition technology - just stand in front of the screen and the ticket will be paid. In order to be able to use face recognition technology and this way of buying tickets, it is necessary to register at the face recognition service and enter or connect a bank account from which money will be withdrawn. The face recognition technology used on the Futian site was developed by Shenzhen Metro and Huawei, and is based on the 5G network, which Shenzhen Metro says is more efficient and better for use in the subway, at lower cost.

10. I transport se robotizuje

Self-driving vehicles are already being tested and in ten years there will probably come a

time when drivers will no longer be needed. Employers cannot expect the education system to produce ideal staff because production processes change too quickly in the direction of digitization and robotization. Transport is also being robotized, self-driving vehicles are already being tested and it is estimated that in ten years the time will come when drivers will no longer be needed on the labor market. Driver information systems

The ITS On-Trip Driver Information (ODI) service is implemented as a relatively stand-alone system or integrated with other information services. Its purpose is to provide quality information to the driver about traffic conditions before and after moving on the road. Using this information, the driver or passenger in the vehicle can make better decisions about the route or change the mode by leaving their own car in the parking lot and continuing by public transport.

Part of the services may relate to hazards and emergency service notifications which are then forwarded to all drivers free of charge, or may be at the request of the user which is charged according to certain tariffs. The information refers to road conditions, emergencies and accidents, various changes related to information, available parking spaces, alternative routes, attractive and tourist entertainment events. They are realized with devices installed in the vehicle, messages, control of access to the highway, speed control, parking management, etc.), public transport management (traffic direction, incident management, violation identification, transport infrastructure maintenance) and passenger information (information delivery).

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IV – SUSTAINABLE DEVELOPMENT

1. The concept of sustainable development

One of the basic concepts of natural resource and environmental economics is the concept of sustainability or sustainable development. Despite the different interpretations that can be found in the literature, this concept today has a central place in looking at the long-term perspective of the survival and progress of mankind. Sustainable development appears as a basic precondition, but also the ultimate goal of efficient organization of numerous human activities on Earth. The most common definition of sustainable development is given in the report of the Brundtland Commission. Sustainable development is defined as development that meets the needs of the current generation, and does not jeopardize meeting the needs of future generations.

In other words, today's generations need to start behaving responsibly towards the environment and natural resources because they may soon be gone. The state of the environment and natural resources must be maintained so that they maintain their productivity in the future. Here we come to the paradox that makes up the exploitation of

resources and the destruction of the environment that inevitably accompanies economic growth on the one hand and the need for that same economic growth to meet the needs and eliminate poverty and hunger on the other. Sustainable development in general is viewed through three main aspects: environmental, economic and social. The environmental aspect refers to the management of natural resources and environmental protection, the economic aspect refers to development, growth and success, while the social aspect refers to the reduction of poverty and the achievement of equality among people.

Economic goals (productivity, competitiveness, economic growth) are optimized taking into account environmental goals (ecosystem integrity, global issues, biodiversity) and social requirements (humanization of work, motivation, joint management, cultural identity, social mobility, social care, etc.) which are in constant mutual (intertwined) interaction. Based on this division, we can talk about the need to manage three types of capital: natural, economic and social capital, which are not interchangeable and whose consumption does not have to be reversible. Natural capital may not necessarily be able to be replaced by economic while for some natural resources we can find a natural replacement.

But due to all efforts for some of the "services" of our ecosystem we cannot find a replacement. We cannot restore the protective function of the ozone layer or the climate stabilizing role of the Amazon rainforest. Yet, with all the care for the environment, the fact is that economic capital is the most interesting because profit still rules the world.

The concept of sustainability confronts the economy through the social and environmental consequences of economic activity. The shift towards sustainable development thus represents a social challenge that includes state and interstate law, urban planning, transport, local and individual lifestyle changes and ethical consumption. All of them have in common increased concern for the environment

through the reduction of negative human impact on the environment and a more rational use of natural resources. If we treat the environment as an external factor, we can make short-term profits, but at the expense of sustainability.

A sustainable approach to production integrates environmental care with social and economic aspects. This way of doing business can be an opportunity for the progress of local companies that adopt the principles of sustainable development. For example, industrial waste can be considered an economic resource in this context. By reducing the amount of waste in production, savings can be made on waste collection, environmental waste disposal fees, and material that is used more efficiently due to savings. All this can contribute to the reputation of companies that will ensure greater market importance with their environmentally friendly procedures. More efficient use of energy will also reduce costs, but also consume less solid fuels that we draw from the environment. The idea of sustainable development as a business opportunity has led to the formation of organizations at the global level such as the Sustainable Business Institute and the World Council for Sustainable Development.

The expansion of business based on the principle of sustainability can lead to a significant drop in unemployment (the social aspect of sustainable development), a problem that the world is having a hard time dealing with today. Given that the state of our environment in relation to some Western countries and members of the European Union is still relatively intact, the idea of seeking the competitiveness of Bosnia and Herzegovina production in this area. Sustainable development indicators are classified into four categories: social, economic, environmental and institutional.

2. Traffic and sustainable development

Sustainable development means at the same time enabling economic growth, social well-being and environmental protection. Sustainability therefore has an economic, social and environmental component. In the last few years. The European Union has

integrated the goal of sustainable development (SD) into a wide range of policies. In relation to transport, the policy of sustainable development of transport and traffic should be directed towards achieving an efficient balance between different types of transport and traffic, establishing proper relations in their comparative and competitive advantages, increasing energy efficiency of transport and traffic system, reducing emissions, renewing traffic. systems based on railway transport and traffic, development of intelligent transport and traffic systems, solving the problem of distance between the center and periphery, improving the environment and location attractiveness, development of new transport and distribution systems that will meet the needs of users at minimal cost and contribute to increasing economic activity.

Transport and traffic are also one of the basic factors of putting uncultivated agricultural areas into function, more efficient protection of forestry and other protected areas, deurbanization, etc., which further increases the quality of human life.

That is why the EU launched the first EU sustainable development strategy in 2010, and was revised in 2017, in order to eliminate shortcomings and take into account new challenges. Closely related to climate change and energy policy, the revised plan emphasizes the importance of education, research and public funding to achieve sustainable production patterns. Since then, significant efforts have been made in policies, with an emphasis on putting policies into practice.

The established EU Commission for Sustainable Development has proposed a package of measures to encourage environmentally friendly products, including greater use of energy efficiency labels.

Open borders and affordable transport have given Europeans an unprecedented level of personal mobility. Goods are delivered quickly and efficiently from the factory to the consumer, often in different countries. The European Union has contributed to competitiveness by opening up national markets and free movement by removing

physical and technical barriers. But today's traffic patterns and growth rates are not sustainable. The ability for people and goods to move quickly, efficiently and cheaply is a central principle of the Union's goal of a dynamic economic and cohesion society. Removing barriers to cross-border trade and travel has increased the volume of long-distance transport of goods and people. This phenomenon has been fueled by enlargement in 2017, with significant increases, especially in road freight between the new Member States and the rest of the Union. The constant growth of mobility is a dangerous burden on transport systems. Congestion on roads and airports increases pollution and is estimated to increase EU fuel consumption by 6%.

Roads now carry 44% of the total goods transported in the Union, compared to 39% for short sea routes, 10% for railways and 34% for inland waterways. The imbalance is even more significant in passenger transport, where 81% go on roads (mainly car travel) compared to 6% by rail and 8% for air transport. The diversion of goods and passengers from roads to less polluted modes of transport will be a key factor in any sustainable transport policy. Another factor will be the ability to integrate different modes of transport by combining the elements of road, sea-rail or rail-air.

Stopping charges are also being introduced, which relate to paying users for the scarce infrastructure they occupy on roads, at airports or otherwise. One example of this is the system set up in London in 2003, which charges motorcyclists for driving in the central part of the city. Pilot programs for similar systems have been set up in several other major cities. So in cities:

- San Sebastian uses bicycles for transport and postal services, a biodiesel bus,
- Rotterdam uses green corridors (underpass through the plain), etc.

Paying for infrastructure also supports the idea of paying for simultaneous pollution. The transport sector, mainly road vehicles, is responsible for about 28% of total emissions of CO₂, the main greenhouse gas, in the European Union. Better fuel efficiency, the use of alternative fuels and the setting of

limits for carbon dioxide emissions from cars are some of the measures being introduced.

3. Modern technologies in the function of smart cities

Thanks to increased globalization, ie cultural, economic and political connections on a global level, today as many as 54 percent of the world's population lives in urban areas.

In the next few decades, this trend will accelerate further and it is expected that by 2050, two and a half billion more people will live in urban areas, the percentage will increase to 66%. The number of cities with more than 10 million inhabitants is projected to grow from 26 to 38 by 2030, most of them in Asia and Africa.

Smart cities "Without smart people, there are no smart cities." Smart cities are cities that strive for the development of holistic and sustainable cities, in which the quality of human life, but also the relationship to the natural environment will be at a much higher level. Cities are made potentially smart by modern digital technologies that enable better services to citizens, greater utilization of resources and less impact on the environment. They are mainly based on the use of smart grids, introduction of information and communication technologies, internet connection of all facilities, reduction of environmental pollution through introduction of intelligent transport systems, but also increase of energy efficiency through application of smart metering and introduction of innovative solutions in construction.

Smart transport is a key element of any smart city initiative is smart transport. It helps address common and frustrating transportation problems that residents face every day, including traffic congestion, difficulties in finding parking spaces, and a lack of information about train and bus arrivals.

Intelligent Transport Systems (ITS), which use IT technologies to improve traffic management, make roads and streets safer and easier to use, can help solve this problem.

It is estimated that by 2050, 64 percent of the world's population will live in cities. Therefore, "urban metabolism" must be improved by infrastructure that must be "smarter". When it comes to urban services, one of the most important is transportation. Enabling smarter transport networks, within which different management and transport systems are connected and combined, is key to achieving the goals that lead to the development of smart cities.

Cities with smart transport networks can boost tourism and employment, while at the same time becoming cleaner and more energy efficient due to lower gas emissions and energy consumption. Also, the growth of the ITS sector should not be ignored. According to a report by Research and Markets, the ITS market is estimated to have a combined annual growth rate of 7.9 percent by 2022.

The total demand for intelligent transport systems is growing, which is largely due to factors such as the growing demand for vehicles and increasing urbanization, which leads to a lack of space in cities. This has resulted in the need for more sophisticated infrastructure and more advanced traffic management systems and to address space shortages, the report said.

Smart cities in the world or in Europe have been supported by as many as 3,000 business partners, which opens a large market in the field of modern technologies for smart cities. It is predicted that in 2020, the market of smart cities will be worth 1.3 trillion euros, so it is not surprising that in 2016, as many as 337 cities in Europe decided to invest in some of the projects, in order to sew the name "smart". At the level of the countries, Spain and Italy lead the list with the amount of projects in which investments are made, so out of 800 projects at the level of Europe, as many as 157 and 131, respectively.

The smartest city in Europe is Amsterdam, which started with the Amsterdam Smart City initiative in 2009, with 79 projects jointly developed by the local population, government and businesses. Projects are

based on connectivity via wireless devices, so that the ability to make real-time decisions can be increased. The main reasons for this initiative are to reduce traffic, save energy and increase the safety of residents. The traffic is monitored in real time and the traffic lights are changed according to the current situation on the road, in order to avoid traffic jams. To reduce traffic congestion and the search for a parking space, residents have developed the Mobypark app, which allows parking space owners to rent them out to people for a fee. Light pollution, as well as the reduction of energy consumption is regulated by smart lights, which turn on only when a person comes close, ie when the sensor registers the movement. Residents are also allowed to control street lighting by increasing or decreasing light intensity depending on visibility and time of day, but also to control light emission at some landmarks.

Public safety is achieved through video surveillance 24 hours a week, and the police go out on the field as soon as the need for it is noticed and they are at the scene very quickly, so that they provide their residents with all-day security. As another example of modern technologies, also in the Netherlands, in Krommenie it is worth mentioning the project of a bicycle path covered with solar panels. Bicycles are placed at locations near the trail, and their availability can be informed via a mobile app, and even payment, as well as identification of the person who rented the bike is done using it. Part of that 70-meter bike path generates enough solar energy for one household throughout the year. If such trails were to spread throughout the city, it would have a significant impact on the preservation of the environment, and the use of bicycles alone is smart because it does not pollute the environment like motor vehicles.

The smart nation, whose title today can be boasted only by the city-state of Singapore, has become, despite its size and lack of resources, the most advanced and most favorable country for life in the last 50 years. Their goal is to establish a 3D database of the entire city, each building and each part of which it consists, and start autonomous

processes for the maintenance of the city using this database. Singapore is in a way an experiment, because they use the most modern technologies and are ready to take revolutionary steps to make their lives as comfortable and high-quality as possible, and yet in harmony with nature.

4. The contribution of electric vehicles to sustainable development

Electric vehicles enjoyed popularity between the late 1800s and early 1900s. This period for electric vehicles was golden because electric vehicles provided more comfort and ease of use than fossil fuel-powered vehicles. The development of technology is greatly encouraged by the possibility of its practical application in everyday life. One example is the electric car that appeared shortly after the construction of the first electric motor. Nowadays, electric vehicles are ideal for city needs such as city driving and the like, in terms of radius of movement and price per km. Today, almost all car manufacturers are working on the development of electric vehicles.

In the early 1990s, after awareness, the US, Europe and other countries around the world were looking for environmentally friendly cars, with the goal of reducing exhaust emissions and increased and aided production of ZEV cars (Zero Emission Vehicle). Thus, all major countries in the world aim to achieve a number of cars (0% of exhaust emissions) of 10% of the total number of cars. Car manufacturers have responded by developing and placing electric cars on the market. In 1996, General Motors launched the EV1 electric sports car with an autonomy of 120 km, which reached speeds of up to 130 km / h. Certain environmental laws have been a major torment to the automotive industry, which they complain about. Thus, world administrations have passed new environmental laws in favor of ethanol and biodiesel. Later in the 2000s, new changes in legislation were made and aimed at developing energy efficiency. Throughout the 20th century, electric cars were completely overshadowed by vehicles with internal combustion engines, but since the early 2000s, great interest in the energy efficiency of electric vehicles has grown

again and great strides have been made in the field of battery technology, electronics and other important factors.

Electric vehicles run very quietly and have no direct emissions at the site. Increasing emphasis is placed on environmental awareness, but also due to the awareness that oil reserves are limited according to current knowledge, electric cars are again in the focus of possible technical solutions in traffic, so after concept cars appear the first models in series production (sports model Tesla Roadster of the American company Tesla and Motors) have been produced since 2008.

V PART – EDUCATION OF STAFF IN TRAFFIC

1. Education as the greatest capital

Education is the biggest capital we have for new management concepts based on digital transformations, and monitoring changes and the latest trends in management, but also getting to know, exchanging experiences and knowledge of successful managers and experts.

The importance of education in modern conditions is becoming one of the most important forms of management and development of human resources, and the science of ICT is especially applied. Modern companies are devoting more and more of their resources (money, time, information, energy, etc.) to education and continuous training of employees.

Management is increasingly realizing that continuous education and training of employees is one of the most effective ways to achieve competitive advantage, the basic premise of entering market competition and competing with the competition for the favor and trust of consumers. This knowledge is the result of large and rapid changes in the external and internal environment of modern companies that put knowledge, constant innovation and learning new things in the foreground of economic development. This is true for organizations as well as for society as a whole.

The most important thing that companies, organizations and certainly local governments can and should regulate is work on educating people, regardless of whether they are consumers or users of services. We need to be aware of how fast and temperamental change is, and the education and further development of individuals is the most significant capital we have.

Investments in education are becoming a key indicator of understanding what is happening in modern (global) business and competition. This expresses that in the new economic order, the countries that invest the most in education will be the most competent.

Insufficient investment in the education and development of employees is cited as one of the key reasons for the loss of market share and the lag of American companies behind foreign competition, especially Japanese companies. It is stated that American companies spend only 2,600 dollars per worker per year on education, unlike Japanese companies that spend 6,500 dollars. It is probable that investments in recent times have increased, as well as the intensification of educational activities in companies, the result of this knowledge and the desire to raise competitiveness in global competition. The growth of knowledge is that if people are not given an education, they steal from the future.

2. The impact of technology on the education of staff in traffic

Advances in artificial intelligence in previous decades have made significant contributions to the improvement of the education system, especially in the area of online courses. Regardless of the fact that the main actor in education will always be a man, one of the great challenges will be how to best integrate advanced AI (Artificial Intelligence) technologies with the traditional way of learning in the classroom. Greater application of AI technologies, intelligent tutors (ITS) and online learning systems is expected in the curricula of the faculty in the future. The growing use of

robots as an educational tool in the education system is also expected.

This is especially true of traffic education. The future development of traffic, and thus the education of personnel in traffic will be significantly influenced by, among others, the following technologies: information technology; production, service and logistics systems with computer support; environmental technologies; new energy technologies; new materials, etc.

All these new technologies will enable the development of new transport technologies, loading and unloading and storage technologies, production of new means of transport and equipment. However, the greatest contribution to the development of traffic in the future will be given by the application of information technologies. Information technologies have caused a revolution in practically all economic areas, especially in traffic. In large traffic systems, thanks to information technologies, a much smaller number of hierarchical (management) levels is needed than traditional organizations. The current trend of introducing increasing levels of management will replace the trend with a drastic reduction in the number of levels of management of the application of information technology in the restructuring of transport systems. It is certain that one of the most significant contributions of information technologies is the development of Intelligent Transport Systems (ITS). It is considered that the use of telematics - electronics, communication, computerization in the field of transport is one of the biggest innovations in this field since the introduction of cars a century ago or highways more than 60 years ago. In traffic today, new modern technologies in the narrower sense mean Intelligent Transport Systems (ITS).

ITS is a term that describes a wide range of applications of new technologies that, through their application, facilitate the management and control of traffic systems. Intelligent transport systems are applied in all types of traffic.

In road transport Intelligent transport systems enable:

- Efficient traffic management, - Increasing safety in public transport, - Driving vehicles on the network, - More efficient use of traffic resources, - Increasing the capacity and capacity of the road through traffic management and regulation, - More productive use of roads, - Improving navigation performance, - Control and reduction of congestion, congestion and losses due to congestion, - Reduction of travel time and transport costs, - Reduction of fuel consumption, environmental pollution and damage due to traffic accidents, - Notification of passengers, etc.

3. New concept of education in traffic

Considering that the strategic development of traffic implies modern education of traffic staff, who will creatively apply modern knowledge in practice, encourage the development and efficient use of new technologies in traffic, develop entrepreneurship and competitiveness with the application of modern organization and management. In addition to the efficient use of transport infrastructure, means of transport and equipment in which huge financial resources and knowledge will be invested, personnel with appropriate knowledge, skills and abilities are needed efficiently and effectively.

According to the assessment of the experts of the European Union, the critical link in the implementation of the Strategy for the Development of the Transport System of Europe (2011-2030-2050) is the missing staff, especially in some countries of Southeast Europe. Therefore, there are staff in the jobs of graduate traffic engineers who do not have the appropriate knowledge, abilities and competencies to perform jobs in those jobs.

As a result, due to the great importance of personnel and education of personnel in transport, new concepts of education of personnel in transport, quality of higher education, especially in transport, permanent (lifelong) education, dual education, practical classes (education) and research

education are necessary. to the necessity of changes in the education system from secondary to higher education. This is a great challenge for higher education institutions in the field of transport.

The choice of the optimal model of education is a very complex problem and can be reached through detailed research, both in secondary and higher education, and in transport organizations. In addition to the fact that it is known that changes and thorough innovations of educational programs are necessary, the following must be taken into account when choosing the model of education:

- Graduated traffic engineers, considering the requirements that are set before them, are expected to have a comprehensive education. Namely, they should have the appropriate knowledge and experience to perform tasks: researchers, planners, designers and especially transport infrastructure, experts and managers at all levels in transport institutions and transport organizations, transporters in the logistics chain, traffic experts in cities, etc. is a significant role of graduate traffic engineers in planning and designing traffic infrastructure where mistakes made cannot be corrected. Therefore, graduate traffic engineers in addition to traffic engineering and transport technology should have appropriate knowledge of engineering economics, marketing, information and communication technologies, business law (European legislation), foreign languages, management, etc. - Since traffic is the area where they apply state-of-the-art technologies, and bearing in mind that according to some estimates, the amount of human knowledge doubles every 7 years, the question arises how to establish a relationship between the study of fundamental sciences and applied sciences at faculties in the field of transport. On the other hand, the acquired knowledge is becoming increasingly obsolete, which is why constant innovation of knowledge is needed, which should enable acquaintance with the latest achievements and traffic technologies. - All transport organizations are mostly associated in the relevant international organizations and in

international traffic are obliged to apply international standards, directives, resolutions, etc. This primarily refers to the European Union Directives for certain modes of transport, resolutions of world organizations such as the United Nations Resolution on traffic safety, documents of international organizations in the field of traffic, state laws, etc. It should be emphasized that traffic organizations perform activities of public interest (public function) and have social responsibility. Therefore, it can be stated that there is no single model that would meet all the needs for modern education in traffic, and basically we can say a combined model of education, which would be composed of elements set out in the New education concepts.

VI PART – LOGISTICS

1. Logistics and logistics system

Logistics is the flow of goods between a point of mass production and a point of consumption in order to meet the needs of customers or corporations. Sources in logistics can include real products such as food, materials, animals, equipment, and liquids, as well as unreal products such as information, particles, and energy.

The logistics of actual products typically include the integration of information flow, material handling, manufacturing, packaging, inventory, transportation, warehousing, and often security. One of the main characteristics for business logistics is to have a good product in good quantity in the right place, for a good price in good conditions, for the right customer. Business logistics includes all sectors in the industry.

The market uses modern logistics teams that rely on information and communication technology, and are one of the conditions for meeting European standards. Logistics is an activity that deals with mastering space and time at the lowest cost. In modern conditions, it is most often used to denote a business

function or scientific discipline that deals with the coordination of all movements of materials, products and goods in physical, IT and organizational terms. The circular process from procurement through production and sales to consumers.

It is part of the management system and must ensure production flexibility, required supply deadlines and supply readiness for the sales market. It is also responsible for tying capital into stock to remove bottlenecks.

The central role of logistics stems from its multidisciplinary, implying respect for the technical, technological, organizational, economic, environmental and legal aspects. An entrepreneur of logistics activities and a manager in a logistics organization must be equally important in managing transport, storage and transport resources and their variables on which the traffic depends, whose role is to sell the service in the most favorable way, establish a place in the market and maintain competitive conditions.

The purpose of logistics is to continuously improve the flow of goods and information through the company, and its goal is to reduce inventory, shorten the flow of products and shorten the reaction time. Logistics is an integral part of our daily lives. It has a greater role and influence today than most other human activities. Logistics includes what we know today as supply chain management. It also includes service activities, not just physical production.

2. Logistics costs

The profitability of a company depends on the logistics costs that make up a significant part of the total operating costs. This share of costs varies between manufacturing and retail firms. Some research shows that the structure of total logistics costs consists of: transport 45%, warehousing 25%, inventory 20% and administrative costs 10%. Costs for logistics functions are more significant in retail than in manufacturing. Due to high costs, retail chains began to look for savings in the development of a personal logistics system.

Only the largest retailers in the market manage to reduce costs and compete with low prices. Due to the small quantities and the large number of delivery points, it is concluded that it is cheaper and easier to find a reliable logistics partner who will provide quality and complete logistics service.

Logistics services mainly include the cost of fuel, tolls and the driver's net salary. The most important items are all forms of fuel maintenance, warehouse rental costs and infrastructure depreciation. In addition, the depreciation of technology investments should be included in the logistics costs.

One of the most significant costs is staff costs while most costs are fixed. In order to perform the delivery service accurately and with quality, it is necessary to have a sufficient number of vehicles. However, due to the large number of places in Bosnia and Herzegovina, companies have a large number of vehicles and low utilization.

The costs and conditions of their occurrence affect the final result as well as revenues. Any rational management of costs leads to a reduction in costs, which is reflected in profits. The costs included in the consideration of logistics total costs consist of costs in functional logistics subsystems (execution of orders, stocks, warehousing, transport and packaging).

Logistic thinking is not just thinking about costs, but also thinking about effects (where it is necessary to decide whether it is more favorable for business success to reduce logistics costs or increase logistics effects). If



the optimal batch size is determined, we get the optimal ratio between the cost of production preparation and the cost of inventory. Proper planning of material needs is the main purpose of production planning that affects the exact needs for semi-finished products, raw materials, packaging and quantities in warehouses and production halls, which saves on inventory and raises the level of efficiency.

If you know how to plan and terminate capacity well, waiting time will be reduced and savings in production costs will be created, it will become more efficient, more efficient and productive, and bottlenecks will be detected, while eliminating the dangers they present.

3. Application of information technology in logistics processes

Modern business imposes the application of a process approach with extensive use of information technology. This primarily refers to the development of a customer-centric business process model. This business process model is a method of doing business for profit. For this reason, the focus should be on processes because they are an integral part of every business.

Logistics processes are a set of processes, sub-processes and activities. Their goal is to meet the requirements of customers to dispose of certain products or services at a certain time and place, at minimal cost.

A set of interconnected logistics processes make up a logistics chain that involves information flows in both directions. It usually consists of a stock management process, a procurement process, a warehousing process, a transportation process, and a return process.

According to the picture, a logistics chain consisting of the following elements can be observed:

- flow of materials and information, - flow of information, - a - flow of information and return of information, - b - initial supplier (raw materials), - c - supplier, - d - producer, - e - consumer or end customer.

Figure 1. Logistics chain

The picture presents a more complex view of the logistics chain composed of a series of processes, sub processes and activities that are interconnected. The areas of technology, informatics, organization and economy, through mutual interaction, enable

coordinated and synchronized action of all factors of the logistics chain in order to achieve the main goal, ie greater efficiency at minimal cost.

Information technology is a basic component in modern logistics systems. The IT composition of the company consists of a business part that includes transaction processing and management of operational functions of the company and a management part that includes a decision support team and expert staff.

4. Information technology and transport process

The transport process refers to the physical movement of materials or products between individual points within the logistics chain along the transport network. Despite the technological advantages and cooperation among business partners, only a small part of the company is able to reduce transportation costs.

In order to achieve significant financial savings, it is necessary to plan the delivery route, monitor the operation of vehicles and drivers, and monitor vehicle maintenance. High demand and large investments lead to the integration of transport process management solutions. This achieves a significant synergistic effect. Transportation is a key component in the design and management of logistics systems. With the development of information technology, additional preconditions have been provided for the improvement and optimization of the transport chain and the reduction of transport costs. However, the carriers of changes in the application of information technology are mostly large companies, of which there are not many in our market.

Telematics as a term includes telecommunications, automation and informatics. Communication is in charge of data transfer, automation records data, and informatics presents them in a form that is convenient for users.

By using telematics, companies increase the efficiency of their vehicles and employees.

They also reduce various transportation costs. Such a system allows the exchange of information between all vehicles and the central system. To facilitate the exchange of information, each vehicle is equipped with one or more devices that record and collect information from the vehicle. One of the devices is used for communication between the driver and the center. In this way, the driver can display data to the center without stopping. Using telematics technology, the location of each vehicle can be determined.

Telematics also provides a high degree of security in the case of transporting very expensive cargo. It also offers the possibility of cooperation. Depending on the needs of the center, it distributes the collected data on vehicles and their movements to interested companies. This way, customers can know the time of arrival of goods, and suppliers can have constant control over their cargo. This work has increased transparency in the supply chain. The use of telematics enables fuel savings, reduces the number of thefts and vehicle maintenance costs, speeds up delivery times, reduces the number of traffic accidents, enables better driver safety, reduces administration, and most of all increases the satisfaction of drivers and customers.

5. Information technology and storage process

A set of processes and activities related to the physical management of inventories make up the storage process. We distinguish the warehouse for finished products, semi-finished products and raw materials. The use of warehouses in the logistics chain implies the creation of stocks and thus increases the overall logistics costs. With the help of information technology, we try to reduce it to the lowest possible level.

It strives to improve the handling of goods from the moment of entry to the moment of exit from the warehouse. A company's information system refers to everything related to the collection, storage and distribution of data and information. The organization of warehousing operations is conditioned by the type of economic activity,

and is different in manufacturing companies, trade, distribution and transport.

Improper storage process leads to insufficient use of storage space, it is possible to replace items for each other, there is an inability to find a particular item in the warehouse, there is also a slow flow of goods, lack of information on quantities and time of goods in the warehouse, but there is also inefficient use of labor.

In order to maintain the existing costs for a larger quantity of goods, it is necessary to increase the efficiency of the company and thus ensure a competitive advantage in the market. To avoid all these problems, a WMS (Warehouse Management System) system is introduced into the storage process.

Such a warehouse management system is a solution for monitoring and supervising all storage processes. As it is a key part of the supply chain, its goal is to take care of the movement of goods in the warehouse, which refers to loading, receipt, placement and selection, while enabling control of all logistics processes without a paper trace.

In the WMS system, the position of stocks is determined by WMS algorithms, the output of goods is ensured, better control, higher speed of turnover and better efficiency. We are continuously working on innovations in the warehouse monitoring system. We are also working on improving the warehouse, which would use voice recognition technology. Any control and data entry in the system would be done by voice.

For such quality work, the entire storage area must be covered by a quality radio signal. Each worker would be equipped with a voice terminal and headphones with a microphone.

All logistics solutions are developed according to the needs of the users themselves. In order to subordinate warehouse management to the WMS system, an expensive investment is required. Using such a system improves business and warehousing. It also increases customer satisfaction, reduces energy consumption, time, storage capacity, as well as workforce.

6. Application of information technology in the integration of logistics processes in BH companies

The application of information technology in logistics and the integration of logistics processes enable the progress of the entire logistics.

Degrees of application of information and communication technology in logistics are:

- Transportation planning is not based on paper, fax or telephone - each business unit has unique processes that are not repeated.
- Functions such as carrier selection, type of transport and offers are automated.
- There is a better use of means of transport, shorter routes, better planning of the logistics network and the use of a centralized ordering system.
- The systems for conducting transactions have been improved, which gives them the possibility of overall planning and event management.
- Real-time monitoring - this includes business and data exchange, balanced target methods and continuous system improvement.

The picture represents the development of logistics. At the very beginning, the activities were distributed throughout the company. But as firms recognized the impact of logistics, logistics activities were reorganized into raw materials management and physical distribution. This has led to the development of integrated logistics in order for companies to control the flow of goods and services to the end user. Based on the above, it can be concluded that BH companies are in the 2nd phase of application of information technology in logistics. Significant fragmentation of logistics processes is still present among BH companies and significant financial and organizational efforts are needed to move closer to a fully integrated logistics chain.

BiH's accession to the European Union is expected to accelerate computerization and integration of logistics processes based on significant application of EDI - a set of applications and solutions to improve efficiency and reduce trading costs, ie paperless paperwork, GPS - Global Positioning System (acronym GPS) is

satellite radio navigation system for determining the position on the Earth or in its vicinity and RFID - Radio Frequency Identification, ie radio frequency identification, technology.

CONCLUSION

When it comes to intelligent transport systems, Europe has made a big step forward by using IoT and data collected using networked devices to solve some of the problems that residents face. Transport is a key factor in the economic growth of the European Union, and solutions for safer highways and roads reduce transport costs to a minimum and maximize safety.

In addition, ITS can bring certain benefits to supply chains and other market sectors, such as tourism, agricultural production and product exports. ITS technologies also enable better route planning and route shortening and optimal use of vehicles by cooperating on driving planning and providing traffic information.

The overarching goal of ITS implementation in Europe is to reduce traffic congestion, which often occurs on motorways and which is a problem for workers traveling to work. ITS can play a significant role in this. The goal is to increase the quality of life of workers by reducing traffic and improving its flow.

There is a serious problem with traffic jams in all city centers during the busiest mornings and afternoons. More and more people live outside the city centers and have to drive to and from them every morning. Also, if you get off the highway and enter the city centers, you change from five lanes to one or two, and that causes congestion.

What people want to do with ITS is to have a very clear road sign system so you can steer cars and keep drivers informed of where traffic jams have already occurred. A good example of this is in Brussels, where, if you enter the city, they give you very clear information about how long it will take you to get to a certain area.

Also, in certain German cities on the highway you have information about the situation with parking lots in the city. This will help drivers decide in a timely manner which roads are best to enter and exit the city.

One of the goals of ITS is to reduce the number of incidents and accidents, as well as deaths. The European Commission takes the number of road deaths very seriously and we are trying to bring it closer to zero, adding that a dynamic change in speed limits is one way to increase road safety. The Netherlands is a good example of this. If you drive on Dutch highways, you will have signboards that will give you information about top speed. The normal speed limit is 130 kilometers per hour, but after entering certain risk zones you will see a reduction in speed to 90 or even 50 kilometers per hour.

ITS technology supports the improvement of individual transport, as well as public transport, freight transport and other modes of transport, and is directly related to energy, fuel and money savings. Conditionally, the goal of intelligent transport systems (ITS) is primarily to improve the efficiency and safety of the transport system, but also to achieve economic and environmental efficiency.

The justification for investing in the development of intelligent transport systems is unquestionable and represents a great opportunity for the economy of each country, and especially for those economies that are in the process of transition.

In addition to these benefits from the application of intelligent transport systems arising from the feasibility study of the introduction of ITS, in Europe there are a number of advantages that have come from the introduction of ITS, the most important of which are:

1. Increasing the capacity of the street network by 20 - 25%,
2. Improving road safety (reducing the number of accidents by 40 - 80%),
3. Improving the quality of the natural environment (reducing emissions of pollutants and harmful gases by 30 - 50%),

4. Improving road comfort and traffic conditions for drivers, users of collective transport and pedestrians,
5. Reduction of total travel time up to 60%, and reduction of delays between 5 and 40%,
6. Reduction of fleet management costs, reduction of road repair and maintenance costs and increase of economic benefits in the region and reduction of costs for motor carriers by 35%,
7. Increase of throughput on city roads and highways from 20 to 30%,
8. Energy consumption savings (by 40 to 70%),
9. Better passenger information and better integration.

All this would lead to an increase in traffic reliability, to 35% compared to the current situation. In addition to these advantages, one of the important opportunities for the development and introduction of ITS is the encouragement of the appropriate industrial sector (road telematics system, software industry, electronics, etc.). As one of the basic goals of the European Union in the field of ITS, on the basis of which it is possible to create new businesses with high added value.

Since ITS is a key determinant of sustainable development, transport, transport and logistics in the first half of the 21st century, the involvement of a significant part of the information community in these projects should be expected.

It is hoped that ITS will play a significant role in ensuring the future of sustainable mobility against the many economic, environmental and social pressures. New generations of intelligent transport traffic management systems will ensure dynamic, efficiently adaptable traffic flow management.

Literature

Books:

1. Jusufranić I., Biočanin R., (2012), Waste and sustainable development, International University Travnik
2. Jusufranić I., (2017), Traffic systems; theory, transport, technology, trends, Travnik International University
3. Jusufranić I., Stefanović G., (2014), Passenger transport systems in cities

Acts, reports, strategies:

1. Agenda 21 of the United Nations
2. White Paper - A Roadmap to a Single European Transport Area - Towards a competitive and resource-efficient transport system, Brussels, 2011
3. Directive 2010/40 / EU of the European Parliament and of the Council of 07.07.2010. on the framework for the introduction of intelligent transport systems in road transport and for connections with other modes of transport - Official Journal of the European Union L 207/1 of 06.08.2010. years
4. Information on traffic accidents, their causes and consequences in Bosnia and Herzegovina in 2016 - BIHAMK document from March 2017
5. Information on traffic accidents, their causes and consequences in Bosnia and Herzegovina in 2016 - BIHAMK document from June 2016
6. Provisions on road traffic and safety - Information article of the European Parliament November 2017
7. Framework traffic policy of Bosnia and Herzegovina for the period from 2015 to 2030 - act of the Ministry of Transport and Communications from May 2015
8. Basics of the common transport policy of the EU - Information article of the Directorate for European Integration of the Council of Ministers of BiH
9. Connecting European citizens and businesses - European Union publication from November 2014

10. Resolution of the European Parliament on the safety of European road traffic for the period from 2011 to 2020

11. United Nations Resolution 64/255 of 02.03.2010. (Decade of Action for Road Safety 2011-2020)

12. Road safety: Europe is on the right track again for the second year in a row - European Commission Press Release of 31.04.2014. years

13. Road safety: Statistics indicate that new efforts are needed to save lives on EU roads - European Commission Press Release of 31.03.2016. years

14. Europe 2020 strategy for smart, sustainable and inclusive growth

15. Traffic Safety Strategy in Federation of Bosnia and Herzegovina 2011-2020- Government of the Federation of Bosnia and Herzegovina- Federal Ministry of Transport and Communications, PE Roads of the Federation of Bosnia and Herzegovina

16. UN Declaration of Rio de Janeiro on Environment and Development

17. Conclusions of the Council of the European Union on the digitalization of transport from 05.12.2017. years

18. Conclusions of the Council of the European Union on digitalization for development from 20.11.2017. years

19. Law on Basics of Road Traffic Safety in Bosnia and Herzegovina

Internet sources:

1. https://bib.irb.hr/datoteka/312356.HAZU07_Steiner.doc

2. file: /// C: / Users / IUT / Downloads / IP-16-863_EN% 20 (1) .pdf

3. <https://www.klix.ba/vijesti/bih/efekti-novog-zakona-o-saobracaju-smanjen-brojnesreca-i-smrtno-stradalih-sirom-bih/180125041>

4. <http://novi.ba/clanak/153856/automobili-bez-vozaca-jesu-li-nasa-bliza-buducnostvideo>

5. <https://www.radiosarajevo.ba/auto-moto/auto-moto-zanimljivosti/digitalizacija-saobracaja-cestebuducnosti-signalizirat-ce-pjesacima-kada-je-sigurno-precipreci/277938>

6. <http://www.staroplanina.eu/Stara-planina-Serbian/automobili-kao-zagadjivacizivotnesredine.htm>

7. <http://avaz.ba/it/tehnologija/173643/prati-otkucaje-srca-ovaj-izum-ce-sprijecitisaobracajne-nesrece>

8. <https://vijesti.ba/clanak/352055/u-2016-godini-u-bih-registrirane-39-543-saobracajnevezgode-poginula-321-osoba>

BUSINESS DIPLOMACY IN NEW TRENDS OF TRAFFIC, ECOLOGY AND LOGISTICS

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Abstract: *The concept of business diplomacy is a matter of essential influence on processes in a modern environment. It is a new academic discipline and professional engagement in the context of economic and overall social development. The concept called economic diplomacy implies the engagement of selected personnel in a particular country, with the aim of penetrating the observed and wider international market. It is necessary to formulate an adequate performance with precisely defined procedures. Through permanent content activities, it is necessary to ensure the placement, sale of products, increasing the profit of companies and the state budget. The essence of adventures in the fields of transport, ecology and logistics is the collection of relevant information and other activities in the context of the realization of corporate goals and national strategies. Competitive advantage in these and other spheres are achieved by highly qualified persons with the implementation of modern technologies.*

Key words: *business diplomacy, transport, ecology, logistics, innovation, development trends, European Union.*

Introduction

Business diplomacy in theory and practice is very often treated as economic, international or business diplomacy. Conceptually, it represents a specific and sophisticated combination of classical diplomacy with a large number of other sciences and disciplines in order to develop the national economy, ie the overall social collectivity. Based on the understanding of the French projection from the 17th century and the instructions of President Francois Mitterrand from 1988, business diplomacy has evolved into a first-class foreign policy activity of every modern creation.

Science and academic education are indisputably implemented in the sphere of business diplomatic engagement. The essential function of business, ie economic diplomacy at the state level is the protection and promotion of normatively formulated strategic national interests in the international constellation. Considering this concept on a micro level, the focus is on the

Projects of diplomatic performance must be incorporated into defined policies of social and economic progress that have been adopted at the level of the highest institutions, ie the parliament and the government of the state. This realistically ensures stable, long-term prosperity of business entities, increased budget, clear perspective and development of the country.

The new concept of business diplomacy implies the adaptation of states and their corporations to current trends in the global community, modern economic trends and the international market. Therefore, it is necessary to provide the basic prerequisites for successful performance in various economic and non-economic activities. The processes of globalization and objective indicators of the situation in the world indicate the need for a well-thought-out, systematic and thorough, scientifically based approach. Economic espionage and intelligence are of the highest importance. Jobs in business diplomacy must be planned,

organized and conducted by highly qualified staff with the highest university education in specific areas.

Traffic, ecology and logistics in the modern social context mean areas of first-class importance for the existence of every country, region and international community. Planetary correlations, the westernization of the international environment, the permanent escalation of security challenges into the dramatic threat to the human population require a meaningful performance of all relevant factors. First of all, long-term strategic goals should be conceived in the mentioned branches and areas of engagement, then consistent transport, environmental and innovation policies should be adopted, adequate material resources should be provided and the highest quality human resources should be included in comprehensive academic training.

1. Business diplomacy and Europeanization of traffic

The postmodern business environment is primarily characterized by the constant hard struggle of entities to achieve competitive advantage at all levels of organization. Competing with the competition exceeds the norms of ethical behavior, using even the most cruel methods to eliminate rivals. All economic branches and social activities are marked by identical trends with the effort for supremacy and at the cost of destroying the opponent. Measures, actions and procedures for market control are constantly being improved with the application of innovations in the information and communication sphere. The basic postulates of written espionage and intelligence are implemented in every activity. The concept of business diplomacy in the field of transport includes a conglomeration of complex activities in the countries where the service is performed, according to the following: □ Daily monitoring of activities in the transport services market, □ Recording the quality of transport services, public opinion and official institutions in receiving countries, □ Establishing and nurturing business contacts with competent line actors and entrepreneurs, □ Possibilities of marketing products and capital from your country, □ Exchange of

information on traffic with relevant factors and institutions of the host country, Preparation and production of publications on traffic transport opportunities and resources of your country, □ Organize presentations, exhibitions and other forms of favoring one's own capacities, □ Participation in fairs and events organized by the host country, □ Engagement in scientific or professional conferences, symposia and seminars, □ Cooperation and participation in negotiations of delegations from their country, □ Collection of credentials living information on tendencies and innovations in the production of transport means, □ Conducting business negotiations for the needs of their institutions, □ Appearances in the media with topics of importance for the affirmation of the potential of their own country, □ Creating favorable conditions for economic entities of their country, □ Organizing interstate cooperation and exchange of expert delegations, □ Providing assistance to parent companies in doing business in the country, □ Undertaking adequate measures and procedures in the field of counterintelligence, especially information security, □ Defining and proposing strategic concepts for improving traffic in the home country, □ Regular submission of useful information and reports to superior government agencies, companies and more.

There would be no free movement without good traffic connections and without good traffic networks. Therefore, the transport policy of the European Union was primarily aimed at overcoming obstacles between member states and creating a single European transport network in which there are conditions of fair market competition between different types of transport such as road, air, water or rail. Statistically, the transport industry now employs about 10 million people, which according to the data makes up 4.5% of the total number of employees in the European Union. Overall traffic is a significant factor in the economic and social development of each country. The traffic connects the ends of the country, integrates all sectors of production. Without

traffic, there is no development of the economy (at the same time, that would prevent the import and export to other parts of the world), or any connection with other countries. Efficient and cheaper traffic enables faster flow of different types of goods and thus services, which affects the reduction of production costs and thus goods, services become more competitive on the world market. At the same time, more developed traffic, whether road, air, rail or water, affects an increasing number of employees, which in one country can affect a significant increase in standards, and thus later GDP. Good transport connections, as stated, are extremely important for the EU economy, especially in terms of exports - in this case, the export of goods is represented in 90% of cases by various modes of transport (road, water, air, rail). The requirements of modern traffic today include, in addition to basic knowledge of traffic regulations and management skills, the necessity of better preparation of people for traffic, and thus means traffic education and behavior during and during traffic activities, both on and off the road. Traffic policy is part of the general economic policy and also affects the socio-economic development of a country. The objectives, instruments and other factors of transport policy must be complementary to those in force in the European Union. Therefore, the goal is to improve the functioning of the internal market by ensuring the safety, efficiency, availability and quality of transport services, protecting the interests of users of these services and also protecting the environment.

The aim of transport policy is therefore set by the framework conditions for the various branches of transport in order to enable the transport of goods and passengers within the EU as well as at the international level, which would remove restrictions between countries. This would also contribute to price stability, improving the comfort of passenger transport as well as improving and at the same time a possible increase in living standards. Today's EU transport system is facing a growing conflict between the increased demand for mobility, which is why the issues of negative impacts on the environment are becoming increasingly

critical. Since its founding, the European Community (EC) has paid special attention to the problem of transport, which was confirmed by the Treaty of Rome (1957), but the fact is that for many years the right framework for the development of an efficient transport policy has not been found. For the first time in 1992, the EC Commission published a "Green Book", and shortly afterwards a "White Book" on the future of the common transport policy. The focus in particular in the first document was on sustainable transport and its effects on overall transport policy. In addition, in these documents, traffic is characterized as the main source of various environmental impacts, especially atmospheric pollution, noise and land use change. The general conclusion of this is that European transport has become a "victim of its own success". Congestion occurs primarily in road and air traffic, and the growth of transport activities is seen as the main cause of current problems of environmental pollution. The purpose of EU transport policy is to help people and protect them while traveling. One example was through the insurance and protection of passengers' rights. Now that there would be a delay, passengers do not have to investigate on their own and struggle to find out what happened. Based on that, they have the right to the information that they would receive from the transport company at that very moment. Passengers with disabilities and those with reduced mobility must receive special attention. As part of the project to complete the European Internal Market, transport connectivity across all EU Member States is of fundamental importance.

Technological advances in the last decade have significantly increased vehicle safety. This will make it possible to improve road safety in the future, especially in the field of automated and networked driving. To pave the way for automation, the Commission intends to develop a master plan for the development of a cooperative intelligent transport system (ITS), two-way communication between cars and road infrastructure. These systems allow vehicles to send warnings to each other, such as in the event of emergency braking or through infrastructure, which can be exemplified by

future road works. The goal of the European Union is to achieve a European road safety area in the period from 2010 to 2020. In order to achieve that, the application of measures aimed at the condition of vehicles, transport of dangerous goods and safety of road infrastructure is implied. According to the Report of the European Council for Traffic Safety for 2017, in 2016, 25,670 deaths were recorded on roads in the EU, which is 530 less than in 2015 (a decrease of 2%). In 2010, the EU renewed its commitment to improving road safety and set a target of reducing road deaths by around 50% by 2010 compared to 2010. An annual reduction of 6.7% was needed to achieve the EU's 2020 target. But, according to data from 2010, road deaths in the EU fell by 19%, which is only a decrease of 3.4% annually. The most endangered participants in traffic (pedestrians, cyclists) make up a large share of traffic (135,000 people). In the European Action Program for Road Traffic Safety for the period 2011-2020, year, demanding plans have been set to halve the number of deaths on European roads in the next ten years. Existing key initiatives relate to the introduction of a new European driving license and the entry into force of a cross-border directive that will enable the prosecution of perpetrators of cross-border traffic offenses.

Based on this, the European Parliament adopted a proposal for, for example, the introduction of better and better technical inspections for both passenger and freight vehicles in road transport, and great progress has been made in relation to the strategy to reduce the number of victims in traffic accidents. The EU has at its disposal various means of available actions in terms of road safety:

- Article 71 of the EC Treaty allows the EU to legislate measures adopted to improve transport safety within the principle of devolution;
- The EU supports research and technological development projects;
- The EU has the financial means to support initiatives aimed at raising awareness among decision-makers, professionals and the public, about major security issues and solutions;
- The EU has played an active role in defining accident investigation methods and creating the CARE database.

Compliance with the basic rules in traffic will be treated by educational and awareness-raising campaigns, which fit into the goal set by this program and which concern existing national activities organized by the police and other competent bodies and authorities. These actions are aimed at especially vulnerable users, young and old drivers. There is a revolution in the automotive industry that can provide significant benefits in terms of active safety and accident prevention. Modern electrical devices that control the safety functions of vehicles are increasingly being installed in vehicles. The European New Car Assessment Program (EuroNCAP) tests the safety of new cars in accordance with harmonized protocols for different types of accidents that can cause serious injuries to passengers and thus pedestrians. Passive safety - the use of seat belts is also a very important area of action, as it can potentially save around 4,000 lives. Road traffic safety is a scientific discipline that, using scientific methodology, monitors, studies and explains the phenomena (phenomenology), causes, conditions and other factors that cause phenomena that endanger people and property in traffic, especially traffic accidents (etiology) as well as strategy and tactics of traffic accidents and other negative phenomena in traffic, where in addition to their own results, they also use the results of other scientific disciplines. The basic factors of safety and security in traffic are: driver, vehicle and road. Traffic safety is the result of the interaction of these three elements. Due to high mortality rates, the United Nations General Assembly, by resolution 64/255 of 2 March 2010, covered the period 2011-2020. declared a decade of action on road safety, with the aim of giving priority to prevention and traffic safety in the next decade in order to save millions of lives and at the same time to prevent millions of injuries and disabilities. The very development of smart so-called. The "smart" car started with electronic fuel injection, power distribution control for each wheel, computer diagnostics, advanced air-bag systems and satellite navigation all the way to the message center, the possibility of autonomous parking (without driver), etc.

By promoting the principle of intermodality, the EU seeks to integrate different transport sectors into effective logistics chains in order to make optimal use of the sectors and thus reduce transport congestion. The existing network of European roads, railways, airports and canals should be transformed into a trans-European transport network (TEN-T) by the new infrastructure policy of the European Union. Siim Kallas, Vice-President of the European Commission in charge of Transport, said: "Transport is the cornerstone of the European economy. Without good transport links, Europe will not grow or prosper. The new EU infrastructure policy will establish a strong European transport network in all 28 Member States to promote growth and competitiveness. It will connect East to West and make the current fragmented transport network truly European." The new policy establishes for the first time a basic transport network based on nine main corridors: two north-south corridors, three east-west corridors and four diagonal corridors. This core network will significantly change East-West transport links, remove bottlenecks, improve infrastructure and simplify cross-border traffic for passengers and businesses in parts of the EU. Connections between different modes of transport will be improved and contribute to the achievement of the EU's climate change goals. The core network needs to be completed by 2030. The availability of funding will depend on the success of concluding negotiations on the overall multiannual financial framework for 2014-2020.

2. Business diplomacy and ecology

The phenomena of ecology, protection and improvement of the environment are topics of first-class interest for all researchers of social phenomena. At the same time, these are significant challenges and existential problems of the highest degree for every human community. Negative trends are constantly increasing, with no acceptable answers and solutions. Modern threats and risks produce numerous dangers, jeopardizing the survival of humanity. We are witnessing a worrying, malignant

expansion of non-military destruction, which endangers the human population on planet Earth. Environmental safety means the foundation for the realization of all human personal and business activities. This is especially related to the concept of sustainable development in all dimensions. The social, economic and environmental dimensions as structural areas of the sustainable development project comprehensively incorporate all relevant parameters of the observed community. At the center of consideration are natural resources whose conservation positions the object of crucial national importance. This implies a priority obligation of all relevant actors at the national, regional and planetary levels. The international community, through the engagement of existing institutions, regularly treats these issues, primarily the phenomenon of environmental security. Competent actors analyze the state of the human environment from five points of view: water and sanitary conditions, energy, human health, agricultural production with productivity and management of ecosystems and biodiversity. Since 2002, rallies have been held to resolve acute controversies. Previous summits at the highest level have promoted the need for internationalization of environmental problems, cooperation of influential factors and the design of appropriate documents, which has not eliminated the obvious contradictions. Business diplomacy in the environmental sphere includes: □ Monitoring of environmental parameters, □ Constant treatment of barometers of prices of specific items, □ Monitoring of innovations and scientific achievements in the host country, □ Collection of data on indicators of endangerment of the human environment, □ Monitoring of product range on the host country market, □ Monitoring of the presence of environmentally friendly products, especially of organic origin, □ Monitoring of introduction of information and communication technologies in the field of environment, □ Indication of placement of certain goods from home country, □ Organizing appearances in the media with an emphasis on the comparative advantages of their own country, □ Touring the host country and organizing meetings with target

groups, □ Through public appearances favoring their own national values, focusing on agriculture, tourism and manufacturing, □ Organizing exhibitions and fairs with presentations our health food products, □ Indication of the scope, range and production strategy in certain segments, □ Publication of newsletters and marketing materials, □ Preparation and regular submission of reports with specific proposals to the competent institutions. Today, the most commonly used definitions of sustainable development are: "... development that meets the needs of the present so as not to jeopardize the ability of future generations to meet their own needs" (WCED, 1987). This definition is given in the Report of the UN Commission on Environment and Development (the so-called Bruntland Commission) "Our Common Future" from 1987. The Bruntland Commission, or as its real name is, the World Commission on Environment and Development (WCED), whose task is to solve the problem of accelerated destruction of the environment and the consequences that such destruction has on economic and social development. . Environmental problems are global in nature and it is in the common interest of all peoples to establish sustainable development policies. Two basic concepts can be identified in the definitions: - the concept of needs that advocates achieving or maintaining an acceptable standard of living for all and - the concept of limiting (or limiting) the capacity of the environment, conditioned by the achieved levels in technological development and social organization. (WCED, 1987). Inadequate environment has a negative impact on health and quality of life. In that situation, the poorest layer of the population suffers the greatest consequences of environmental degradation. When considering the issue of environmental protection in countries in transition, it should be borne in mind that one of the main reasons why production, especially large transnational companies are moving abroad, is the tendency to bypass increasingly strict and fragmented legal regulations, but also awareness of environmental protection needs in the most developed countries (primarily the United States and the European Union). The

relocation of "dirty industries" and "dirty" technologies is something to be aware of when embarking on the process of privatization and attracting foreign investment. The phenomenon of international security encompasses a broader context, which includes the topic of protection and protection of the environment and environmental security. It can be said that the state in which the environment finds itself is significantly conditioned by the economic situation in which a certain country finds itself.

As countries in transition undergo major economic and political changes, they are also subject to environmental problems due to outdated technologies, poor legal regulations and poor control of companies that pollute the environment. Consequences of the transition for the environment: - legacy of the socialist period: - industrial development without taking into account the environment "industrial development with no concessions to the environment" - the largest number of pollutants built in or near cities - reduction of industrial production in the nineties led to significant reduction of pollution, - increasing car use and traffic chaos in cities have made pollution levels even higher; - waste management as the most serious problem. In March 2007, EU leaders set climate and energy goals that the Union should achieve by 2020, encouraging Europe to become a highly energy-efficient, low-carbon economy. The so-called "20-20-20" targets - which represent a 20% reduction in greenhouse gas (GHG) emissions in the EU, compared to 1990 levels; increasing the share of energy consumption from renewable sources to 20%; and a 20% improvement in the EU's energy efficiency - adopted as a climate and energy package in 2009. The overall goal of "20-20-20" is to fight climate change, increase EU energy security, strengthen competitiveness and ensure energy efficiency. The countries of the former Yugoslavia signed the Energy Community Treaty in Athens on October 25, 2005, and in 2009 they were joined by Moldova and Ukraine.

Tabela br. 1 – Ciljevi energetske zajednice za obnovljive izvore energije²

3. Business diplomacy and logistics

Logistics is an area with the widest capacity to improve the business of companies and government agencies in all segments of engagement. Considered in the broadest sense, it means the management of work processes from the initial stage to the final activities, including current information at all stages according to the projected goals. In

Ugovorna strana	Udeo obnovljivih izvora energije u ukupnoj bruto potrošnji energije, 2009.	Ciljani udeo obnovljivih izvora energije u ukupnoj potrošnji energije, 2020.
Albanija	31,2%	38%
Bosna i Hercegovina	34%	40%
Hrvatska	12,6%	20%
Makedonija	21,9%	28%
Moldavija	11,9%	17%
Crna Gora	26,3%	33%
Srbija	21,2%	27%
Ukrajina	5,5%	11%
Kosovo* ¹¹	18,9%	25%

that way, certain savings are realized, losses are reduced, it provides a competitive advantage on the international market and a significant increase in profits. This implies the engagement of competent factors, especially in the management structures. Functions and activities of economic diplomacy in this area include: □ Constant monitoring of logistics indicators, primarily costs and savings of companies in countries of engagement, □ Observation of innovations of technical - technological, organizational and IT nature, □ Data collection in the field of optimization of logistics and transport activities. primarily in urban areas, □ Monitoring the digitalization process in various spheres, from public administration to modernization of corporations, □ Participation in scientific and professional symposia, seminars and other gatherings, □ Establishing business contacts in entrepreneurial circles of the host country, □ Organizing a permanent and efficient network communication of companies and state bodies, □ Downloading and distribution of propaganda material,

brochures and monographs, □ Undertaking the envisaged measures for protection of information and documents, □ Creating the exchange of delegations, knowledge and experiences, □ Formulating proposals for optimizing business hunting processes in the country, □ Regular information and reporting to interested companies and superior institutions in the country. According to previous analyzes, traffic and transport are economic activities with really high logistical costs. Problems appear in the poor use of technical means, which is manifested in all stages of management. This is evident from inadequate planning, poor organization of work, inefficient process

management to inadequate control over the implementation of planned flows. Here, it is important to fully observe logistics networks, optimize activities and other postulates in the business environment. It can be said that the presented concept of logistics is applicable to various activities and economic actors. New academic approaches link logistics and digitization, primarily in the transportation industry. Requirements for flow optimization imply increasing the competitiveness of social entities in the current globalized market of goods and capital. This is especially applied in the conditions of urban traffic and transport. The introduction of digitalization increases the exchange of documents with a high degree of information security. Protection of transmission, ie secrecy of content is performed by encryption and other security methods according to international standards.

Conclusion

Business diplomacy means a complex science-based professional activity that is essential for the economic and overall social development of each country. Postmodern trends in the global community initiate a meaningful and systematic approach of all relevant entities in the implementation of

² Brnavić, A., Turković, M., Putokaz za razvoj obnovljivih izvora energije u Srbiji i okruženju, Cirs, Beograd, 2015, str. 9.

projected business strategies. Achieving a competitive advantage in the international market is possible only by hiring highly qualified staff with the use of innovative information and communication resources. These postulates imply requirements for permanent learning and implementation of modern trends in all areas of public life. Traffic, ecology and logistics are activities of special importance for every state creation. Therefore, they incorporate different contents of business modalities, modern paradigms and innovative projects. New trends in the international community indicate the application of adequate and proven academic concepts. The Europeanization of transport and the improvement of the living environment ensure the prosperity of the country on the basis of the implementation of appropriate business concepts of companies and state institutions. The implementation of logistics and digitalization in the given areas implies the application of innovations in the context of improving the state and prosperity of the community.

Literature

[1] Brnavić, A., Turković, M., Roadmap for the development of renewable energy sources in Serbia and the surrounding area, Cirs, Belgrade, 2015.

[2] Jovanović, A., The Situation and Perspectives of Construction of International Security and Legal Instruments of the Republic of Serbia in Supporting Contemporary Terrorism, Belgrade: CESNA B and International University Travnik in Travnik, 2019.

[3] Jusufranić, I., Basics of road traffic, Travnik, 2007.

[4] Jusufranić, I., Contemporary trends in transport, logistics and ecology in the function of sustainable development, Proceedings, V International Conference, International University of Travnik and Faculty of Transport and Traffic Sciences, University of Zagreb, 2014.

[5] Jusufranić, I., Nešković, S., Ketin, S., Biočanin, R., Management of Transport of Hazardous Materials, Fresensus Environmental Bulletin - FEB, Volume 27 - No. 6/2018.

[6] Meadows, D., Randers J., Limits of Growth, New York, Universe Books, First Edition, 1972.

[7] Nešković S., Traffic and ecology in the context of urban sustainable development, Proceedings, V International Conference, International University of Travnik and Faculty of Transport and Traffic Sciences, University of Zagreb, 2014.

[8] Neskovic, S ., European Union Traffic Policy and Corridors in Southeast Europe, Thematic Proceedings of Leading National Importance, Scientific Conference with International Participation "Corridors in Serbia and Southeast Europe", Velika Plana 03 - 04 July 2018, Proceedings, Edition Security in the Postmodern Environment, Book 26 , Belgrade: CESNA B and International University Travnik, BiH, 2018.

[9] Nešković, S., Jokanović, I., Stefanović, G., Reconstruction of Dysfunctional Urban Corridors: Case Study Cairo, Journal of Road and Traffic Engineering, Belgrade, Vol 64, No 4, 2018.

[10] Nešković, S., Business Ethics in Traffic, Ecology and Economy of Southeast Europe - Methods and Instruments of Implementation, Science and Technology, No. 10, Travnik: International University Travnik, Bosnia and Herzegovina, 2018.

[11] Nešković, S., Higher Education Reforms of the Western Balkans with Implications for Transport, Ecology and Sustainable Development, 17th International Conference International University of Travnik and Rezekne University of Latvia, Janusz Korczak University of Poland, University of Udine Italy, Ecological Research Institute Italy, "Trends, technological innovations and digitalization in transport, ecology and logistics in the function of sustainable development" Vlašić, Bosnia and Herzegovina, 11 - 12 May 2018, Travnik: International University Travnik, 2018.

SMART SYSTEMS FOR SAFE DRIVING

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Abstract: *Excessive speeds and unsuitable driving speeds are the key cause of the road traffic accident, causing more than 50% of traffic accidents with fatal consequences. The solution to this problem is the application of modern technological solutions, as smart systems in the vehicle. The use of these systems has become an integral part of daily driving experience, and it is necessary to explore the advantages and challenges of their impact on driving safety. In recent years, the process of introducing smart systems in the vehicle is accelerated, such as electronic stability control, intelligent speed control, automatic braking, etc. However, such systems can only help them if drivers know them properly. Therefore, in this work, the selected vehicle sample shows the results of the research conducted with the aim of understanding the use of smart systems and their impact on improving driving safety. The collected data is processed using a computer program, adapted to handle this type of data. The hi-squared test method was used to verify certain hypotheses. The obtained results point to the possibility of significant impacts of smart systems to improve driving safety, and based on which concrete measures for their use are proposed.*

Key words: *unsuitable speed, smart systems, safe driving.*

1. INTRODUCTION

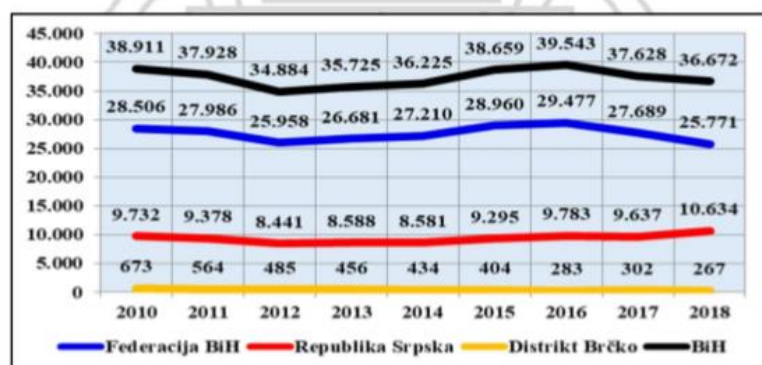
In 2020, a 50 percent reduction in the number of fatalities is planned - 15,750), 25,100 people died on the roads of the EU in 2018, and another 135,000 were seriously injured. According to statistical indicators, human error is the cause of 90% of traffic accidents. The new mandatory vehicle safety features that have been adopted will prevent drivers from making fewer mistakes, reduce the number of accidents and pave the way for future connected and automated driverless driving. It is estimated that these measures could save up to 10,500 lives and avoid nearly 60,000 seriously injured between 2020 and 2030, contributing to the EU's long-term goal and vision of approaching zero death rates by 2050. injured in road traffic. On the roads in BiH from 2010 to 2018, the number of fatalities decreased by 78 or 22% (by 2020, a 50 percent reduction in the number of fatalities is planned - 177), and in 2018, 277 people lost their lives in traffic accidents. persons, which is 7% less than in

2017. 1,653 people were seriously injured, which is 2.7% more than in 2017.

2. STATE OF ROAD SAFETY IN BOSNIA AND HERZEGOVINA

The review of the state of road traffic safety in absolute terms refers to the period from 2010 to 2018 for Bosnia and Herzegovina, in accordance with the decade of safety, i.e. the Action Plan for Road Traffic Safety.

Figure 1 shows the number of traffic accidents in Bosnia and Herzegovina and by entities, where it is important to consider the trend from 2010 to 2018 and 2020.



Slika 1. Prikaz broja saobraćajnih nezgoda u BiH, od 2010. do 2018. godine
Izvor: Izradili autori prema podacima [1]

Figure 1. Overview of the number of traffic accidents in Bosnia and Herzegovina from 2010 to 2018. Source. Made by the authors according to the data.

The analysis of the number of traffic accidents from 2010 to 2018 shows that a total of 336,175 traffic accidents occurred in that period, with minor deviations, an average of 37,353 traffic accidents per year, 102 traffic accidents per day. Figure 2 shows the number of people killed in traffic accidents in Bosnia and Herzegovina and by entities, where it is also important to consider the trend from 2010 to 2018 and 2020.



Slika 2. Prikaz broja poginulih u saobraćajnim nezgodama od 2010. do 2018. godine
Izvor: Izradili autori prema podacima [1]

The data from Figure 2 indicate that in 2018 in Bosnia and Herzegovina the least number of people were killed in traffic accidents (277) looking at the observed period from

2010. This is 78 people less or 22% compared to 2010. A total of 2,881 people died in those nine years, or an average of 320 people a year. The data also indicate that in 2018 in Bosnia and Herzegovina there were the least traffic accidents with material damage, 1,315 accidents less than in 2017 or 4.3% less, which may be partly due to the increasing use of the European Traffic Accident Form by drivers who participated in a traffic accident with minor property damage. Analyzing and comparing the trend of planned and actual number of deaths at the level of the state of Bosnia and Herzegovina it can be concluded that the situation is similar, Figure 3. The figure shows that the situation until 2014 was satisfactory in terms of planned and actual deaths in traffic accidents.

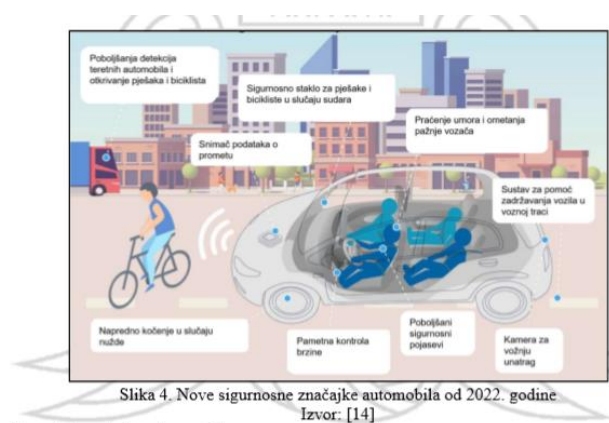


Slika 3. Planirani i stvarni trend broja poginulih na cestama BiH od 2010.-2020. godine
Izvor: Izradili autori prema podacima [1]

The trend in the death rate of the number of deaths per hundred thousand inhabitants is slightly declining, especially in the last four years. The lowest number of deaths per one hundred thousand inhabitants since 2010 is in 2018, when the death rate was 7.2 deaths per hundred thousand inhabitants or 72 persons per million inhabitants. However, in 2015, there was an increase in the actual number compared to the planned number of deaths, and this trend continued until 2018. The actual number of fatalities increased by 22% compared to the planned, and compared to 2010 it decreased by 28% or 78 fewer fatalities. Taking into account the set goal of reducing the number of deaths by 50% by 2020, it can be clearly concluded that it will be very difficult to achieve it, because the number of deaths in the next two years should be 56%, and for what there are very small prospects.

3. NEW SAFETY CHARACTERISTICS OF INNOVATIVE VEHICLE SOLUTIONS

In terms of safety, the new vehicle models from 2022 will be equipped with advanced safety features such as advanced emergency braking systems, lane keeping systems and pedestrian and cyclist detection systems for trucks, Figure 4. The team would measures could save up to 10,500 lives and avoid almost 60,000 serious injuries between 2020 and 2030, contributing to the EU's long-term goal of approaching zero death rates and serious injuries by 2050.



Advanced new systems in vehicles are:

- advanced emergency braking (cars),
- facilitating the installation of engine blocking devices due to driver alcoholism (cars, vans, trucks, buses),
- detecting drowsiness and attention (cars, vans, trucks, buses),
- recognizing and preventing distractions (cars, vans, trucks, buses),
- recording data on events or traffic accidents (cars and vans),
- emergency stop signal (cars, vans, trucks, buses),
- collision testing for passenger protection - improved seat belts (cars and vans),
- increased head impact zone for pedestrians and cyclists-safety glass (cars),
- intelligent speed assistance (cars, vans, trucks, buses),
- assistance in maintaining vehicles in driving lanes (cars, vans),
- protection of passengers from a side impact (cars, vans),
- reversing camera or detection system (cars, vans, trucks, buses),
- tire pressure control system (vans, trucks, buses),
- detection and warning of unprotected road users (trucks and buses),

improvements for direct detection of unprotected participants from the driver's position (trucks).

Mentioned new minimum vehicle safety requirements will take effect in 2022. It is important that these requirements will also improve the safety of all road users, not just the passengers in the vehicle. Truck drivers will have better visibility of pedestrians and cyclists around their vehicles, all drivers will find it easier to stay within the set speed limits, and automated emergency braking systems will be able to detect people, not just other vehicles.

4. SMART SYSTEMS FOR SAFE DRIVING

Through the scope and manner of using smart systems in the vehicle, the aim was to investigate the age structure of the vehicle, the level of driver information and knowledge of smart systems, opinions on new technologies and trends, innovative technological solutions and the possible impact of smart systems on driving safety.

4.1. Research methodology

The conducted research consisted of checking the opinions and knowledge of drivers who drove the vehicle using or not smart systems. A survey questionnaire was prepared for the research, the content of which was adapted to this research, in which 27 questions were asked, distributed in individual content areas. The first content area referred to general data related to drivers (gender, age group, possession of a driver's license, participation in a traffic accident). The second content area referred to the make and type of vehicle, year of manufacture and first registration and type of transmission. The third part referred to the opinion, information and knowledge of the use of smart systems and to the assessment of the benefits of smart systems. This problem orientation determined two research goals. The first, to what extent are the opinions and knowledge of drivers related to the use of smart systems and the second, to what extent are smart systems related to driving safety.

4.1.1. Data collection and processing

Data collection was conducted through a survey for drivers [17] in the fourth month of 2019 in the Central Bosnia Canton, Bosnia and Herzegovina. Drivers were interviewed directly by random selection according to the established methodology, after being excluded from traffic. The survey was conducted by students and assistants of the Faculty of Traffic and Transport Engineering Travnik in Travnik with the help and cooperation of the traffic police. The survey was conducted with 302 drivers, which is an appropriate sample for trend research using an appropriate methodology. Frequency distributions and percentages were used to process the data, and the chi-square test method was used to test certain hypotheses. The statistical significance of the differences between the observed distributions of certain results observed on a specific sample with theoretical expectations according to the principle of proportionality of the occurrence of a particular distribution of results was tested by the chi-square test method. The relationship between observed and expected results, statistically significant or not, is the basis for concluding about the possible causes of the observed distributions. All statistical tests were performed at the risk level of

5%. A computer program - Statistical Package for Social Sciences (SPSS 20.0) [18] was used for data processing, which is a program for applying a chi-square test with a database adapted to computer processing.

4.1.2. Hypothesis testing model

To measure the deviation between the empirical and expected theoretical frequencies in a sample of n elements, a chi-square test is used [19]:

where: f_i - empirical frequency; f_{ti} - theoretical frequency; k - number of classes.

The chi-square test χ^2 , was used to verify the hypotheses about the agreement of the empirical with the theoretical distributions, forming the size χ^2 according to the stated pattern, with a risk of 5%. In doing so, the condition that the frequencies f_i are greater than 5 must be met. If f_i is less than 5, which often happens in the initial and final classes, then these classes are included in the adjacent ones. The chi-square test actually checks the probability of a random occurrence of the difference between the observed frequencies (values determined by the research) and the theoretical frequencies (those expected according to the random distribution). If the χ^2 value reaches the level of statistical significance (eg $p < 0.05$) then it can be argued with 95% certainty that the differences between the observed and theoretical frequencies are not conditioned by chance, but that it is basically a systemic factor.

4.2. Interpretation of research results

The analysis of the research results provides information on the prevalence, frequency and intensity of a particular opinion of the surveyed drivers in response to a particular question. Frequency distributions, percentages, and statistical tests will be used to comment on the results below, in order to link these data and offer possible interpretations of the status quo. The questions that were taken into account were put in relation to individual parameters and tested using the χ^2 test.

Table 1 shows the number and percentage of drivers surveyed by gender and age group.

Table 1. Number and percentage of respondents

Tablica 1. Broj i postotak anketiranih vozača prema spolu

		2. Spol			
		Frekvencija	Postotak	Važeći postotak	Kumulativni postotak
Važeći	žene	57	18,9	18,9	18,9
	muškarci	245	81,1	81,1	100,0
	Ukupno	302	100,0	100,0	

Izvor: Izradili autori prema podacima [17].

4.2.1. Frequencies of occurrence of individual answers and the relationship of individual theses

Frequency of occurrence, individual and cumulative percentage will be used to show the answers of the surveyed drivers to individual questions out of a total of 27. 5. Have you been involved in a car accident so far? Of the 302 drivers surveyed, 200 or 62.2% did not participate in the accident, as

6. What brand of car do you drive? Of the 302 drivers surveyed, 89 or 29.5% said they drive a Volkswagen, followed by 32 or 10.6% who drive an Audi and 29 or 9.6% who drive a Mercedes.

7. What type of car is it? Among 302 drivers, the most common type of vehicle is the Golf 2 and Golf 4, 5.6% each, followed by the Passat with 5.3%.

8. Year of first registration? If the trend is observed, then 2001 to 2004 prevail, which represents 31.5% or 95 vehicles of the total number of surveyed drivers based on the year of first registration, which practically means that vehicles in these categories are aged 15 to 18. . However, it is obvious that there are also older vehicles, more than 20 years old, which represent 13% or 39 vehicles. There are also vehicles up to 10 years old, which represent 26% or 79 vehicles out of a total of 302 vehicles surveyed drivers. Based on these data, it can be concluded that the year of first registration shows a high age of vehicles in the SBK area, the average age is 15 years.

9. Year of car production? Figure 5 shows the frequencies of the structure of the car production years of the surveyed drivers.



Figure 5. Display of frequencies of vehicle production years of surveyed drivers Source: Made by the authors according to the data [17]

If the trend is observed, then vehicles manufactured from 2001 to 2004 prevail, which represents 34.0% or 103 vehicles of the total number of surveyed drivers based on the year of production, which practically means that vehicles in these categories are also older than 15 up to 18 years. However, it is obvious that there are also older vehicles for more than 20 years, which represent 17.2% or 52 vehicles. There are also vehicles up to 10 years old, which represent 19.2% or 58 vehicles out of a total of 302 vehicles of the surveyed drivers. Based on these data, it can be concluded that the year of production shows a high age of vehicles in the Central Bosnia Canton area, ie the average age is 14.5 years.

12. What do you think about cars that have smart systems?

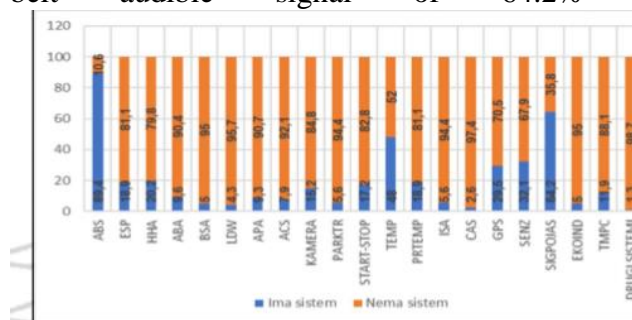
Of the 302 drivers surveyed, 91.1% or 275 said they supported such cars, while 7.3 or 22 considered them difficult to drive. This data points to the conclusion that drivers have support for the use of smart systems.

13. What do you think about using a car without a driver? Of the 302 drivers surveyed, 60.3% or 182 do not support the use of driverless cars, 10.9% or 33 consider them dangerous, 17.5% or 53 consider them smart, while the same percentage of 5, 6% or 17 drivers support it or are not aware of using a driverless car. Thus, 71% of drivers or over two thirds of them do not support the use of driverless cars. This indicates insufficient knowledge of innovative technological

solutions and the advantages that such solutions bring.

14. Which in-vehicle smart system should be used the most? Of the 302 drivers surveyed, 21.5% or 65 (slightly more than one-fifth) reported the Anti-Lock System (ABS), 9.9% or 30 did not know, 9.3% or 28 reported GPS, 6.3% or 19 of them indicate sensors, etc. These data indicate the rare use of certain smart systems, and ABS should be used the most, which is understandable given the age of the vehicle, in the production of which most new innovative technological solutions were not even used.

15. What smart systems does your car have? All 302 surveyed drivers stated which smart systems their car has and which they do not, Figure 6. The vast majority of drivers stated that they do not have the majority of smart systems offered, and only for two stated that 89.4% or 270 of them have ABS. and a seat belt audible signal of 64.2%



Slika 6. Prikaz frekvencija pametnih sistema koje ima/nema vozilo voza
Izvor: Izradili autori prema podacima [17]

So, drivers stated that 98.7% of them do not have other systems in the vehicle, 97.4% of them do not have CAS in the vehicle, 95.7% of them do not have LDW in the vehicle, 95.0% of them do not have an ECO INDICATOR in the vehicle, 94.4 % of them do not have ISA and PARKTRONIC in the vehicle, 92.1% of them do not have ACS in the vehicle, 90.7% of them do not have APA, 90.4% of them do not have ABA in the vehicle, 88.1% of them do not have TMPC in the vehicle, etc. obtained data, it can be argued that the vast majority of vehicles do not have the majority of smart systems, ie that a very small percentage of vehicles up to 5% have the majority of smart systems. Of course, these are new vehicles, and given the

age of the vehicles, most of them do not have smart systems.

19. Which smart vehicle system do you use the most while driving? Of the 302 drivers surveyed, 32.1% or 97 (about one third) reported ABS, 6.3% or 19 reported cruise control and sensors, 5% or 15 reported GPS, 4.3% or 13 reported ABS / ESP and GPS / TEMPOMAT, etc., while 9.3% or 41 do not use any system. Based on these data, it can be concluded that drivers use very little smart systems in relation to the age of the vehicle and the equipment of the vehicle with smart systems. They mostly use ABS (about one third of drivers), which is both logical and understandable considering that it is the first smart system that has long been installed in vehicles.

25. Are you for autonomous cars? All 302 surveyed drivers answered the question whether they are for autonomous cars, driverless cars. Most drivers 62.9% are not for autonomous cars, because they are insecure and afraid, 7.9% of them are also not because they think they are dangerous and unsafe, while 29.1% (almost one third) are still for autonomous cars because they think they are safe.

26. If you, as a driver, had a traffic accident, did that vehicle have smart systems? Responses to the inquiry of all 302 surveyed drivers show that 8.3% of them stated that the vehicle had smart systems, and 91.7% stated that the vehicle did not have smart systems. The relative ratio of the number and percentages of surveyed drivers, Table 3, who participated in the accident as drivers in relation to the fact that their vehicle had smart systems shows a statistically significant difference ($\chi^2 = 32.37$; $ss = 2$; $p < 0.000$), that there is a general tendency that drivers who have been involved in an accident with a vehicle that had smart systems are more likely to be involved in traffic accidents.

Tablica 3. Broj i postotak anketiranih vozača koji su imali saobraćajnu nezgodu s vozilom koje je imalo pametne sisteme

26. Ako ste kao vozač imali saobraćajnu nezgodu, jeli to vozilo imalo pametne sisteme?		da	ne	Ukupno
5. Jeste li do sada sudjelovali u saobraćajnoj nezgodi	NE	4	196	200
	kao vozač	19	67	86
	kao putnik	2	14	16
Ukupno		25	277	302

Izvor: Izradili autori prema podacima [17]

27. If you, as a driver, were in a situation where you had a car accident, did any of the smart systems prevent it from happening or mitigate the consequences? All 302 surveyed drivers responded to the inquiry. 5.3% of them stated that the smart system prevented or mitigated the accident, and 94.7% of them stated that it did not. Table 4 shows the relative relationship of participation in a traffic accident and possession or not of a smart system in a vehicle. The relative ratio of the number and percentages of surveyed drivers, who participated in the accident as drivers in relation to the fact that in their vehicle some smart system prevented or mitigated the accident shows a statistically significant difference ($\chi^2 = 13.63$; $ss = 2$; $p < 0.001$), that there is a general tendency for some of the smart systems to prevent or mitigate an accident, more often involved in traffic accidents.

Tablica 4. Relativni odnos broja i postotka vozača koji su imali saobraćajnu nezgodu u kojoj su pametni sistemi spriječili ili ublažili nezgodu

27. Ako ste kao vozač vozila bili u situaciji da imate saobraćajnu nezgodu, je li neki od pametnih sistema spriječio njeno događanje ili ublažavanje posljedica?		ne	da	Ukupno
5. Jeste li do sada sudjelovali u saobraćajnoj nezgodi	NE	195	5	200
	kao vozač	75	11	86
	kao putnik	16	0	16
Ukupno		286	16	302

Izvor: Izradili autori prema podacima [17]

o is the answer yes, specify which? Of the 302 drivers surveyed, 94.7% answered that no smart system prevented the occurrence or mitigation of the accident, and 5% of them stated that it was ABS and 0.3% of them stated that it was ESP. The relative ratio of the number of surveyed drivers, who participated in the traffic accident as drivers in relation to the fact that ABS prevented or mitigated the accident in their vehicle shows a statistically significant difference ($\chi^2 = 14.64$; $ss = 4$; $p < 0.007$), and that there is a general tendency for drivers who have ABS in their vehicle to use it more often to prevent

an accident or to mitigate the consequences of a car accident.

4.2.2. A review of the results of research on the use of smart systems

Research on the use of smart systems in this work by drivers while driving was considered in terms of gender of drivers, their age structure, possession of a driver's license, participation in a traffic accident and information and knowledge of innovative technological solutions and smart systems and future development trends and applications. Taking into account the age structure of the surveyed drivers, the results point to the fact that they are most represented with 39.1% of drivers aged 30 to 44, which should be viewed as a trend. This is important because of the approach and knowledge of innovative technological solutions and thinking about new smart systems. Looking at the trend, 46.7% of drivers drive more than 15,000 km a year on average, and 20.5% of drivers drive 10,000 to 15,000 vehicles a year on average. There is a general tendency for male drivers to drive significantly more a year. the vehicle travels miles from the female driver. The results show that so far 28.5% of them participated in the accident as a driver, and 5.3% as passengers. The structure of motor vehicles shows that a maximum of 29.5% are represented by VW vehicles, type GOLF 2 and 4 and PASSAT. Based on the year of the first registration, the average age of vehicles in the SBK area is 15 years, with one third falling into the category of 15 to 18 years, and 13% of vehicles are older than 20 and more years. The trend shows that only 26% of vehicles are in the category up to 10 years of age. In relation to the year of production, the trend is dominated by vehicles manufactured from 2001 to 2004. Which represents 34.0% of the total number of samples, which again leads to the conclusion that vehicles are on average 15 to 18 years old, and that only 19.2% of vehicles or one fifth to 10 years of age. Most of the drivers surveyed, more than 91% of them support cars that have smart systems. One fifth of them or 21.5% think that ABS should be used the most in the vehicle, which is

understandable and logical considering the age of the vehicle, which also indicates the rare presence of other and new smart systems. Their vehicles usually have only two smart systems, ABS 89.4% and a seat belt audible signal 64.2%. Most of the smart vehicle systems mentioned in the survey do not have the surveyed drivers. Based on the obtained research results, it can be argued that the vast majority of vehicles do not have the majority of smart systems, ie about 5% of vehicles have the majority of smart systems, and these are new vehicles. Only 8.3% of the vehicles involved in the accidents had smart systems. Drivers who used ABS or ESP prevented from participating in traffic accidents or mitigated the consequences of accidents. The use of driverless cars, ie autonomous vehicles by more than two thirds of the surveyed drivers, 71% did not find support, because they do not support such a solution. The results show that 69% of drivers do not know the meaning of the term autonomous car, are not familiar with innovative technologies and what they consider dangerous.

5. CONCLUSION FINDINGS

Although, according to indicators, the number of road deaths decreased from 2010 to 2018 in both the EU and Bosnia and Herzegovina the very ambitious goal of a 50% reduction in road deaths by 2020 will not be achieved. The first step that needs to be taken, in order to identify new measures for the next decade, is the analysis of existing measures, programs and Action Plans and their implementation so far. More recently, "smart systems" have been installed in vehicles that can help prevent traffic accidents and save lives. With the new safety features of vehicles that will be mandatory from 2022, the increased use of electric vehicles and the development of e-mobility has a certain future in solving urban problems, from congestion, noise to reducing greenhouse gas emissions. The Bosnia and Herzegovina authorities need to launch various initiatives, in addition to addressing the challenges of using, such as co-financing or encouraging a higher level of awareness among citizens, for the procurement of electric vehicles, in order to improve the

quality of life and road safety. The results of research on the use of smart systems in vehicles in this paper and in the area of SBK indicate the following: • The average age of vehicles is from 15 to 18 years, which significantly negatively affects the reliability and technical correctness, and thus has a negative impact on driving safety. ie road safety, • most vehicles do not have innovative technological solutions, or smart systems, which significantly affects driving safety, with the most common ABS, which is given the age of the vehicle and understandable, • the development of e-mobility as one of innovative solutions for future urban mobility and reduction of greenhouse gas emissions, has a good perspective in the context of thinking, but weak and uncertain application and implementation, • use of driverless cars, ie autonomous vehicles currently has no support because drivers do not have the necessary knowledge about autonomous cars , about innovative technologies, and consider them dangerous. Recognizing the benefits offered by smart systems in vehicles, as well as their impact on driving safety, it is essential to continue to encourage their application.

LITERATURE

- [1] BIHAMK (2010-2018). Information on traffic accidents, their causes and consequences in Bosnia and Herzegovina. Information and Documentation Sector. Sarajevo.
- [2] <https://etsc.eu/safer-roads-safer-cities-how-to-improve-urban-road-safety-in-the-eupin-flash-37/>, Press_release, 11 June 2019 (20.05 .2019)
- [3] Mujić, A., Mušinović, H., Alispahić, S., Đurić, T., Zec, I. (2017). The impact of legislation on the safe behavior of road users. XV. International conference. Traffic, environmental and economic problems and perspectives for solving in the countries of the Western Balkans with a review of BiH, 19.-20. May, 2017, Vlašić, Travnik, BiH.

[4] European Commission (2011). White book. Roadmap to a Single European Transport Area - The Road to a Competitive and Efficiently Managed Transport System, Brussels. Brussels.

[5] European Commission (2010). Road Safety program 2010-2020. Brussels.

[6] European Commission (2018). EC communications to the European Parliament and the Council. Towards automated mobility: An EU strategy for the mobility of the future. COM (2018) 283 final, Brussels.

[7] European Commission (2019). Staff Working Document: EU Road Safety Policy Framework 2021-2030-Next steps towards "Vision Zero", SWD (2019) 283 final, Brussels.

[8] Government of the Federation of BiH (2011). Traffic Safety Action Plan in FBiH 2011.2020. Sarajevo.

[9] European Commission (2017). Report from the Commission to the European Parliament and the Council. Saving lives: Improving car safety in the EU.

[10] Mušinović, H. (2018). Final work. Innovative technologies in the function of improving road safety, Faculty of Transportation Travnik in Travnik, Travnik.

[11] European Commission (2018). 5th EU Road Safety Action Program 2020-2030. Brussels

[12] Directive 2008/96 / EC of the European Parliament and of the Council of 19.11.2008. on road infrastructure safety. Official Journal of the European Union, L 319/61

[13] European Commission (2019). Press release. New vehicle safety standards. Brussel

[14]
<https://ec.europa.eu/docsroom/documents/29343> (21/05/2019)

[15] <https://bihamk.ba/> (May 22, 2019)

[16] Alispahić, S., Jusufrić, J .; Imamović, M. (2016). Automated driving safety. XIII. International conference. Innovative

technologies in the function of solving traffic and environmental problems of countries in transition, 27.-28. May, 2016, Vlašić, Travnik, BiH.

[17] Mušinović, H. (2019). Survey questionnaire. Using smart in-vehicle systems. Faculty of Traffic and Transport Engineering Travnik in Travnik. Meadow.

[18] www.spss.com (June 23, 2019)

[19] Petz, B., Kolesarić, V., Ivanec, D. (2012). Petz's statistics. Basic statistical methods for non-mathematicians. Naklada Slap. Zagreb

INFLUENCE OF A SANCTION ON BEHAVIOR IN TRAFFIC

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Abstract: Traffic accidents with consequences to life and health of people are a global problem recognized by the United Nations General Assembly. In regards to that they have proclaimed a Decade of Action for Road Safety in order to decrease consequences in road traffic. Five strategic pillars have been systemized: Road safety management, Safer roads and mobility, Safer vehicles, Safer road users, Postcrash response. In order to manage road safety in the first place, it is necessary to be familiar with the state of play, to have defined goals, i.e. desired outcome and know the tools necessary to get close to the desired outcome. Traffic accidents occur on roads, in the field of traffic profession. However, it is obvious that the problem of road safety cannot be solved exclusively in the field of the traffic profession. A polyvalent approach of different professions is required. From the aspect of psychology and pedagogy it is necessary to establish correct attitudes of road users. Well designed and built roads and well equipped and maintained vehicles require involvement of traffic, mechanical and civil engineering professions. Good regulations, efficient judiciary and police are very important factors of road safety and their activity largely has preventive aspect towards potential participants in traffic accidents.

Key words: traffic accident, violation, penalty, prevention, regulations.

1. INTRODUCTION

The first recorded traffic accident with fatalities occurred in Glasgow in 1834. The accident occurred with the explosion of a steam boiler on a moving bus, as a result of which five people were killed. Another fatal traffic accident occurred in London in 1896. A pedestrian was killed in this traffic accident. The investigator demanded the most severe punishment so that such a tragedy would not happen again. The third traffic accident occurred two years later, in 1898 in the United States. In this accident, the vehicle landed off the road, as a result of which the driver was fatally injured. Today, in the world, as a result of traffic accidents, about 1,200,000 people die, and about 50,000,000 of them are seriously or lightly injured. Traffic accidents have been recognized as a significant cause of death and injury to millions of people on the planet.

Table 1 shows a sample of the causes of death on the planet.³

Table 1. Causes of death

Tabela 1. Uzroci smrtnog stradanja

r.b.	UZROCI SMRTNOG STRADANJA	%
1.	Automobil	36.00
2.	Rušenje i potresi	22.00
3.	Davljenje/gušenje	14.60
4.	SN-drugi vid saobraćaja	6.20
5.	Požari i eksplozije	4.40
6.	Vatreno oružje	1.50
7.	Ostali uzroci	15.30

³ Global Plan for the Decade of the Decade of Action for Road Safety 2011-2020

In May 2010, the United Nations General Assembly declared the period 2011-2020 the Decade of Action for Road Safety, with the aim of stabilizing and then reducing road casualties around the world, through increased activity at the national, regional and global level.

2. THEORY OF TRAFFIC ACCIDENTS

According to research, man is the biggest cause of traffic accidents. American scientist William Haddon has established a matrix of influential elements on traffic safety, known as the Hedon matrix. According to his research, man is present everywhere and can always be influenced, regardless of his age and education.

Table 2 shows the Hedon matrix⁴

Tabela 2. Hedonova matrica

FAKTORI BEZBJEDNOSTI	UTICAJNI ELEMENTI	
	AKTIVNA BEZBJEDNOST	PASIVNA BEZBJED
	PREVENTIVA	POSLEDICE
ČOVJEK	Obuka, sposobnost, stavovi, ponašanje	Obuka-prva pomoć, psih. sposobnost
VOZILO	Tehnička ispravnost, oprema vozila, pouzdanost..	Oprema vozila, zaštita o masa, konstrukcija
PUT	Kvalitet puta, održavanje, samoobjašnjavajući putevi...	Kolovoz, oprastajući put oprema puta, izmjenjiva signalizacija
OKRUŽENJE	Propisi, porodica, klima, zaštitni sistem, kvalitet uviđaja	Urešenost okoline puta, hortikultura, zdravstven

It can be seen from Table 2 that prevention is most prevalent in the MAN factor in terms of his training, abilities, attitudes and behavior, ie that it is directly related to the environment or regulations and family relationships. In order to be able to deal with changing the behavior of a person participating in traffic, it is necessary to change the attitudes that are incorrectly formed, from early childhood. Previously, it is necessary to group drivers, ie to isolate offenders who are prone to committing traffic violations, which is not difficult to do today, given the existence of a register of misdemeanor sanctions.

The theory of traffic accidents has been inapplicable for a long time, ie it has been reduced to: 1. case theory - traffic accidents happen by accident, 2. infection theory - traffic accidents occur as infections, 3. propensity theory - some people are predestined or prone to traffic accidents, 4. spell theory - personality traits and unfavorable environmental factors lead to a traffic accident.

The case theory advocated the probability that all people have an equal chance of having a car accident, which proved to be incorrect.

The theory of infection arises after the realization that the theory of the case is not sustainable, that is, that individuals have more traffic accidents in a short time and others do not have traffic accidents for a longer period of time. This theory starts from the theory of chance, that all people have the same chances to experience the first traffic accident, and that there are people who become infected and continue to commit traffic accidents. However, statistics recorded a group of people who had one car accident and did not have it for a long time after that.

The theory of inclination arises after realizing that previous theories are not viable for a large number of people, and is based on the following hypotheses: □ some people are more prone to incidents than others, □ propensity to incidents can be well assessed based on psycho-physical personality traits, □ propensity to one the type of incident also entails a propensity for each other, in this case traffic accidents.

Thus, an attempt is made to determine the propensity for incidents and thus traffic accidents by personality traits. However, in practice, a large group of people who have traffic accidents but have not recorded another type of incident has been isolated. Spell theory emerges after a period of tracking people who are prone to incidents according to the propensity theory, but have not been involved in traffic accidents for a

⁴ Lipovac, K. Osnove bezbjednosti saobraćaja, Beograd 2014. g.

long time. It was also determined that a group of persons for whom the propensity for incidents was not determined, and that a significant number of traffic accidents were recorded in them. This theory identifies a group of risky drivers, their propensity to traffic accidents, and social measures through the traffic safety system directs them towards risk control or compensation. Thus, a person who is registered in the records of violations as a risky driver, becomes the subject of interest of the security subjects, in a way that is not rejected as such, but is directed in the direction of his resocialization. The Register of Misdemeanor Sanctions is a database that can be used to group persons-participants in traffic who represent a risk group.

2.1. Law enforcement and behavior change

It is possible to use the register of misdemeanor sanctions to isolate a group of drivers who, according to Spell's theory, are prone to incidents in general and in traffic in particular. It is very important to pay attention to the type of offense committed according to the severity or risk of a traffic accident. Changing the behavior of a driver who is prone to committing traffic offenses, previously requires a change of attitudes in the same. Attitudes that are wrong and formed at an early stage of an individual's life are very difficult to change later, which does not mean that this cannot be done. Regulations and the application of traffic regulations play a very important role in changing the behavior of road users, not just drivers. The EU estimates that a change in behavior could reduce the number of people killed in traffic accidents by 20 to 40%.

In order to permanently improve the behavior of traffic participants, it is necessary to have:

- quality regulations,
- a high level of compliance,
- a high level of efficiency in the execution of sanctions.

Changing driver behavior is realized in three phases:

Phase I: Police and Judicial Repression,

Phase II: Change of attitudes,

Phase III: Changing social and moral norms.

Changing behavior due to the presence of the police on the road, installed IT recording systems and recording violations, is the phase when drivers respect the speed limit in a particular situation. If it is a question of violent driving, passing through a red light, driving in an alcoholic state, under the influence of narcotics, and if the execution of imposed misdemeanor sanctions is late, it is expected that such drivers cause traffic accidents and that the measures taken have no effect on their behavior. When regulations, education, training and campaigns are persistently promoted, compliance with regulations is monitored, traffic participants accept legal norms as socially useful and a positive change in the behavior of traffic participants occurs very quickly. The change of moral and social forms the attitude that traffic violations lead to danger and gives respect for regulations of interest to every individual. After a lengthy and consistent application of the red light law and a comprehensive campaign that expertly explains the meaning of coercion, most drivers accept that it is immoral to go through a red light or drastically exceed the speed limit.

Before that, it is necessary to have a systematic approach to important segments of work:

- formation of expert views on traffic safety,
- harmonization and promotion of attitudes and principles with the general public,
- shaping adopted positions in laws and other regulations,
- adoption of laws and other regulations,
- implementation and improvement of regulations in practice.

Examples:

- The first use of seat belts³⁴ was in the 1970s, and for the next 15 years all countries of the world accepted these rules.
- The first graded driver's licenses were realized in New Zealand in 1987 and 10 years later the system was applied in Australia, Canada, USA ...
- when it was determined that airbags alone are not a good enough protection system, they initiated a campaign to increase seat belt use.

It is estimated that about 5,000 people die each year from not wearing a seat belt.

The EU has adopted the WP5 work package, which analyzes the application of the law in four areas: ☐ alcohol, ☐ speed, ☐ seat belts, ☐ young drivers.

Traffic science, ie the profession in Bosnia and Herzegovina, failed to warn of the harmful consequences of the prescribed tolerance and impunity for drivers, for speeding. Due to all the above, it is necessary to change the regulations when necessary, based on the conducted analyzes of the statistical sample. Wrong professional attitudes have always paid off by increasing the number of traffic accidents and consequences. When it turns out that certain attitudes have been overcome, they change very quickly in all national legislations. ZOOPS on the roads in Bosnia and Herzegovina has established tolerance to the measured speed of the vehicle, in a way that does not penalize the driver if he exceeded the speed limit by 10 km / h. Research shows the harmful consequences of this legal provision. If the speed of the impact on a pedestrian is 50 km / h, about 40% of pedestrians die, and at 60 km / h about 80% die. The provisions of the ZOOPS on the roads of BiH allow the driver to exceed the speed limit by 10 km / h with impunity, and at the same time inflict twice as many consequences on pedestrians in a possible collision.

There is also discrimination against drivers.

Namely, the speed measuring device is correct if in reference conditions at a temperature of 23 ± 2 °C it is tested for an error of $\pm + 0.01V$, which authorizes the Ministry of the Interior to use it, in accordance with the technical instructions of the tested prototype in conditions -5 to 45 °C, whose tolerance of the measuring device error is ± 3 km / h for speeds up to 100 km / h and $\pm 3\%$ for speeds over 100 km / h).

Example: If the measured speed was 61km / h, calculating the error of the measuring device in operation, it was 58-64km / h. Accordingly, the violation was not exactly proven. This tolerance should be taken into account by the authorized official in the fact-

finding procedures. This analysis is very important at measured speeds that are 20 km / h and higher than allowed, when protection measures are prescribed. Research shows the harmful consequences of the above legal provisions: ☐ increase in the average speed of vehicles by 2 km / h, increases the number of accidents by over 20%, ☐ increase in the average speed of vehicles by 5 km / h the number of minor accidents increases by 10% and the number of traffic accidents with fatalities increases up to 25%, ☐ increase in average flow speed by 10 km / h, number of traffic accidents increases by 25 to 50%, ☐ decrease in average vehicle speed by 1 km / h, reduces the number of traffic accidents by 2- 3% (4% on city arteries and 2% on other streets), ☐ the risk of injury to passengers is three times higher at a collision speed of 50 km / h than at a speed of 30 km / h, ☐ an increase in collision speeds increases the severity or consequence of traffic accidents, ☐ high collision speeds reduce the benefits of the protection system. Bound passenger injuries are three times higher at speeds of 50 than at 30 km / h.

2.2. The impact of sanctions on behavior change

Traffic participants are very often unaware of traffic risks. Experience shows that awareness of the risk of punishment, ie fear of punishment, changes the behavior of traffic participants the fastest, and increases the level of compliance with the law. In order for this to happen, it is necessary to: 1. increase the risk and certainty of punishment, 2. increase the amount of punishment for offenses that increase the risk of accident, 3. improve the method of punishment (immediate and fast punishment, different types of punishment ...).

The risk of punishment is increased if the risk of controlling stopped vehicles or persons, the risk of detecting a violation with a controlled vehicle or person, or the risk of punishment in the case of detecting a violation. Penalty risk is obtained as a product of risk, ie probability, control and punishment: $RKAZ = RKONT * ROTKR / KONT * RKAZ / OTKR$ If we take into account the size of the expected penalty VK

which represents the average value of the penalty paid by the traffic participant and is obtained as a product of risk penalties and prescribed penalty values: $M(K) = RKAZ * VK = RKONT * ROTKR / KONT * RKAZ / OTKR * VK$

The expected value of the penalty affects the behavior of traffic participants. A higher expected penalty is more likely to deter traffic participants from committing the offense.

If you want to reduce driving under the influence of alcohol, this is achieved by increasing: ☐ the number of vehicle stops, ☐ the number of alcohol-tested drivers, ☐ training and morale of police officers, ☐ efficiency in the punishment process, ☐ the amount of punishment for the offense.

New information technologies have made significant progress in terms of supervision and control, especially when it comes to the speed and passage of vehicles through intersections. We distinguish between subjective and objective risk of control and punishment. However, if traffic participants are not aware of the risk of control and punishment, they will not change their behavior. Therefore, it is necessary to inform traffic participants, which increases the subjective risk, ie the feeling that they will be stopped, controlled, detected in violation and punished.

Subjective risk means the percentage of those traffic participants who think that they will be stopped, ie controlled or punished for a violation. Today, it is generally accepted that only subjective risk changes traffic behavior. Objective risks serve to maintain and increase subjective risks, but the real effect is achieved by increasing the subjective risk of punishment. Subjective sense of risk increases with increasing objective sense of risk,

noticeable work of the police, methods of automatic speed control or passing through the intersection, traffic safety campaigns and informing the public. There are recidivist drivers, who constantly commit offenses,

especially those who are risky for traffic safety (speed, red light, overtaking in a curve, revoked driver's license, expired vehicle registration ...). The law prescribes special measures for the education of such drivers, checking the knowledge of regulations, all in order to change attitudes or behavior in traffic. Those drivers who avoid paying misdemeanor sanctions or pay for them and do not change their behavior, enter the sphere of criminal offenses against traffic safety, cause serious traffic accidents. We often witness newspaper articles, such as:

JUSTICE AND DANGEROUS SARAJEVO "RUNNERS" Who ended up in jail, and who walks freely?

SADNESS IN THE FAMILIES OF THE VICTIMS Where is my child? Why did he die so young?

Due to the tragic accident in Novi Travnik, a day of mourning was declared. The driver was arrested, and according to unconfirmed information, he was drunk.

Serious criminal offenses against traffic safety, which occur as a result of arrogant and violent behavior, especially of younger persons, are caused by drivers who have dozens of imposed financial sanctions and protective measures in the register of misdemeanor sanctions, most often not executed. In such circumstances, incorrectly formed attitudes and violent behavior, the absence of an executive measure of the competent institutions, and the lack of prevention in preventing the occurrence of a traffic accident.

The powerlessness of the institutions of the system in Bosnia and Herzegovina was terminated in Zenica-Doboj Canton. Namely, the Ministry of the Interior of the Canton of ZE-DO, in cooperation with the competent judicial institutions, carries out continuous supervision over a group of drivers who are prone to committing particularly risky recidivism offenses (speed, red light, overtaking in a curve, revoked driver's license). , vehicle registration expired ...).

According to the mentioned group, special security measures are being implemented. In the period from 2014 to 2019, as a result of the described activities, 567 vehicles were confiscated, of which 168 were destroyed in accordance with the court decision, 153 were sold without the right to register (spare parts) and the final court decision is awaited.

As a result of the described and other measures in ZE-DO Canton, in 2016 there was a decrease in the number of deaths by 30% compared to the previous year. The further improvement of the security situation in ZE-DO Canton is evident. In the Republika Srpska and in other parts of the Federation, the described practice of court proceedings has not been recorded, with the exception of the Court in Prnjavor, which reacted in ten cases in 2018.

3. CONCLUSION

The strategic goals of misdemeanor punishment are reduced to improving traffic safety, reducing the number of traffic accidents and its consequences, and changing the behavior of traffic participants. In order to achieve this, it is necessary to: □ reduce the number of stops and controls of persons who are not in violation (build automatic control systems, focus on target groups according to the researched directions of movement), □ increase the number of controls of persons in violation (intensive alcohol control), use of interceptors in speed control, control of trucks and technical correctness), □ increase the probability of detecting violations in the control of persons prone to committing violations (efficiency and reliability of control), □ increase the probability that the detected violator will be punished, □ increase awareness among all participants in traffic, and especially for persons prone to committing offenses, □ provide sanctions that correspond to the offense or the damage and risks caused by a particular offense, which will have an impact on deterring further repetition of all traffic participants, □ affirm educational work with traffic offenders, □ define the attitudes of the courts in court with regard to confiscation of vehicles that have committed particularly

risky offenses in repetition, □ restrictive punishment of technical inspection stations for failures in the control of technically defective vehicles, □ restrictive reporting and punishment of road managers for failures in regular road maintenance.

LITERATURE

- [1] Lipovac, K. Basics of traffic safety, Belgrade 2014.
- [2] Rotim, F. Faculty of Transport and Traffic Sciences, Zagreb
- [3] Republika Srpska Traffic Safety Agency
- [4] Global Plan for the Decade of the Decade of Action for Road Safety 2011-2020
- [5] ZOBS on roads in Bosnia and Herzegovina, Official Gazette of Bosnia and Herzegovina 6/2006

INTELLIGENT TRANSPORT SYSTEMS AND INTELLIGENT TRANSPORT MANAGEMENT

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Abstract: *The potential of Intelligent Transport Systems (ITS) which will assist in the realization of traffic policy goals lies in a wide variety of applications in different forms of transport, both for passengers and for cargo. This is the case not only for road transport, where applications include: electronic tolls, dynamic traffic management (including variable speed limitations, parking and booking, and real-time navigation), real-time information and other driver assistance systems like Electronic Stability Control and Departure Warning System. The benefits of introducing ITS solutions is to improve the economy, efficiency and security of the transport system. The benefits are grouped in conjunction with accompanying measurements and effects: safety, efficiency, productivity and cost reduction and impact on the environment. Collective level of benefits that can be achieved at the state level, with well-developed traffic infrastructure, are impressive.*

Key words: *ITS, traffic, smart traffic*

1. Introduction

The basic characteristics of ITS are better management and improved response of the traffic system, which makes it intelligent. In order for the system to be "intelligent", it must adapt to the environment and be able to collect and process enough data in real time. ITS was introduced into the professional and scientific dictionary in 1994 in Paris.

ITS can be defined as a holistic, management and information and communication upgrade of the classic traffic and transport system which significantly improves traffic performance through more efficient transport of passengers and goods, improving traffic safety, comfort and protection of passengers, reducing environmental pollution, etc .. ITS brings a solution to current traffic problems in the form of intelligent roads that are presented as an upgrade of the current infrastructure. In addition to the physical functions of road upgrades, the upgrade also implies greater informativeness of drivers. The main goals of ITS are safety, efficiency, environmental protection and improvement of roads by applying technology. Advances in information transmission, communication, location and sensor technology also bring advances in ITS.

The goals of ITS are also greater informativeness of the road, which would be achieved by integrating various systems. Some of them are safe driving systems that inform the driver about potential dangers outside his field of vision, current traffic information in a wider area that is not directly accessible to the driver, information about potential delays. By using this information, the driver could avoid potential traffic difficulties. They also inform the driver about current road conditions which reduces the chances of accidents. Technologies such as ABS (anti-lock breaking system) and automatic collision avoidance system to help the driver steer the vehicle. In general, all these changes represent a transition from passive safety mode to active mode and a major step towards automatic management at several levels.

2. The role and importance of intelligent transport systems in the development of traffic and transport

The term 'Intelligent Transport Systems' and the acronym ITS were introduced after the First World Congress of ITS, held in 1994 in Paris in 1994. Before that, the term "traffic control" was used in a similar term, ie the

terms "road control" were used. transport telematics "and" intelligent road systems ". At the beginning of the 21st century, traffic experts agree that successfully solving the growing problems of traffic and transport is no longer possible without the application of the complete concept and technologies of ITS (Intelligent Transport Systems).

ITS is a management and information-communication upgrade of the classic traffic and transport system, so that significantly higher throughput is achieved. This allows for greater throughput, security, protection and environmental friendliness compared to solutions without ITS applications. The attribute "intelligent" generally means the ability to act adaptively in changing conditions and situations, where it is necessary to collect enough data and process them in real time. Existing ITS functional areas and services The International Organization for Standardization (ISO) has defined 11 domains of ITS:

1. passenger information, 2. traffic and operations management, 3. vehicles, 4. freight transport, 5. public transport, 6. emergency services, 7. electronic payments related to transport, 8. personal security in traffic transport, 9. supervision weather and environmental conditions, 10. major disaster response management, 11. national security.

In the area of passenger information services, static and dynamic information on the traffic network, pre-road and road information services, and support to services that collect, store and manage information for planning transport activities are included. The pre-trip information service enables users to get useful information about available modes, weather or travel prices from home, ie from their workplace or other public location. On-trip information includes real-time travel information, estimated travel time depending on existing conditions, availability of parking spaces, traffic accidents, etc. Information is provided via terminals at bus and train stations, squares, transit points, vehicle screens or portable personal terminals. Route guide and navigation services may relate to road and road information on the optimal route or route to a designated destination. The choice of the best route is based on

information about the transport network and public transport and includes multimodal options with solutions such as park and drive (Park & Ride).

Surveillance and elimination of incidents on roads include detection, response and clearing of incidents on roads or in their immediate vicinity. Only a smaller number of the total number of incidents relate to traffic accidents involving vehicles and there are injured or fatalities. In addition to a posteriori action, detection and clearing, accident prediction and prevention is performed. Prevention of secondary accidents is especially important. The focus is on traffic accidents and accidents and if the system includes a response to other causes of small incidents (tire puncture, vehicle disappearance, etc.) and major accidents and catastrophes (earthquakes, landslides, large fires, etc.). Transport infrastructure maintenance management is a group of services based on the application of ITS technologies in the management of road maintenance, ie the associated communication and information infrastructure. The integration of different payment systems and institutions included in the system includes technical-technological and inter-organizational solutions.

3. Intelligent vehicles, smart roads and smart traffic

The ITS functionality of the intelligent vehicle is realized through telematic equipment that is upgraded to the basic equipment and devices of motor vehicles and trailers. At the same time, it is necessary to ensure compliance with regulations and ordinances on technical conditions of vehicles in traffic on roads or other roads.

Road lighting devices and ITS solutions to improve visibility can significantly increase traffic safety while reducing the number and severity of the consequences of traffic accidents. Active safety systems are becoming an important part of the vehicle and an important factor in improving traffic

safety. Initial estimates that in 10 years ITS will halve the number of fatalities and injuries, have been largely realized.

Automated, ie intelligent roads are realized by information and communication upgrade of the classic road, which includes a system of telecontrol, telemetry, telecommand and mobile communication.

Smart Roads will send information that will be used by vehicles and traffic infrastructure. The roads of the future will be a digital communication channel that will not only share information about traffic, but also information about temperature, precipitation, road conditions and warnings of potentially dangerous situations such as fog, and similar situations in real time.

Also, information about some objects or people on the road will also be immediately available, as well as a report of damage to the roads. Keywords are "real time" and only if the information is collected, processed and transmitted without time interval, it is possible to get a digital image of traffic in real time. In cities where network coverage is much better a large amount of data can cause a system crash. One solution could be to introduce a 5G standard that far exceeds all previous standards in terms of communication speed. The capacity of the 5G network, which should be introduced by 2020, exceeds the capabilities of the existing 4G LTE standard by 1000 times.

When solar roads that transmit energy to the vehicles that drive on them are mentioned, it can sound like a perpetuum mobile, and the question is how much their performance would cost. "The cost of maintaining standard asphalt roads is one euro per square meter per year," explains Müller-Judex. "After deducting the investment costs, solar roads can earn eight euros per square meter per year. "There are also ideas about using solar roads as a heat source. Thus, during hot days, the road surface is heated to more than 60 degrees, and this heat could be used to heat buildings near roads, etc. Unlike solar cells that produce electricity by the sun, in this case small amounts of electricity are generated deformations caused by the passage of the vehicle. Although these are

small quantities, they would be sufficient to power the sensors, especially in areas where there is no electrical infrastructure. In addition, the roads will be able to purify the air in the future. The idea is to install stones coated with titanium oxide, which is a photocatalyst, in the slabs and fences along the road.

Traffic is an activity related to everyday life and production, whose task is to transport people and goods from one place to another. Due to traffic jams, in more developed parts of the world, drivers and passengers in vehicles spend several billion hours and spend tens of billions of dollars a year. Solutions for traffic jams are mainly found through projects based on the use of computer systems and simulations of different traffic cases, ie in the unification of information and traffic infrastructures. The application of modern information technologies encourages the establishment of new infrastructure consisting of networks of roads, railways, airports, stations and ports connected by Internet-based systems. Efficiency and quality are significantly influenced by intelligent systems that improve the mobility and safety of road users, because they provide proactive maintenance and faster and better diagnostics.

All advanced solutions, significantly, increase the productivity of the company's business. By applying the IoT solution, traffic regulation reduces costs and increases passenger satisfaction, which indirectly reduces the number of traffic accidents.

Future solutions will be based on the application of smarter and more environmentally friendly vehicles and their connection with infrastructure facilities, such as gas stations, parking lots, garages, etc. Wider application of advanced information technologies, in addition to vehicle communication with infrastructure, will enable vehicle communication.

Examples of the implementation of intelligent transport systems are the integration of traffic control systems (traffic flow management, traffic light management, variable traffic messages, highway access

control, speed control, parking management, etc.), public transport management (traffic routing, incident management, violator identification, maintenance transport infrastructure) and information for passengers (delivery of information).

Information delivered by telematics systems (vehicle tracking, navigation, e-toll collection, etc.) is most often transmitted over a 3G or 4G mobile network.

One of the ITS services is real-time traffic monitoring; it is most often realized as a part of the vehicle location and navigation system. In the automotive industry, in addition to the system for monitoring and reporting on the operation of individual parts of the vehicle, we work on providing information on distance from other road users, road conditions, information on the current condition of vehicles, etc.

4. Benefits in the application of ITS

The benefits of ITS can be observed through different categories of ITS performance indicators, which are linked to the following basic indicators:

- Traffic safety, - Flow - traffic regulation, - Ecology - environmental protection, - Transport productivity.

Over the past decade, hundreds of tests and operational studies of the performance of ITS have been conducted and experiences in North America, Europe, Japan, and Australia have been analyzed. The research is conducted in order to find out what are the effects of ITS in the real traffic environment before launching and realizing major investments that ITS will require. The benefits are grouped according to the accompanying measurements and effects: safety, efficiency, productivity and cost reduction and environmental impact. Summary overviews of the level of benefits that can be achieved at the state level, with a well-developed transport infrastructure are impressive. When developing and implementing new ITS projects, there are three approaches to measuring the effects and benefits of ITS:

- Results and analysis of experiences of other systems, - Execution of pilot projects and

determination of expected benefits in a specific context, - Using a simulation model. For the analysis and evaluation of benefits, it is first necessary to determine the areas of benefit and measurable quantities from which values for users can be estimated. Benefits can be expressed in financial indicators related to individual users or as external effects. Part of the benefits can be individually expressed in monetary terms, while other benefits are to be viewed as a public good.

The design of effective ITS solutions implies the possibility of assessing the ITS performance using appropriate methods, such as:

- Method of measuring physical effects, - Method of benefit analysis, - Cost-effectiveness analysis (E / C), - Benefit-cost analysis (B / C).

If the benefits of ITS projects can be expressed financially, then it is sufficient to use standard (B / C) methods to evaluate the ITS project. Otherwise, it is necessary to use cost / effectiveness analysis methods (C / E analysis). An important feature of the cost / effectiveness analysis method (C / E) is to avoid the shortcomings of the (B / C) method. To measure the benefits and costs of individual ITS projects, they use customized (B / C) (benefit / cost) methods where the state of the system without ITS and the state of the system with the implementation of ITS are compared. All significant costs and benefits are determined at market prices which are reduced to present value.

ITS can reduce the number of accidents, their maintenance and the time required to service accidents. ITS can also reduce the consequences of traffic accidents, even if the number of traffic accidents has not decreased compared to the reference observation calendar. ITS can provide the necessary resources to respond to an accident, if it is part of a national management strategy in the traffic safety system.

There are two measurable indicators for improving safety, namely the percentage of

reducing the number of accidents and the percentage of reducing the time of rescuing the injured. The model is a direct indicator of safety, but it is difficult to obtain an empirical form for operational research tests, because real accidents are not common. The impact of assistance time on mortality and other factors such as the severity of the accident is analyzed.

Data for Europe show that if the time to provide assistance in a traffic accident is reduced by 43 percent, a 7 to 12 percent increase in survivors is recorded.

The benefits of improving efficiency for worldwide operational tests for various ITS products and services are manifold. The most important applications include speed management (warning, driver feedback) and vehicle and driver monitoring. Many applications will increase the prevention of injuries to individual road users (children, the elderly, etc ...)

Some examples include:

- Adaptive speed control systems, - Sudden event detection and system warnings, - Fast accident response time, - Speed camera systems and traffic signal execution, - Automatic traffic management for pedestrians and cyclists, - Monitoring of weather and microclimatic conditions, - Increasing possibilities system prediction, - Collision prevention systems.

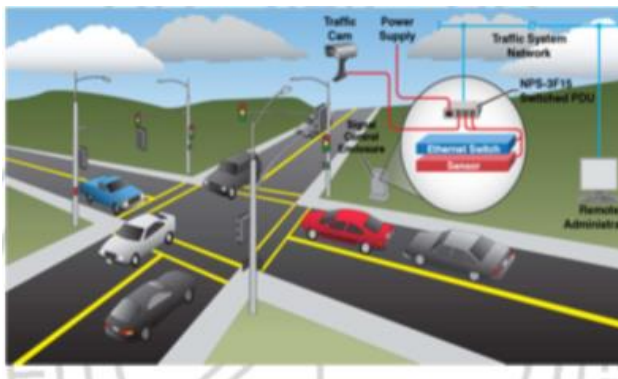


Figure 1. ITS - traffic incident prevention

The functions of an intelligent means of transport to prevent accidents help the driver

to avoid or prevent an accident by using systems located in the vehicle that assess the significance of the threat, taking into account the condition of the driver. The goal of these functions is to help the driver, changing his behavior in some situations. Depending on the significance and proximity of the threat, the system will inform the driver about the danger as soon as possible, warn him if the driver did not react in time and actively help him react independently in order to avoid a traffic accident. Complementary ITS functions help the driver to move at a safe speed, keep a safe distance, drive in the same lane, avoid overtaking in a critical situation and avoid collisions with vulnerable road users. traffic safety and improving the efficiency of the traffic system. 5. New management technologies in public urban transport

The efficiency of public mass passenger transport in cities would be significantly increased if regular, even, accurate and fast public city transport was provided. Increasing the regularity and accuracy of public urban transport reduces the cost of its execution due to the even load and movement of the vehicle, which increases the speed of the vehicle, for the same level of quality, which also reduces the need to invest in the development of this function. transportation. Thanks to a unique combination of the most modern means of computer technology, radio communications, microprocessor and radio electronic devices, the system of automatic control and management of JGPP enables to determine the position of each vehicle with very high precision of time and space deviation from planned movement. This makes it possible to control traffic completely automatically, to collect a significant amount of information, not only on the execution of a given timetable but also on the state of occupancy and a number of other data on vehicle and line operation, in addition to automatic connection using coded information between each vehicle center and each of the drivers. This system is a powerful tool for automatic traffic management, collection and storage of numerous information, which at a fully technological and future level provides all the conditions

for a significant increase in the efficiency of urban traffic. The main task of automatic control is to stabilize the timetable in real time.

The system of central traffic management and control consists of four subsystems:

- Subsystem for information collection,
- Subsystem for information transmission,
- Subsystem for information processing,
- Subsystem for providing data, information and orders to working staff with passenger notification.

Today, a number of major public transport companies manage and control the operation of their vehicles through an electronic computer system.

The basic functions are:

1. Broadcasting of coded information from the vehicle to the center:
 - The distance traveled by the vehicle,
 - Vehicle occupancy,
 - Speed of movement,
 - Criteria for changing the city regime.
2. Establishment of voice information from the vehicle to the center and vice versa (at the call of the dispatcher):
 - Causes of disturbances, breakdowns, passengers standing at stations and the like,
 - Other unforeseen situations,
 - Changes in the mode of operation.
3. Data processing in the center:
 - Comparison of data on the distance traveled by the vehicle and the planned timetable,
 - Analysis of data on passenger flow,
 - Analysis of additional information,
 - Request for receipt of correction criteria from the computer center.

Most metro systems have a center from which traffic control is performed on one line or the entire network. In the center there is a control panel on which the network is shown and on which electric lights indicate the position, signal and occupancy of signal blocks (trains). Some newly built metro systems perform continuous traffic control using electronic computers that provide accurate data on the movement and position of each train on the network at all times. This type of traffic control gives optimal results in terms of reliability, which is a factor of special importance for networks with connected lines, where the delay on one line can be transferred to other lines.

Conclusion

Traffic, or its growth and impact on the environment is the basic problem of modern society. Thus, the need for better control and organization of traffic has stimulated the need for new technology that would be effective in this. Therefore, ITS is designed to help the current classic transport system to achieve better coordination, safety and efficiency. Its application does not eliminate the classic methods of control, police service, etc., does not diminish the activities of these services that perform regular road inspections, but certainly helps them to discover the location of the accident and the possibility of going to the field to help resolve the situation. The speed and timeliness of data transfer of the ITS system is simply a link in every larger and more developed traffic center. Thus, the main goal of an intelligent transportation system is to integrate the system to improve the movement of people, goods and information. In addition to this main goal, which has been achieved in the countries where it has been introduced, but is also being improved, it has encouraged the achievement of additional desirable goals. The work efficiency and capacity of the transport system, mobility have increased, and the rate of accidents and damages caused by transport has decreased, as well as energy consumption. It also enables better control of harmful effects on the ecological system, ie environmental protection.

LITERATURE

- [1] Baričević, H. : LAND TECHNOLOGY, Faculty of Maritime Studies, University of Rijeka, Rijeka 2001.
- [2] Bošnjak, I., INTELLIGENT TRANSPORT SYSTEMS - ITS 1, Faculty of Transport and Traffic Sciences, University of Zagreb, Zagreb 2006.
- [3] Bošnjak, I., Badanjak, D. : BASICS OF TRAFFIC ENGINEERING, Faculty of Transport and Traffic Sciences, University of Zagreb, Zagreb 2005.
- [4] Cerovac, V., TECHNOLOGY AND TRAFFIC SAFETY, Faculty of Transport and Traffic Sciences, University of Zagreb, Zagreb 2001.

[5] Dadić, I., Kos G., THEORY AND ORGANIZATION OF TRAFFIC FLOWS, Faculty of Transport and Traffic Sciences, University of Zagreb, Zagreb 2007. Jovović, I., DEVELOPMENT OF A SYSTEM FOR ADAPTATION OF USER-BASED INFORMATION, Faculty of Transport and Traffic Sciences, University of Zagreb, Zagreb 2009

[6] Županović, I. ROAD TECHNOLOGY, Faculty of Transport and Traffic Sciences, University of Zagreb, Zagreb 2005.

PHYSICAL AND CHEMICAL FEATURES OF FUEL A-1 AND LUBRICANTS FOR MLAS MOTORS AND THEIR EFFECT ON ENVIRONMENT

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Abstract: *Jet fuels are liquids of liquid hydrocarbons and are designed for jet propulsion. In principle, these are kerosene fractions or mixtures of kerosene and benzene fractions with different additives. The first jet fuel used for the propulsion of airborne gas turbine engines was light petroleum, in the United Kingdom called kerosene. Today, JET A-1 is in use in our area, which is a kerosene fraction of oil with a boiling temperature in the temperature range of 170 ° C to 300 ° C (in its quality meets the requirements of military and civil aviation). In ensuring safe operation of jet engines in all regimes and in all fuel conditions, they must have a secure quality. By chemical composition jet fuel are complex compounds and consist of the basic four groups of hydrocarbons: paraffin, naphthene, aromatic and olefin. Gases and particles which result from combustion of aircraft fuel are: water vapour (H₂O), carbon dioxide, CO₂, nitrogen monoxide, NO, nitrogen monoxide, NO₂, sulfuric oxides, SO_x and soot.*

Key words: *Jet fuels JET A-1, lubricant, turbojet engine, environmental protection*

INTRODUCTION

In ensuring the safe operation of jet engines in all modes and in all conditions of application, fuels must be of safe quality. In addition to the general properties, characteristic of all liquid fuels, there are particularly strict requirements for a high degree of quality of specific properties. Such strict requirements are set and justified by the conditions of use of jet fuels, such as very high speeds and flight altitudes of jet aircraft, and they are affected by the most thermally loaded parts of the jet engine: combustion chamber, gas turbine, etc. as well as fuel installations. In addition to the above, there are other problems due to which the fuel for jet engines must meet certain requirements, such as: • to have the highest possible density and thermal power, because they depend on the range of aircraft with unchanged volume of fuel tank; • that it does not contain easily volatile fractions that would cause the formation of vapor plugs in installations and high fuel loss due to evaporation at high altitudes;

- be easily refilled and flow continuously from the tank to the engine in all flight conditions of the aircraft;
- not to freeze and not to emit hydrocarbon crystals at low temperatures (up to -50 ° C);
- start the engine in all application conditions;
- disperses well in all engine modes;
- to have such a combustion rate that ensures the completion of the combustion process in the combustion chamber;
- to burn completely, without the formation of sediment, soot and coke on the injector, combustion chamber, turbine and other engine parts;
- to be thermally stable at elevated temperatures, in flight conditions at supersonic speeds and not to form solid sediments, etc.

JET A-1 fuel is in use in our area, which is a kerosene fraction of oil with a boiling temperature in the temperature range from 170 ° C to 300 ° C. This jet fuel, in terms of its quality, meets the requirements of the military and civil aviation [1,2].

1. PHYSICAL AND CHEMICAL COMPOSITION OF JET FUELS

According to their chemical composition, jet fuels are complex mixtures and consist of four basic groups of hydrocarbons: paraffin, naphthenic, aromatic and olefin. Their content in fuel ranges from 98% to 99%, while the rest from 1% to 2% are non-hydrocarbon compounds: sulfur, nitrogen, oxygen and traces of various metals or compounds that contain metals. This composition of jet fuels is conditioned by strict requirements for the greatest possible thermal power and stability, and the least possible creation of soot, which is provided by paraffin and naphthenic hydrocarbons. Paraffinic and naphthenic hydrocarbons are the most common in jet fuels (about 70%). The content of aromatic hydrocarbons is less

sometimes mandatory to use additives. Additives prevent the formation of harmful chemical species or improve fuel properties to prevent further engine wear. According to international standards, the use of the following additives is allowed in jet fuels [5]:

- Antioxidants - have a role to prevent gumming, usually based on alkylated phenols, eg AO-30, AO-31 or AO-37;

- Antistatic agents - to discharge static electricity and prevent sparks; Stadis 450, with dinonylnapium sulfonic acid (DINNSA);
- Corrosion inhibitors, eg DCI-4A is used for civilian and military fuels, while DS-6A is used only for military fuels;

- Biocides - prevent the appearance of microbial compounds, ie bacteria and fungi that can be found in the composition of jet fuels (jet fuel pollutants). Currently, only two biocides are allowed for use, namely Kathon FP 1.5 Microbiocide and Biobor JF;
- Metal

deactivator - added in order to prevent harmful effects of metal surfaces on the thermal stability of the fuel. One of the permitted additives is N, N'-disalicylidene 1,2-propanediamine.

1.2. Some physical characteristics of Jet A-1 jet fuel

Table 1 shows some physical characteristics of jet fuel, JET A-1.

Table 1: Physical characteristics of jet fuel, JET A -1 [6]

Red. broj	Fizičke karakteristike	Vrijednost
1	Tačka paljenja (PenskyMartens)	min 38 °C
2	Temperatura samostalnog paljenja	210 °C
3	Temperatura smrzavanja	-47°C
4	Maksimalna adijabatska temperature paljenja	2,23 °C Open Air Burn temperature 1,03 °C
5	Gustina na 15°C	0,804 kg/l
6	Specifična energija	42,80 MJ/kg ili 11,90 kWh/kg
7	Energetska gustina	34,7 MJ/l ili 9,6 kWh/l

desirable because they have a lower thermal power (by about 10%), reduce the speed and completeness of combustion, increase the formation of soot, cause combustion of the combustion chamber and reduce thermal stability. Olefins are chemically unstable and prone to resin formation and impair the thermal stability of fuels. Their fuel content is limited to a maximum of 5% by volume. The low content of mercaptan sulfur (0.001% by weight) is strictly limited due to its pronounced corrosive aggressiveness [3,4].

1.1. Additives in jet fuel

Given the number and severity of the procedures used, it is often necessary and

2. MAKING FUEL MIXTURES AND COMBUSTING JET FUEL

As with other internal combustion engines, the combustion process is preceded by the formation of a fuel mixture in jet engines. The fuel mixture is continuously formed and burned, which is why the flow of air and fuel must be continuous, so as not to interrupt the combustion process. The air is introduced by

a compressor, through a diffuser into the combustion chamber. The fuel, usually through injectors, is fed by a high-pressure pump directly into the combustion chamber. In order to effectively evaporate the liquid fuel entering the combustion chamber, it must be well dispersed. The spraying process takes place in several phases: 1) the passage of liquid fuel through the injector in the combustion chamber creates its curtain or spray jet; 2) the appearance of small waves and disturbances on the surface of the liquid as a consequence of previous turbulence and the influence of air on it;

3) formation of fine membranes of liquids under the influence of air pressure and surface tension forces; 4) crushing of membranes into separate droplets at the expense of surface tension of fuel; 5) further, even finer grinding of these drops. After entering the combustion chamber, the fuel mixture is ignited by an electric spark or special burners. The combustion process takes place in a very fast oxidation of fuel components with the release of a certain thermal energy. Figure 1 shows the appearance of the VIPER 632-46 engine.



Figure 1: Appearance of the VIPER 632 - 46 engine

After the initial ignition and combustion of the mixture, ie starting the engine, the process of so-called the actual combustion of the fuel mixture in the combustion chamber. The amount of air that enters the combustion chamber with fuel is several times greater than needed and is divided into primary and secondary air. The amount of primary air is 20 to 30% of the total amount and is introduced into the combustion chamber in

several places. A secondary amount of air of 70 to 80% bypasses the outside of the front of the flame tube, cools it and enters through the openings and mixes with the rest of the fuel mixture and combustion products, impoverishing the mixture and cooling it. The fuel injected into the circulation zone, where the gases have a high temperature, evaporates quickly and burns in the front part of the chamber, depending on the degree of mixing with the air in the vortex layer. Prolongation of combustion of the mixture, with further movement through the flame tube, is possible by adding secondary air which impoverishes the mixture. Gases and particles produced by the combustion of aircraft fuel are: water vapor (H_2O), carbon dioxide, CO_2 , nitrogen monoxide, NO , nitrogen dioxide, NO_2 (NO and NO_2 are collectively referred to as NO_x), sulfur oxides, SO_x and soot. These elements of the combustion process of propellant are mainly retained in the part of the troposphere that is characterized by high humidity and slightly higher temperature, in whose lower layers, the atmosphere usually warms and heating decreases with increasing altitude.

3. LUBRICANTS FOR JET ENGINES

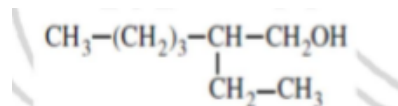
It is known that jet engines are, in principle, simpler than piston engines in terms of their complexity and construction, and are therefore simpler when lubricating lubricants are applied. Since there is no fuel in the combustion chamber

moving parts, and the lubricant is not directly exposed to combustion temperatures. As the compressor and turbine are the main moving parts in constant rotation, problems with dynamic loading due to return rotations of the elements are avoided. But even so, lubricants continue to face serious challenges, the biggest challenge being heat. Modern engine housings achieve lubricant temperatures in the range between $80^\circ C$ and $100^\circ C$, while during purification this temperature rises to approximately $190^\circ C$, with exposure to temperatures along the metal wall in the chamber bearing up to $300^\circ C$.

° C and 400 ° C [4.5]. Combining this with the fact and the tendency to make aircraft in flight as durable as possible, to reduce maintenance costs and extend the time between major overhauls, currently more than 40,000 operating hours for some civilian engines, then it is clear how lubricants must be stable over a long period of time. There is a problem related to the difficulty of the lubricant to remain functional for so long. Lubricants wear out during operation, they need to be replaced with fresh lubricants. There are no products that would remove the sediment caused by the combustion of lubricants (the problem of the regular formation of deposits of coke deposits due to high temperatures during engine operation). Any sediment created must be removed, to prevent clogging. The lubricant continues to play an important role in reducing the formation of deposits and therefore, the possibility of efficient removal of the already formed deposits must be achieved. The thermal stability of turbine lubricants is probably the biggest challenge for both lubricant manufacturers and jet engine designers [5].

3.1. Composition and properties of lubricants for jet engines

In the production of lubricating oils in the aerospace industry, esters, ie di-ester based lubricants based on di-basic acids, such as [4]: sebacic acid, $\text{HOOC}-(\text{CH}_2)_8-\text{COOH}$; azelaic acid, $\text{HOOC}-(\text{CH}_2)_7-\text{COOH}$ and adipic acid, $\text{HOOC}-(\text{CH}_2)_4-\text{COOH}$. These acids, in reaction with alcohols, form diesters. The choice of both acid and alcohol has a significant impact on the properties of the finished product. For example, more di-acid chains improve the viscosity index but reduce the pour point. Of the alcohols, octanol, $\text{CH}_3-(\text{CH}_2)_7-\text{OH}$, is commonly used. If octanol is used, it causes the temperature of the diester to cool to an unacceptable level. However, the use of 2-ethyl hexanol isomers, Figure 2:

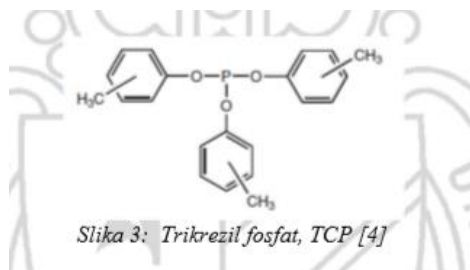


Slika 2: 2- etil heksanol

It gives a significant reduction in the pour point, while maintaining an acceptable viscosity index (usually used in the production of diester base oils) [4]. The properties of base oils are improved by adding additives to the finished product. In addition to polyglycol thickener, which is used in 7.5 cSt diester - base lubricants, polyol is also used for most types. The resulting di-ester lubricants are suitable for maximum tank oil temperatures up to 149 ° C and bearing temperatures up to 204 ° C. In jet engines, the lubricant additives most commonly used against oxidation are phenyl- α -naphthylamine, PAN, octylphenyl- α -naphthylamine, OPAN and dioctylphenylamine, DODPA and their derivatives. Phenothiazine is a common antioxidant used in early versions of ester based turbine lubricants, but although it is effective in preventing oxidation, the lubricant oxidizes after a long time.

Due to the formation of oxidized particles (the main limiting factor for the engine manufacturer), the use of phenothiazines was stopped. Phenyl- β -naphthylamine has been shown to be a good lubricant, but its use is prohibited when an extremely harmful effect on the environment is detected [4]. The optimal efficiency of lubricants for jet engines, in terms of achieving a synergistic effect, is given by two anti-oxidants (greater safety at a given concentration together than individually). It is a combination of oligomeric and monomeric amines as antioxidants. Another innovation is the application of the monomeric antioxidants that make up the oligomers during oxidation, thus extending the duration of the anti-oxidative properties of the lubricant. One major drawback of modern antioxidant combinations is their tendency to be aggressive towards elastomers. Lubricants are also used to reduce the wear of aircraft parts, with tricresyl phosphate, TCP, usually used in concentrations between 1 and 3%.

TCP reacts with the surface of the metal, forming a chemical absorption layer that protects the elements from friction with each other. The chemical formula of this compound is shown in Figure 3:

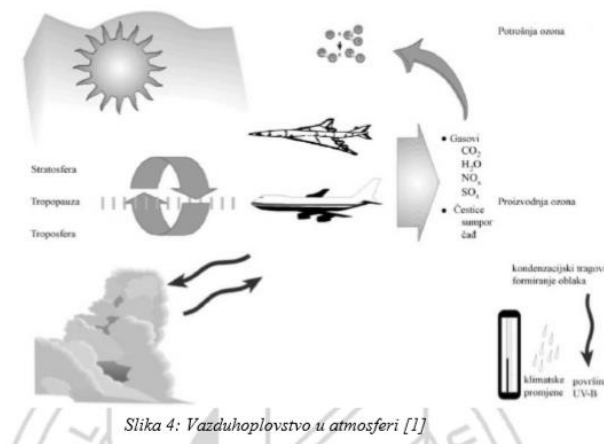


In the case of extreme pressure conditions, such as in engine transmissions and helicopters, lubricants containing phosphate salts with amine additives can be used. Although this improves the ability of the lubricant, in this way the lubricant can be made more aggressive towards certain types of elastomers, especially the silicone material (increasing the coking ability of the lubricant). Another disadvantage is that in the presence of water, this type of additive reacts with the unprotected magnesium alloy found on the surfaces of the engine interior. If the system is dry or the magnesium alloys on the surfaces are sufficiently well protected by an epoxy coating, then the reaction does not take place [4].

4. IMPACT OF FUEL AND LUBRICANTS IN AVIATION ON THE ENVIRONMENT

Oil and its derivatives, including fuels and lubricants used in aviation, are the basis of modern industrial development, but unfortunately, at the same time, fundamental polluters of the environment. Environmental pollution with oil and derivatives is the most widespread and widespread, starting from individual human influences, as users of motor vehicles and other mechanical systems, to the continuous influence of all branches of industry and all forms of economic activities. According to all

previous research results, all types of lubricants, fresh, used or waste oils, are considered environmental pollutants. All lubricants, especially waste, destroy the microflora of the soil and make it infertile for a long time, because they are biologically difficult and slow to decompose. Even in very small concentrations, they make water unusable for drinking. When it comes to waste oils, the degree of danger increases depending on the length of use and the severity of the working conditions [7]. During the flight of the aircraft, the products of fuel combustion are dangerous pollutants of the atmosphere, Figure 4.



Most aircraft fly in the troposphere and lower stratosphere, that is, at altitudes between 9 and 20 kilometers above the earth's surface. Today, commercial passenger planes are exclusively of the subsonic type and fly at altitudes of up to 13 kilometers. Most emissions of exhaust gases and particles take place at altitudes up to 13 kilometers above the earth's surface. Part of the emission is also released on the surface of the earth (at airports during take-off and landing) [1,2].

Air pollution includes the presence of one or more substances such as: aerosols (dust, smoke, fog), gases and vapors of such importance and in such concentrations that they may be harmful to human and / or animal life and health. They can also negatively affect the plant world. Although the problem of air pollution and the negative effects of pollutants on humans has existed for several hundred years, no special attention has been paid to it, until several catastrophic examples of such pollution

caused the issue to be highlighted as one of today's important public health problems [7,8]. Some of the catastrophic examples have resulted in acute illness and even deaths of large numbers of the population in a short time interval in a limited area.

5. CONCLUSION

Fuels and lubricants used in aviation differ from fuels and lubricants used in other forms of transport, primarily due to different physical forces, atmospheric conditions and engine and helicopter engine designs, but also due to the need to achieve maximum safety and performance. and all in order to minimize the possibility of any error or malfunction. Depending on the type of engine in the plane, different fuels and different lubricants are used. For the past few decades, jet engines have been using Jet A-1 jet fuel. According to the chemical composition, jet fuel is a complex mixture of four basic groups of hydrocarbons: paraffin, naphthenic, aromatic and olefin. Their content in the fuel ranges from 98% to 99%, while the rest from 1% to 2% are non-hydrocarbon compounds S, N, O and traces of various metals or compounds containing metals. Gases and particles produced by the combustion of aircraft fuel are: water vapor (H₂O), carbon dioxide, CO₂, nitrogen monoxide, NO, nitrogen dioxide, NO₂ (NO and NO₂ are collectively referred to as NO_x), sulfur oxides, SO_x and soot. Lubricants are facing today, and will continue to face serious challenges in the future, the biggest challenge being heat. Modern engine housings reach lubricant temperatures between 80 and 100 ° C, while during cleaning this temperature rises to approximately 190 ° C, with additional exposure to temperatures along the metal wall of the combustion chamber bearing, up to 300 and 400 ° C. The significant impact of in-flight combustion exhaust gases on the environment, which is estimated to be increasing daily, is not to be overlooked. Greenhouse gas emissions, but also the presence of environmentally unacceptable substances in certain lubricants, is a significant environmental problem. Therefore, the production of biodiesel

suitable for airplanes and helicopters is expected to significantly improve the problem of fuel consumption and environmental impact in the future.

6. LITERATURE

1. B. Arsenović, E. Banjac: "ECOLOGICAL ASPECTS OF AIRCRAFT EXHAUST GASES AFFECT IN SUM OF GREENHOUSE ATMOSPHERE GASES"; International Conference on Innovative Technologies; INTECH 2011; BRATISLAVA; SLOVAKIA; (str 23 – 25)
2. B. Arsenović, Z. Janjuš, E. Banjac: "Uticaj izduvnih gasova aviona na sumu gasova staklene bašte atmosfere" XIV YUCORR, 2012.
3. Đ. Šilić, V. Stojković i D. Mikulić, Goriva i maziva, Veleučilište Velika Gorica, Velika Gorica, 2012.
4. R. M. Mortier, M. F. Fox i S. T. Orszulik, Chemistry and Technology of Lubricants, Springer, Sevenhampton, 2010.
5. Global Aviation, Aviation Fuels Technical Review, Chevron Corporation, 2004
6. G. E. Totten, Fuels and lubricants handbook: technology, properties, performance and testing, ASTM International, Glen Bumie, 2003.
7. M. Stojilković i M. Pavlović, Utjecaj maziva na okoliš, Goriva i maziva, svez. 48, br. 1, pp. 71-81, 2009.
8. F. Valić, Zdravstvena ekologija, Medicinska naklada, Zagreb, 2001.

SUSTAINABLE DEVELOPMENT AND ECOLOGICAL EKONOMICS AS BUSINESS PARADIGM

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Abstract: *The philosophy of economic development from the beginning of the third millennium is to establish sustainability on the principles of the New Economy for all the resources involved. The content consists of establishing changes in production and consumption, in which resource utilization, investment flows, technological development, organizational restructuring and institutional changes are in harmony. These changes will enable current generations to meet their needs and open the possibility of future use of natural and built potentials to create their needs. To bring economic development to the line of sustainability of the environment and economics become partners in achieving one goal. Ecological economics is transdisciplinary, pluralistic, integrative and more focused on seeking compromise than on the means to realize it. The Domain of Ecological Economics is the overall interaction between economic and environmental potential. In this paper, sustainable development will be achieved by establishing a balance between resource consumption, consumerism and the ability to revitalize natural systems, and by establishing a steady growth of eco-efficiency consistent with the management's performance.*

Key words: *sustainable development, ecological economy, new economy, eco-efficiency, ecosocial system.*

1. Introduction

Although the recent euphoria and techno-enthusiastic enthusiasm for the latest technological ups and downs (the so-called 3rd technological revolution, the "third wave", the "information society", the "digital society", etc.) have significantly subsided, expectations of new technologies are still very high. New utopias or at least new legitimate hopes for a better (better) life. Unprecedented achievements of the latest technological achievements, in almost all areas of human creativity, especially in the last three decades, indicate at the same time serious limitations of previous development concepts and insufficient criteria for evaluating and evaluating the achieved development. Factorial understanding of technology, economic and quantitative (so to speak quantum) measurement of only visible effects in the basis of deep transformation of modern civilization, has somewhat obscured or set aside often much more significant effects due to which neglect can even question all other effects.

In fact, the technological development of modern civilization has reached a stage when different development goals intersect in a dramatic way. Conflicts of economic and environmental goals are certainly of the utmost importance. And only a few decades ago, only the most knowledgeable barely felt that ecology would significantly affect our overall, not just economic, behavior. And that really happened and today no one responsible can think that this is a passing fashion and some kind of world hit theme and a so-called mess without real coverage.

Therefore, the understanding of sustainable development is gradually expanding with the interconnection of sociology, economics and ecology in the so-called. a magic triangle of development (Figure 1).



Such a triangle for every civilized man (greedy, insatiable, too rich, etc. are less and less, because they have lost their sense of proportion as one of the key features of culture and civilization) should be a minimum not only obligation, but a historical opportunity and space to prove to be a humanist and a true globalist to whom the whole world is truly important, not just 'own' i.e. the local part. Therefore, if we want to look to the future, we must stand firmly on the so-called "tripod". If only one "leg" is missing, the picture of the future will be dangerously defective, distorted and incomplete, if at all possible. SAPIEN-TI SAT!

Economic security includes: 1. increasing productivity and production of useful goods and services; 2. poverty reduction in the world; 3. ensuring a fair distribution of goods and continuous improvement of equality in all segments of the economy; 4. insurance of employment, wages, new investments, trade and distribution of goods; 5. raising innovation and entrepreneurship.

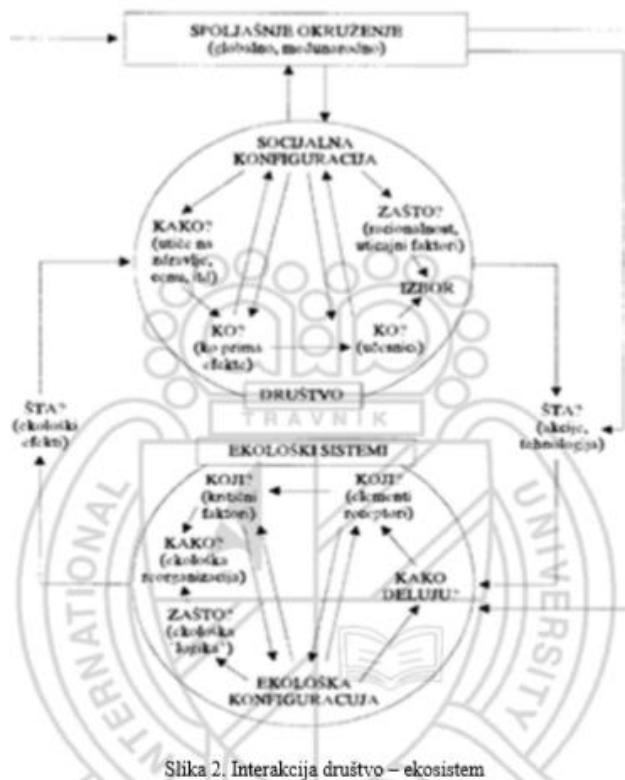
Social justice includes: 1. ensuring and encouraging cultural diversity; 2. maintenance and support of institutions of social systems; 3. supporting social justice and gender and racial equality; 4. enabling participation in decision-making of all segments of society; 5. Ensuring equal educational opportunities for all.

Ecological balance includes: 1. ensuring and maintaining genetic diversity; 2. supporting biological production; 3. developing resistance to negative impacts on the environment, as well as encouraging and enabling recovery in the event of negative impacts; 4. ensuring a clean environment and a stable climate; 5. encouraging eco-efficiency in all parts of society. Endangering nature and its reproductive capacity is only

one, but not the only, example that points to the dangerous pitfalls, detours and short-sightedness of the technocentric and productive "philosophy" of development. Therefore, we share the opinion that the new approach to development must be based on a new perception of both science and technology, predominantly within the new ecological instead of the previous techno-economic paradigm. Although in that sense it is necessary to redefine the whole set of previous categories, principles, criteria and procedures, which we cannot do on this occasion, but only in current contexts, but we can announce more extensive pleas for a new holistic and favored anthropo- or humanocentric human situation, and its environment in the processes of modern civilization vortices. In fact, no matter how much we still believe in future development as a function of increasingly directed (though not always autonomous) development of science and especially technology, we are even more convinced that the time has come to reevaluate possible ranges within the existing development paradigm. And all this with the aim of replacing it with a new paradigm in which science and technology will be more in the function of optimizing the quality of life than in the function of maximizing economic efficiency. In fact, the economic, humane and environmental criteria are complementary, but all, or almost all, of the development strategies applied so far have not taken this into account enough. Therefore, modern humanity is facing global challenges and the choice between the penetration of existing content (industrialization, urbanization, automation, etc.) development in the still undeveloped (according to current criteria) parts of the planet, or significant changes in that content, at least at the cost of slowing growth, that current resources of nature can be preserved for use by future generations (sustainable development).

Fascinated by the irresistible appeal of economic growth and material growth, modern civilization has either overestimated or underestimated the objective possibilities of the natural environment to withstand such an inherent Skorojević onslaught of increasingly ambitious generations of producers and consumers. philosophical

foundations and refresh them with new visions and solutions. In short, it is necessary to find more or less satisfactory answers to some key questions arising from the socio-ecological nexus (Fig. 2, Gallopin, Gutman, Maletta, 1989) of which we are not only witnesses but also active participants.



Slika 2. Interakcija društvo – ekosistem

The essence of the new, changed in content, and expanded in scope (planetary), logic of valuing everything that has been done in the previous industrial civilization, everything that we are currently doing, and especially what we intend to do, comes down to the now famous but relatively new the phrase: "technology proposes - ecology decides". If our current economic activity on the one hand is a material precondition not only for survival but also for the emergence of a future better, on the other hand this activity is a historical confirmation of the relationship with the previous one, whether we radically break with it (eg technical-technological upswings) or nurture continuity (e.g. nature conservation). After all, without discontinuity there is no continuity, and vice versa, which is best shown by technology and man's eternal struggle for different (diversity), more and cheaper (economy),

better (quality), faster (productivity), more beautiful (aesthetics), etc. which provides it with sustainability and development as a condition and measure of sustainability.

Sustainable development and sustainability of development are revealed as the most urgent global problems and for almost four decades, since they were included in the United Nations Environmental Program (UNEP) in 1972, important areas of research in many sciences (economics, ecology, technology, biology, geography, sociology) remain. legal and political sciences, as well as many others), and areas of national state policies as well as numerous international initiatives and endeavors. The past 37 years have marked a fundamental breakthrough in the true philosophy of globalism and, if not yet complete planetary but certainly ever wider regional, ecologically forced, connecting and transnational integration of ever wider parts of the world, which is undoubtedly a civilizational shift of lasting significance and enormous perspectives. Mankind finally discovers that Nature does not know and does not recognize any borders (state, national, linguistic, cultural, religious, etc.), but still does not know enough how to get rid of its own narrow-mindedness, arrogance, invulnerability, selfishness, superiority complex and all others. limitations that emerge as a de facto lack of vision and mission in the rapidly changing modern world.

Ecology as a science of survival, by daily warning of the growing risks of increasing discontinuity and the dangers of their excessive or excessive duration, also has the role of human conscience, helping it to "save its soul" before the court of future generations. Today, we can no longer be satisfied only with quantitative empirical findings on real developmental shifts compared to the previous generation, but it is far more important in civilization how much and what kind of legacy we leave to future generations. Environmental quality is certainly the most comprehensive criterion for assessing the overall development of an observation unit (country, region, enterprise, etc.) in a given period.

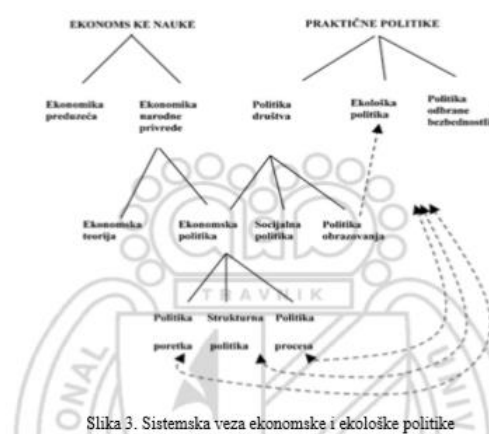
Because of all this, the concept of sustainable development leads to the much-needed symbiosis of key categories and criteria of both economics and ecology, as both are geared towards the development goals of more and more people (2050 billion people in 2050 - FAO data). for 2009) in conditions of realistically increasingly limited natural resources. In that sense, maintaining development, ie maintaining conditions for development, is not only a material precondition for the survival of present generations, but it is also an ethical issue of defending the part of civilization before future generations. In fact, sustainable development implies a balance between resource consumption and the ability of our natural systems to meet the needs of future generations. In other words, sustainable development means maintaining the Earth's capacity to provide life for each of its current as well as unborn inhabitants. It is understood that the responsibility for this lies with each current generation, which must find the best way to manage not only the available resources but also the ways of discovering and using still unknown resources.

In all this, great attention is always paid to technology as a factual stronghold of all technocentric ideologies, visions and policies, both those with optimistic and technolatric overtones, who see technology as a cure (panacea) for all "diseases" of the modern world, and those pessimistic, ie. technophobic, who again unjustifiably blame technology for all the disasters of this world, openly spreading fear of technology and resistance to it.

In short, already at this point we can conclude that it is through ecology that the real nature and essence of technology can be best understood as the sum of human knowledge, how Nature can permanently serve man, maintain living conditions.

All other determinants (development, efficiency, quality) of this simple relation: man-knowledge-nature arose during the historical development in which man increasingly aggressively ("more productively" and "more efficiently") attacked nature, always taking into account

his current needs (and interests) and less about long-term. His "tech" has always been aimed at solving practical problems of life, but such instrumentalist treatment of technology has produced such a type of social structure in which environmental degradation and endangerment of Nature can be noticed and understood only when they move so far as to become a serious threat to survival. and man as its most developed part. Because of everything, we can say that as a mental assumption of the so-called. new philosophies of development and a kind of "mental infrastructure", necessary when designing any further (r) evolution and use, especially the so-called. new / high-tech technologies - today, a new philosophy of technology is also lacking. It is necessary today as a clear and strong critical demarche to the misconception that man must dominate Nature (which is, in fact, the reverse of the notion of man's dominance over man), but also as a thought pleading for radical action to preserve the biosphere as the most important of all human needs. and thus as the best of all indicators of human development. In this sense, it is necessary to establish a new relationship between economic and environmental policy. One possible way is shown in Figure 3.



Slika 3. Sistemska veza ekonomske i ekološke politike

It is also important to point out possible ways of policy action on appropriate environmental challenges, especially from the point of view of the presence of growing environmental risks, both endogenous and exogenous. In this sense, the following four environmental policy options are possible:

- proactive, in response to small exogenous and large endogenous environmental risks;
- strategic, which represents a possible

response of the company to the situation with large and endogenous and exogenous environmental risk; - reactive, which offers a solution for a situation in which small exogenous and small endogenous ecological risks prevail, and - crisis-preventive, which offers a solution for a situation when large exogenous and small endogenous ecological risks prevail.

The state, as a legal and legitimate holder of public authority, can and must, in order to protect the vital interests of its citizens, prescribe appropriate standards and norms of behavior that will be binding on all economic entities, but it is best when only the company in its content organizational culture has built-in environmental approaches. Fortunately, this is happening more and more often, but still at an unsatisfactory pace. 3. Conceptualization of ecological economy and ecological management

The greening of production and all types of business in a new way erases the boundaries between the so-called. microeconomics and the so-called macroeconomics definitely inaugurating the ecological economy as the best, most complete, and we believe in the future perhaps the only, analytical framework for assessing the success of a business, and especially production, activity. In real life, economics can only be properly divided into successful and unsuccessful, and all other divisions have only limited methodological significance. From the presentation so far, it could be seen that there can be no real and long-term economic success if ecological measures of success were not built into its realization. Today, it is becoming completely clear that no one wants or wants to pay for someone's environmental failures, which in the form of "savings" they want to turn into an economic and financial result. In short, savings on environmental costs can no longer and must not become a source of anyone's economic success, because in the long run it would mean unethical capture of other people's income.

The coupling of ecological and economic vectors of activities of individual companies and the transformation of conventional economy and conventional ecology into a unique concept of ecological economy are shown in Figure 4 (King, 1995: 84). A closer comparison of these types of economies

according to the selected criteria is given in Table 1 (King, 1995: 86).



Slika 4. Različiti domeni ekonomije i ekologije

Tabela 1. Poređenje „konvencionalne“ ekonomije i ekologije sa ekološkom ekonomijom

	"Konvencionalna" ekonomija	"Konvencionalna" ekologija	Ekološka ekonomija
Osnovni pogled na svet	Mehanistički, statički, atomistički	Evolucijski, atomistički	Dinamički, sistemski, evolucijski
Vremenski okvir	Kratak	Širok raspon	Širok raspon
Prostorni okvir	Lokalni do internacionalnog	Lokalni do regionalnog	Lokalni do globalnog
Okvir vrsta	Samo čovek	Sve sem čoveka	Geo-ekosistem, uključujući i čoveka
Primarni makro ciljevi	Rast nacionalne ekonomije	Opstanak vrsta	Održavanje ekološkog ekonomskog sistema
Primarni mikro ciljevi	Maksimalan profit (firme) Maksimalna korisnost (pojedinci)	Maksimalan reproduktivni uspjeh	Mora biti prilagođen da odražava ciljeve sistema
Pretpostavke o tehničkom napretku	Veoma optimistične	Pesimistične ili bez stava	Mudro skeptične
Akademski stav	Disciplinarn	Disciplinarn	Transdisciplinarn

Suština ovog procesa svodi se, u krajnjem, na ostvarivanje održivog razvoja kao paradigme

The essence of this process comes down, ultimately, to achieving sustainable development as a paradigm that can no longer have an alternative. Unfortunately, today a significant part of the world still has great problems to "embed" the logic of economic (rational) behavior in its development philosophy and practical life, while ecological logic still seems to it somehow too fashionable and unnecessary for now, and all that together not only inhibits any more serious development, but directly contributes to the development of underdevelopment.

Fortunately, on the other hand, there is a growing group of countries whose bearers of development are well aware of the importance of applying the principles and criteria not only of conventional economy and conventional ecology, but also their mutual interference and strong affirmation of new ecological economy practices. acceptable and ethically legitimate business. The basic features of this new concept of ecological economy are reflected primarily in the significant theoretical and methodological shift of traditional analytical frameworks and economics and ecology with

the basic goal of maintaining ecological ecological system, not only ecological or only economic, because such reductionisms and partial approaches cannot be the path to the realization of sustainable development. In fact, this new concept fully follows the logic of the so-called holistic (holistic) development.

In that sense, the so-called environmental management as a science and skill of managing different levels of organizational systems (companies, states, etc.) by controlling the risks that threaten the survival of these systems. It is understood that, due to the fact that the basic goal of environmental management is the survival of organizational systems (these always consist, among other elements, primarily of people), such defined management is not just "achieving things (goals) with people" (MP Follett) but is primarily about achieving things for the sake of people.

Environmental management is a completely anthropocentric or humanocentric concept of business management, which significantly distinguishes it from all other managerial approaches and systems. Likewise, it is not only the science and skill of effective and efficient behavior and achieving goals in the right way, but it is the true knowledge and practice of achieving the right goals, ie those concerning the survival of man and the quality of his life. We can say that no field of management application so strongly and convincingly confirms the dominance of the principle of effectiveness over the principle of efficiency, ie the inability to compensate for the lack of effectiveness (bad, therefore inhumane and unenvironmentally chosen goals) even with the greatest efficiency. In this sense, environmental management can (and must, in the future) become a kind of management infrastructure and a test of the success of any management practice. We are of the opinion that ecomanagement already goes beyond any business and state management practice and grows into a kind of metamanagement.

The global process of introducing international standards for environmental management (from 1994) will undoubtedly contribute to this. Their primary role is to provide uniform guidelines for

environmental policy; to define strategic and operational environmental objectives; to identify and evaluate environmental effects; establish methods of internal and external audit; establish communication principles and define training obligations, etc. In this sense, the standards of the environmental management system represent a further elaboration and concretization of the well-known Charter for Sustainable Development adopted in 1991 within the International Chamber of Commerce. It was then proclaimed that environmental management is a key determinant of sustainable development and that it must be a priority task of the company and that its improvement must be an ongoing process; that employees must be constantly motivated and environmentally taught; that a continuous assessment of the environmental consequences of each new process and product must be carried out; that the company must take responsibility for the behavior of its subcontractors and suppliers; that the company must be open to dialogue about

environmental risks and engaged in joint efforts to improve environmental awareness and regularly inform all stakeholders. In fact, the essence of environmental management comes down to respecting the following 10 principles:

1. protection of the biosphere,
2. sustainable use of natural resources,
3. waste reduction,
4. energy conservation,
5. production of environmentally and health-safe products,
6. environmental restoration,
7. informing the public,
8. regular monitoring and reporting on the work of the company ,
9. social responsibility of managers,
10. risk reduction in business

Consistent application of these principles would provide economic security for most of humanity and social justice at the highest level, but also ecological balance at a level that does not threaten any cataclysms (eg global warming, climate change, biodiversity loss, energy deficit, etc.). In other words, sustainable development would be ensured on the entire Planet, and that is an essential precondition for the survival of our species as the most responsible for everything that happens on the Planet. Of course, the mechanism for regulating such a deliberate

development can be neither simple nor one-sided. It must be based on the market, but also on planning, which is not only in the hands of the state, but also of numerous structures of civil society.

The bottom line is that "the ideology of egoism and utilitarianism advocated by market fundamentalism and the reckless pursuit of profit maximization based on it must be replaced by an ideology of social solidarity and humanism as well as a broader, holistic understanding of economics, consequences of economic decisions and processes". (Mesarić, (2006: 967).

Unstoppable processes of globalization and the accompanying greening of consciousness, but also business, can be a good opportunity, not just a threat, for all those who think broadly and far, who have a long-term vision of their business, as well as knowledge of possible trends in science and technology and culture. After all, the ultimate goal and measure of economic growth must be to improve the quality of life of all citizens, expanding not only the content of the term "quality of life", but also the circle of people to whom it refers. Therefore, the benefits of economic growth must be fairly distributed, and that is not the case today. On the contrary, the polarization into the world of the rich and the poor is deepening more and more, and every thinking and well-meaning person must be worried. In the whirlwind of current neoliberal globalization, the worst are the small, weak and poor, which is why nation states must develop development strategies based on their own national interests, not indulging in the illusion that the market and free enterprise will leave development in the desired direction. social problems.

4. Conclusion

Mentioned attitudes and analysis allow us to conclude that the ecological logic and criteria of ecological evaluation not only affirm the economy and its logic of rational use of scarce resources, but also revive the primordial anthropocentric meaning that everything happens in the economy. center. Therefore, the concept of sustainable development can be accepted as an appropriate analytical framework and a new development and business paradigm,

because it respects all the necessary and sufficient conditions for the reproduction of the human species at an ever higher level of development. Any escape from strictly defined frameworks must be sanctioned, either economically (mild punishment), or ethically (very severe punishment), or ecologically (the most severe punishment). Conversely, anyone who respects the principles of environmental economics and environmental management can count on all kinds of rewards: from long-term market success, through gaining and maintaining public reputation and business image, all the way to a sense of harmony with nature as the most important of all possible recognitions. a visa to survive on "this only Earth" and the best recommendation for a fair and dignified encounter with unborn generations.

Literature

- [1] Brian, C., (2009) Ecological Economics, "Encyclopedia of Life Support Systems (EOLSS)", Developed under the Auspices of the UNESCO, Eolss Publishers, Oxford, UK, [<http://www.eolss.net/login.ezproxy.library.ualberta.ca>] [Retrieved March 19, 2009]
- [2] Ezrahi, Y., et al (eds.), (1994) Technology, Pessimism and Postmodernism, Dordrecht, Netherlands Kluwer Academic Publishers
- [3] Gallopín, GC, Gutman, P., Maletta, H., (1989) Global impoverishment, sustainable development and the environment of a conceptual approach, "Social Science Journal", 121, Basil Blackwell, UNESCO [4] Gereke, Z., (1996) Eco-management systems in industry, "Ecologica", no. 11, no. 3, Belgrade
- [5] Goodland, R., Daly, H., Serafy, S., Droste, B., editors, (1991) Environmentally Sustainable Economic Development: Building on Brundtland, UNESCO, Paris
- [6] King, A., (1995) Avoiding Ecological Surprise: Lessons from Long-Standing Communities, The Academy of Management Review, Vol. 20, no. 4
- [7] Mesarić, M., (2006) Outlines of a new, socially just, economically efficient and

ecologically sustainable model, "Economic Review", 57 (12) 939–969

[8] Our Common Future, The World Commission on Environmental and Development, Oxford University Press, Oxford, New York

[9] Patricia, A., (2005) Megatrends 2010 - Rise of Conscious Capitalism, Charlottesville, Hampton Roads Publishing Company, Inc.

[10] Pokrajac, S., (1997) Ecological economy, ecological management and sustainable development, proceedings of the XXII International Conference "Science, technological development and quality of life", Herceg Novi

[11] Pokrajac, S., (2002) Technology, Transition and Globalization, Belgrade, Association of Scientific Creators

[12] Rondinelli, D. A., Vastag, G., (1996) International Environmental Standards and Corporate Policies: An Integrative Framework, "California Management Review", Vol. 39, no. 1, pp. 106– 122

[13] Sustainable Industrial Development, (1987) Vienna, WCED

ECONOMY AND GLOBALIZATION, THE RULE OF LAW AND MEDIA IN THE CONDITIONS OF DIGITALIZATION IN THE WESTERN BALKAN COUNTRIES

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Abstract: *The new economy means profound changes in society and in the economy, and its final result should be the growth of living standards of the people. The digital economy is a modern way in which information technologies and especially the Internet are used. It has led to a transition from an industrial economy to an economy characterized by information, intangible assets, invisible values, services and a new form of organizing institutional forms. From the 1990s onwards, less and less in the economy, the problem of development was viewed through the settings of old models, but the main sources of economic growth were focused on technological change, improvement of innovation and education of the workforce capable of managing new technology. These preferences, according to research, allow strong economic growth without inflation and low unemployment, and enable growth in production capacity. Under the influence of advanced technology, the modern world is globalizing, but the inhabitant of such an environment is increasingly localized, that is why selected parts of the global world are being 'drawn' into their everyday spaces. In today's highly urbanized world, the unique and increasing influence of new information technologies, especially those of wireless (laptops, cell phones, internet), is undeniable.*

Keywords: *new economy, globalization, information technologies, digitalization, economic growth*

I - INFORMATION ECONOMY AND GLOBALIZATION

1. Creating an information economy

The last decades represent one of the rare intervals in the history of humankind when the normal developmental continuity in which radical changes occur is interrupted, when a new technological and social paradigm is born. It was a time when a revolution in information technology took place, in which a new technological paradigm was created that encouraged radical restructuring and led to the creation of the information economy. The dominant feature of the information economy is the growing share and importance of knowledge and innovation. The new economy requires constant improvement, improvement, development. Constant investment in ideas, knowledge, people. Hence, innovation and innovation form the core of the functioning and development of the information economy.

It is difficult in the history of mankind to identify a similar invention that has had such an impact in so many human activities as the creation of the information economy.

Information economics enable users to participate in the rapidly changing world, as they go hand in hand with finding, researching, analyzing, exchanging and presenting information, responsibly and without discrimination. It provides quick access to information, ideas and experiences from a wide range of people, communities and cultures. Information has become a basic strategic good, in addition to the already existing ones: energy, natural resources and infrastructure. It is thanks to them that it is possible to respond so quickly to the demands that lie ahead. A new economy based on information and knowledge, a new industry, a new society is emerging. The information economy enables a rapidly changing world in which work and other activities are increasingly transformed by different approaches and developments in technology, with their ability to collect, feed, transmit and process all types of information.

Information today is considered a strategic resource, a potential source for gaining a competitive advantage. In the information society, the basic concepts of information as a phenomenon and communication as a process. There is no doubt that information and communication technologies (ICT) have a significant impact on economic and overall development, employment, human capacity, etc. In the economic sphere, the collection and disposal of information is becoming increasingly important, as one of the essential resources for economic activity, possession and use information technology. In addition, these technologies have enabled the development of new products and activities, while the use of the Internet has led to the emergence of many new companies around the world and to the creation of new jobs. New information technologies greatly increase economic efficiency and enable many new business opportunities. The growth of the company, the complexity of the business, the growing speed with which business decisions need to be made and the shortening of the product life cycle affect the development and importance of information technology in the performance of economic activity. The development and use of the Internet have transformed modern society into an information society. The relatively young information society has recently experienced changes, both in terms of new legislation and in terms of defining new trends. The development of the information society is of great importance for the entire economy of a country. Its main feature is that ICTs play the most important role in production and the economy, as well as in all spheres of individuals and society as a whole, in a way that expands human freedoms. It is this development that leads to a new knowledge society.

From the 1990s onwards, the problem of development has been viewed less and less in the economy through the settings of old models, rather than the basic sources of economic growth focused on technological change, improving innovation and educating a workforce capable of managing new technology. According to research, these settings enable the realization of strong economic growth without inflation and with

low unemployment, and they enable the growth of production capacities. The new economy means profound and radical changes in society and in the economy, and its end result must be an increase in the living standards of the people.

The market is becoming global, open, which means that the exchange of goods and services between different countries is expanding and is reaching its peak to this day. This can be a problem for some countries, especially underdeveloped and developing countries, as well as countries in transition that are transitioning from a system of communism (closed market) to a system of capitalism (open market). Such countries face the problem that their product is uncompetitive, the need to pump money into economic development and competitiveness in the global market is crucial.

New social concepts related to the new age and the new economy, such as social responsibility, are also emerging. Socially responsible companies, as well as the state, are the ones that take into account the socio-economic factor of the wider society, the well-being of the community, as well as environmental protection factors, ie not to negatively affect the environment.

Information and communication technologies are the basis of the modern information economy, facilitating and supporting global flows of information, capital, ideas, goods, services and people. In that way, they directly transform modern ways of doing business and organizations in general. They are revolutionizing the way we learn and share knowledge and enable significantly greater participation of all in business, thus contributing to the promotion and acceleration of overall economic, social and human development in the world. I must mention that in this transformation, purchases are also changing, along with lower costs and more efficient closing of transactions, and macroeconomic implications for employment, the customs system, the tax system, and trade competitiveness.

2. The concept and development of information technology

It is difficult to give an accurate definition of information technology, but we can say that information technology (IT) means different elements and skills for creating, storing and transmitting information in different forms. Business organizations use them for the purposes of: improving the quality of products and services, improving efficiency and effectiveness, increasing productivity, saving money and energy, saving time and increasing profits. The development and application of information technologies greatly changes the way of doing business and the life of an individual. The development of information technologies has caused the emergence of new applications and networks of these technologies, which have significantly changed the way of doing business and living.

In conditions of very strong competition, especially in the economic sphere, the collection and possession of information as well as the art of using new information technologies is becoming increasingly important. Very significant changes in our society have occurred just as modern technologies have evolved such as: information technology, laser technology, new materials technology, nuclear technology, space conquest technology, biotechnology and genetic engineering. The emergence and introduction of these technologies has led to a change in social relations, production, people's lives and their education. Knowledge-based information technologies (IT) form the basis of almost all other technologies and as such they are included in almost all products and services of the company, enabling it to reduce costs, greater efficiency and profitability, improve all company functions, modernize administration, speed up the design process and similar.

Many countries have achieved economic growth under the influence of the development of information and communication technologies. One of the innovations in the development of information and communication technologies is the Internet, which is

considered a driver of change in society and the economy, from gathering information through the possession and application of knowledge to solving certain tasks and achieving benefits, efficiency and better results.

It is believed that the biggest generator of demand for information technology infrastructure should be the state. By introducing electronic services, which makes the state administration more efficient, optimal and, above all, more transparent, with a direct incentive to the IT sector.

3. The impact of information technology on the creation of a new economy

Today we live in a time of advanced technologies and changes that affect the transformation of the economy, society and life. Rapid technological progress in the information technology sector has triggered a rapid process of creating a new economy. The new economy has changed the economic system globally. The development and application of information technologies have created a new economy that represents a multitude of qualitative and quantitative changes that have transformed the structure, functionality and rules of economics in the last twenty years. The American economy achieved significant economic growth in the late 1990s thanks to the application of information and communication technologies, and since then the name "new economy" has been used. It is also called the digital economy, the information economy and, increasingly, the internet economy. All names refer to the impact of information technology on the performance of all economic activities. The new economy provides various opportunities for companies to improve the organization and structure of business. It is the basis for change in economic activities, with the possibility of creating new rules for achieving productivity, employment, economic growth and innovation in all sectors. In addition to the above, it enables the reduction of costs and other opportunities, the new economy provides the reduction or elimination of geographical, industrial and corporate barriers and borders. Consumers in the new economy have a wide choice of access to

products and services. Because of the positive results, most companies increase investment in information technology, improve the organization to reduce costs, increase efficiency and flexibility, use technology more efficiently and improve business decision making.

4. Doing business in the digital economy

The global market is under the constant and strong influence of changes caused by the rapid growth of the economy and new technologies. Given that, in the economic sphere, the availability of information is becoming increasingly important, it has become necessary to own and use information technology. The development of information systems and the "information industry" is becoming the driving force of economic and social progress. The best and most important result of industrial and post-industrial society is actually information technology.

Today is a time of advanced technologies and changes that affect the transformation of the economy, society and life. Information, data collection, processing and communication increase productivity in all sectors. Rapid and rapid technological progress in the information and communication technology sector has initiated the process of creating a new economy, new growth and economic development. The new economy has changed the economic system. These changes include globalization, monetary policy change, venture capital, and innovation in human resource management.

5. The new digital economy

The digital economy is a modern way in which information technologies are used, especially the Internet. It has led to a transition from an industrial economy to an economy that characterizes it

information, intangibles, invisible values, services and a new way of organizing institutional forms. Synonyms for the digital economy are "Internet economy", "New economy" and "Web economy". The new economy could still be defined as a combination of interconnected phenomena

that includes globalization, the transformational impact of information and communication technologies, the way different organizations operate, successful and different e-business models, and the ever-changing nature of workloads. high development rates, low inflation and low unemployment. The market economy, in developed countries, is changing in five ways: 1. New capital creation infrastructure emerges as a result of the evolution of the Internet (Net) into Hypernet - This way of doing business reduces the costs of cooperation, contracting and transactions between companies, 2. New business models - Business networks, which appear as models of successful business, enable companies to compete who will create better and more diverse products and services and to achieve sustainable business efficiency. 3. New Capital Market - Requires new approaches to financial engineering. Intellectual capital changes with the networking of people and knowledge. 4. Capital of mutual relations - New approaches to marketing enable the creation of deeper and more successful relations between companies and companies and customers. One of the most important challenges facing any company is the management of this capital. 5. New society - It is formed on the basis of a changing economic environment. The new (digital) economy is becoming an increasingly accepted framework in which, in developed countries, the business and operations of other organizations are already conducted, and over time it will inevitably be used in countries in transition as well as in other less developed countries. In Bosnia and Herzegovina, as in other less developed countries, the Old Economy still prevails, and they face major challenges in creating a framework that is compatible with existing frameworks in developed countries, with the goal of becoming partners in the global economy over time.

6. Characteristics of the new economy

The emergence of a global market, a sharp increase in the number of firms and new, inexpensive technology, which allows easier access to new markets, have led to fiercer international competition. As a result of these

changes, entrepreneurs are increasingly under pressure to focus on ways that will increase their efficiency and reduce costs. The use of information and communication technology in the production process, improved business behavior and better functioning of the labor market, have led to increased productivity, to a level compatible with economic growth of 3-4%, compared to 2-2.5% in the Old Economy.

The basic characteristics of the new (digital) economy are: - It leads to a significant paradigm shift in: business strategy, design and use of technology, the role of senior management, processes of creating and using organizational knowledge, organization and management of enterprises, - New economy organizations shapes and sizes, from the smallest (one person), to the largest companies, - Using information and communication technologies, small businesses can perform activities that were previously reserved only for large companies, The cost of starting a new business is reduced, many companies will create networks of independent experts, which means that a lot of people are already working in smaller companies, or alone, - New economy organizations favor consumers and make additional efforts to meet ever-growing consumer demands, - New economy favors intangible assets, but it complements traditional economy, does not reject it completely, - New Key models are created in the form of a partnership, based on the Internet or an alliance of "business networks", as a separate system of suppliers, distributors, trade service providers, infrastructure service providers and consumers, who use the Internet for their primary business transactions and communications. instead of managing information and data. Digital economy refers to the economy, which is based on digital technologies, including digital communication networks, computers, software and other related information technologies. Digital networking and communication infrastructures provide a global platform on which people and organizations interact, communicate, collaborate, and seek information. The advantages of these technologies have led to

a large drop in computer prices, greater and cheaper data storage, as well as better and cheaper communication. There has been a drop in costs and an increase in the performance of products and services. Doing business in the digital economy is based on cost reduction, transparency, availability of data and information, innovation and networks through which business processes take place.

Companies, in order to increase productivity, must constantly monitor the development of information and communication technologies and implement new achievements in their business. Productivity in the new digital economy is not easy to measure. Some countries have developed new measurement methods by introducing, the so-called hedonistic price indices, which took into account the type of computer with its capacity. In these methods, price movements of information and communication technologies were used.

7. Trends of the new economy

In the global world, there are certain trends to which companies and countries must adapt if they want to survive and stay competitive. This is a time of rapid change, affected by globalization and information and communication technologies. To stay in a competitive market, companies must adapt to change by adopting and applying new business models, which is the basis and condition for achieving good results. Consumers now reap the benefits, while traditional distributors lose. Low inflation, price transparency, online trade, put the consumer in a dominant position. Workers with knowledge, flexibility and qualifications are at an advantage. Jobs are created by projects, and there is no job for life. By increasing jobs in the services sector, opportunities for small flexible businesses are increasing. A person with qualifications and knowledge can progress by working for different companies and different projects, not only within the same company, which is a feature of the traditional economy. The basis of business success are: efficiency, speed and quality differentiation. In order for a company to succeed, it is necessary to invest in new technologies. By investing in

information and communication technologies, productivity and efficiency are achieved, and with increasing productivity, production and the rate of economic growth increase, and thus social wealth. The economy is global and it is necessary to enter the global market. To be competitive in the global market, companies must apply the latest technologies and high quality standards, prescribed for the product. Companies try to offer the consumer a faster and better service through the application of information and communication technologies. Continuous improvement is needed because technology is changing rapidly, with constant innovation. The need for a work structure is changing, trained and educated workers are needed for the field of information and communication technologies. These technologies increase productivity and speed up business processes. Business is changing, the number of intermediaries is decreasing, delivery is accelerating. These technologies provide access to and enhance education, increase transparency and efficiency. Businesses are moving from manufacturing to services, and business is moving to the global market. The new economy, especially through the use of the Internet, abolishes all limits and limits, and increases the availability of information. To stay in business, companies need to adapt to new markets and new market conditions. New technology enables small companies to overcome the main advantages of large companies, which are economies of scale and access to resources. Also, small companies are not burdened with important shortcomings of large companies - bureaucracy, hierarchy and difficult changes. For that reason, large companies are forced to disaggregate, becoming clusters of small molecules, which can work well together. In this way, they achieve agility, autonomy and flexibility. To succeed in the digital global market, where market speed is a key factor, global companies must act in real time. An intercompany enterprise is an expansion of a virtual corporation because there is access to foreign business partners, constant reconfiguration of business relations, increased financing from external sources. The walls between companies, suppliers, customers, competitors and affinity groups

are being torn down. Every economy needs a national information infrastructure, and every organization needs to fit into it with its information infrastructure.

The dominant sector in the new economy is new media, which are the product of the convergence of the computer, communication and content industries. The main carrier is innovation, including the obligation to continuously innovate products, systems, processes, marketing and people. If a company has developed a good product, its goal is to develop even better. This new product will obsolete the previous one. If she doesn't, another company will. This means that the product life cycle is shortened. For example, car manufacturers have a product life cycle of two years, while manufacturers of electronic devices - three months. There are also markets where some financial products have a life cycle of several hours, ie until the competition reaches them. Development in the new economy comes more from small and medium enterprises than from large corporations. The way to win in such an economy is leadership in products and services, but that is still not enough to understand customers, their decisions and interests. Customers often cannot even recognize their wishes, all because of the complexity of the market and market changes. Mass production has been replaced by mass personalization. Manufacturers must create specific products, which reflect the requirements and tastes of individual consumers, who are involved in the current production process. The new economy is global, there are no economic walls, knowledge has no borders, there is no domestic and international knowledge. Knowledge is a key resource. With knowledge, there is only the world economy, even when individual organizations operate in national, regional or local headquarters. The number of free zones in the world is growing. New economies and political regions and structures, such as the European Union, diminish the importance of the nation and the state. Business cooperation is no longer limited to conventional alliances. A new form of competition is spreading through the global market. Globalization is the carrier of new technology, and vice versa,

new technology is the carrier of globalization. Computer networks allow companies to provide service 24 hours a day, as customer requests are forwarded from one time zone to another without the customer even being aware that the work is done on the other side of the world. The office is no longer a place. It is a global system. The whole globe is connected into one electronic market. Businesses need to be able to connect with customers, suppliers and partners around the world.

8. Comparison of new and old economy

New technologies are the main impetus for growth and development in general, from companies to the global economy as a whole. In the modern world, the foundations of economic development are based on highly developed technology, innovation, knowledge and extensive infrastructure. Thus, the "new economy" is based on technology, information and knowledge, and takes the place of the "old economy", based on the physical factors of production - labor, capital and land. The new economy is characterized by the dominance of services and information and communication technologies, ie intangible assets. The infrastructure of physical production, ie material assets, is abolished. The new economy is the economy of computers and other information and communication technologies and their applications. It neglects the labor intensity of production and the movement of physical products, which is a characteristic of the traditional economy.

The traditional economy is characterized by:

- Tangible assets, - Physical capital, - Labor intensity, - Mass production, - Plans within clear limits, - Values that are measured and that are present in statistics. The traditional economy rests on physical production and industrialization, while the new economy represents the next stage in the development of the economy, in which there is a shift of physical production towards services. Borders are also shifting, from the local or national level to the international or global level. The new (digital) economy is characterized by:

- Digitality, - Virtuality, - Dominance of services, new intangible products and - Information and communication technologies. Information and communication technologies are the basis for creating a new economy. The effects of information and communication technologies are:

- Greater competition - shortened time, reduced costs and easy market entry leads to a greater degree of competition, compared to the traditional economy; - Lower prices - by reducing inventory costs and distribution costs, prices are also reduced, which is especially pronounced in e-commerce; - Higher productivity - information - communication technologies have created new ways of doing business, eliminating everything that is inefficient, and increasing productivity and the rate of economic growth. Information technology enables a knowledge-based economy. In the new economy, the main assets of an organization are intellectual assets, focused on professionals. In the old economy, workers in one factory, such as cars, were very similar to workers in another factory and were replaceable. Now they are very variable.

9. Mobile business and mobile technologies

Mobilno poslovanje predstavlja proces Mobile business is the process of applying mobile technologies for business purposes, to provide services, trade and make payments, in order to better business efficiency. Efficiency refers to lower operating costs and a better competitive position in the market. The development of the third generation of mobile phones has enabled better bandwidth of available data and a new range of services that are stratified in three directions, namely: network services (network services), which include telephony services through network maintenance; additional services related to the network, such as SMS, MMS messages, voice mail, audio and video conferencing, etc .; third party participation services, eg the process of performing mobile finance with the participation of companies and banks. Mobile business is electronic business that is conducted in a wireless environment with the help of wireless devices. In mobile business,

the following areas are distinguished: mobile business communication; mobile commerce and mobile payments. The first area covers the relationship of the company and communication between employees within the company itself, while the other two areas represent the relationship typical between the company and consumers, B2C.

Mobile business (Mobile business or m-business) is a new form of e-business. The advantage of mobile business is that it can take place anywhere and anytime with the application of Internet technology. Due to its great potential, mobile telephony was very quickly perceived as a technology that can significantly enhance the popularity and development of the Internet.

Therefore, it is the most common and includes: - Mobile business telephony, - Text SMS, - Multimedia MMS, - Video conferencing (using 3G technology), - Internet communication (including the use of e-mail).

10. Information technology and development

At the very core of the technology development strategy is a whole complex of information and communication technologies. An understanding has been developed that in today's world it can be imposed and dominated primarily by technology. In that context, significant and growing allocations for scientific research development and work, as well as for the improvement of information technologies, should be interpreted. It follows from all this that man's attitude towards technology, society and production, and especially towards information and knowledge, today, under the influence of modern computer technology, systems approach and the current communication revolution, acquires significantly new characteristics. The question is, is the significance of science, technology, and information in the modern world as great as the introductory comparison implies? Is it really the main tectonic line that separates the developed from the undeveloped, the successful from the unsuccessful, the line of relationship to knowledge and information technologies?

All human knowledge develops according to an exponential curve, 90% of that knowledge originated in the last 30 years. That is why it is quite justifiably claimed that losing one year, or being one year behind the front of world development today, is the same as falling behind 10 years ago by 5 years or more. Add to that the fact that 90% of all scientists in the entire human history represent our contemporaries. This points to the fact that it has scientifically become a relatively new phenomenon on the world stage, but at the same time it is growing into a mass human activity and gaining all the epithets of a separate industry. Taking into account all the above facts, it can be concluded that the most developed countries in the world today are entering the development phase, which we can call the information society. The economy of these countries is increasingly based on renewable resources (knowledge and information, biological sources, solar energy) and the so-called. high technologies, which consume modest amounts of energy and virtually unlimited resources. The step towards the intensive application of information technologies, apparently for the whole world, represents the main step towards the society of the 21st century. The contribution of information technology is reflected in all forms and areas of human activity. The computerization of production processes enables huge savings and strongly influences the increase in productivity, consistency of quality and rational consumption of raw materials and energy. Robotization, flexible systems, computer-aided design and production are the main epithets of the computerization of the industry. Information technologies also enable more efficient office operations, rationalization of services of all kinds, and create preconditions for qualitative leaps in education, scientific work, as well as all forms of communication, information, management and control. Just as the industrialization of agriculture has enabled a huge leap in the growth of food production productivity, so the informatization of industry opens new and unimagined perspectives for the growth and development of industrial production. Thus, for example, in the United States, it was estimated that in 1990, more than 30% of all

jobs were directly related to computers, and almost 90% of routine production processes were under the complete control of the same without human presence.

II - ECONOMY AND ECONOMIC GROWTH

1. Economic position in Bosnia and Herzegovina

According to the report for 2018, it is stated that Bosnia and Herzegovina has achieved economic growth higher than three percent, which is at the level of growth from the previous year. Economic growth was achieved thanks to an increase within all categories of GDP. The most significant contribution was made in the segment of private consumption, and a positive contribution to economic growth was made in the field of investments in which growth of 7.3 percent was registered. On the other hand, according to preliminary data, the rates of exports and imports were equalized, and the contribution of foreign trade to economic growth was much more modest compared to the previous year. The physical volume of industrial production increased by 1.6 percent compared to the previous year, and the most significant contribution to growth was made within the electricity generation sector. The number of unemployed in Bosnia and Herzegovina decreased, averaging 451,700 people, or 7.7 percent less than in the previous year. The average net salary in 2018 was 879 BAM, with a nominal growth rate of 3.3 percent compared to 2017. The average pension was 382 BAM, with a nominal growth rate of 5.9 percent compared to the previous year. The main characteristics of the fiscal sector in Bosnia and Herzegovina in 2018 are the growth of total tax revenues, as well as revenues from contributions, but also the reduction of public indebtedness. In 2018, Bosnia and Herzegovina collected a total of about 15.2 billion BAM of public revenues based on indirect and direct taxes, contributions and other revenues, which is 7.3 percent more than in the previous year. Also, total public indebtedness decreased by 2.1 percent compared to 2017 and amounted to BAM 11.1 billion, of which BAM 8.2 billion is external public debt.

2. Digitization of the economy

"Digitalization is no longer a sector of the economy, it is becoming the economy itself. The digital economy is growing seven times faster than traditional. Digitalization is the key to increasing the efficiency of public administration and improving the business climate. The development and use of technology and market needs. digitalization as an imperative in most businesses, which means it will impact and already significantly affect investment attraction, new employment and competitiveness growth. Technology is evolving exponentially and it is expected that about 50 percent of the population will need to master new skills to be competitive in the new, Digital economy, on the one hand, requires intensive learning from us, but at the same time frees people from administrative and repetitive tasks and enables a focus on creative, demanding work, which significantly raises productivity, includes innovation and is a new generator of growth and competitiveness for companies. the economy today is as a rule, related to digitalization, and there is data that the digital economy is growing in some places seven times faster than the classical one. The digitalization of business also involves significant investments. Being a country that has embraced the digital world through digitized public services, the development of digital skills in the education system and the creation of a business ecosystem that encourages fast, agile, innovative and talented today is a prerequisite for attracting investments that we would like in Bosnia and Herzegovina. creative jobs that are not easily replaced and are well paid. It should be rightly borne in mind that some jobs will certainly disappear, but such jobs should not be in the focus of interest of Bosnia and Herzegovina. The European Commission recognizes digital technologies as key to European economic growth. And while 250 million Europeans use the internet every day, 18 percent have never used it. While the technology-based digital economy is usually growing much faster than the rest of the economy, this is not the case in Bosnia and Herzegovina

3. Problems of economy in Bosnia and Herzegovina

These economic indicators are only a consequence of the larger, systemic problems of the economy in Bosnia and Herzegovina. They primarily include a huge, wasteful and extremely inefficient public sector that accounts for more than 50% of GDP. While in developed countries it is common for the real sector to have the main say, especially in the labor market, in our country it is public, which is best seen in layman's terms that "everyone wants to be on a budget". However, not everyone can be on the budget, so the official unemployment rate is over 40%, while in the country there are 57.9% of unemployed young people, according to the Regular Economic Report for Southeast Europe of SEE6 countries. Some economic research, such as the one entitled "Youth Unemployment: Is There a Problem in Attitude", really suggests that a certain part of the labor force is simply levitating in the labor market, waiting for office work in the public sector.

4. Necessary reforms

Therefore, economic reforms should go in the right of liberalization, deregulation, reduction of fiscal levies, reform and reduction of the public sector, with the strengthening of private initiative and work on increasing the competitiveness of the domestic economy. For all this, we need legal institutions, not to bring justice, but to correct injustice, as the French lawyer Frederic Bastia remarked very well. Reform agenda for 2015-2018 represents a real chance for BiH's progress, with a clear set of medium - term priorities that will be achieved through concrete initial measures and endeavors. The main goal of the agenda is economic prosperity, more precisely macroeconomic stability, increased competitiveness and stable economic growth. In addition, the Reform Agenda is the key to EU accession, which is clearly stated at the beginning of the agenda where it is stated that the agenda is "necessary for the membership application to be considered by the EU". Let's not forget that BiH's membership in the EU is supported by 78% of the citizens of our country, according to

the research of the Directorate for European Integration, which means that EU commitment is an exceptional political capital that should be used to explain the importance of reforms to the general population.

5. Significance of the Reform Agenda

Reformska agenda je jedinstvena viziju The reform agenda is a unique vision of a better Bosnia and Herzegovina. The first set of reforms involves improving public finances and the taxation system, with the aim of ensuring the fiscal sustainability of the budget. The general goal of reforms in this area is to resolutely tackle the uncontrollably growing public debt that is bringing us closer to the Greek scenario every day. Although it currently amounts to 45% of GDP, a continuous growth of about 10% is noticeable, which was the rate of increase in the period from 2013 to 2014. As expected, the largest share in public debt has external debt (BAM 8.2 billion). More than 35% of new loans go to the public sector, so the agenda aims to reduce state participation in the economy by limiting public spending, but also reducing fiscal burdens. First of all, it is necessary to change the rate of contribution to work, especially the contribution for health insurance, which urgently needs to be reformed (which is not an impossible task, given the potential of public-private partnership institutions in this area). What is especially interesting within the first set of reforms is the expression of the will to determine and control the salary fund that should monitor the tax situation, or the situation in the real sector.

6. Competitiveness of the economy

Furthermore, in order to improve the business climate and significantly affect the competitiveness of the domestic economy, which is a burning issue according to global economic reports, it is necessary to deregulate the business area, reducing the impact of monopoly state-owned enterprises, and restructuring or in exceptional cases liquidating part of the enterprise. Nevertheless, the long-term goal is to carry out financial consolidation and restructuring of the company. This would be achieved in

part with the help of the new institute of "pre-bankruptcy proceedings" listed in the agenda, with the aim of financial restructuring of debtors to avoid bankruptcy in order to preserve jobs and continue to perform the core business of the company. Special attention will be paid to the restructuring of railways (in both entities) and mines (in the Federation of Bosnia and Herzegovina), which implies a new organization and number of employees. The railways have been making losses for years, while the number of employees in the mines is extremely problematic if we know that 3,550 employees in Bosnia and Herzegovina produce the same amount of coal as 522 employees in Poland. In addition, the preparation of preliminary plans was announced in order to prepare BH Telecom for partial privatization in Federation of Bosnia and Herzegovina. This should certainly have started earlier, because companies like BH Telecom must get rid of the political parties that control it and leave it to the market, to the satisfaction of its customers. The misconception is that it is "family silver" because such a thing does not exist in modern economies, where wealth is created in the market, and not in the hands of political powerful people.

III - MEDIA AND DIGITALIZATION

1. Journalism and technologies

New approaches in the digital media industry have enabled new approaches to journalism and thus a different and greater audience engagement. The results of a survey of 2,700 journalists and editors from 130 countries showed that, despite the development of technology and media digitization, newsrooms use limited opportunities while only a third of newsrooms use advanced skills such as data journalism and news apps. Journalists mostly do not use the digital skills needed to inform the public in a timely manner without exposing themselves or their sources to the dangers of insecure communication. Less than half of journalists protect their communication channels. Most newsrooms use only basic analytical data in making decisions with the primary goal of

achieving higher attendance. Only five percent of newsrooms in the world employ people with a degree in technology. There is also a difference in the skills that journalists want to learn and those for which the newsrooms train them. Less than one-third of newsrooms use digital tools. About a third of newsrooms produce content using data journalism skills, and the same number uses live streaming. About a quarter of newsrooms create or apply digital tools or applications, and only 12 percent of newsrooms produce content in a format

360 videos. The full report is available in English [here](#), and an overview of the most important findings is [here](#).

2. New media - new challenges

New media technologies are bringing unstoppable changes to the media scene. Digital television, the Internet, mobile media, the iPod ... are becoming part of everyday life and are fundamentally changing the way we experience the media and the attitude towards media content. New media affect the economic, social and political flow of the media industry. At the global level, there are:

- Increase in the value of the media and telecommunications market, enlargement and media concentration and the growing influence of economic factors on program content;
- There is a fragmentation of the audience and the loss of a common basis of information, while the audience has more freedom in the way of obtaining information;
- The legitimacy of public services has been called into question and these media are slowly losing their audience;
- Traditional regulations are becoming inadequate and new, inventive solutions are being sought.

Bearing in mind the importance of these issues, the regional organization Network for Media Professionalization in Southeast Europe (SEENPM), in cooperation with the Media Center, initiated two extensive, comparative surveys conducted in the countries of Southeast Europe, which aimed to assess the readiness of the media markets, broadcasters and regulatory institutions for new challenges. The first research, "Public Broadcasting Services and the Digital Age", deals with the transition to digital

broadcasting, with a special emphasis on the public media service and its transition capacities. The second study, entitled "Impacts of the EU Audiovisual Media Services Directive on Freedom of Information in the Post-Communist Democracies of Central and Southeast Europe", focused on the application of the new European Media Regulation (Audio Visual Media Services Directive) and its possible consequences for freedom of opinion and information, and expressions in countries in transition.

3. Media education

The "Third Industrial Revolution" brought great changes that were reflected in the field of acquiring knowledge and education, because information is constantly growing and is available in printed and electronic form. In the world of multimedia culture today, knowledge and skills of "reading" and "writing" the language of letters and sounds are needed, just as it was, and even today learning to read and write language as a basic-basic literacy (the world of printed communications). Younger generations perceive every change as something positive and an opportunity to be in trend, while slightly older generations see it as a big problem that is increasingly difficult to monitor and find a solution. Media messages that are received, viewed and read on a daily basis from various sources contain several layers of meaning and leave the possibility for an individual to interpret them as he wishes. A media literate person must know or learn how to control and select the meanings of the messages he receives. You also need to be able to decide which messages to accept as true and correct and which not and how to check them. The term media literacy was defined in 1992 at the National Leadership Conference on Media Literacy as "the ability to access, analyze, evaluate and send messages through the media. The concept of media literacy is given to understand the specific symbolic features of" new languages "of certain traditional media such as film, radio and television, as well as modern digital media such as interactive television and mobile media. In the framework of these initial and later

emerging new guidelines in computer-mediated communication, it is important to develop the following competencies:

- Critical competencies for understanding media content that create the ability to interpret and critically evaluate content (symbols, ideological systems, new genres, market frameworks),
- Technical competencies for accessing media (how to use TV or interactive television and radio on demand, how to access a computer and internet, how to use digital media, etc.),
- Practical competencies for creating media messages, ie writing some content either in classic media (on radio, television or wider) or in new media. "Media restrictions, as well as internet restrictions, are not recommended because the standards of the achieved media are an indicator of political culture and freedom of society as a whole. Media education of not only children but also parents, teachers and other professional groups civil society group. "

"Since it is easy to manipulate and manage an illiterate media crowd, teachers, parents and children need to be thoroughly educated and create a quality media culture. The whole community must engage in media literacy of all subjects of society. Cooperation between school and parents is very important. monitor appropriate education (media education): honesty, sense of justice, tolerance, protection from negative influences and inappropriate content, creating a culture of responsibility. " Whichever aspect you look at it, business or private, it is important to be media educated, especially media literate with developed media competencies and associated skills. New needs are associated with recent times. It all depends on the needs, but regardless of the age group or audience, it is necessary to make progress in all aspects related to the rapid development of innovation and the desire for better and faster access to information.

4. Contemporary media

The changes, which are related to the modern age, are permeated by new media and their impact on modern strategies, and thus on educational techniques, society, culture or socialization. Such changes leave a mark on

many traditional media and therefore traditional media must adapt to the new way of media reception and consumption of information in order to survive. Modern societies are not post-industrial but informational, not because they correspond to a certain model of social structure, but because they organize their production system on the principle of increasing knowledge-based productivity in terms of development and dissemination of information technologies and meeting the preconditions for their use. infrastructure). Modern communication technology is a part of our lives and today we can no longer imagine life without them. The modern world is globalized under the influence of advanced technology, but the inhabitant of such an environment is increasingly localized, that is, selected parts of the global world are 'drawn' into their everyday spaces. In the modern highly urbanized world, the unique and increasingly powerful influence of new information technologies, especially wireless ones (laptops, mobile phones, internet), is indisputable. New media have become a modern and unavoidable means of communication, which can be confirmed by the quote:

"In the last two decades of the twentieth century, and especially at the beginning of the twenty-first century, new media technologies have brought (and still bring) rapid and unstoppable changes both in the media and in education, but also in the entire social scene. Television, the Internet, mobile devices, the iPod are part of everyday life that changes the way information is produced, distributed, and decoded. "

By researching the media and communication, we can say that today we know that the media are connected with everything, with all activities and parts of life, such as religion, politics, education and the like. Today, researchers in academic circles, as well as ordinary secular people, are thinking more fundamentally about what it really means to live in a "mediated" world.

Notwithstanding all the above, we are becoming more and more connected through the network. Our connection is heterogeneous, more enterprising and

creative. We cross boundaries and blockages to facilitate our interaction, hybridity, flexibility, and flow of thought. Connectivity is an essential part of many programmatic and institutional reforms, taking into account education for a new time that has knocked on the big door of our everyday lives. New occupations and jobs are coming for which we have yet to prepare, which we are only now learning about in schools.

IV – BOSNIA AND HERZEGOVINA AND THE EUROPEAN UNION

1. The Balkans and European integration

Bosnia and Herzegovina's accession to the European Union is the result of numerous factors: a broad political consensus reached at all levels of government, state and entity, but also the commitment of BH citizens, which has been confirmed by numerous recent polls. The results achieved for BH accession to the European Union are confirmed in the Roadmap, Feasibility Study, Stabilization and Association Agreement between the European Union and Bosnia and Herzegovina, which has recently entered into force. Mention should also be made of the new approach approved by the EU institutions without any change in the conditions of accession, including the Decision of the European Court of Human Rights in the Sejdić-Finci case. This was accepted in the form of a special statement-decision by all bodies of Bosnia and Herzegovina and its entities, committing to the implementation of institutional reforms at all levels of the state, as the implementation of the Roadmap with a broad plan of economic and social reforms that would stabilize the country and fully open space for political and constitutional changes.

In the process of integration into the European Union, Bosnia and Herzegovina is facing the challenges of regionalization, interregional cooperation with neighboring countries, but also the possibilities of economic and social development through the support of structural funds offered by the European Union. Regionalization and interregional cooperation is not only a precondition for the funds for regional development available to the European

Union, but also an increasingly important factor in the process of overall European integration that Bosnia and Herzegovina is also facing.

The importance of regionalization at the level of the European Union is confirmed by the fact that a significant part of the European Union budget is focused on regional development, interregional cooperation and especially on the development of less developed regions. Due to the importance of regionalization for Bosnia and Herzegovina and the possibility of gaining access to EU structural funds, the question arises how to report the regionalization of Bosnia and Herzegovina. The answers to this question can be found in the recent history of Bosnia and Herzegovina, which has undergone several territorial transformations (sandžaks, districts, counties, municipalities). These regional transformations do not differ significantly since they number from four to six regional (economic) units. Today's regionalization of Bosnia and Herzegovina can be found in the concept of regional development agencies (RDAs), which have been functioning since 2001 with the financial support of the European Commission, the World Bank, the UN Development Program, the Office of the High Representative - OHR and other international institutions.

2. Bosnia and Herzegovina in the process of joining the European Union

The BH Council of Ministers adopted an Action Plan for the implementation of the Reform Agenda at the level of the Bosnia and Herzegovina Council of Ministers. On February 15, 2016, Bosnia and Herzegovina submitted the Request for membership in the European Union, and on September 20, 2016, the Request for membership was accepted and the Commission was ordered to prepare a questionnaire and submit it to the authorities in Bosnia and Herzegovina, to which it should respond within a reasonable time.

To integrate into the EU, Bosnia and Herzegovina needs to achieve the following:

- Implements the obligations undertaken by the Stabilization and Association Agreement, which most significantly refers to the constitutional and legislative reforms of the political and economic system (primarily the adoption of over 1,200 different laws, regulations and regulations with the aim of Bosnia and Herzegovina harmonizing its legal system with EU legislation. judgment of the European Court of Human Rights from 2009 in the case "Sejdić - Finčić" against Bosnia and Herzegovina, establishment of a single economic space);
- At the request of the Commission on the submitted Questionnaire with about 3500 questions, prepare the final Report on the implemented activities to the prepared answers to the Questionnaire of the European Commission;
- Only after the review of the situation by the Commission and a positive opinion on the readiness of Bosnia and Herzegovina for membership, which recommends that the Council of Bosnia and Herzegovina grant candidate status, and positive decisions of the Council, membership negotiations between the EU and Bosnia and Herzegovina are opened;
- Membership negotiations begin with an analysis of the harmonization of domestic legislation with European regulations (so-called screening) separately for each negotiating chapter (35 thematic chapters);
- Depending on the length of the screening (which lasts about a year) or the length of the overall negotiations, the EU-Bosnia and Herzegovina Accession Treaty will be signed, i.e. its ratification between the EU and Bosnia and Herzegovina, and all member states, and decisions of the European Parliament and Council. in Bosnia and Herzegovina has become a full member of the European Union.

3. Economic challenges for Bosnia and Herzegovina on the path to membership in the European Union

Bosnia and Herzegovina has always been part of the European political, cultural and economic space. It is still not a member of the European Union, but aspires to be in the near future. The economic advantages of membership are reflected in the reduction of investment risk for foreign investors, better benefits of access to the single market, in

relation to the concluded free trade agreement with the EU, and easier penetration into other world markets. On the other hand, there are certain political and economic advantages for the current EU member states resulting from the accession of new members such as Bosnia and Herzegovina. The most important political advantages are certainly the increase of security and stability in Europe, and the further strengthening of its role. The economic benefits for the EU are reflected in the enlarged single market, in the growth of foreign direct investment in new markets and in the economic reconstruction resulting from enlargement.

Bosnia and Herzegovina occupies only 4.1 percent of the EU's territory, and its population is just under 1 percent of the EU's population. Gross domestic product (GDP) is only 0.14 percent of Europe's, and GDP per capita in Bosnia and Herzegovina is only 6.04 percent of that in the EU¹. The process of Bosnia and Herzegovina's integration into the European Union overlaps with the transition process and has added value, as it currently encourages the continuation of economic reforms. The main goal of the started transition is democratization and development of the Western European type of market economy. The transition package implemented in Bosnia and Herzegovina is based on the rules of the Washington Consensus and has been applied in Bosnia and Herzegovina since 1996, with the end of the four-year war period (1992-1995). The institutions leading the transition are: the International Monetary Fund (IMF), the World Bank³, USAID and the EU. Thanks to the support of these institutions, and other donors, the tasks of structural reforms have continued, to this day. In the post-war period, Bosnia and Herzegovina, thanks to the implementation of a large number of reforms, has managed to achieve macroeconomic stability to date. Inflation has been reduced, fiscal accounts have been improved, confidence in the national currency has been achieved, the external debt burden has been reduced and external reserves have increased. Strict adherence to the currency board arrangement, introduced in 1997, helped

slow retail price inflation to single-digit levels and below one percent during the period 2002-2004. years. The large deficit in external accounts remains a key macroeconomic challenge. Although exports have grown faster than total imports of goods in euros since 2002, they still account for only 10% of GDP. The structure of imports of goods, which account for about a third of GDP, has recently shifted to goods not used for reconstruction, primarily to consumer goods and petroleum products. Domestic demand is supported by a significant increase in household loans, as well as persistently high levels of remittances from workers and remittances from private transfers. 4. Strategy of future relations between Bosnia and Herzegovina and the European Union

The relationship between the European Union and Bosnia and Herzegovina has so far been short but intense. Joining the European Union has no alternative. That must be the long-term goal of a common state. The accession process of the Western Balkan countries is essentially based on the model of previous enlargements and is not designed to help economies in transition. In addition, appropriate EU policies are further inappropriate for the economies of the Western Balkans, as well as for the countries of Central and Eastern Europe; such as expensive parts of environmental and social policy. This is not a miracle, because the EU is not a development agency, but rather a club with selected members. On the further path to the EU, Bosnia and Herzegovina still has a number of steps ahead of it in accordance with the requirements of the Stabilization and Association Process, and the criteria for membership, which it must meet in order to become a member of the EU. The next "Roadmap for EU membership" contains 14 key steps. So, integration into the European Union is the basic long-term foreign policy strategy of Bosnia and Herzegovina, which has no alternative. At the same time, it should be emphasized that social consensus is becoming a crucial factor for the survival, development and adaptation of Bosnia and Herzegovina in the European Union. Social consensus means the agreement of key actors - holders of political and economic power, political parties, trade unions, social

movements, NGOs, media, citizens on the basic principles of state and economic reforms that are a condition for the development of Bosnia and Herzegovina and its accession to the EU. The importance of consensus is indicated by the specific, historical situation in which our country finds itself. It is a state or a society of high conflict potential, a mass social impoverishment of citizens living under the heavy burden of economic problems. Establishing stable, strong states, increasing the ability to resolve conflicts peacefully, and enabling a higher standard of living are not possible without a broad social consensus. The condition for reforms is social consensus, assuming that everyone gives up their maximalist interest and accepts the win-win logic (no one loses, everyone wins). This would also contribute to greater mobilization of the entire social energy for change, stopping further dangerous divisions. Such behavior would also receive a positive assessment from the EU. The reforms that are being launched are aimed at turning Bosnia and Herzegovina into a stable society that has won the irrefutable preconditions of development, ie it has charted the path of development into a normal European society. The precondition for integration is a successful process of transition, ie the implementation of market reforms in the economy and the introduction of the rule of law.

At the same time, the process of transition and integration into the EU are interconnected and intertwined. EU reform and integration have a common goal: the modernization of the economy and the state in order to create a higher and better standard of living for citizens. The implementation of the Stabilization and Association Agreement can help us in the restructuring process, in fulfilling the conditions for full membership, in modernizing infrastructure, in using financial resources for regional projects and in harmonizing laws. Its own ability to meet legal, economic and political adjustments and its readiness to contribute to regional co-operation and stability in Southeast Europe will serve as a basis for the transition from potential candidate to full EU candidate status and further negotiations on full membership. The adoption of EU rules and

regulations is the third key step in preparation for EU accession. This step is important, as it supports the previous two. It is performed in several stages. Priority is given to regulations relating to areas where EU standards can encourage or facilitate stabilization or transition processes (laws relating to investment, takeovers, privatization, etc.), while lower priority is given to regulations which, although in themselves significant, are not directly related to the basic elements of the reform. The transition to a full market economy in the implementation of the transition will cause serious changes in the field of labor and labor markets. Structural modernization of our economy will cause additional layoffs. Withdrawal of people from the active labor force will undoubtedly be manifested in an increase in social costs and an increase in the number of unemployed. The unemployment rate would be lower only if, in parallel with this, there was a process of accelerated employment in the service sector, as well as a process of self-employment. This possibility is realistic because the experience of other countries in transition shows that, in parallel with the decline in the number of employees in industry, there has been new employment in the small private enterprise sector and in the public and private services sector. Employment policy needs to be redirected to active employment policy. According to EU standards, active policy measures also apply to people who face difficult job opportunities. These are, above all, young people, workers with lower qualifications, and middle-aged people whose qualifications no longer meet the new requirements of production, ie services of a new type, type and quality. Also, the activation of employment programs in less developed regions is forthcoming. Active retraining and further training programs should be aimed at increasing labor mobility, overcoming outdated knowledge and skills and, in particular, creating employment opportunities for some specific social and qualification groups.

V - DIGITALIZATION OF THE ECONOMY AND ITS IMPACT ON THE LABOR MARKET

1. Description of the situation - general context

In April 2014, Uber, a start-up firm created just five years earlier, flooded the European transportation market using its shared transportation app. In just a few months, as this decision spread like lightning to major European cities (Paris, London, Berlin, Brussels, etc.), it made Europeans aware of the huge stakes behind the technological advances taking place mainly in the US and symbolized Uber. With a simple mobile application and with several algorithms, anyone can now become a taxi driver: without any training, without paying taxes or social security contributions, and without regulatory restrictions (insurance, technical inspection, etc.), these self-proclaimed taxi drivers can decide from day to day participate with traditional taxi and minicab firms. The existing and basic regulated form of service seems to have suddenly been replaced by an American start-up that does not have a single vehicle registered in its name. This phenomenon is a symbol of such a complete break with the previous practice, so today we are talking about the "uberization" of the economy: "companies are afraid that they will become 'uberized'. (...) From taxi drivers to television networks, from filmmakers to restaurants and banks, the ways in which individuals and companies do business are changing so fast that many companies are barely keeping up."

In addition to Uber, there are Airbnb, Wonolo, Lending club, Taskrabbit, Upwork, etc. These are companies of a new kind whose emergence has been made possible by three recent developments:

- Internet and development of fast networks;
- "Big Data", ie the connection via Internet platforms of huge amounts of usable commercial, personal and geographical data;
- The explosion of new forms of mobile devices - mobile phones, tablets, etc. - that give consumers, workers and service providers access to the mobile internet anytime, anywhere. Today, it is possible to

buy a smartphone for \$ 400 that has the performance of a supercomputer that in 1975 cost \$ 5 million.

2. The new world economy

In a sort of recent fusion of the new industrial revolution and the gold rush, countless young firms are rushing to develop applications designed to monetize the new areas of potential opened up by these trends. In the areas of transportation, delivery, accommodation, financing, repairs (plumbing, electricity, etc.), rental services and so on, new initiatives are born every day. Any individual who has a cell phone can now "become a manufacturer, can create services, or at least offer services" to earn some extra money, survive until the next paycheck, or increase revenue. In parallel, ownership that previously gave the right to exclusively private and occasional use of expensive property (car, apartment, tools, etc.) now represents for the owner capital that can be used in a number of different ways for the purpose of generating income. In the services sector, the relationship between workers, ie providers and employers, or more precisely the algorithm that ensures work, calculates salary and prepares a payroll, will change; the employment contract, salary negotiations, the process of dismissal or deactivation of the account will also change; and social security, occupational safety standards, etc. will change, and production methods will change in the industrial sector as well; there is a change in the interaction between the worker and the (intelligent) machine, the supervision and control of the workers is accelerated, management practices increase the pressure, not to say oppression.

3. „Big Data“ (great data)

Big data can be defined, schematically, as a combination and total of data (personal, commercial, geographical, behavioral) that are available on digital networks - the

Internet, mobile phones, satellite navigation systems, etc. - and that can be used as a raw material, especially as part of mobile applications. The digital economy and its start-ups trying to monetize that raw material rely on several giant platforms - including Google, Facebook, Apple, Amazon, IBM, etc. - that “produce, accumulate and manage vast amounts of data about their customers and use algorithms to would turn that data into usable information. Such data is growing exponentially: 90% of the data now circulating on the Internet was created less than two years ago. The big data sector is growing by 40% per year, which is seven times more than the growth of the IT market” (European Commission 2015). Three characteristics of big data are summarized in 3V: large amount of data (Volume), high speed of processing and data creation (Velocity), and high diversity (Variety). Managing this data can enable the discovery of previously hidden information (for example, the impact of the weather forecast on sales). We are talking about unprecedented possibilities of merging huge amounts of very diverse data, literally at lightning speed.

4. New forms of company organization and new management

The digital revolution promises intelligent factories, intelligent work organization, intelligent management, but also intelligent cities, intelligent shops, intelligent energy production systems, intelligent transport infrastructure and so on. But what about manual workers, clerks, service providers? Will their only role be to perform the tasks decided by the algorithms? Or, in Head's words: Will smart machines produce stupider people? We move away from an economy in which the ruler of infrastructure creates and (retains) value and we enter an economy in which the ruler of data creates (and retains) value. Until recently, many industrialists in Europe mistakenly believed that the industrial nature of their business spared them the “digital hazards” that seemed to threaten services more (Uber, Airbnb, Booking.com, etc.).

However, as European Commissioner Günther Oettinger said at the industriAll

conference, the automotive industry plays a key role in Europe and in the process of digitization Apple has decided to produce cars. It is true that batteries, plastics, tires and so on will be ordered from suppliers. But it is Apple that will design the cars and build their information system into them. The rest will be just suppliers of metal parts. That is a deadly threat to the European car industry. " In reality, the car becomes an extension of a computer (or smartphone); they are converted into a computer on wheels. So it really is the data ruler who will create and maintain value, with all geopolitical roles. In contrast, the digital, intelligent car (see the Waze app that suggests the fastest route in real time), but also new transport services such as car-sharing or carpooling, improve the actual functioning of the vehicle, ie transport services .

This will affect business organization and production methods. New features are already emerging: “Business strategies must now be seamlessly intertwined with ever-expanding digital strategies that address not only network but also mobile, social, local and all other possible innovations. To meet these challenges, firms are increasingly looking for digital directors who can oversee a range of digital strategies and implement change across the organization. The digital director himself may be surrounded by other new positions such as data miner, data analyst, data manager, etc. Such data-driven management requires giving up from organizational methods on the principle of "silo" in favor of a horizontal and open form of organization within which the flow of information will circulate.

5. Digital economy and labor market

In discussions of the digital economy, a distinction is usually made between traditional firms that more or less successfully try to adapt to new technologies (teleworking, mobile work, community building) and “digital natives”, ie firms that have emerged in parallel with the new technologies and as a result, and are characterized by a significantly different form of work organization that is “more

agile, structured in a project way, more open to the ecosystem, and much more efficient, especially when it comes to spreading innovations: open space, common workspace, etc.

6. What will be the overall impact on the economy and labor markets?

This "revolution" will have a great impact on the labor market, they also emphasize that this impact will vary from sector to sector, and that new jobs will take various forms. An overview of the different areas of influence would look like this:

- Job creation: new sectors, new products, new services;
- Job change: digitization, human / intelligent machine interface, new forms of management;
- Destruction of jobs: automation, robotization;
- Job relocation: digital platforms, crowdsourcing, sharing economy.

These four impacts of digitization include macroeconomic roles and consequences arising from labor market trends, wages, social inequalities, quality of new, changed or "relocated" jobs, etc. In the pages that follow we will examine key existing studies, first for different industry sectors and then for services.

6.1. In industry

Today we are talking about the Fourth Industrial Revolution: The First Industrial Revolution was the Steam Engine Revolution, the Second Electrification and Mass Production, the Third Computers, and the Fourth Digital Revolution consisting of information technology and robotics development, task automation, Internet of Things, 3D printing, cars without a driver, and - in the field of defense and counter-terrorism - drones, cyber-weapons, surveillance, etc. So, so the picture of IBM's robot Deep Blue defeating world champion Gary Kasparov in chess is still in the collective imagination, although that the 1997 event is completely obsolete today. The successor to the Deep Blue robot, called Watson, is a robot that is able to understand (almost) all the subtleties of language, speech and answering (almost) all questions, about culture, science, politics. In the US, Watson is already beating all human opponents in

general knowledge television quizzes. The prospect of such "intelligence" being built into a mobile device - which has day-to-day skills - and associated with a super-powerful computer hub (a process that Ford describes as "cloud robotics") gives some indication of the scale of the revolution unfolded before us. IBM quickly incorporated Watson into the real world; some of the areas in which it stands out are medical diagnostics, consumer services, technical support, financial industry, and so on. Such highly developed and diverse artificial skills will surely revolutionize the business organization. "While innovations in robotics produce tangible machines that are often easy to tie to specific jobs (e.g., a hamburger-making robot or a precision-assembly robot), advances in software automation are likely to be less visible to the public; it will often take place deep behind the walls of companies, and will have a more comprehensive impact on organizations and the people they employ." In several European countries (Germany, Italy, France, the Nordic countries, and others) factories already boast new production lines that are characterized by integration, robotics, constant exchange of data and information, and interaction with fewer workers, who sometimes have RFID chips, which interact with machines and in connection with which it is possible to ask who is whose tool. IndustriAll gives some examples:

- Digital integration of design processes: full digital design and testing of Falcon 7x aircraft (Dassault Aviation);
- Digital integration of the production process: multi-product production lines for hydroelectric valves (Bosch Rexroth), machine tools for connecting the factory network in real time (Maschinenfabrik Rheinhausen), real-time shift management using mobile phones (borgwarner Ludwigsburg gmbh);
- Digital remote maintenance of machine tools (Trumpf AG);
- Digital integration of logistics: RFID monitoring of garments in warehouses and stores (Inditex - Zara brand).

6.2. In services

The aspect of the Fourth Revolution that currently grabs the most media attention is the services sector. "The same forces that are

shaking the industrial sector - globalization and labor-saving technological innovations - are now beginning to be felt in the services sector, increasing the risk of a serious employment crisis, an outcome that has so far been avoided.” (Roubini 2015). The number of affected sectors is growing day by day: transport services, delivery and sales, guest accommodation, minor repairs and plumbing, tool rental services, but also financial services, publishing, real estate services, professional consulting, accounting, translation, child care and personal care, secretarial services, health care, etc. Just look at our daily lives: today with the help of apps on our smartphones or tablets we read newspapers, check train timetables, read emails, contact customers and suppliers, call taxis, browse catalogs, we order and pay for orders, we check the weather forecast, we check the balance in the bank account, we pay taxes, and so on. These services have been developed by traditional firms that find digitalization useful in expanding the services they can offer, in facilitating access and simplifying consumer spending habits and ways: online newspapers, public transportation timetables, buying digital tickets, running bank accounts, and so on. In these digitized services offered by “traditional” firms, employment challenges are not new, and the key issue is to replace workers with digitized services. Workers at bank counters have long been replaced by vending machines in the vast majority of transactions; stores share digital versions of their catalogs online and allow consumers, without personal contact with the seller, to order and pay for their order directly through the website; department stores have developed applications to buy from home; Newspapers offer news online, and so on. In these sectors, “digitalization” has gradually taken place, whether accompanied by job losses and / or deteriorating working conditions (the media sector is an emblematic example of such a reduction in rights where journalists are under increasing pressure).

7. The new digital economy

In addition to services that have already become "classics", new services are now

being developed offered by new market players - platforms - "parallel" actors that for now seem to stay away from various regional, national and European regulations, and administrative and technical, but also from taxes and social security. The example of the American company Uber in Europe is representative, but other examples of online services raise other questions, depending on whether we are talking about accommodation services among private individuals (Airbnb), hotel reservations (Booking.com, etc.), innovative financing (LendingClub, etc.), virtual assistants, consultants or marketing experts (Upwork, etc.), assistance in removing, cleaning or babysitting (Taskrabbit, etc.) or electronic sales (eBay, Amazon). One website provides a specific picture of the range - growing day by day - of services offered by these new players

(www.collaborativeconsumption.com). The services available range from renting friends for one night, through exchanging children's toys or clothes, walking dogs, to alternative loans, etc. A quick look at these services leads to the conclusion that services that are highly represented in the media like Uber are just the tip of the iceberg, because Uber is actually just one of 118 car services listed under transportation services. Some of these services have been developed by "traditional" companies (car renters or motor vehicle manufacturers). The diversity of market players shows how difficult it is to understand this new service economy as well as its implications for society as a whole. To cite just one example, Daimler's cargo does not threaten the traditional taxi system in the same way as Uber.

8. New forms of employment

Will we all become different freelance freelancers or self-employed workers tomorrow? Is this the end of a wage economy? The European Foundation for the Improvement of Working and Living Conditions (Eurofound 2015) analyzed “new forms of employment” that are developing in Europe and that more or less radically transform traditional employer-worker relations. Based on a case study, Eurofound defines nine key trends in these new forms of employment that have important

implications for working conditions and the labor market: - Employee sharing, where an individual worker is jointly hired by a group of employers to meet the human resources needs of different firms, resulting in permanent full-time employment for the worker; - Job sharing, when an employer hires two or more workers to do a specific job together, merging two or more part-time jobs into a full-time position; - Interim management, in which highly qualified experts are engaged temporarily on a specific project or to solve a specific problem, thus integrating external management capacities into the organization of work; - Casual work, where the employer is not obliged to offer work on a regular basis to the worker, but has the flexibility to invite them as needed, on request; - Mobile work based on information and communication technologies (ict-based mobile work), where workers can do their work from anywhere at any time, with the support of modern technologies; - Voucher-based work, where the employment relationship is based on the payment of services with a voucher purchased from an authorized organization that covers both salary and social security contributions; - Portfolio work, where a self-employed individual works for a large number of clients, and performs small jobs for each of them; - Crowd employment, where an online platform pairs employers and workers, often with larger tasks split into smaller ones among workers in the "virtual cloud"; - Collaborative employment, where freelancers, the self-employed or micro-enterprises work together in some way to overcome size constraints or occupational isolation.

The status of employees

The key question here is this: are the digital service providers on the platforms really self-employed or acting in a relationship of subordination - or dependence - in relation to the firm or platform? Do they have the right to refuse an assignment? Do the amounts of their salaries take into account the fact that they use and have to maintain their own equipment, that they pay insurance for themselves, that they should pay social security contributions, and that they are not

insured in the event of illness or injury and accident? In the context of increasing atomization in the labor market, a lawsuit was filed in the U.S. in 2015 against Uber by workers who considered themselves employees of the firm rather than self-employed. In doing so, they demanded the right to social insurance, which is usually covered by the employer's contributions (health care, etc.). Workers' lawyers argued that "Uber controls so many aspects of the driver's experience - from pricing to deciding when and why they can be canceled - that they are more like employees rather than independent contractors." In contrast, Uber believes the vast majority of its workers prefer the flexibility offered to them by self-employed status. The case is ongoing, but clearly reflects the tensions and opposition between the "business model" and the "social model".

Conclusion

Information and communication technologies are the basis of the modern information economy, facilitating and supporting global flows of information, capital, ideas, goods, services and people. In that way, they directly transform modern ways of doing business and organizations in general. They are revolutionizing the way we learn and share knowledge and enable significantly greater participation of all in business, thus contributing to the promotion and acceleration of the overall economic, social and human development in the world.

Many countries have achieved economic growth under the influence of the development of information and communication technologies. One of the innovations in the development of information and communication technologies is the Internet, which is considered a driver of change in society and the economy, from gathering information through possession and application of knowledge to solving certain tasks and achieving benefits, efficiency and better results.

The new economy provides various opportunities for companies to improve the organization and structure of business. It is

the basis for change in economic activities, with the possibility of creating new rules for achieving productivity, employment, economic growth and innovation in all sectors. In addition to the above, it enables the reduction of costs and other opportunities, the new economy provides the reduction or elimination of geographical, industrial and corporate barriers and borders. Consumers in the new economy have a wide choice of access to products and services. Because of the positive results, most companies increase investment in information technology, improve the organization to reduce costs, increase efficiency and flexibility, use technology more efficiently and improve business decision making.

Digital economy refers to the economy, which is based on digital technologies, including digital communication networks, computers, software and other related information technologies. Digital networking and communication infrastructures provide a global platform on which people and organizations interact, communicate, collaborate, and seek information. The advantages of these technologies have led to a large drop in computer prices, greater and cheaper data storage, as well as better and cheaper communication. There has been a drop in costs and an increase in the performance of products and services. Doing business in the digital economy is based on reducing costs,

transparency, availability of data and information, innovations and networks through which business processes take place. Companies, in order to increase productivity, must constantly monitor the development of information and communication technologies and implement new achievements in their business.

Globalization is the carrier of new technology, and vice versa, new technology is the carrier of globalization. Computer networks allow companies to provide service 24 hours a day, as customer requests are forwarded from one time zone to another without the customer even being aware that the work is done on the other side of the world. The office is no longer a place. It is a

global system. The whole globe is connected into one electronic market. Businesses need to be able to connect with customers, suppliers and partners around the world.

Literature

1. Dedić, S., (1998) Local self-government in the Federation of Bosnia and Herzegovina, Sarajevo,
2. Dimitrijević, P., Vučetić, D., (2011) System of local self-government, Belgrade,
3. Djordjevic, J., (1977) Political System, Belgrade,
4. European Charter of Local Self-Government (1994) Official Gazette of the Republic of BiH, no. 31/94.,
5. Atkinson R.D., McTernan M. and Reed A. (eds.) (2015) Sharing the success of the digital economy, a progressive approach to radical innovation, London, Rowman & Littlefield International,
6. Roubini N. (2015) Labor in the Digital Age (Part 1 and Part 2), Roubini Global Economics, January 2015. <https://www.roubini.com/analysis>,
7. Szoc E. (2015) Du partage à l'enchère: les infortunes de la 'Sharing Economy'. <http://www.acjj.be/publications/nos-analyses/du-partage-a-l-enchere-les.html>,
8. Anandhi Bharadwaj, Omar A. El Sawy, Paul A. Pavlou, N. Venkatraman (2013), Digital Business Strategy: Toward a next generation of insights, MIS Quarterly,
9. Benson, (2014), Strategy Follows Structure: A Media Sociology Manifesto in Silvio Waisbord, Media Sociology: A Reappraisal, Wiley,
10. Hadžiahmetović, A. (2005) European Economy. Sarajevo: Faculty of Economics, University,
11. Špirić, N. and Vukmirica V. (2005): Economic and monetary integration of Europe. Banja Luka: Faculty of Economics,
12. Mr. Vilendrečić, (2005): Abandonment of the Currency Board System in Transition Economies Sarajevo, Institute for Textbooks and Teaching Aids,
13. Petrović, M. and Majstorović, S. and Ateljević, V. and Lukić, N. and Gvozdenović, G. (2004) Primer of European integrations. Belgrade: Government of the Republic of Serbia, Ministry of Foreign

Economic Relations, Sector for European Integration,

14. Albijanić M., (2012), Intellectual capital: Impact on competitiveness and economic growth, Official Gazette,

15. Ćirić Z., (2010), Project management of development and implementation of information systems ", University of Novi Sad, Faculty of Economics, Subotica

16. Milićević V. (2002), Internet Economics, Faculty of Organizational Sciences ID - Belgrade,

17. Z. Peruško (2008), Media, Culture and Civil Society, Jesenski i Turk Publishing House, Croatian Sociological Society, Zagreb

THE REMARKS OF INTERNATIONAL ECONOMY AND TRADE AT THE END OF THE 20-th AND FIRST TWO DECADES OF 21-st CENTURY

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Abstract: *In this article author analyses general world economic and trade movements at the end of the end of the 20-th and first two decades of 21-st century, especially countries of the Western Europe, North America (USA, Canada), Japan, as well as many East Asia countries (Hong Kong, Indonesia, South Korea, Malaysia, Singapur, Taiwan and Thailand) and latinamerican region. We see that terms such as globalisation, integration and megaintegration have become comonly used as a accelerated performance with tendency od increasing and deepening thies among nacional economies. It is more and more present that global, new international economy more complex approach towards new analysis, and all with the goal to understend events, specific, and hapeninigs in the present and see the future od the economic developments.*

Keywords: *economy, globalisation, bussines, investment, economic and trade union, region, capital, economic crisis*

INTRODUCTION

Within the title of the topic, the subject of our analysis is an attempt to explain new movements of elements and phenomena in the international economy and trade. Previously, briefly, more in terms of conceptual and historical approach, some of the traditional features that are still relevant will be given. This is followed by an analysis of contemporary trends in international economic relations, as well as the direction of their movement in the coming period. This will relate, first of all, to the issues: Growth and volume of world trade in general and by individual countries and regions, Volume of world trade in goods and services, Global trade overview at the end of the 20th and the first two decades of the 21st century, and Global integration, trade and investment in international trade and the place and role of international, monetary, financial and trade organizations, then regional economic and trade alliances and agreements and in general the importance, place and role of international investments.

Exports as a significant factor for certain countries and regions, especially in East Asia and Latin America, and the disintegration of former socialist countries, at the same time their integration into the world economic and trade system, etc. Key features of modern international economic and trade relations trends and their development from the end of World War II and the phase of reconstruction and reconstruction, and then accelerated development until 2001, especially the countries of Western Europe, North America (USA and Canada), Japan, as well as a number of East Asian countries, Hong Kong, Indonesia, South Korea, Malaysia, Singapore, Taiwan and Thailand) and the Latin American region, we see that the economic and trade development of these countries is on the rise. However, in the last three decades of the 20th and the first and second decades of the 21st century, there have been several economic crises, stagnation and decline in the economic development of the world (especially in some regions), such as: oil crisis of the seventies, overvaluation of the US dollar in the mid-1980s, the beginning of the debt crisis in 1982, speculation against the European monetary system in 1992 and the 1997 economic crisis that hit East Asia, which

began in Thailand and then affected Indonesia, Malaysia, the Philippines, South Korea and other countries in the region, then in 2007 the world was hit by the Great Financial Crisis.

These and other developments in the international economy and trade in the world economy have spurred a number of changes aimed at global economic and trade recovery and financial stability. Each of these events is, at the same time, an unequivocal reminder of the facts according to which national economies are connected through a very extensive network of economic, trade and financial relations. Or, if we look at the total growth of world trade since 1945, that is, since the end of World War II, it is obvious that world (ie, international) trade has recorded incomparably faster growth relative to total world output, as an equivalent to show (growth) world income. Namely, income grew six times in the second half of the 20th century, noting that this trend, with a slight trend in the first and second decade of the 21st century, manifested itself in a slightly slower decline due to the consequences of the Great World Financial and Economic Crisis of 2007 and 2008. while world (international) trade in this period showed twice as much growth, with a tendency to further increase. In this sense, one of the special characteristics when it comes to the importance and role of international trade in national economies is precisely in its exports + imports, which is shared with the gross national product.

Import + export / GNP

The increase in demand growth in a number of Western European countries contrasts with the weakening of the global economy in 1998. At the same time, this conditioned the expansion of imports in that period, which for the first time since 1992 exceeded the regional growth rate of exports. This increased imports in currency terms to five percent and was almost close to the expansion recorded in North and Latin America in the last decade of the 20th century. Namely, the participation of Western Europe in world trade recovered after a significant decline between 1990 and 1997. Then, at this time, imports of

commercial services increased by four percent in 1998, and commercial exports by three percent. It should be emphasized that the countries of the Southeast Asian region in the last decade of the 20th and the first two decades of the 21st century achieved dynamic economic growth with an average of five percent growth of the DBC and this trend of accelerated economic expansion continues. As for the relationship between trade and output in the economies of transition countries in the current years, it was the same characteristic as between other regions. In addition, the slowdown in overall economic activity, including the decline in regional output in the current years, was also coupled with growth rates, exports and imports above the global world average. However, it is important to point out the fact that trade imports expanded much faster than world trade, which was more based on real nominal dollar value. Then, the strong development of the U.S. economy stimulated trade and supported exports and output in other regions within the North American Free Trade Association NAFTA. Thus, trade imports of NAFTA member countries (USA, Canada and Mexico) had an increase of 10.5 percent in 1997, which was, at the same time, the highest growth of all other regions in the world. These findings are clearly illustrated by the following table, noting that almost identical trends in the economy and trade continue in the first and second decades of the 21st century.

Table 1: Growth in world trade by selected regions 1990-2000. years

IZVOZ				REGION	UVOZ			
Prosjeak 1990-95.	1996.	1997.	1998.		Prosjeak 1990-95.	1996.	1997.	1998.
6,0	5,5	10,5	3,5	Svijet	6,5	6,0	9,5	4,0
7,0	6,0	11,0	3,0	Sjeverna	7,0	5,5	13,0	10,5
8,0	11,0	11,0	6,5	Amerika ¹⁸	12,0	8,5	22,0	9,5
5,5	5,5	9,5	5,0	Latinska Amerika	4,5	5,0	7,0	7,5
				Evropska unija				
5,0	6,5	12,5	10,0	Ekonomije u	2,5	16,0	17,0	10,0
7,5	5,0	13,0	1,0	tranziciji	10,5	6,0	6,0	-8,5
1,5	1,0	12,0	-1,5	Azija	8,0	11,0	11,0	6,5
11,5	7,5	11,5	2,0	Japan	6,5	5,5	1,5	-5,5
				6 istočnoazijskih zemalja ¹⁹				

MMF, procjene Međunarodne finansijske statistike i Sekretarijata WTO

As can be seen, the establishment of world trade growth, ie output, was not interrupted even at the end of 1998. Likewise, many Western European countries registered a weakening of their economic performance during this period, while at the same time, the

US economy began to show positive results. This trend of economic development continued until the end of the first decade of the 21st century, more precisely until the outbreak of the great financial crisis in 2008. Based on the slower growth of output, we found that world trade expansion differed significantly from 3.5 percent in 1998 compared to the previous six years.

Movement of labor, capital and services across state borders

In relation to the intensified export and import component, ie movement across state borders of labor, capital and services, it is a factor of general mobility and at the same time an indicator and a basic characteristic of economic integrations. Namely, the fact is that national economies are becoming more interdependent every day, and labor and capital are moving incomparably easier across national or international borders compared to the previous period. We prove this claim with the example that in 1890, approximately 14.5 percent of the US population was born abroad, while that percentage was reduced to 8 percent in the 1990s. In addition, at the beginning of the 20th century, many countries had open doors for immigration policy and passport control, and immigration visas, while work permits were negligible due to their insignificant number. However, during the 1920s, a number of countries restricted immigration, so that the United States reduced immigration to a minimum with a special law, which caused a decline in labor mobility. Labor restrictions lasted until 1960, when changes in immigration laws followed, which again stimulated foreign nationals to immigrate, especially to the United States, then the developed countries of Western Europe and Australia, but numerically much less than in the previous period. As for capital movements, measurement is incomparably more difficult, compared to work, because there are several ways to measure capital flows. But when FDI represents a cross-border flow of capital for the purpose of buying land and business, it is a long-term investment and less represents an expenditure from the country for short-term purposes. In addition, we compare today's

trends in capital mobility with those of the current century earlier and, in making these comparisons, we must keep in mind the following two aspects: first, the fact that there is a special world capital market, in this regard, investment rates (investment / GNP) in a particular country should not be correlated with savings rates. This, in turn, means that capital will flow in the country while offering the highest rates of return (i.e. insuring risk), while, on the other hand, at the same time, there is an abundance of capital in high-income countries and relative scarcity in developing expect high-risk adjustment to return to developing countries. It is true, however, that the level of investment in one country is highly correlated with the level of savings, ie that countries with low levels of savings have low investment levels at the same time and vice versa. Thus, national savings rates are a far more significant determinant of government investment relative to the global capital market. Then, capital flows at the end of the 19th century also increased through the enormous demand for capital, especially from two regions, namely Europe (especially Western countries), and above all, Great Britain and another, the region of North America (USA), where there was an ongoing industrial revolution. At the same time, the development of financial market institutions, such as bills of exchange and commodity exchanges in general, have contributed to the growth of capital markets and capital flows. Furthermore, in the late 19th and early 20th centuries the UK was the largest supplier of capital in the world, as it supplied the world capital markets annually with 5 to 10 per cent of its GDP. Most countries with large volumes and flows of foreign investment (all types) rarely give more than 2-3 percent (net) of their GNP to the world capital market. In addition, labor and trade mobility and capital mobility were also reduced due to the two world wars and the Great Depression of 1929-1932. There are four main features (movements) of capital flows at the end of the 20th and the first decades of the 21st century. First, according to which incomparably more financial instruments are available in relation to the situation that was characteristic of the 19th century, and most of these, especially financial instruments, are

more complex and more specialized. In fact, they are the result of constant financial innovation and new demands, and are increasingly in the function of an open and global economy. The second feature, compared to the first, is that total capital flows at the current stage are probably smaller (compared to the actual possible measure of more economies). Thus, according to the Bank for International Loans (BIS) in Geneva, daily foreign exchange transactions in 1995 amounted to \$ 1.2 trillion, while in 1973 they were only \$ 5 billion. In addition, foreign exchange transactions carried out through the cross-border sale and purchase of stocks and bills of exchange from mutual funds, pension funds, individual investors have risen to enormous amounts.

Then, the increase in financial transactions, including the exchange of money, is a current factor and refers to the fixed standards of exchange rates that were valid until the 1960s. The fourth basic feature relates to foreign financial transactions that have been significantly reduced. In this regard, economic experts most often refer to prices that are formed on the basis of available market information, negotiated and forced arrangements (if necessary), as well as transaction prices. In any case, they are an important, if not the most important part of any business price, regardless of whether they are purely domestic or are included in the composition of a transnational or multinational company on any basis in foreign markets.

The essence of the conceptual definition of the "new economy"

Not very precise answer to what is meant by the conceptual term "new economy" is that it is a term that actually describes the new economic reality created as a result of the following processes:

1. Informatization,
2. Privatization,
3. Deregulation and
4. Globalization.

It is understood that all these processes did not take place at the same time and with the same intensity, and many have existed (eg privatization) since the capitalist way of doing business, some have emerged as the need for concrete-historical adjustment of that way of doing business (eg deregulation). of a more recent origin (e.g. informatization and globalization). Consequently, we are faced with the task of giving an answer to the other three processes, especially the second and third, because they form the backbone of economic reforms in transition countries.

In any case, the new and old economy, when based on private property and profit as the most important motivating factor, has a key problem of how to achieve the efficiency of invested factors (labor and capital, above all), and it significantly depends on competition, technology, state jeres, as well as many other, local and global circumstances. Unlike the old economy, where the framework of competition was mostly limited by the borders of the national market, but when it comes to the new, modern economy, there is an increasing pressure on efficiency that comes from the world market environment. Also, unlike the old economy, which found the basic sources of competitiveness in cheap labor and mechanization technology, and only much later in automation, the modern new economy is based on highly sophisticated technology, knowledge and innovation, new (global) networking and strategic by uniting (strategic alliances) giant capitalist companies, giant multinational (or TNC) companies. When it comes to intellectual capital, it is necessary to point out some other important determinants of this new analytical category, especially when it comes to the context of the modern economy. In addition, the intellectual factor in fact represents the totality of all types of knowledge, but also all other characteristics of employees such as: skills, experience, self-confidence, responsibility, loyalty,

motivation, etc. Then, in terms of knowledge, it is necessary to distinguish two forms of knowledge : explicit (processed and stored information, data, procedures, software, policies, plans, etc.) and tacit (silent, tacit knowledge, ie total experience). So, it is methodologically important to emphasize, to be more precise, to differentiate because of understanding, also new phenomena, the so-called knowledge management, which is given special importance in the concept of modern economy. In fact larger and larger, and to the extent that the share of intellectual capital in total capital increases proportionately.

Here we are rightly asked what those who do not agree with global capitalism (anti-globalists) can do to defend their different presence in the world of nations that are supporters of the phenomenon of globalization in the world economy and international trade. Neither science, nor technology, nor history can give a convincing answer to such a question, and until then, globalization, strongly supported by technology, will bring such integration of the world that will understandably, above all, meet the needs and interests of those who implement it. Everyone else, opponents of globalization, have almost no choice because isolation is an incomparably worse solution than the phenomenon of globalization.

Regional economic (and trade) integrations

In the last decades of the 20th and in the first decades of the 21st century, the international economy, as we have previously stated, is becoming more and more integrated, especially in three regions: Western Europe, North America and East Asia. A number of economic barriers shared by their countries moved in the direction of expansion, ie the formation of economic and even political unions. Noting that this process experienced its renaissance after the end of the Second World War, primarily in Europe, and later as we will see in other specially developed regions of the world. Let us remind that the developed countries established the European Economic Community (EEC) by the Treaty of Rome on March 25, 1957, which was later renamed the European

Community after the 1970s. Then, after more than three decades in Maastricht, the Netherlands, a new treaty was adopted in 1991, which, after ratification in October 1993 by the members of the European Community (12 of them) created a solid basis for the European Community to grow into force in 1994.

At the beginning of 2001, the number of member states increased to 15 economically most developed countries in Europe: Belgium, the Netherlands, Luxembourg, Italy, France, Germany, Great Britain, Ireland, Denmark, Greece, Spain, Portugal, Austria, Finland and Sweden. The fifth and largest enlargement of the EU was carried out on May 1, 2004 for 10 new members, namely: Poland, Cyprus, Slovenia, Malta, the Czech Republic, Lithuania, Lithuania, Estonia and Hungary. With the sixth EU enlargement on January 1, 2007, Romania and Bulgaria became full members of the EU, and with the last, eighth, EU enlargement, it accepted Croatia as its 28th member. The second, and at the same time the largest, economic integration was created with the implementation of the North American Free Trade Association NAFTA in 1994, by which the United States, Canada and Mexico paved the way to the free trade zone. Then, the largest countries in the Pacific basin, including China, Japan and the United States, and the North Asian countries, the region of Southeast Asia, adopted an agreement according to which the Pacific region should become a special free trade region by 2020. The USA is especially active in this engagement, which, among other activities in the first half (May) 2001, was the initiator of the so-called North American so-called The summit in Quebec (Canada), which was attended by all countries of North, Central and South America, 34 of them except Cuba, with the intention of forming a free trade zone on the American continent. In addition to prominent regional economic and trade integrations, there are almost identical integrations forming in the Latin American region, Africa and Asia. However, what is especially characteristic and significant is that lately countries with very different legal systems, production standards, income levels, differences in their economic, social

and political systems, etc. are finding their multiple economic, trade and even political interest. for accession to one of the previous integration organizations, with the conviction that this is the way and the way of their inclusion in modern international economic and trade flows.

Establishment of a unified system of international trade

During and at the end of the Second World War, two concepts appeared at the same time, which contained plans for the normalization of relations in international trade (White's plan appeared in front of America in April 1943, and Keynes's plan in front of England, the same year). Of course, the plans were quite different, I would say justified, because they came from different states and reflections in the economies of those countries. This thesis is supported by the fact that at that time the Americans held the world in their hands, and the English turned from the biggest creditors into the biggest debtors due to the war. During and after the end of the Second World War, the initiative led to the realization and establishment of a unified system of international foreign trade, by finding and accepting a compromise solution, instead of the WTO (International Trade Organization), the GATT was formed. It was in fact a voluntary agreement that provided a code of rules for the management of world trade and a forum for decisions on the most important issues of regulating international trade, in particular on reducing trade barriers through international negotiations. The agreement was based on a free market, fair competition, free trade and specifics in terms of comparative advantages. The GATT Contracting Parties have accepted two main principles: - Trade liberalization through tariff reductions and the general elimination of quantitative restrictions and non-tariff barriers in world trade.

Non-discrimination in trade, especially in the most protected countries with a large deviation and maximum flexibility. Since its founding, GATT has remained faithful to its goals throughout its period of operation (five decades) and has acted in the interests of the most developed countries in the world. On

the other hand, the EC later created a privileged group of states that help control the average of decisions made in the GATT and later the WTO. This is also one of the reasons why the GATT, as an interim agreement on customs and trade, has grown into the World Trade Organization. The emergence of the WTO on the world economic scene has practically established a global world system, rules aimed at creating institutional conditions for open, fair and regular competition in the world market.

Unlike GATT, the new organization is a permanent international institution with its own mechanism. Participation of the WTO on the basis of membership implies full and permanent implementation of all rules governing a much wider area of the international economy than trade or customs, and possible disagreements are resolved by a certain procedure and procedure that applies to all full members. Having in mind the mentioned global trends in the world economy and trade, it can be concluded that the existing system of economic relations in the world does not provide conditions for poor and underdeveloped countries to increase their share in world social product and reduce the gap in economic development between them and developed countries. Because if in the future in the system of international economic relations, developing countries produce what systemically supplements them, these countries have little chance to get out of the "vicious circle" of poverty in the near future. That is why the question of the justification of believing in the justice of the so-called of the world "economic" order. In much of the world, development has slowed in recent years, poverty is growing, the human environment is being destroyed, national cultures and a sense of cultural identity are deteriorating. Globalization is proof that change does not have to bring progress. Foreign direct investment (FDI) as a key factor in the global economy, the EU and countries in transition Although the title focuses on the analysis of the role and importance of foreign direct investment in the global regional development of the EU and countries in transition, the approach puts us let us first look at the role that foreign direct investment

has in terms of the dynamic factor of the world economy, which almost decisively conditions, ie traces economic growth in the global (world) economy. It is of special importance to emphasize that in this paper, given the available space and the place available to us, we are not able to analyze in more detail the most important determinants related to investment trends.

In this sense, we point out the key factors that put a country that engages foreign direct investment, as a host country, in a very favorable position to engage investment. However, given that the inflow of foreign direct investment in the country in question can result in both positive and negative effects, it is quite understandable that the country seeks to create the most meaningful investment policy and to direct it to achieve the most positive effects, while minimizing its negative attitude and impact. In addition, one of the key instruments in the reform process of the countries of Southeast Europe is foreign direct investment (FDI). The inflow of foreign direct investments, their dynamics and structure depended on the extent to which the countries of Southeast Europe managed to implement reforms oriented towards market economy, restructuring and privatization of companies, achieving macroeconomic stability and positive growth rates. FDI is a development opportunity for countries in transition and the best way to increase production in the long run. They can start production, and increase employment and living standards of the population. FDI attracts new and advanced technology, know-how, and provides access to a network of international manufacturing and trade. FDI is also the best source of financing the balance of payments deficit, given that they do not create liabilities abroad. this is also the reason why the transition economies, which all have a balance of payments deficit, are constantly improving the conditions for attracting FDI. We have the opportunity to only initiate the basic features of foreign direct investment and to quote that foreign direct investment (FDI) means investments that are treated as long-term engagement and have the property and characteristics of lasting interest and investor control over their company or

country, which differs from the domicile country of the investor affiliated to the enterprise or affiliate of the parent company. Therefore, FDI means that the investor has a significant level of influence on the management of the company in another country. Also, such an investment implies both initial transactions between the parent company and, conditionally speaking, the subsidiary, the company, and all subsequent transactions between these two entities and all other affiliations in the corporate network.

Based on the content of the previous text, not very precise statements can be drawn: First, that the increased interest in the international economy is becoming more intense, regardless of whether it is the most economically developed countries in the world, middle developed, transition economies, developing countries and underdeveloped countries. . Second, that the world economy has not yet recovered from the global and regional crises of the second half of the 1990s, such as the 1997 Asian crisis. The time has come for stable and dynamic economic, trade and economic development in global relations in the world, and when there was a belief that global economic development was stabilized in 2007, the United States was hit by a major financial crisis in the real estate sector. it affects the whole world, and in terms of scale, consequences and duration (in relation to all economic crises until then) it took the first place, including the great world crisis of the 1930s. Noting that it has not yet been curbed, despite all efforts and 15 G-7 or G20 summits of the most developed countries in the world. Thus, we are brought before the task of making an attempt and indicating only some of the causes that resulted in the occurrence, because we are not able to give an answer in this paper. Given the complexity of the issue, which presupposes a more comprehensive analysis and research.

The key causes that resulted in the emergence of the global financial crisis and efforts to curb it

At a given time when the market value of real estate becomes many times less than its real value, banks fall into the trap of illiquidity and then the problem of individual financial

institutions transforms into a financial crisis, resulting in an effect that entails other financial market players and transfers the crisis to other parts of the world. Unlike speculators who are interested in making money in the short term, large institutional investors enter the market with the motive to increase the value of share capital. Institutional investors such as banks, investment funds, hedge funds and others are constantly under pressure from shareholders and the board of directors to increase the value of shares. In order to fulfill the wishes of the shareholders and the board of directors, the management team is forced to find new jobs and markets, because that is when the margins are the largest. This is exactly what happened in the USA when various institutional investors came in various ways with the aim of finding new jobs and creating new markets. Most often, they achieved this through various innovations, including the application of innovations in the financial market through the creation of new financial instruments. This reduces the role of traditional banking. It is through synthetic financial instruments that large institutional investors, whose main activity is not the placement of loans to households and the economy, have been drawn into the financial crisis. This means that the causes that led to the financial and later the economic crisis in the USA resulted in the transfer of the crisis from the US market to other parts of the world. Then, the immediate causes of the crisis are various regulatory bodies and rating agencies that, through their unscrupulous work, have created the conditions for the emergence and escalation of the crisis to unprecedented global proportions. Regulatory and structural shortcomings of the global financial market enabled the transformation of a country's crisis into a global crisis, affecting the world's most industrialized countries in the first wave, and later the developing and underdeveloped countries in the second wave. In this way, the previous advantage of financial markets, their global character in the conditions of crisis, turns into the biggest weakness.

It is especially important to emphasize that the global financial crisis indicates

irreconcilable internal contradictions of a model of development, and that is that capitalism, especially the model that renounced the construction of social cohesion with neoliberal reforms, is doomed to constantly improve the material living conditions of citizens, which is at his disposal. It is well known that this is the only possible path to better for the next period. However, it should be borne in mind that the world is facing the danger of economic collapse that would have incalculable social consequences, and perhaps bring the survival of life on the planet, and is fatefully the most important and it is a clear sign that this model has not worked so far. From the resulting situation, major state interventions were the only way to avoid a complete catastrophe. However, such a development puts the actors in front of numerous doubts. It means that the world has come to a situation where the consequences of the irresponsibility of individuals (in the race for fabulous profits) must be borne by the whole society. In other words, while profits were privatized yesterday, losses are socializing today, which means that repairing the consequences of such development, without implementing structural reforms, will be followed by a return to the old, thus opening the possibility of their recurrence in the future. Therefore, more and more often one can hear radical voices of critique of the basic assumptions on which the socio-economic solution of the current, in the ideological sense, mostly uniformed society is based. Retaining a de facto nationalized state-owned financial system even after consolidation would be the first step towards radical reform. Although it is certain that this will not happen, about the need to reform the world financial system because there is unanimous agreement on consensus at all relevant addresses. In the present, we would say modern world, the success of such efforts depends on their successful coordination on a global, global level. In this regard, it should be recalled the G-20 summit in Pittsburgh, which heralds the end of the period of irresponsibility. Namely, the member states have committed themselves to continue the implementation of incentive measures until a period of permanent recovery begins. At the same time, an agreement was reached on

institutional reforms, as well as on the implementation of the first concrete measures. Of course, given the new role of developing countries in the world economy, the G-20 should become the main coordinator of world economic policy. In support of this, the agreed reform of the IMF and World Bank governance structure, and more importantly, the establishment of a Financial Stabilization Council with broad oversight powers that will become the fourth pillar of the global economy alongside the IMF, World Bank and World Trade Organization. In the end, one of the most important factors in the G-20 is that, based on three proposals: the United States, Germany and France, they adopted a decision and conclusion on a stricter link between the amount of bonuses and business results. This should be only the first step in establishing a more transparent system in which the possibilities for the outbreak of new global economic and financial crises would be impossible. In this way, the responsibility of all relevant factors will be strengthened, with the view that the market economy in the world has no alternative.

Issues, No. 2, Society of Economists Nis, 2010.

[8] Economic Views-Journal of Economic Theory and Practice, No. 2/12, Scientific Research Center of the Faculty of Economics, University of Prishtina with temporary headquarters in Kosovska Mitrovica, 2012.

[9] www.cbbih.ba

[10] www.fipa.gov.ba

[11] www.makroekonmija.org

[12] www.unctad.org

[13] www.ti-bih.org and other internet sources.

Literature

[1] "World Investment Report 2013", UNCTAD

[2] The fDI Report 2013 "Global greenfield investment trends", fDi Intelligence, Financial Times

[3] "Doing business 2014-Understanding Regulations for Small and Medium Size Enterprises", Doing business, 2013.

[4] Proceedings "Foreign capital as a factor in the development of countries in transition", University of Kragujevac, Faculty of Economics, 2009.

[5] "The role of foreign direct investment and ways of incentives" - Emerging series of articles, Vlatka Bilas, Sanja Franc, Faculty of Economics, Zagreb, 2006.

[6] "The Impact of FDI on the Economic Growth of European Transition Countries" - Emerging Article Series, Željko Bogdan, Faculty of Economics, Zagreb, 2009.

[7] ECONOMICS-International Journal of Economic Theory and Practice and Social

APPLICATION OF CONVENTION LAW WHEN EXPLAINING GROUNDS FOR CUSTODY: EUROPEAN STANDARDS AND BH ATTAINMENT

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Abstract: *Article 5 of the European Convention for the Protection of Human Rights and Fundamental Freedoms provides protection in sense that no one may be arbitrarily deprived of their liberty. The first paragraph of Article 5 sets out the general principle, followed by the exhaustive list of exceptions, which represent the permissible methods of deprivation of liberty. This is an exhaustive list that must be interpreted narrowly. Only in this way there is a consistency with the objective of Article 5, to ensure that no one will be arbitrarily deprived of their liberty. Paragraphs 2, 3 and 4 are generally procedural in nature, because they specify the conditions of arrest and detention, and the modalities of pronouncement and denial of their legality. Paragraph 5 provides the right to compensation in case Article 5 is violated. The rights defined by Article 5 of the European Convention for the Protection of Human Rights and Fundamental Freedoms, by their content, are included in the fundamental rights protected by this Convention, immediately after the right to life. The Constitutional Court of Bosnia and Herzegovina has emphasized in several of its decisions that the right to personal freedom and security is one of the most important human rights, and that Article 5 of this Convention provides protection that no one should be arbitrarily deprived of their liberty. The paper gives an overview of the reasons for the ordering and extending detention in the practice of the Constitutional Court of Bosnia and Herzegovina and the European Court of Human Rights. Relevant examples from the practice of special reasons for determining detention, the grounds on which they were challenged before the Constitutional Court of Bosnia and Herzegovina, were selected. It has been shown that the “lawfulness” of the detention does not require a legal judgment, but only that the detention must be in accordance with the domestic law, the Constitution of Bosnia and Herzegovina and the European Convention for the Protection of Human Rights and Fundamental Freedoms.*

Keywords: *custody, deprivation of freedom, the Constitution of Bosnia and Herzegovina, the European Convention for the protection of human rights and fundamental freedoms, Constitutional Court of Bosnia and Herzegovina, the European Court of human rights.*

Introductory considerations

The right to liberty and security refers essentially to arbitrary detention. Exceptions to the prohibition of deprivation of liberty are given in Article 5 paragraph 1 of the European Convention for the Protection of Human Rights and Fundamental Freedoms⁵, which lists the cases where deprivation of liberty is permitted. The European Court of Human Rights⁶ in *Austin and Others v. The United Kingdom*⁷, citing its earlier case-law, pointed out that in order to determine whether a person is “deprived of his liberty” within the meaning of Article 5 paragraph 1 of the Convention, the starting point must be his specific situation, and a set of criteria such as the type, duration, effects or manner of implementation of the measure in question must be taken into account. Between deprivation and restriction of liberty, within the meaning of Article 2 of Protocol No. 4 to the Convention, there is only a difference in degree or intensity, not in nature or substance.⁸

In addition, the Court considers that the condition, having regard to the “type” and “manner” of implementation of the “measure in question”, allows the Court to take into account the specific context and circumstances of the restriction of liberty into the cell.⁹

The context in which the measure is taken is in fact an important factor to consider as it is common in modern societies for situations to occur in which the public may be required to submit restrictions on freedom of movement or freedom in the public interest. Article 5 of the Convention is derived from the two most concise provisions of the Universal Declaration of Human Rights - Article 3 (“Everyone has the right to life, liberty and security of person”) and Article 9 (“No one shall be arbitrarily arrested, detained or

expelled”). The provisions of Article 5 are elaborated in detail, and in some parts somewhat archaic, with their recommendations relating to “mentally disturbed persons” and “vagrants”. In contrast, the concise text of the Universal Declaration of Human Rights remains usable and unsurpassed. The Charter of Fundamental Rights of the European Union returns to a simple wording, reproducing the first sentence of Article 5 of the Convention: “Everyone has the right to liberty and security of person.” to have the same meaning and area of regulation as Article 5 of the European Convention. It is consistent with the case law of the European Court of Justice that persons detained after a first instance conviction, whether or not they have previously been detained, find themselves in a situation prescribed by Article 5 paragraph 1 (a) of the Convention and not as prescribed by Article 5 paragraph 1 (c) of the Convention. Namely, Article 5 paragraph 1 (a) of the Convention provides for the possibility of “lawful deprivation of liberty after a conviction”, where the phrase “conviction” cannot be interpreted restrictively, ie only as referring to a final judgment. Furthermore, Article 5 paragraph 1 (a) requires a causal link, and not just a chronological one, between the conviction and detention on that ground.¹⁰

2. Physical freedom and ways of using it

The right to liberty proclaimed in Article 5 refers to physical liberty. The purpose of this is protection against arbitrary deprivation of liberty in the classical sense of the word relating to imprisonment. This does not only apply to “mere restrictions” on freedom of movement - a right contained in Article 2 of Protocol 4 to the Convention.¹¹ However, the difference between restrictions on

⁵ Hereinafter: the Convention.

⁶ Hereinafter: the European Court.

⁷ See, European Court, no. 39692/09, 40713/09 and 41008/09, of 15 March 2012, paragraph 57 and 59.

⁸ See *Engel and Others v. The Netherlands*, 8 June 1976, paragraph 59, Series A no. 22, then *Guzzardi v. Italy*, 6 November 1980, paragraph 71, Series A no. 39 and recent judgment, *Medvedyev and Others v.*

France [GC], No. 3394/03, paragraph 73, ECHR 2010.

⁹ See, e.g., *Engel et al.*, Cited, paragraph 59.

¹⁰ See, European Court of Justice, *Van Droogenbroeck v. Belgium*, judgment of 25 April 1983, Series A no. 63, paragraph 35.

¹¹ *Engel and Others v. the Netherlands*, 8 June 1976, paragraph 58, Series A no. 22; *Creangă v. Romania* [CG], no.29226/03, paragraph 92, 23 February 2012;

movement serious enough to fall under Article 5 paragraph 1 rather than under Article 2 of Protocol No. 4 is degree or intensity, not nature or substance.¹²

Classifying them is not an easy task in those cases where drawing a border is a matter of pure opinion.¹³ For example, people who have been stopped by the police for a search that lasts no less than 30 minutes are still deprived of their liberty. They would be subject to arrest, detention and criminal charges if they refused. In making a decision, "the starting point must be its specific situation and the statement must be made from the full range of criteria such as type, duration, effect and behavior in the application of the measure in question."¹⁴ The European Court is not bound by the legal characteristics given in the situation by the domestic authorities and makes its own assessment of the matter.¹⁵ Deprivation of liberty, in accordance with the meaning of Article 5 paragraph 1, has both an objective and a subjective dimension. It is objective to the extent that a person is limited in the length of time which is not negligible. It is subjective that a person does not agree to such a restriction.¹⁶ The assessment of objective factors will take into account the existence of the possibility to leave the limited area, the degree of supervision and control over the person, his or her isolation and the admissibility of social contacts. If the facts indicate deprivation of liberty, the relatively short duration of deprivation does not affect the conclusion. For example, police powers to stop and search indicate a deprivation of liberty despite the short duration of the measure.

Gillan and Quinton v. the United Kingdom, no. 4158/05, paragraph 56, ECHR 2010 (extracts).

¹² Guzzardi v. Italy, 6 November 1980, paragraph 93, Series A no. 39; Rantsev v. Cyprus and Russia, no. 25965/04, paragraph 314, ECHR 2010 (extracts); Stanev v. Bulgaria [GC], no. 36760/06, paragraph 115, ECHR 2012.

¹³ Guzzardi v. Italy, 6 November 1980, paragraph 93, Series A no. 39; Ashingdane v. the United Kingdom, 28 May 1985, paragraph 41, Series A no. 93.

¹⁴ Engel and Others v. the Netherlands, 8 June 1976, paragraph 58-59, Series A no. 22; Gillan and Quinton v. the United Kingdom, no. 4158/05, 56, ECHR 2010 (extracts); Guzzardi v. Italy, 6 November 1980, paragraph 92, Series A no. 39; Medvedyev and Others

2.1. Person security and positive bonds

Using words taken from Article 3 of the Universal Declaration of Human Rights, Article 5 protects the "freedom and security of the person" individually. The case law of the Convention bodies was focused almost exclusively on freedom and there is no clear or autonomous meaning for the protection of persons. In earlier practice, the Commission on Human Rights noted that just because "freedom" and "security" are closely linked does not mean that the term security is useless.¹⁷ The European Court of Human Rights deals with acts of individuals involving deprivation of liberty, for example in cases of trafficking in human beings, but without reference to the notion of security of the person.¹⁸ Article 5 imposes a positive obligation on the state to take measures to enable the effective protection of vulnerable persons, including reasonable steps, to prevent deprivation of liberty of which the authorities are aware or should be aware. A positive bond also deals with cases of disappearance.

2.2. Legality

The notion of lawfulness is fundamental to Article 5. The introductory part of Article 5 sets the condition that any deprivation of liberty should be in accordance with the procedure prescribed by law. Each of the paragraphs of this article uses the word lawful. When the words "lawfulness" and

v. France [GC], no. 3394/03, paragraph 76, ECHR 2010

¹⁵ H.L. v. the United Kingdom, no. 4550899, 90, ECHR 2004-IX; H.M. v. Switzerland, no. 39187/98, paragraph 30, 48, ECHR 2002-1.

¹⁶ Storck v. Germany, no. 61603/00, paragraph 74, ECHR 2005-V; Stanev v. Bulgaria [GC], no. 36760/06, paragraph 117, ECHR 2012.

¹⁷ Gunaratna v. Sri Lanka, no. 1432/2005, UN Doc. CCPR/C/95/D/1432/2005, paragraph 8.4; Chongewe v. Zambia, no. 821/1998, UN Doc. CCPR/C/79/821/1998, para. 5.4

¹⁸ Rantsev v. Cyprus and Russia, no. 25965/04, paragraph 319-321, ECHR 2010. (extracts).

“legality” are used, the Convention basically refers to national law. It imposes an obligation to comply with substantive and procedural rules in domestic law.

Various violations of national law are considered unlawful detention and violation of the right to liberty. National authorities will be respected in the interpretation and application of their own law. Because non-compliance with national law constitutes a violation of the Convention, the European Court has the right to consider whether national law has been complied with. In addition, in assessing the lawfulness of deprivation of liberty, the European Court of Justice is limited to the declaration and conscious purpose of a particular arrest or detention, but also considers the actual intent and purpose behind it. The starting point for determining legality is the existence of a court order. Sometimes a detention order is considered unlawful by a higher court, in accordance with national law, but this does not mean that it is necessary to establish that there have been deficiencies in the domestic proceedings of national courts if the detention itself is not contrary to Article 577. large and obvious irregularity, detention will be contrary to Article 578.

It is not enough for the state to act in accordance with national law - in order to comply with Article 5. Article 5 further requires that any deprivation of liberty should be consistent with the purpose of protecting the individual from arbitrariness⁷⁹. This requires an assessment, regardless of whether the domestic law is in conformity with the Convention, which includes the general principles expressed or implied therein. This applies in particular to the principle of legal certainty in deprivation of liberty⁸⁰. Legal certainty means that the law governing the conditions of deprivation of liberty is accessible, clearly defined and enforceable⁸¹. Problems of legal certainty

often manifest themselves when the authorities themselves cannot agree on how legal provisions are interpreted and applied.

2.3. Arbitrariness

The protection of the individual from arbitrariness is the basic purpose of Article 5 of the Convention. Arbitrary detention cannot be compatible with Article 582. The term arbitrary in this context extends beyond the lack of harmonization of national law. As a consequence, deprivation of liberty lawful under domestic law may nevertheless be arbitrary and thus contrary to the Convention.¹⁹ Detention will be considered arbitrary where there is an element of "negligence", bad faith or fraud by the authorities, even if national law has been observed in a technical sense.²⁰ Also, the detention order and its execution or implication must be genuinely consistent with the purpose of the restrictions set forth in paragraphs 1 of Article 585. There must also be a link between the grounds justifying detention and the place and conditions of detention.²¹ The necessity of detention is a factor in the assessment of arbitrariness. Even if national law is complied with, fulfilling the test of legality in the circumstances of the case, deprivation of liberty must be necessary.²² In several cases, including the refusal of provisional release on the basis of a public order, the European Court found that there had been a violation of Article 5 paragraph 1 for lack of any reason for the decision.²³ The assessment of arbitrariness depends on the reason for deprivation of liberty.²⁴

¹⁹ *Mooren v. Germany* [GC], no. 11364/03, paragraph 77, 9 July 2009; *Saadi v. the United Kingdom* [GC], no. 13229/03, paragraph 67-68, ECHR 2008

²⁰ *Saadi v. the United Kingdom* [GC], no. 13229/03, paragraph 69, ECHR 2008; *Bozano v. France*, 18 December 1986, Series A no. III.

²¹ *Saadi v. the United Kingdom* [GC], no. 13229/03, paragraph 6, ECHR 2008

²² *Klishun v. Ukraine*, no. 30671/04, paragraph 89, 23 February 2012,

²³ *Pantea v. Romania*, no. 33343/96, paragraph 222-223, ECHR 2003-VI.

²⁴ *Pantea v. Romania*, no. 33343/96, paragraph 222-223, ECHR 2003-VI.

2.4. Grounds for detention (Article 5 paragraph 1 of the Convention)

After stating the principle that everyone has the right to liberty and security of person, Article 5 paragraph 1 prescribes that deprivation of liberty may be allowed in accordance with the procedure prescribed by law in six situations, listed in point. a) -f). The list of permissible grounds is exhaustive,²⁵ and deprivation of liberty will not be lawful if it does not fall within one of those grounds. The list of permissible reasons must be interpreted restrictively²⁶. Even detention of a very short duration falls within the scope of Article 5 paragraph 1.²⁷ Categories are not mutually exclusive. There is no reason why more than one basis cannot be applied to the same situation at any one time. The purpose and character of detention may change over time so that one ground ceases to be relevant and the other takes its place²⁸.

3. Explanation of the reasons for ordering and extending detention

In its practice, the Constitutional Court of Bosnia and Herzegovina²⁹ often reminds that the justification of imposing and extending a detention measure is assessed in view of the circumstances of the specific case and its specificity. Extension of a measure of detention will be justified if there are real reasons that indicate the existence of a general (public) interest that is so important and significant that, despite the presumption of innocence, it prevails over the principle of respect for individual freedom.³⁰ The obligation of the judiciary is to examine all the reasons "for" and "against" and, in this

regard, to give reasons and explanations.³¹ Namely, when the law prescribes a presumption regarding the circumstances important for the basis for continuous detention, the existence of concrete facts that exceed the rule on respecting the freedom of the individual - must be convincingly shown³². taking into account the specific circumstances of a particular case requiring continued detention, constitutes a violation of Article 5 paragraph 3 of the Convention.³²

The Constitutional Court points out that the assessment of the lawfulness of deprivation of liberty in terms of Article II / 3d) of the BiH Constitution and Article 5 of the Convention is based on the views of regular courts on the existence of legal elements for ordering or extending detention. In this context, the Constitutional Court notes that the case law of the European Court clearly states that the meaning of the term "legality" in Article 5 paragraph 4 of the Convention is identical to that in paragraph 1, and that the lawfulness of arrest or detention must be considered not only in domestic law but and the text of the Convention itself, the principles contained in the text of this Convention and the limitations prescribed in paragraph 1 of Article 5. Under paragraph 4 of Article 5, an arrested or detained person has the right to review the lawfulness of his arrest and detention. are, in accordance with the Convention, of key importance for the lawfulness of deprivation of liberty. This means, as the European Court concluded in the Brogan case,³³ that the applicants had to have access to a remedy on the basis of which the competent judicial authority would review not only the procedural guarantees prescribed by domestic law but also the

²⁵ Labita v. Italy [GC], no. 26772/95, paragraph 170, ECHR 2000-IV; Quinn v. France, 22 March 1995, paragraph 42, Series A no. 311

²⁶ Engel and Others v. the Netherlands, 8 June 1976, paragraph 58, Series A no. 22; Amuur v. France, 25 June 1996, § 42, Reports of Judgments and Decisions 1996-111.

²⁷ Murray v. the United Kingdom [GC], 28 October 1994, paragraph 49, Series A no. 300-A; Guenat v. Switzerland, no. 24722/94, Commission decision of 10 April 1995, DR 81-A, p. 130.

²⁸ McVeigh and Others v. the United Kingdom, nos 8022/77, 8025/77, and 8027/77, Commission report of 18 March 1981, paragraph 163.

²⁹ Hereinafter: the Constitutional Court.

³⁰ See Buzadji v. Moldova, judgment of 5 July 2016, paragraph 90.

³¹ See, European Court, Ilijkov v. Bulgaria, no. 33977/96, paragraph 84, in fine, 26 July 2001.

³² See European Court, Sulaoja v. Estonia, application no. 55939/00, paragraph 64, 15th February 2005; Tsarenko v. Russia, application no. 5235/09, paragraph 70, 3rd of March 2011 and Trifković v. Croatia, judgment of 6th of November 2012, paragraph 125.

³³ See European Court, Brogan v. The United Kingdom, application no. 11209 / 84m 11234/84, 11266/84 and 11386/85 of 30 May 1989.

grounds for reasonable suspicion of arrest and legitimacy. the goal to be achieved by arrest and detention.

3.1. Existence of reasonable suspicion for ordering detention

According to the case law of the European Court, the reasonable suspicion on which an arrest must be based constitutes an essential element of the protection against arbitrary arrest and deprivation of liberty provided for in Article 5 paragraph 1 (c) of the Convention. A well-founded suspicion that a criminal offense has been committed requires the existence of some facts or information that would convince an objective observer that it is possible that the person in question committed the criminal offense.³⁴ At the same time, the Constitutional Court points out that at the time of ordering detention, it does not have to be established with certainty that the criminal offense was actually committed, and its nature does not have to be determined. Finally, according to Article 5 paragraph 1 of the Convention, the lawfulness of detention is assessed on the basis of domestic law, ie it must have a legal basis in domestic law, provided that the deprivation of liberty is in accordance with the purpose of Article 5 of this Convention protected from arbitrariness.³⁵ In case AP 3321/17³⁶, the Constitutional Court, referring to the relevant case law of the European Court in *Ilijkov against Bulgaria*³⁷ and *Nikolov against Bulgaria*³⁸ stated that “completely ignoring the appellant’s allegations of reasonable doubt, the Cantonal Court failed to examine the basic condition sine qua non-determination, ie extension of the detention measure - a well-founded suspicion, which the appellant problematized

in the appeal and rightly expected to receive an answer to that allegation. The Constitutional Court recalls that reasonable suspicion is an obligatory element for deciding on the ordering or extension of detention, regardless of the stage of the proceedings, which must be examined. Also, as stated, Article 5 (paragraphs 1, 3 and 4) of the Convention imposes obligations to verify the “lawfulness” of detention at any stage of the proceedings, which includes the question of the existence of reasonable doubt as a fundamental element of judicial review of the lawfulness of a measure. detention and which must be reviewed even when rebutted during the main trial....”. In view of the above, the Constitutional Court concluded that there had been a violation of the appellant’s right to liberty and security of the person under Article 5 paragraph 1 (c), paragraph 3 and 4 of the Convention.Konvencije.

3.2. Danger of escape

The risk of absconding must be assessed in the light of a number of relevant factors that may confirm the existence of the danger of absconding or make it so weak that it cannot justify detention for the duration of the trial.³⁹ This danger must be assessed in relation to factors concerning the character of the person concerned, his morals, home, occupation, property, family ties and all other types of ties with the country in which he is being tried. The expectation of a heavier sentence and the weight of evidence may be relevant, but this is not decisive and the possibility of obtaining guarantees can be used to neutralize the risk of escape⁴⁰. The Constitutional Court also reminds that in its case-law it has pointed out that the fact that an appellant has dual citizenship and property in a neighboring state cannot per se

³⁴ See European Court, *Fox, Campbell and Hartley v. The United Kingdom*, judgment of 30 August 1990, Series A no. 182 paragraph 32; *O’Hara v. The United Kingdom*, judgment of 16 October 2001, Reports of Judgments and Decisions 2001-X, paragraph 34 and *Stepuleac v. Moldova*, judgment of 6 November 2007, application no. 8207/06, paragraph 68.

³⁵ See Constitutional Court, Decision on Admissibility and Merits, No. AP 5842/10 of 20 April 2011, available on the website of the Constitutional Court www.ustavisud.ba.

³⁶ See Constitutional Court, Decision on Admissibility and Merits No. AP 3321/17 of 11 October 2017, available on the website www.ustavisud.ba, pages 35-43.

³⁷ See the judgment of the European Court, application no. 33977/96, of July 2001

³⁸ European Court, Application No. 31195/95, decision of 25 March 1999.

³⁹ See European Court, *Yağcı and Sargın v. Turkey*, 8 June 1995, paragraph 52, Series A no. 319-A.

⁴⁰ See European Court, *Neumeister v. Austria*, 27 June 1968, paragraph 10, Series A no. 8.

be a valid and justifiable reason on which the courts may conclude that there are circumstances "Nor, because of this fact, can any suspect who holds the citizenship of a neighboring state, and the property in it, automatically be considered to be in fear of fleeing from justice in Bosnia and Herzegovina." ⁴¹. Namely, such a situation, as a generally real danger of evasion of justice, can be blamed on the authorities of Bosnia and Herzegovina for not taking appropriate measures and concluding appropriate interstate agreements on the basis of which it would not be possible to avoid justice and move from one state to another⁴². The fact that a person does not have a registered permanent residence does not in itself lead to the conclusion that there is a danger of escape.⁴³

3.3. Impact on witnesses

According to the case law of the European Court, the danger of obstructing a criminal investigation cannot be invoked in abstract, but such a conclusion must be substantiated by relevant evidence ⁴⁴. In addition, the Constitutional Court has clearly stated in its practice that "only the existence of presumptions it is not enough, because the court cannot only assume such a possibility, but must have arguments that there are some objective circumstances or concrete and reasoned actions and procedures that would be a valid legal basis for ordering detention in a particular case." ⁴⁵

A great contribution to the movement of rights and freedoms in the direction of the European Convention, when it comes to the right to liberty and security of person in general, was made in the case AP 6/08, which referred to the issue of concretization of detention reasons. The Constitutional Court could not accept the arguments that the reasons for detention on the grounds of

collision danger in this particular case were justified by concretized facts, which show that the appellant personally or indirectly tried to influence witnesses or possible accomplices. Namely, the mere existence of presumptions that such appellant's conduct would be possible is not sufficient, because the court cannot only presume such a possibility, but must have arguments that there are some objective circumstances or concrete and reasoned actions and procedures that would be a valid legal basis for detention. in the present case. The Prosecutor's Office of Bosnia and Herzegovina did not propose or present any evidence in this regard, but based its proposal exclusively on the assumptions accepted by the Court of Bosnia and Herzegovina, but did not properly explain the specific danger that threatens witnesses. The fact is that in this case they are victims or family members of victims of a very serious and delicate crime, but this fact alone is not, as already mentioned, sufficient to meet the standards of Article 5 paragraph 3 of the Convention, but the reasons for detention they must be viewed in the light of specific circumstances, and one of these circumstances is the fact that witnesses who feel discomfort and insecurity have already been given certain protection measures. In doing so, the Court of Bosnia and Herzegovina essentially shifted the burden of proof to the appellant, contrary to the rules of Article 5 of the Convention, according to which detention is an exceptional measure restricting the right to liberty, which is allowed only in cases specified in that article and under strictly defined conditions. In decision No. AP 2210/17 of 18 July 2017, the Constitutional Court emphasized that the regular court is obliged to take all actions within its jurisdiction in order to eliminate the possible possibility that the accused may influence witnesses or accomplices in the further course of the proceedings. not to constantly repeat that this danger exists until he does

⁴¹ See Constitutional Court, Decision on Admissibility and Merits, No. AP 1150/10 of 14 May 2010, item 48, published in the Official Gazette of BiH No. 27/11.

⁴² See Constitutional Court, Decision on Admissibility, AP 3512/08 of 29 April 2009, item 18.

⁴³ See European Court, Soulaia v. Estonia, judgment of 15 February 2005, paragraph 64.

⁴⁴ See, European Court, Becciev v. Moldova, judgment of 4 October 2005, application no. 9190/03, paragraph 59.

⁴⁵ See Constitutional Court, Decision on Admissibility and Merits, No. AP 6/08 of 13 May 2008, item 38, published in the Official Gazette of BiH No. 49/08.

nothing, although he has a legally prescribed possibility - to eliminate that danger. Therefore, the regular court, after the opening of the main trial, is obliged to take actions that would eliminate the potential danger of influencing witnesses from the appellant, since that danger existed even before the confirmation of the indictment.

3.4. Danger of re-offending

The danger of re-offending, if convincingly established, may prompt judicial authorities to place and leave a suspect in custody to prevent attempts to commit further offenses. However, it is necessary, among other conditions, that the danger be probable and that the measure be appropriate in the light of the circumstances of the case, in particular the past and the particularities of the person concerned⁴⁶. At the same time, the European Court considers it acceptable to give importance to circumstances such as undertaking illicit activities over a long period of time, great harm caused to victims and propensity to commit criminal offenses⁴⁷. Finally, the gravity of the offense cannot in itself serve as a justification for long periods of detention.⁴⁸

In the case of the Constitutional Court AP 3134/17 the only "special circumstance" (if it is assumed that the objective condition required is met - the amount of the threatened penalty for the criminal offense for which the appellant is charged) is the fact that it is a "prolonged criminal offense of receiving a gift or other forms of benefit". Namely, there is nothing else in the first-instance decision that would determine or characterize the "special circumstances" necessary for ordering detention in accordance with the provision of Article 146, paragraph 1, item c) of the said Law. Namely, although the determination of these "special circumstances" is within the jurisdiction of the regular courts, the reasoning of the first instance decision does not state that there is

any concrete evidence or circumstances that lead to the conclusion that the appellant would repeat the crimes by releasing them. and only brought into connection with the fact that he is charged with the protracted offense of receiving gifts or other forms of benefit.

In the case number AP 654/18 of 13 March 2018, having in mind that this is a relatively young person who continuously and in a relatively short period of time committed a certain number of misdemeanors for which he was punished, the Constitutional Court concludes that it is not unreasonable to conclude that the imposed misdemeanor sanctions did not have an educational effect on the appellant to stop violating traffic regulations, so that there is a well-founded fear that, in case he is released, he could commit a new crime. Also, the Constitutional Court notes that the appellant expressed a tendency to violate the regulations governing the field of traffic which are in the function of ensuring the safety and security of all traffic participants, which is an indisputable public interest which, regardless of the presumption of innocence, prevails over . Finally, with regard to the appellant's contention that these were "minor offenses", the Constitutional Court recalls that, according to the case law of the European Court and the Constitutional Court, even the smallest traffic offense constitutes a "criminal offense" within the meaning of Article 6 of the Convention.

3.5. Fear of being threatened with a crime

In the case of the Constitutional Court No. AP 2441/15, the Constitutional Court emphasized that the subjective feeling of fear in a protected witness was not objectified by any other evidence, but that it was only a matter of the court's assumptions. The Constitutional Court also had in mind the fact that at the time of passing the disputed decisions on detention, the indictment

⁴⁶ See European Court, *Clooth v. Belgium*, 12 December 1991, paragraph 40, series A, no. 225 and *Paradysz v. France*, application no. 17020/05, paragraph 71, dated 29 October 2009.

⁴⁷ See, European Court of Justice, *Matznetter v. Austria*, judgment of 10 November 1969, paragraph 9.

⁴⁸ See European Court, *Ilijkov v. Bulgaria*, application no. 33977/96, paragraphs 80-81, 26 July 2001; *Micha v. Poland*, application no. 13425/02, paragraph 49, 4 May 2006, and *Gulyayeva v. Russia*, application no. 67413/01, paragraph 186, 1 April 2010.

against the appellant was confirmed, that in the meantime the protected witness to whom the threat was made was heard and that a first instance verdict was even rendered. Therefore, the Constitutional Court found that the existence of "special circumstances justifying the fear that he would commit the criminal offense he threatens" had not been proven, which violated the appellant's right under Article 5 paragraph 1 item c) and paragraph 3 of the Convention.

3.6. Public interest (need to protect the interest of citizens)

In decisions no. AP 3210/15 and AP 2930/15, which challenged the decisions of the regular courts ordering detention, *inter alia*, found a violation of the appellants' right to liberty and security in the context of the application of the special detention ground under Article 146 paragraph 1 (d) of the Criminal Code procedure of the Federation of Bosnia and Herzegovina based on its decisions on the case law of the European Court, Recommendation (C / M Rec 2006) 13 of the Committee of Ministers of the Council of Europe on detention, conditions of detention and protection mechanisms against abuse referred to by the appellant in the case 3210/15 and on the August 2008 Report of the OSCE Mission to Bosnia and Herzegovina entitled "Law and Practice in the Application of Measures of Restriction of Liberty: Justification of Detention Measures in Bosnia and Herzegovina". Thus, the Constitutional Court in the cited cases, among other things, reminded that the mere existence of a presumption and abstract allegation that the release of the suspect could lead to a real threat to public order - is not enough, but must specify the specific circumstances which, as such, they undoubtedly indicate that this will happen⁴⁹. In the cited decisions, the Constitutional Court also reminded of the position of the European Court that certain criminal offenses, due to their special gravity and public reaction to them, can cause social

unrest, and that this may justify detention for at least some time. However, in the opinion of the European Court, this ground can be considered relevant and sufficient only if it is based on facts from which it clearly follows that the release of the suspect would indeed disturb public order. Finally, detention will only be lawful if public order is still really threatened. Extension of detention cannot be used as an anticipation of imprisonment⁵⁰. In addition, the Constitutional Court recalled in its cited decisions the position of the Committee of Ministers of the Council of Europe expressed in the Recommendation that this ground can be used as a justification for detention only if there is substantial evidence of a response to a serious crime such as murder. Only the occurrence of an exceptional situation can make detention necessary.

4. Article 5 paragraph 3 of the European Convention

Article 5 paragraph 3 of the Convention requires the judiciary to review all matters relating to detention, and to take a decision on detention with reference to objective criteria provided by law. The use of the same reasons, ie stereotypical formulations in decisions on extension of detention, without taking into account the specific circumstances of the specific case that requires continuous detention - is a violation of Article 5 paragraph 3 of the Convention⁵¹. When deciding on the fulfillment of the conditions for the extension of the detention measure - the regular court evaluates the circumstances that exist at the time of the decision. Therefore, there is no obstacle for the regular court to invoke the same reasons and circumstances as in the previous decision, if they still exist and it is important to make a decision on fulfilling certain conditions for extending the detention measure, so in such a situation one cannot speak about stereotypical formulations and

⁴⁹ See, European Court, decision of 14 September 2009 in *Makarov v. Russia*, application no. 15217/07.

⁵⁰ See, European Court, *Letellier v. France*, judgment of 26 June 1991, paragraph 51 and *I.A. v. France*, judgment of 23 September 1998, paragraph 104.

⁵¹ See, European Court of Justice, *Sulaoja v. Estonia*, Application No. 55939/00, paragraph 64, 15 February 2005; *Tsarenko v. Russia*, application no. 5235/09, paragraph 70, 3 March 2011 and *Trifković v. Croatia*, judgment of 6 November 2012, paragraph 125.

the use of the same reasons⁵². The second segment of Article 5 paragraph 3 of the European Convention proclaims not only the rule that the accused be brought to trial within a reasonable time or granted provisional release pending trial, but also the rule that release may be conditional on guarantees that the accused will appear at the court⁵³. Namely, until the verdict, the accused must be presumed innocent, and the purpose of the provision under consideration is basically to request that he be released on parole after further detention ceases to be justified⁵⁴. Furthermore, the justification of detention is assessed in the light of the circumstances of the particular case and its specificity. The extension of a measure of detention will be justified if there are real reasons that indicate the existence of a general (public) interest that is so important and significant that, despite the presumption of innocence, it prevails over the principle of respect for individual freedom⁵⁵. Therefore, it is the duty of the domestic courts, with due regard to the principle of the presumption of innocence, to consider all facts in favor or against the existence of any important public interest justifying a derogation from Article 5 and to establish them in their decisions on release applications⁵⁶.

5. Article 5 paragraph 4 of the European Convention

Detention must be ordered in accordance with national law, ie Article 5 paragraph 4 of the Convention guarantees the right "of anyone deprived of liberty by arrest or detention" - to initiate proceedings to examine the lawfulness of his detention and to release him if detention is unlawful. Furthermore, the cited provision does not

impose an obligation on the courts to respond to every argument stated in the appeal when examining the appeal against the decision on detention. The guarantees of the cited article will be deprived of their essence if the court, relying on domestic law and practice, can treat as irrelevant or ignore the specific facts pointed out in the appeal, which are such as to call into question the existence of conditions essential for "legality". - within the meaning of the Convention, with regard to deprivation of freedom⁵⁷. Finally, in the case of a decision of a higher court, it is sufficient that the reasoning of the decision contains agreement with the determination of the lower or judicial court by the higher court incorporating or referring to the reasons and reasoning of the lower court or otherwise indicating that it agrees with them⁵⁸. Article 5 paragraph 4 of the Convention guarantees that a person deprived of his liberty must have access to a "court" that could examine the lawfulness of both the initial deprivation of liberty and the extension of that measure. According to the case law of the European Court, a key element of this obligation is that the lawfulness of deprivation of liberty must be supervised by a court, but it does not have to be "a classic court integrated into the standard judicial machinery of the state"⁵⁹. However, it must be a body with a "judicial character". In order to have a "judicial character", that body must be "independent of the executive and the parties to the proceedings"⁶⁰, and must have the authority to make a binding decision that may lead to the release of the person. This body must, in addition, provide "procedural guarantees appropriate to the specific type of deprivation of liberty", which are not "significantly less" than guarantees in criminal proceedings, when deprivation of liberty results in long-

⁵² See, inter alia, the Constitutional Court, Decision on Admissibility and Merits, No. AP4135 / 17 of 6 December 2017, paragraph 44, available at www.ustavisud.ba.

⁵³ See, European Court, G.K. v. Poland, judgment of 20 January 2004, paragraph 85.

⁵⁴ See, European Court of Justice, Vrenčev v. Serbia, judgment of 23 September 2008, paragraph 71.

⁵⁵ See Buzadji v. Moldova, judgment of 5 July 2016, paragraph 90.

⁵⁶ See, European Court of Justice, Weinsztal v. Poland, judgment of 30 May 2006, paragraph 50.

⁵⁷ See European Court, Nikolova v. Bulgaria [GC], no. 31195/96, paragraph 61, ECHR 1999-II.

⁵⁸ See European Court, Garcia Ruiz v. Spain, 1999-I, 31 EHRR 589 GC.

⁵⁹ See, European Court of Justice, Weeks v. The United Kingdom, judgment of 2 March 1987, Series A no. 114, paragraph 61.

⁶⁰ See, European Court of Justice, De Wilde, Ooms and Versyp v. Belgium, judgment of 18 November 1971, Series A no. 12, paragraph 76 and 77.

term imprisonment. It is clear from the case law of the European Court, supported by the Constitutional Court, that although Article 5 of the Convention does not impose an obligation on a judge hearing detention to deal with every argument contained in the applicant's submission, the arrested or detained person has the right to review arrests and detentions in proceedings which will review both procedural and material conditions which, in accordance with the European Convention, are crucial to the lawfulness of deprivation of liberty. This means, as the European Court concluded in the Brogan case ⁶¹, that the applicants had to have access to a remedy on the basis of which the competent judicial authority would review not only the procedural guarantees prescribed by domestic law but also the grounds for reasonable suspicion of arrest and keep in detention.

6. Detention related to the imposition of prohibitive measures

When deciding, the judicial authority must be aware that deprivation of liberty is contrary to the right to security as a basic human right - ultima ratio, and that prohibitive measures must be used if the goal can be achieved ⁶². In that sense, the Constitutional Court notes in case AP 1279/18 of 23 April 2018 that the first instance court did not consider the appellant's proposal for imposing prohibitive measures at all, and that the Cantonal Court, deciding on the appellant's appellate allegations in that direction - concluded that the appellant's proposal was not sufficiently concretized, pointing out that "there is nothing special to comment on" regarding these allegations. Therefore, having in mind that the regular courts did not state the reasons whether and why they considered that in the circumstances of the specific case the purpose of successful criminal proceedings could not be achieved by milder measures than detention, the Constitutional Court concludes that the right was violated in this part as well. the appellant to lawful detention

guaranteed by Article 5 paragraph 1 (c) and paragraph 3 of the Convention.

7. Conclusion

The right to liberty and security is of particular importance in a democratic society characterized by the rule of law. This implies, inter alia, the existence of an effective judicial system that provides effective protection in the event of a violation of this right. On the other hand, the rule of law also means the possibility of derogating from the right to liberty and security, whereby a person deprived of liberty or detained must have adequate guarantees to protect his right. The case law of the Constitutional Court shows that domestic courts often render decisions in which, with reference to the relevant provisions of the criminal procedure code applicable in Bosnia and Herzegovina, they "justify" a derogation from the right to liberty and security which cannot be assessed as complying with standards of deprivation of liberty from Article II / 3d) of the Constitution of Bosnia and Herzegovina and Article 5 of the Convention. Therefore, it is necessary that court practice, and especially the highest courts, pay due attention to all aspects of the lawfulness of deprivation of liberty, because deviation from the right to liberty and security is subject to assessment not only by the Constitutional Court but also by the European Court. It is of special importance that the Constitutional Court in its previous practice has adopted the position that, given the temporal nature of the decision on ordering or extending detention, in a situation where it finds that deprivation of liberty of appellants by the contested decision of the regular court resulted in violation of freedom and security of the person, but that at the time of the Constitutional Court's decision the deprivation of liberty according to the impugned decisions had expired - sufficient to establish a violation of the constitutional right and to point out the omissions made in the procedure of ordering detention. Therefore, in the present case the Constitutional Court finds only a declaratory

⁶¹ See European Court of Justice, Brogan v. The United Kingdom, application no. 11209/84, 11234/84, 11266/84 and 11386/85 of 30 June 1989.

⁶² See, mutatis mutandis, European Court, Stögmüller v. Austria, judgment of 10 November 1969, Series A no. 9, paragraph 15.

violation in relation to the challenged decision, emphasizing that the regular court, when ordering and extending detention, must ensure the guarantees given by the provisions of Article II / 3d) of the Bosnia and Herzegovina Constitution and Article 5 of the Convention.

Literature

[1] Bleichrodt, F. W. (2006). Right to liberty and security of person. In Dijk, P. van, Hoof, F. van, Rijn, A. van, & Zwaak, L. (Eds.), *Theory and Practice of the European Convention on Human Rights*.

[2] De Meyer, J. (1999). Article 5 & 1, in Pettiti, L.E., Decaux, E. Imbert, P.H. (sous la direction de), *La Convention européenne des droits de l'homme Commentaire article par article*, 2e édition. Paris.

[3] Frowein, J.A., Peukert, W. (1985). *Europäische MenschenrechtsKonvention. EMRKKommentar*. Verlag, Kehl am Rhein.

[4] Gearty, C. (1993) *The European Court of Human Rights and the protection of civil liberties: an overview*. Cambridge Law Journal, 52 (1).

[5] Grabenwarter, C. (2014). *European Convention on Human Rights - Commentary*. C.H. Beck Hart, Nomos Helbing Lichtenhahn Verlag.

[6] Harris, O'Boyle, Warbrick (2014). *Law of the European Convention on Human Rights*, Third Edition. Oxford University Press.

[7] Jacobs, White, Ovey (2017). *The European Convention on Human Rights*, Seventh Edition. Oxford University Press.

[8] Macovei, M. (2002). *The Right to Liberty and Security of the Person, A guide to the implementation of Article 5 of the European Convention on Human Rights*. Council of Europe.

[9] Pradel, J., Corstens, G. (2002). *Droit pénal européen*, 2e édition. Paris.

[10] Rhona K.M. S. (2005). *Textbook on International Human Rights*, second edition. Oxford University Press.

[11] Renucci, J.F. (2002). *Droit européen des droits de l'homme*, 3e édition. Paris.

[12] Schabas, W. (2017). *The European Convention on Human Rights, A Commentary*. Oxford: Oxford University Press.

[13] Sudre, F. (2001). *Droit international et européen des droits de l'homme*, 5e édition. Paris.

FOREIGN FIGHTERS - PERCEPTION OF THREAT

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Abstract: *In the past few years, the civil war in Syria has been a major security problem for Europe. This is the first conflict in which many European citizens have joined as fighters in terrorist organizations. For many of them publicly released videos confirming the crimes committed. After returning to their home countries of Europe, these individuals represent the potential for domestic terrorism, a challenge to European security and cohesion. Since 2012, about 5,000 people have traveled from Europe to Syria and Iraq. About 1,500 of these foreign terrorist fighters have returned to their home European countries. Some have returned disappointed or traumatized by their military experience, but there are some who have bad intentions. Given that this threat is new, the question is which persons should be considered as foreign fighters and which terms are most appropriate for them in the academic debate. In this paper, we will try to define the concept of foreign fighters, the lack of a comprehensive approach, and the appropriate measures to counter this threat, as the response of Western democracies has so far been uncoordinated and stereotyped.*

Keywords: security, foreign fighters, threat, terrorism

1. Introduction

Since the beginning of the Syrian conflict in 2011, thousands of EU citizens have traveled or attempted to travel to conflict zones in Iraq and Syria to join militant terrorist groups such as the Islamic State - IS.⁶³ Most terrorist attacks in Europe, and especially the attacks in Brussels in 2016 and Paris in 2015, were committed by criminals involved in organized crime and trafficking and were part of the most successful terrorist organization in the world. It is estimated that the contingent of foreign fighters originating in the EU Member States (mainly from Belgium, France, Germany and the UK) is between 3900-4300 people. About 30% of them have already returned to their home countries.⁶⁴

In its 2017 annual report on terrorism, Europol estimates that the degradation of the IS is expected to increase the number of foreign returnee fighters. The issue of returnees raises many challenges: - They are perceived as a security threat. During their stay in the conflict zones, they gain combat experience, which raises fears that they pose a terrorist threat to the EU through radicalization, fundraising and activities aiding terrorist operations.⁶⁵ - The threat of returnees does not just apply to individuals because in many cases, foreign fighters have brought their families into conflict zones, or formed a new family there. The families of foreign fighters, more precisely their wives and children in the conflict zones, received military training. This raises the question of the impact that can have their return to Europe, the threat that they may pose as social and criminal problem. - Issues related to foreign fighters are related to a wide range of policies: policies related to preventing radicalization, namely tackling the

⁶³ P. Bakowski, L. Puccio, „Foreign fighters: Member State responses and EU action“, EPRS, European Parliament,

⁶⁴ B. Van Ginkel and E. Entenmann (Eds.), 'The Foreign Fighters Phenomenon in the European Union.

Profiles, Threats & Policies', The International Centre for Counter-Terrorism, The Hague, 2016.

⁶⁵ 2017 TE-SAT Report, Europol, p.14.

motivations that drive persons to conflict zones and joining terrorist groups, sharing information at EU level, criminal persecution of returnees, exclusion from militant activities, deradicalisation and rehabilitation.

2. A brief historical overview of the threat of returnees - foreign fighters

The first major recorded case of foreign fighter involvement in Europe is the case of the Bosnian war. According to estimates, the total number of foreign fighters in Bosnia during the war is about 5,000. According to French security analysis, an estimated 1,000 North Africans traveled to Bosnia for training during the war. Foreign fighters have gained considerable paramilitary experience as well as a reputation for brutal treatment of civilians. However, they also did not have good relations with the Bosniaks, who saw them as incorrect, both individually and collectively, because of accession to the Dayton Peace Accords, which required the mujahideen to leave Bosnia. In the following period, the first jihadist suicide bombing in Europe was carried out in Croatia.⁶⁶ The terrorist attack in Rijeka took place on October 20, 1995, when the Egyptian terrorist organization Al Gama al Islamiyah tried to destroy a police station with a suicide bomber and a car bomb. 27 people were injured at the police station and the perpetrator killed himself. The reason for the attack is considered capturing Talat Fouad Qasim member of the terrorist organization al-Gama'a al-Islamiya, by Croatian forces in his attempt to enter Bosnia. As a result, al-Islamiyah decided to launch a terrorist attack on Croatia.⁶⁷ After a detailed security check, it was concluded that Hassan Saad, an Egyptian living in Bosnia and Herzegovina since 1994, organized the attack.⁶⁸

After the conflicts in Afghanistan, Pakistan and Bosnia, the number of European militant Islamists who became foreign fighters remained low, with no apparent presence of those who had flown from Southeast Asia or North Africa. The 2003 Iraq conflict, which mobilized a third generation of jihadists in the service of al-Qaeda in Iraq, numbered some 5,000 foreign fighters and 100 were from Europe. Most were from France and Belgium. In this civil war, transnational volunteers committed more than three-quarters of suicide attacks. At the beginning of the 21st century, most of them arrived traveling through Turkey and staying in safe houses in Syria. The reason for their radicalization is the failed assimilation, and no border controls have managed to keep them in Europe. An important destination for third-generation jihadists has been the decades-long conflict in Somalia, where the al-Shabaab terrorist organization played a major role. At the time of the Arab Spring in Somalia there were about 1500-2000 foreign fighters, and 10 percent were EU citizens. About 100 Britons have flocked to the Horn of Africa to join militant Islamists. Al Shabaab has successfully recruited dozens of volunteers from Somali refugee communities in Scandinavia. After at least 20 young people left Stockholm, parents began banning their children from attending prayer services for fear of being radicalized. A Somali man staying in Denmark and linked to al-Shabaab tried to kill a cartoonist who drew cartoon about the prophet and Somali returnees were arrested while planning a suicide attack on an Australian army barracks.⁶⁹ Omar Hafik Hammami (1984 - 2013), also known by the pseudonym Abu Mansour al-Amriki, was a US citizen who was a member and leader of the Somali Islamist militant group alShabaab. In November 2012, the FBI added Hamami to its list of most wanted terrorists. Omar was raised in a Christian family with an American Protestant mother and a Muslim father born

⁶⁶ E. Kohlmann, *Al-Qaida's Jihad in Europe: The Afghan-Bosnian Network*, New York, Berg 200

⁶⁷ E. F. Kohlmann, „The Afghan-Bosnian Mujahideen Network in Europe“, 9 August 2008

⁶⁸ A. B. Breivik, „A European Declaration of Independence“, London, 2011

⁶⁹ D. Malet, B. Priest and S. Staggs, „Involving Foreign Fighters in Somalia“, in *Globalizing Somalia: Multilateral International, and Transnational Repercussions of Conflict*, E. Leonard and G. Ramsay, eds., London: Bloomsbury Academic, 2013.

in Syria.⁷⁰ Omar began identifying himself as a Muslim in high school after traveling to Syria and meeting with his relatives after leaving college. After moving to Toronto, Canada in 2004, he married a woman of Somali-Canadian descent, and in 2005 traveled to Egypt. Then, he left his wife at the end of 2006 and joined the terrorist organization al-Shabab in Somalia. Omar worked as a commander, propagandist and recruiter.⁷¹ Foreign fighters who have been involved in conflicts around the world may not be many, but it is significant that they eventually return to their home countries in Europe and North America. For example, al Qaeda's foreign fighters on the Arabian Peninsula (AQAP) in the Yemen conflict were primarily Saudis, Pakistanis, and Egyptians, but there were those who came from Western countries from Europe, Oceania, and North America.⁷²

3. Motives for recruitment in transnational terrorist organizations

Overall, there is a lack of solid empirical evidence and consensus on what motivates an individual to leave their home country to join a terrorist organization in a foreign country and engage in violent conflict. Self-radicalization and the role of social networks are part of the motivating factors for joining terrorist organizations. The role of social networks as a motivating factor is more evident in Europe than it is in the Middle East or North Africa. The geographical proximity and better knowledge of Syrian culture and language makes Arab foreign fighters less dependent on Europeans to reach the conflict zone, while their European counterparts are more likely to be influenced by group thinking, inspired by one or more individuals within their networks. The decision to join a terrorist group is based on a preexisting friendship and relationship. This group evolves into a group of future perpetrators who will later join a formal terrorist cell, with

a well-defined hierarchy. The role of families in the decision to leave for Syria as a motivating factor is small, meaning that parents are rarely aware that their children want to join a terrorist organization. Most children who leave home to fight abroad, even after arriving, report to their parents to tell them where they are. The role of ideology is also an important factor, but many people who go abroad to fight know little about religion. There is a tendency among the returnees from the battlefields to explain their decision to go to Syria as a form of jihad, though they are very unaware of the conditions for jihad in Islam. Ideology, including global neo-jihadist ideology, is an important part of the explanation for the shift to political violence. Many returnees argue that their motivation to go to Syria is an obligation to defend their Sunni friends from the Syrian Shiite government and its allies. This confirms that many young Muslims, no matter where they come from, perceive the conflict in Syria as more of a community conflict than a religious one. The IS and other factions fighting the Syrian regime have succeeded in portraying the conflict as sectarian, combining a religious and social obligation to join. It is clear that terrorist groups can only keep their members united by promoting a common cause. Their specific interpretation of religion, however distorted, provides the necessary motive. Ideological motivation, as empirical research has shown, is often better than economic and educational motivation.⁷³ Also, the immediate financial reward influences the decision to join the crisis regions. However, this fact is hiding from the public because these people will look more like mercenaries than noble defenders of their community. IS propaganda does not exclude material rewards, which has always been an important part of its attempt to motivate young people to join them in Syria. Foreign fighters regularly receive salaries while staying in the formations of transnational terrorist organizations. Since the announcement of the

⁷⁰ Press, Associated, "US-born 'jihadist rapper' Omar Hammami reportedly killed in Somalia". The Guardian, 12 September, 2013

⁷¹ J. Thomas, „Son of infamous al Qaeda family killed by Ethiopian forces“, Long War Journal, 30 December, 2011

⁷² M. Noonan, „The Foreign Fighters Problem: Recent Trends and Case Studies“, Philadelphia, Foreign Policy Research Institute, 2011

⁷³ M. Sageman, „Leaderless Jihad“, Pennsylvania, Pennsylvania University Press, 2008

Caliphate in June 2014, the IS has focused on building the state as much as conquering territory, and therefore required engineers, doctors, teachers, judges, imams, technicians and administrators of all kinds.⁷⁴ These IS claims have attracted more experienced foreign fighters who have partially filled out the administration of the terrorist organization. Many foreign fighters come from disadvantaged economic and educational environments where they have poor prospects for employment and earnings. Their choice to join IS is found in widespread advertising for the most powerful and best-funded terrorist group in recent history.⁷⁵ Political factors are sometimes responsible for this situation in Western democracies, leading to conditions conducive to a certain kind of radicalization that can make individuals go to Syria or Iraq in search of better opportunities. For example, political discrimination against certain groups or individuals in some countries has reduced their social and political mobility and resulted in deprivation of liberty. Such measures include confiscation or prohibition on renewal of a passport, unnecessary security harassment, bias in the distribution of state benefits or discriminatory practices in the labor market. The term "social injustice" and "unfair access to opportunities" is a common theme among foreign fighters when they describe the environmental conditions that influenced their decision to become IS members. The role of the Internet and social media has a major impact on the recruitment of foreign fighters, especially in the initial phase of the process. Potential recruits via social media initially connect with supporters or IS members, so that the Internet will ultimately have a strong influence on their decision to leave for Syria.⁷⁶ However, the original idea of leaving for Syria is developing in the real world, and later the Internet has accelerated the process by watching news and watching videos of what is happening in the crisis region. During this phase, through the Internet, potential foreign fighters confirm

their views and reinforce the ideas, perceptions and narratives that they have already developed or are beginning to develop. At that point, the Internet plays a key role in reinforcing the decision that has already been made. We can conclude that most of the foreign fighters involved in the Middle East conflicts are young men, economically and educationally endangered, unemployed. It is difficult to generalize because the decision to become a foreign fighter and part of a transnational terrorist organization is the result of a mix of factors that form a complex motive. What can be confirmed for sure is that social networks often play a key role as a mechanism for directing individuals' energy to go into conflict regions. It is important to note that the role and identity of the recruiters does not necessarily have to be a member of a terrorist organization. Usually these are people who successfully recruit young people because of their popularity in the community, good connections and an established network.

4. Conclusion

We can conclude that in the end, the radicalization process and the decision to become a foreign fighter is an individual decision. There are many facilitators in decision-making, and the most significant can be listed as: job failure, school stigmatization, labor market discrimination, family problems and disagreements, dysfunctional family, prison experience, personal failure rights or a multitude of other factors. Online narratives and images available in the media reinforce this decision and bring the suffering of the group closer to the local and intimate level. The change in the political environment of the Arab world and the downward economic and political trends of 2011 onwards has been a huge motivator for recruiting foreign fighters who have been manipulated to find their way to Syria and Iraq. For potential recruits,

⁷⁴ HUFFINGTON POST „4 Things To Know About Dabiq, ISIS Slick Propaganda Magazine“, October 2, 2016

⁷⁵ A. Speckhard, A.S. Yayla, „Eyewitness Accounts from Recent Defectors from Islamic State: Why They

Joined, What They Saw, Why They Quit“, Perspectives in Terrorism, 9(6), 2015

⁷⁶ The Soufan Group, „FOREIGN FIGHTERS: An Updated Assessment of the Flow of Foreign Fighters into Syria and Iraq“, DECEMBER, 2015

injustice, such as the perception of crimes committed against their brothers, coincides with the notion of jihad, which they consider justified, especially at a time when Muslims are being attacked.. For many, therefore, referring to crisis regions is similar to performing jihad in addition to seeking a better life. Most foreign fighters interpret religion in terms of justice and injustice rather than in terms of godliness and spirituality. This has important implications in politics as well. If Muslims around the world perceive attacks on terrorist organizations as unjust, aggressive, and part of a wider conspiracy to eliminate their community, then any military operation against violent extremist groups could encourage more young people to become part of transnational terrorist organizations, instead of preventing this. There is no simple solution to the problem of foreign fighters. Terrorism cannot be defeated only by the use of military force, law enforcement measures and intelligence operations. First and foremost, there is a need to address the conditions that are accelerating the spread of terrorism, including the recruitment of foreign

fighters. This implies that a fundamental shift in the fight against terrorism is needed to prevent conditions that are conducive to its rise. At a national level, through a comprehensive approach, Western democracies can do much to address the factors that facilitate the recruitment of foreign fighters into the ranks of transnational terrorist organizations. The measures may include better education, economic opportunities, reduction of marginalization and discrimination in the labor market, i.e. full implementation of comprehensive measures. Each state should create national plans to curb conditions conducive to the spread of violent extremism, terrorism and foreign fighters, according to local priorities, needs, resources, legal systems and challenges. At the regional level, ongoing unresolved conflicts are the reason and basis for joining transnational terrorist organizations. Indoctrination and training are provided in these areas and represent safe havens for terrorist groups and foreign fighters. Western

democracies must do everything in their power to resolve conflicts and prevent terrorist groups from pursuing their goals. Long-term measures to resolve regional conflicts and the elimination of the threat from terrorist organizations require effective action at the regional level. Strong regional cooperation and coordination is needed, improved border security and intelligence sharing, increased economic cooperation, a mutually supportive approach to improving the rule of law, and a common approach to transnational threats. The refugee crisis resulting from the conflict in Syria has clearly shown the detrimental impact on Western democracies and the need for regional co-operation. Only with international cooperation is it possible to successfully tackle these transnational threats, since no country or region in the world can handle the problem with its own resources and capacities. In September 2014, the United Nations Security Council took action to counter the threat of foreign fighters by adopting Resolution 2178, and in December 2015 Resolution 2253. Particular emphasis is placed on the need to establish a working group and develop an implementation plan for capacity building and technical assistance to counteract foreign fighters' action, their radicalization, travel to conflict areas, funding, potential return and reactivation, and their reintegration. and rehabilitation. There is no single solution to dealing with the threat of foreign fighters, but working together at national, regional and international levels will create a safer environment for all.

Literature

- [1] A. Goldman, E. Schmitt, „2 of ISIS' Infamous British Fighters Are Captured by Syrian Kurds“, The New York Times, 2018
- [2] B. Schuurman, “Topics in terrorism research: reviewing trends and gaps, 2007-2016,” Critical Studies on Terrorism, vol. 12, no. 3, 2019
- [3] B. Hoffman, „Lessons of 9/11: Testimony Submitted to the Committee Record to the US Joint September 11, 2001 Inquiry Staff of the House and Senate Select Committees on

Intelligence on October 8“,Arlington: RAND, 2002,
[4] B. Boutin, „Administrative Measures against Foreign Fighters: In Search of Limits and Safeguards“, 2016
[5] Cragin, R., „The Challenge of Foreign Fighter Returnees“, Journal of Contemporary Criminal Justice,33(3), 2017

RIGHT TO EDUCATION AND ANTI - DISCRIMINATION LAW IN THE FIELD OF EDUCATION IN BOSNIA AND HERZEGOVINA

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Doktorand na Pravnom fakultetu Sveučilišta u Mostaru, II. generacija, i član radne skupine za izradu „Smjernica za prepoznavanje diskriminacije u obrazovanju u Bosni i Hercegovini“, donesenih od strane predstavnika svih mjerodavnih obrazovnih vlasti u BiH, uz podršku OEES-a BiH-e

Abstract

As Bosnia and Herzegovina goes through the process of implementing the Stabilization and Association Agreement with the European Union, the response to discrimination in general, and in the field of education in particular, is an important element in the process of meeting the conditions for accession to the European Union. Considering that education is important for every society as a whole and represents the foundation for its further democratic development and the realization and protection of fundamental human rights and freedoms. A particular challenge for Bosnia and Herzegovina in the EU accession process is the introduction of international standards in the field of education, bearing in mind the complexity of the education system given its constitutional competence in BiH. Exercising the right to education according to domestic and international legal norms implies exercising the right to education without discrimination.

Key words: *right to education, right to education in the international and legal framework of BiH, anti-discrimination law, protection against discrimination in the field of education.*

1. INTRODUCTION

In the educational process of young people, it is important to create preconditions for the development of tolerance, awareness of community and a better life, so that young people are timely and without any pressure or any form of discrimination to prepare for responsible participation in all areas of society, which we see today in the modern world very complex and demanding. The occurrence of various forms of discrimination is faced daily by both individuals and groups of people, so that the forms of discrimination in the education system are sufficient reason to do everything possible to take the necessary measures and activities that have a preventive and educational character. Much more needs to be done than all those responsible in society and the community, to raise awareness of the problem of discrimination in education in Bosnia and Herzegovina, and the need for systematic recognition and institutional prevention of the same. Education as a social activity is of exceptional importance to the society of Bosnia and Herzegovina and represents the foundation for further democratic development, and the realization and protection of fundamental human rights and freedoms in Bosnia and Herzegovina. The introduction of international standards in the field of education is an important challenge for Bosnia and Herzegovina, given the complexity of the education system with regard to the constitutional competence in the field of education.

In the process of educating young people, everything should be done to create the preconditions for the development of tolerance, awareness of community and a better life, in order to prepare young people for responsible participation in all areas of social life.

2. THE RIGHT TO EDUCATION IN THE INTERNATIONAL AND LEGAL FRAMEWORK IN BOSNIA AND HERZEGOVINA

The right to education is one of the fundamental human rights and is in the group of economic, social and cultural rights, and as such there are several international documents and legal documents in Bosnia and Herzegovina which ensure it to all people in Bosnia and Herzegovina.

It is the obligation of each state to ensure the realization of economic, social and cultural rights in accordance with the level of economic and social development, independently and in cooperation with other states, international organizations and associations.

The realization of the right to education is a precondition for the building of a democratic society and a necessary factor in respecting the human rights and freedoms of all people. The Constitution and legislation at the level of Bosnia and Herzegovina, as well as at the level of entities, counties and Brčko District of Bosnia and Herzegovina and lower levels, guarantee the right to education, which obliges all those responsible for ensuring this right to ensure the highest level of internationally recognized human rights without discrimination. This implies that all bodies and institutions have a special obligation and responsibility to create the conditions that through the exercise of the right to education every child and adult is given the opportunity to develop their abilities and gain intellectual, spiritual and social independence through the acquisition of knowledge, skills, values and attitudes. the right to education in the best interests of the child. In order to ensure the realization of the right to education in Bosnia and Herzegovina, and to prevent the violation and denial of the right to education that negatively affects the development of human personality, leading to social and economic stagnation, and weakening democracy, spiritual and intellectual development and disturbing peace and security, ensure the application of international and domestic legal and political documents with the application of case law, respecting the

constitutional and overall normative-legal framework with regard to the Dayton organization of the state, political system and order in Bosnia and Herzegovina without discriminating anyone on any grounds, almost in the field exercising the right to education.

Given that the right to education, as one of the fundamental human rights, affects the exercise of many other rights and freedoms that ensure a better quality of life for children, youth and all citizens in Bosnia and Herzegovina, it is necessary to establish certain criteria that will recognize discrimination and protect against discrimination. in the fields of upbringing and education, taking into account the best interests of the child but also others who participate in the educational process in educational institutions at all levels of education from preschool, primary, secondary and higher education, and lifelong learning in Bosnia and Herzegovina and all educational institutions, both public and private. In order to point out the fundamental problems and obstacles that cause discrimination in the process of exercising the right to education, it is necessary to identify them in time, give assessments of the real situation, have the right attitudes and give clear instructions for successfully overcoming discrimination in education.

2.1. International legal framework in the field of the right to education

Given that international legal documents in the field of education, Dayton Bosnia and Herzegovina is bound, in the context of their application in Bosnia and Herzegovina, they contain provisions relating to the recognition of discrimination in the field of education.

- Universal Human Rights Declaration⁷⁷

The right to education was first proclaimed at the general level by the Universal

Declaration of Human Rights. Article 26 of the Universal Declaration provides:

"(1) Everyone has the right to education. Education must be free, at least in the basic and lower levels. Primary education must be compulsory. Technical and vocational training must be generally accessible, and higher education must also be accessible to all on the basis of ability.

(2) Education must be aimed at the full development of the human person and at strengthening respect for human rights and fundamental freedoms. It must promote understanding, tolerance and friendship among all peoples, racial and religious groups, and it must advance the activities of the United Nations in the maintenance of peace.

(3) Parents have the primary right to choose the type of education for their children. "

- International Covenant on Economic, Social and Cultural Rights⁷⁸

In this paper, based on the Universal Declaration of Human Rights, Article 13 recognizes and elaborates the obligations of states regarding the right to education. In accordance with article 13, all States Parties to the Covenant recognize the right of everyone to education, which should be directed towards the full development of the human person, strengthening respect for human rights and fundamental freedoms, enabling all people to participate effectively in a free society. racial, ethnic and religious groups, as well as supporting UN peacekeeping activities. States recognize that primary education must be compulsory and free for all, while secondary education, in its various forms, must be available and accessible to all; higher and higher education, in turn, must be equally accessible to all according to ability. The availability of secondary, higher and higher education is achieved by using all means, and especially by the gradual introduction of free education. States have the duty, as far as possible, to encourage or improve primary education for persons who do not have it or have not completed it in full, as well as to develop a network of schools at all levels, introduce an

⁷⁷ Adopted by the UN General Assembly on December 10, 1948.

⁷⁸ The International Covenant on Economic, Social and Cultural Rights was adopted on 16 December 1966 and entered into force on 3 January

1976, and BiH became his party by succession on September 1, 1993.

appropriate scholarship system and continuously improve the financial situation of teaching staff. States must respect the freedom of parents to choose for their children, in addition to schools established by the state, other schools that meet the minimum educational standards prescribed by the state, and to provide their children with education in accordance with personal beliefs.

In article 2, States have undertaken, independently and through international assistance and cooperation, to take measures to the fullest extent possible of their available resources, in order to progressively achieve the full realization, without discrimination, of all rights recognized in the Covenant, by all appropriate means. , and in particular by enacting legal measures. Under Article 4, States Parties may subject these secured rights to the limitations prescribed by law only if this is compatible with the nature of those rights and solely for the purpose of achieving the general welfare of society.

- **Convention on the Rights of the Child⁷⁹**

By this Convention, Article 28, States Parties recognize the right of every child to education. States Parties have undertaken in particular to ensure free primary education, to encourage the development of secondary general and vocational education and to take appropriate measures to make this education free of charge, to make higher education based on ability more accessible, to improve vocational information and guidance for all children. for regular attendance and reduction of the rate of incomplete schooling. Article 29 of the Convention states that States Parties agree that the upbringing and education of the child should be directed to the development of the personality, talents and highest potentials of the child's mental and physical abilities, the development of

respect for human rights and fundamental freedoms, the development of respect for the child's parents and cultural identity. language and values, the national values of the country in which they live and originate, as well as preparing the child for a responsible life in a free society in the spirit of understanding, peace, tolerance, gender equality and friendship among all peoples, ethnic, national and religious groups, etc.

- **Convention against Discrimination in Education⁸⁰**

The Convention regulates the issue of discrimination in all its forms and at all levels of education. Article 1 of the Convention provides:

"For the purposes of this Convention, the term 'discrimination' includes any distinction, exclusion, restriction or preference based on race, color, sex, religion, political or other opinion, national or social origin, economic status or birth, for the purpose of contesting or endangering the right to equality in education, in particular:

challenging any person or group of access to any type or level of upbringing and education;

limiting any person or group to a lower educational standard;

the establishment or maintenance of separate educational systems or institutions for persons or groups, except as provided in the provisions of Article 2 of this Convention,

bringing any person or group into a position incompatible with human dignity. "

- **European Convention for the Protection of Human Rights and Fundamental Freedoms⁸¹**

In the constitutional and legal system of BiH, the European Convention has a status which, according to Article II. (2). Of the Constitution of BiH on international standards regarding human rights and fundamental freedoms, stipulates that the rights and freedoms provided by the

⁷⁹ The Convention on the Rights of the Child was adopted on 20 November 1989 and entered into force on 2 September 1990. BiH became its party by notifying the succession on November 23rd, 1993.

⁸⁰ The Convention against Discrimination in Education was adopted by the General Conference of UNESCO on 14 December 1960. It entered into force on 22 May 1962. Bosnia and Herzegovina

became its party by notifying the succession on July 12, 1993.

⁸¹ The European Convention for the Protection of Human Rights and Fundamental Freedoms was signed on November 4, 1950. It entered into force on 3 September 1953, and Bosnia and Herzegovina became its party by ratification on 12 July 2002.

European Convention and its protocols will be applied directly and have priority over all other laws.

The European Convention and its protocols oblige all 47 member states of the Council of Europe to ensure the rights and freedoms of all persons under their jurisdiction. The protection of the rights and freedoms guaranteed by the European Convention and its protocols is ensured through the European Court of Human Rights in Strasbourg, which was established in 1959. The European Convention does not contain special provisions relating to the right to education, so Protocol no. 1⁸² guaranteed right to education.

Article 2 provides that:

"... No one can be deprived of the right to education. In carrying out all its activities in the fields of education and teaching, the State shall respect the right of parents to provide such education and instruction as is consistent with their own religious and philosophical beliefs. "

Article 14 of the European Convention prohibits discrimination in the enjoyment of the rights and freedoms set forth in this Convention on any grounds, such as sex, race, color, language, religion, political or other opinion, national or social origin, affiliation with a national minority, property status, birth or other status. This provision has limited meaning only to the rights recognized by the Convention, so applicants must prove discrimination in the enjoyment of a recognized right under the Convention. The prohibition of discrimination was further extended by Protocol no. 12,⁸³ which proclaims in Article 1 a general prohibition of discrimination, stipulating that the enjoyment of all rights enshrined in law is ensured without discrimination on any grounds, such as sex, race, color, language, religion, political or other opinion, national or social origin, connection with a national minority, property status, birth or other status. Paragraph 2 of the same article also explicitly stipulates that no authority may discriminate against anyone on any of the above grounds.

⁸² Protocol no. 1 was signed on March 20, 1952. BiH ratified it on July 12, 2002.

2.2. Legal and institutional framework in the field of education in Bosnia and Herzegovina

2.2.1. Legal frame

In the Constitution of Bosnia and Herzegovina, in Article II. (3), contains a catalog of human rights and fundamental freedoms that persons enjoy in the territory of Bosnia and Herzegovina. The right to education is listed as one of the fundamental human rights in paragraph 4 of Article II, where the prohibition of discrimination in the enjoyment of rights and freedoms provided for in this Article or international agreements listed in Annex I of the Bosnia and Herzegovina Constitution is prescribed to all persons in Bosnia and Herzegovina. on any grounds such as gender, race, color, language, religion, political or other opinion, national or social origin, affiliation with a national minority, property, birth or other status. For the legal and institutional framework, and responsibilities in the field of education, we start from the fact that there is a significant number of laws in this field at all levels. In the Republika Srpska, the education system is unique, while in the Federation of Bosnia and Herzegovina it is decentralized and established within 10 counties, and the Brčko District of Bosnia and Herzegovina, as a special unit of local self-government, has an autonomous education system.

2.2.2. Institutional framework

Legislation in the field of education, based on the Constitution of Bosnia and Herzegovina, the Constitution of the entities, cantons and the Statute of the Brčko District of Bosnia and Herzegovina, determines responsibilities for determining and implementing educational policies at the level of municipalities, cities, cantons, entities and at the level of Brčko District. Institutional structures responsible for defining and managing, monitoring and coordinating education policy in Bosnia and Herzegovina

Protocol no. 12 was signed on 4 November 2000; ratified by BiH on July 29, 2003 .

have been established at various levels of government.

- At the level of Bosnia and Herzegovina, these are:
- **The Ministry of Civil Affairs of Bosnia and Herzegovina (MCP)**, which coordinates activities, harmonizes plans of entity authorities and defines strategies at the international level. The ICR implements the coordinating role through the Conference of Ministers of Education in Bosnia and Herzegovina (Conference). The Conference is the permanent and highest advisory body for the coordination of education in Bosnia and Herzegovina, whose mandate does not interfere with the constitutional and legal responsibilities of education authorities at all levels.⁸⁴
- **- Agency for Preschool, Primary and Secondary Education (APOSO)**, which is responsible for “establishing knowledge standards, evaluating the achieved results and developing a common core curriculum in preschool, primary and secondary education, and for other professional activities in the field of knowledge standards and quality assessment determined by special laws and other regulations.”⁸⁵ Pored toga, sukladno članku 10. ”In addition, in accordance with Article 10 of the Framework Law on Secondary Vocational Education and Training in Bosnia and Herzegovina, the Agency monitors the standard and quality of education within secondary vocational education, as well as adult education.
- **- Agency for the Development of Higher Education and Quality Assurance of Bosnia and Herzegovina**

(HEA), which is responsible for establishing clear, transparent and accessible criteria for accreditation of higher education institutions and adoption of standards setting minimum standards in higher education, the state register of accredited higher education institutions in Bosnia and Herzegovina, and publishing the list of accredited higher education institutions in Bosnia and Herzegovina on its website.⁸⁶

- **- Center for Information and Recognition of Documents in the Field of Higher Education (CIP)**, which is responsible for information and recognition of higher education qualifications in Bosnia and Herzegovina in accordance with the Lisbon Convention on the Recognition of Higher Education Qualifications.⁸⁷
- **- The Rectors' Assembly of Bosnia and Herzegovina**, which was established by an agreement between the university / university for the implementation of higher education reform and acts as an advisory body. It consists of rectors of accredited and licensed universities in Bosnia and Herzegovina. Identifies and represents their common interests, and cooperates with institutions in the field of education in Bosnia and Herzegovina..⁸⁸
- **- Ministry of Human Rights and Refugees of Bosnia and Herzegovina**, which is responsible for monitoring and reporting on the application of human rights standards to international bodies. Also, based on the Law on Prohibition of Discrimination in Bosnia and Herzegovina⁸⁹ (hereinafter: the Law on Prohibition of Discrimination), this Ministry compiles an annual report on the

⁸⁴ Memorandum of Understanding for the Establishment of the Conference of Ministers of Education in BiH ", item 1 (" Official Gazette of BiH ", No. 19/08)

⁸⁵ Article 4 of the Law on the Agency for Preschool, Primary and Secondary Education ("Official Gazette of BiH", No. 88/07)

⁸⁶ Articles 48 and 49 of the Framework Law on Higher Education in Bosnia and Herzegovina ("Official Gazette of BiH", No. 59/07 and 59/09)

⁸⁷ Articles 45 and 46 of the Framework Law on Higher Education in Bosnia and Herzegovina ("Official Gazette of BiH", No. 59/07 and 59/09)

⁸⁸ Article 43 of the Framework Law on Higher Education in Bosnia and Herzegovina ("Official Gazette of BiH", No. 59/07 and 59/09)

⁸⁹ Temeljem članka 8. točka 2 i 3 Zakona o zabrani diskriminacije u BiH („Sl. glasnik BiH“, br. 59/09, 66/16 Pursuant to Article 8, items 2 and 3 of the Law on Prohibition of Discrimination in BiH (“Official Gazette of BiH”, No. 59/09, 66/16)

forms of discrimination in Bosnia and Herzegovina.

In the Federation of Bosnia and Herzegovina:

- **Federal Ministry of Education and Science**, which performs a coordinating role in planning and implementation of activities related to education policy in the Federation of Bosnia and Herzegovina.

- **County ministries of education**, which in each county individually, have responsibilities for determining education policy, with the adoption of regulations on education and education, which have established or use in their area the services of *Pedagogical Institutes / Institutes of Education* perform professional, developmental, research and related administrative tasks in the education sector in the Federation of Bosnia and Herzegovina (six pedagogical institutes, one Institute for Education and one Institute for Education). The institutes were established with the aim of improving educational work, counseling and performing professional and pedagogical supervision over the work of pre-school, primary and secondary education institutions. Their key tasks are the development of curricula, the introduction of new approaches and methods in the educational process, professional development and training of teachers, as follows:

1. Ministry of Education, Science, Culture and Sports of Una-Sana County, Bihać
2. Ministry of Education, Science, Culture and Sports of Posavina County, Orašje
3. Ministry of Education and Science of Tuzla County, Tuzla
4. Ministry of Education, Science, Culture and Sports of Zenica-Doboj County, Zenica
5. Ministry of Education, Youth, Science, Culture and Sports of the Bosnian-Podrinje County of Goražde
6. Ministry of Education, Science, Youth, Culture and Sports of the Central Bosnia County, Travnik
7. Ministry of Education, Science, Culture and Sports of the Herzegovina-Neretva County, Mostar

8. Ministry of Education, Science, Culture and Sports of the West Herzegovina County, Široki Brijeg

9. Ministry of Education, Science and Youth of Sarajevo County, Sarajevo

10. Ministry of Science, Education, Culture and Sports of Hercegbosna County, Livno.

- At the level of Republika Srpska:

- **The Ministry of Education and Culture of Republika Srpska**, which includes the Republic Pedagogical Institute of Republika Srpska, the Institute for Adult Education of Republika Srpska and an independent organization of the Agency for Accreditation of Higher Education Institutions of Republika Srpska, regulates and ensures, in accordance with the Constitution of Republika Srpska, youth, education, culture and protection of cultural property, and physical culture. Management of education in this entity is centralized in this Ministry, which performs administrative and other professional tasks related to: *... system of pre-school education, primary education, secondary and higher education ensures lifelong learning, creates enrollment policy in accordance with labor market needs.*⁹⁰

Na razini Brčko distrikta BiH:

- In the Brčko District of Bosnia and Herzegovina (District), in accordance with the Statute of the Brčko District, the responsibility of public authorities in the District includes the field of education. Among other bodies, the public administration consists of departments of the District Government. Heads of departments have executive powers provided by the laws of the District. ***The Department for Education of the Government of the Brčko District of Bosnia and Herzegovina***, within which the Pedagogical Institution also operates, performs professional, administrative and other tasks related to the implementation of laws and regulations of responsible bodies and institutions of Bosnia and Herzegovina and the District in the field of education.

⁹⁰ Article 19 Law on Republic Administration of the Republika Srpska ("Official Gazette of the RS" No. 118/08, 11/09, 74/10 and 86/10)

A feature of the Brčko District is the fact that primary and secondary schools do not have the status of public institutions.

3.1. RIGHT TO EDUCATION, PURPOSE, GOALS AND TASKS Right to education (Chart 4A)

The starting point for establishing and exercising the right to education, and recognizing various situations in which the human right to education is endangered, is the so-called Scheme 4A introduced by the UN Committee on Economic, Social and Cultural Rights.⁹¹ The right to education, analyzed through this scheme, contains four basic dimensions:

Availability: Is there a sufficient number of adequately equipped educational institutions and how are they distributed?

- Wider definition:
- The availability of education implies the obligation of the state to establish and finance educational institutions in order for everyone to exercise their right to education, but also the obligation to provide the necessary financial resources and human and material resources so that private and legal entities can independently establish educational institutions. Availability, therefore, refers to the provision of as many educational institutions as possible that are made available to individuals and free choice, especially institutions of primary education, which must be compulsory and free of charge.

- **Accessibility:** are these institutions physically and financially accessible, ie do all social groups have equal access?

- Wider definition:
- Access to education refers to the state's obligation to provide free primary education and secondary and higher education to all under certain conditions, which includes identifying and removing all barriers to discrimination and exclusion of individuals based on gender, language, financial means, ethnicity and

other characteristics. Accessibility, therefore, implies equipment, and physical and financial dimension (proximity to educational institutions, access through modern technologies, prices of textbooks and other materials, and public transport for students), as well as non-discriminatory dimension (education without discriminatory practice, available to all, and especially to the most vulnerable social groups).

- **Acceptability:** do educational programs provide quality education and do the study conditions comply with minimum international standards?

- *Wider definition:*

Eligibility refers to the obligation of the state to provide education according to certain standards, ie certain qualities. This includes free choice of education, quality programs and content, as well as relevant and culturally appropriate teaching and evaluation methods. In addition, acceptability means that the human rights of all participants are improved in upbringing and education, and that school and classroom discipline are implemented accordingly.

- **Adaptability:** is the system adaptable, does it suit the interests of pupils / students, parents, minorities, the wider community and the labor market; does the system adapt appropriately to people with disabilities, minorities and other marginalized groups?

Wider definition:

Adaptability refers to the quality of education, and refers to the obligation of the state to adapt education to different groups of children and youth, such as members of minorities, children with disabilities, children with refugee or displaced person status, etc. Adaptability means that education and adaptable education, ie that they can adapt to the different needs of different students, and not that children have to adapt to school, which is unfortunately a common situation in practice.

The role of responsible education authorities in the education system in practice lies between two views: a) one who views responsible education authorities as the sole

⁹¹ Adopted at the session of the UN Committee on Economic, Social and Cultural Rights on 8th of December 1999

founder and provider of education, and b) the other who sees responsible education authorities only as regulators in the field of education. By its very nature, the right to education requires it to be regulated by the state and can vary considerably in space and time, depending on the needs and resources of the community and individuals. States are obliged to ensure the operation of all educational institutions in accordance with the minimum prescribed educational criteria. The right to education gives every person the opportunity and access to primary, secondary and higher education. The right to education includes the obligation of states to respect, protect and exercise the right to education, and gives parents the freedom to choose private or public schools for their children, as well as religious and moral education in accordance with their beliefs. Schools must ensure equal access for all through respect for the principles of equality of children and the prohibition of discrimination, but also ensure the prohibition of corporal punishment.

The international legal criteria for the right to education, which states should achieve at three levels of education, are: a) free and compulsory primary education, b) accessible and accessible secondary education, which includes technical and vocational education, and c) accessible to all ability-based education.

These criteria also require that education be directed towards the full development of people and awareness of human dignity from pre-school to adult education, and that states must strengthen respect for human rights and fundamental freedoms, promote understanding, tolerance, friendship and peace among peoples, and enable all people to participate effectively in a free society.

3.2. The purpose of education

The purpose of education derives from the generally accepted, universal values of a democratic society, value systems based on the peculiarities of the civilizational, national, historical, cultural and religious heritage of peoples and national minorities.

The purpose of education should be viewed through the domestic legal framework and compliance with international standards and criteria. The purpose of education is, through

optimal and intellectual, physical, moral, and social development of the individual, in accordance with his abilities and capabilities, to contribute to the creation of a society based on the rule of law and respect for human rights, and to contribute to its economic development.

3.3. Goals and objectives of education

Education is based on the principles of: respect for human rights and the rights of the child; respect for the strategic goals of the development of education in the "European educational area"; ensuring horizontal and vertical possibility of the system; inclusion in the education system of persons exposed to marginalization; competences and respect for the professional ethics of employees in the education system; making decisions in a democratic way with the participation of all in the educational process; Respecting the needs of society for educational staff, i.e. the needs of the labor market, designing and improving the work of teachers and educational institutions.

Education plays a key role in the development of society. The quality of education is a fundamental resource for the development of the economy and society as a whole. It ensures connectivity, cooperation and openness to other systems in society. Cooperation of all systems in society improves creative work, creative action that enables everyone, especially young people, inclusion in the labor market, scientific, research and production process, and work and development processes that improve the availability of information and its quality development use.

The goals and tasks of education, clearly expressed in the key competencies whose adoption enables an individual to work and live in a knowledge society, should be observed within the following areas of education in Bosnia and Herzegovina.

Preschool education

The goal of preschool education is to encourage physical, intellectual, social and emotional development, development of speech and communication, creativity and creativity of children. The goal of this form of education is learning based on experience

and occupations, gaining new experiences and expanding knowledge about themselves, other people and the world, necessary for further education, and inclusion of children in society, while respecting the rights and opportunities of children. The task of pre-school education is to strengthen the partnership with the family with the aim of informing the family about the obligation of early learning. Preschool education must be available to all children without discrimination on any grounds, and especially to vulnerable groups of children. The obligation of educational institutions is to ensure and organize the work of preschool institutions according to the needs of children.

- ***Elementary education***

The aim of primary education is to encourage the complete and harmonious intellectual, moral, physical, emotional and social development of a self-aware and independent, enterprising and responsible student, ready to learn, develop, defend and harmonize their attitudes, able to continue education, find and apply knowledge, think creatively. and create. The basic task of primary education is to ensure that each student masters the knowledge and skills that can be interconnected and applied in further education and in everyday life, meeting their developmental needs and the needs of society, while respecting the equal right of access and equal opportunities of every individual. based. In the process of education, it is necessary to use modern curricula, cooperative and interactive learning methods and objective assessment of students, safe and correct choice of the most appropriate measures depending on the school, and ensure equal treatment of every child, regardless of whether they are educated in the city or the village. Also, information and communication technologies and achievements should be included in primary education. It is especially important to further encourage and develop the inclusion of children with disabilities in the existing education system. The inclusion of children with disabilities implies the provision of adequate financial and human resources and targeted training of teaching staff, who would be able to provide appropriate support to these children.

Another task is for society, and especially the school, to establish an active and stimulating relationship with gifted and talented students as an important resource for development. This would be achieved by establishing a system for identifying and monitoring such students, and greater participation, contribution and support from the school, the local community and relevant institutions at all levels. It is necessary to pay special attention to the existing study programs for future teachers and professional associates, and to create conditions for the adoption of better programs in line with modern educational processes and current needs of society. A particularly important segment is the establishment of continuous professional development of teachers and professional associates with the aim of improving their abilities and competencies, and expanding their knowledge for greater efficiency in work and better quality of the educational process.

- ***Secondary education***

Secondary education is an activity of general social interest that includes various types and forms of education. After completing secondary education, the knowledge and skills necessary for further education and work in the profession are acquired. Secondary education should be available to all under equal conditions and in accordance with the interests and needs of the individual. Quality secondary education must provide the individual with the necessary knowledge, skills, abilities and competencies to continue further education, and to acquire qualifications that will enable him to enter the labor market.

- ***Higher Education***

The goal of higher education is: the acquisition, development, protection and transfer of knowledge and skills through teaching and scientific research, with the aim of contributing to the development of the abilities of individuals and society; providing opportunities for individuals to obtain higher education and lifelong learning on equal terms; knowledge transfer and connection with the labor market, and the creation and development of a knowledge society.

In higher education, it is necessary to improve: efficiency, quality of study at higher education institutions, vertical and

horizontal mobility of students from higher education institutions from Bosnia and Herzegovina in the European Higher Education Area. It is necessary to train students to constantly improve and to constantly modernize their professional competencies; work on developing a quality system of higher education, which, through organized studies and research, will continuously transfer and create scientific knowledge based on professional competencies in order to improve the social, economic, cultural and other progress of BiH and its citizens, as a society that provides equal opportunities.

- ***Lifelong learning***

The goals of lifelong learning are to raise the general level of education of an individual, to determine his or her personal potentials and abilities, his or her training to cope with and adapt to greater demands and changing working conditions, and for greater employment opportunities.

4. ANTI-DISCRIMINATION FRAMEWORK AND PROTECTION AGAINST DISCRIMINATION IN THE FIELD OF EDUCATION IN BOSNIA AND HERZEGOVINA

4.1. Anti-discrimination legal framework

The legal framework applicable in Bosnia and Herzegovina sets out the responsibilities and obligations of the authorities at all levels - legislative, executive and judicial - to promote and create the conditions for equal treatment of all persons without discrimination. Legal entities and individuals exercising public authority have the same obligation. The obligation to act in a non-discriminatory manner is contained within the framework of international standards that Bosnia and Herzegovina has adopted on the basis of membership in the United Nations and the Council of Europe. Anti-discrimination provisions are an integral part of the Constitution of Bosnia and Herzegovina, the Constitution of the Federation of Bosnia and Herzegovina, the

Constitution of the Republika Srpska, the Statute of the Brčko District of Bosnia and Herzegovina and the Constitution of the counties in the Federation of Bosnia and Herzegovina. Furthermore, the Law on Prohibition of Discrimination in Bosnia and Herzegovina⁹² (hereinafter: the Law), as well as other acts, determine the foundations, forms and mechanisms for protection against discrimination.

The law stipulates that protection against discrimination is an obligation of all levels of government in Bosnia and Herzegovina. The key institutions that need to ensure effective basic mechanisms for protection against discrimination in the Bosnia and Herzegovina legal system are the parliamentary, executive, judicial authorities, as well as independent bodies. The law applies to the actions of all levels of government, legal entities with public authority, as well as to the actions of all legal and natural persons. The law also specifies areas of application, one of which is education. The law also provides a practical mechanism because it stipulates that all public bodies and other legal entities have the obligation to regulate the principles of equal treatment and ensure effective internal procedures for protection against discrimination by their general or special legal acts.

Discrimination is a term that is often misused to denote any form of human rights violation. Discrimination is a violation of a certain right, and it is a right to equal treatment that is not respected in the areas of protection and insurance of any of the rights in any area of life. Therefore, regardless of the stated ground, discrimination can be direct or indirect.

In a broader sense, discrimination implies unequal treatment of another person or group of persons, unequal rights, or failure to give equal opportunities and opportunities in relation to another person or group.

Article 2 of the Law on Prohibition of Discrimination in Bosnia and Herzegovina contains a definition of discrimination:

"(1) For the purposes of this Law, discrimination is considered to be any different treatment, including any exclusion, restriction or preference

⁹² „Official Gazette of BiH ", no. 59/09 and 66/16

based on actual or presumed grounds against any person or group of persons and those related to them on the basis of their race, color, language, religion, ethnicity, disability, age, national or social origin, affiliation with a national minority, political or other beliefs, property status, membership in a trade union or other association, education, social status and gender, sexual orientation, gender identity, sexual characteristics, as well as any other circumstance that has the purpose or consequence of preventing or endangering any person from recognizing, enjoying or exercising on an equal basis, rights and freedoms in all areas of life. "

Discrimination exists in all situations when there exist disrespect, non-provision and non-fulfillment of the rights of a person or group of persons.

- **Non-compliance** with rights: the right of an individual or a group is endangered in a situation when the removal of measures that prevent or reduce the enjoyment of rights is avoided;
- **Failure to provide protection:** in the same context, the situation should be recognized, eg when measures are introduced to prevent a third party from exercising its rights;
- **Non-fulfillment of rights:** a situation in which positive measures are not introduced that facilitate the exercise of rights or measures are not introduced that ensure the enjoyment of rights by those persons who are unable to exercise their rights due to obstacles beyond their control.

In addition, the Law lists other forms of discrimination, such as: incitement to discrimination; issuing orders to others to discriminate; helping others to discriminate; victimization (any form of unfair treatment of persons who have reported or intend to report discrimination in good faith). In addition to the above, the Law lists more serious forms of discrimination: multiple discrimination (discrimination committed against a certain person on several grounds); repeated discrimination (discrimination committed more than once) and prolonged

discrimination (discrimination that has existed for a long time). In the field of education, the anti-discrimination provision is contained in the framework laws governing pre-school, primary, secondary and higher education, and in all laws enacted by the responsible education authorities in the entities, cantons and the Brčko District of BiH.

Based on the standards established by the international and domestic legal framework for protection against discrimination in the field of education, and the elements that indicate discrimination, it is possible to identify the following phenomena:

- when in any way any person or group of persons is denied access to any type or level of upbringing due to the personal characteristics or affiliation of that person or group of persons;
- when any person or group is limited to a lower educational standard due to the personal characteristics or affiliation of that person or group of persons or a person or group of persons is transferred to a higher educational standard without having mastered the curriculum from a lower one;
- in cases of bringing any person or group into a position incompatible with human dignity;
- separation, separation of social groups due to special social treatment and on the basis of racial, ethnic, religious or socio-economic affiliation, or separation of children with disabilities from regular classes into specially organized classes for them when the basic standards for special treatment are not met;
- implementation of processes and measures by which individuals or ethnic groups, through assimilative language education and culture, merge into the predominant social group;
- the establishment or maintenance of separate educational systems or institutions for persons or groups, except as provided for in the Convention against Discrimination in Education.⁹³

⁹³ Article 2: *If approved by the State, the following circumstances shall not be considered discrimination within the meaning of Article 1 of this Convention:*

For example, the industry of furniture, carpets, glass and various other tourist facilities, then construction builds new tourist facilities, and agriculture places a significant part of its products in tourism.

4.2. Protection against discrimination in the field of education

4.2.1. Educational institutions and educational inspection

The Law on Prohibition of Discrimination obliges educational authorities to adopt a practical mechanism for protection against discrimination, ie their general legal acts or special legal acts, regulate the principles of equal treatment and ensure effective internal procedures for protection against discrimination. Starting from the obligations of educational authorities when it comes to providing education in accordance with human rights standards, and preventing discrimination, it is necessary that all bodies of educational institutions provide protection against discrimination in accordance with their mandates, as follows: Director; School Board; Teachers' Council; Rector; Dean; Board of Directors; University Senate and other bodies. Based on the obligation of school authorities to regulate the issue of equal treatment and ensure effective procedures for protection against discrimination, any participant in the education process (pupils / students, parents, school staff, parents' council, pupils' council, etc.) may, pursuant to Article 11. Of the Law on Prohibition of Discrimination, in all proceedings in which school bodies decide on any of the rights, raise an objection or complaint related to discrimination. In the event that the complaint is filed with school bodies, ie the bodies of higher education institutions, the bodies: are obliged to declare themselves in connection with the submitted

complaints and objections; they can make a decision to prevent further discrimination. Education inspectors, based on the law on education, represent the first level of control in cases of violation of the law, misinterpretation or non-application of the law. Due to the fact that all laws in education contain provisions on non-discrimination, educational inspectors, who supervise the application of laws and regulations in this area, have the obligation and the right to act in case of violation of these provisions. In the event that a complaint is submitted to the education inspection, the education inspection: is obliged to declare itself in connection with the submitted complaints; can make a decision if necessary. Therefore, if we are of the opinion that discrimination has been committed at any level of education (preschool, primary and secondary schools, as well as higher education institutions), everyone has the right to file a complaint primarily to educational institutions and the education inspectorate, which are obliged to respond or review. state the appeals and, if necessary, make a decision on them. It is important to note that in fulfilling this role, and with the aim of protection and preventive action against discrimination, educational institutions and educational inspection should achieve full cooperation with civil society, as well as with parents and students.

4.2.1. The role of the Institution of the Human Rights Ombudsman in Bosnia and Herzegovina

The central institution for investigating individual and collective cases of discrimination is the Institution of the Human Rights Ombudsman.⁹⁴ The Ombudsman is

a) Establishment or maintenance of separate educational systems or institutions for students of different sexes, if these systems or institutions offer equal access to education, have professional qualifications of the same standard, have space and equipment of the same quality and offer the opportunity to attend the same or approximately the same programs;

b) the establishment or maintenance of special educational systems or institutions for religious or linguistic reasons, in which education is provided in accordance with the wishes of the student's parents or legal guardians, if inclusion in these systems or attendance is based on choice and if education and the education provided in them meets those standards adopted or approved by the responsible authorities, in

particular for education and training of the same level;

c) the establishment or maintenance of private educational institutions, if the aim of these institutions is not to exclude any group but to provide additional educational opportunities in addition to those established by public authorities, if those institutions are run in accordance with that goal and if the education provided in them meets those standards adopted or approved by the responsible authorities, in particular for upbringing and education of the same level. "

⁹⁴ Article 7 of the Law on Prohibition of Discrimination ("Official Gazette of BiH", No. 59/09 and 66/16)

responsible for promoting the Law on Prohibition of Discrimination, informing the public, raising awareness, implementing the campaign and, in other ways, actively promoting the fight against discrimination in order to prevent it.

Pursuant to the Law on the Human Rights Ombudsman of Bosnia and Herzegovina⁹⁵ and the Law on Prohibition of Discrimination:

Ombudsmen receive and consider individual and collective complaints regarding discrimination;

- The complaint is submitted by filling out a form where it is important to state the required information, circumstances, actions and facts that support the allegations of discrimination. A duly completed complaint form is submitted by mail, fax, e-mail or in person to one of the offices of this institution. When submitting an appeal, it is important to take into account the legally prescribed deadline for filing an appeal. Ombudsmen provide natural and legal persons who have complained of discrimination with the necessary information on their rights and obligations, as well as the possibilities of judicial and other forms of protection;

- Regarding the complaint, the Ombudsman may decide not to accept the complaint or initiate an investigation procedure;

The Ombudsman proposes initiating the mediation procedure in accordance with the provisions of the Law on the Mediation Procedure in Bosnia and Herzegovina.³¹ If discrimination is found, the Ombudsman issues a recommendation with the aim of correcting violations of rights arising from discrimination and eliminating further discrimination. If the Ombudsman's recommendations are not followed, misdemeanor proceedings may be initiated;

- Failure of a state institution, company or responsible person to comply with the

Ombudsman's recommendations is punishable by fines upon completion of misdemeanor proceedings.

The court is obliged to consider the Ombudsman's recommendations in the case when considering a case on which the Ombudsperson Institution has already made a recommendation, and which the party uses as evidence.

Ombudsmen submit annual reports on discrimination to the competent parliaments in Bosnia and Herzegovina and issue appropriate recommendations to the responsible bodies; in this way, it is possible to determine the level of discrimination in Bosnia and Herzegovina and in certain areas, to point out the institutions that do not implement their recommendations and initiatives for changes in the law; the reporting process enables the competent parliaments, i.e. assemblies that consider these reports and unexecuted recommendations, to ask the executive to take all necessary measures to combat discrimination.

Ombudsmen also prepare special reports on the occurrence of discrimination, if necessary.

4.2.2. Judicial protection against discrimination

If a person considers that he / she has been discriminated against, he / she can request protection from the court, which is provided by the courts in Bosnia and Herzegovina at all levels of government according to their local jurisdiction. Courts are responsible for resolving individual or collective lawsuits for protection against discrimination filed in accordance with the Law on Prohibition of Discrimination.⁹⁶

According to the Law on Prohibition of Discrimination, there are four types of lawsuits:

- **Lawsuit for establishing discrimination** (declaratory anti-discrimination request) - this lawsuit establishes that the defendant violated the plaintiff's right to equal treatment, ie that the action he took or

⁹⁵ Law on the Human Rights Ombudsman of Bosnia and Herzegovina ("Official Gazette of BiH", No. 19/02, 35/04, 32/06)

⁹⁶ Law on Prohibition of Discrimination ("Official Gazette of BiH", No. 59/09 and 66/16).

omitted may directly lead to a violation of the right to equal treatment.

- **Lawsuit for prohibition, ie omission** (prohibitive request) or elimination of discrimination (restorative request) - this lawsuit seeks a ban on actions that violate or may violate the plaintiff's right to equal treatment, or to perform actions that eliminate discrimination or its consequences

- **Lawsuit for compensation of damages** - this lawsuit seeks compensation for material and non-material damage caused by the violation of the rights protected by this law.

- Lawsuit for the announcement of the verdict - this lawsuit requires that the verdict establishing the violation of the right to equal treatment be published in the media at the expense of the accused.

What is significant for court proceedings related to the Law on Prohibition of Discrimination is that the burden of proving that discrimination did not occur passes to the perpetrator of discrimination, and not to the person who has been discriminated against.

The court and other bodies are obliged to apply the principle of urgency in all proceedings in which allegations of discrimination are examined.

The deadline for filing lawsuits for protection against discrimination is three years from the day of learning about the violation, and no longer than five years from the day the violation was committed, while the deadline for filing a request for review is three months from the day of delivery of the second instance court verdict.

The law provides:

- judicial security measure before and during the proceedings;
- "situation testing - a method for proving discrimination";
- the obligation of the court to consider the Ombudsman's recommendations;
- participation of third parties;
- the possibility for associations or other organizations dealing with the protection of human rights to file a lawsuit.

The Constitutional Court of Bosnia and Herzegovina has appellate jurisdiction in

matters contained in the Constitution of Bosnia and Herzegovina⁹⁷, due to the judgment of any court in Bosnia and Herzegovina.

An appeal may be filed against judgments and other decisions and rulings of regular courts which finally decide on certain rights and freedoms if all effective remedies available under the law have been exhausted and if the appeal is filed within 60 days of the judgment becoming final. After all regular legal remedies have been exhausted before the responsible bodies in Bosnia and Herzegovina, invoking the European Convention on Human Rights and Freedoms, lawsuits can be filed before the European Court of Human Rights in Strasbourg.

Individuals whose fundamental rights have been violated and who are unable to exercise their rights before domestic judicial and administrative authorities may apply to the Court for any right recognized and guaranteed by the European Convention or its Protocols 1, 4, 6, 7, 12 and 13.

In order to file a complaint, it is not necessary that the complainant has suffered any damage as a result of a violation of a right, but only that he is a victim of a violation of a right under the Convention.

Before applying to the European Court, a party must exhaust all legal remedies available to it in the legislation of Bosnia and Herzegovina; however, even if not all domestic remedies have been exhausted, the court may accept the appeal if the appellant proves that the remedies are unavailable, or that the use of the remedies would be ineffective, or that it would take an unreasonably long time.

The lawsuit shall be filed within six months from the day when the final decision on the case in the domestic proceedings was made. The time limit starts to run from the moment the appellant uses all domestic effective remedies. If the judgment on the case before the domestic court has not been made public, the time limit shall run from the day on which the final decision is served on the party.

If the party to the proceedings before the domestic court did not know that a violation of the right provided for in the Convention

⁹⁷ According to Article VI./3.b) of the Constitution of Bosnia and Herzegovina

had taken place, and later learns the new facts, the time limit shall be calculated from the moment when the party came to such knowledge.

A complaint may be lodged by an individual, a non-governmental organization or a group of persons who allege that they have been the victims of a violation of the rights established by the Convention or the protocols.

The right to file an appeal does not apply only to citizens of our country, but it belongs to everyone (foreigner, stateless person) who is under the jurisdiction of our state and who shows that he has been denied this right. It also means how our citizens can sue another State that has ratified the Convention if they are under the jurisdiction of that state and if they show how it has denied or violated a right under the Convention.

The European Court of Justice may indicate to a State which legal provisions in its legislation are incompatible with the Convention and order it to what extent and how the practice of the work of public authorities should be changed.

The European Court of Justice may not be required to alter, annul or revoke a decision of a domestic judicial or administrative authority, nor to grant the appellant any right which it has been denied; the court may be asked to establish whether a particular right of the appellant has been violated in a particular case and to decide how the injured party will receive satisfaction or appropriate compensation for the damage thus caused to him.

4.2.3. Ministry of Human Rights and Refugees of Bosnia and Herzegovina

Pursuant to the Law on Prohibition of Discrimination, this Ministry monitors the implementation of the Law on Prohibition of Discrimination in Bosnia and Herzegovina, maintains a central database on discrimination cases on the basis of which it prepares annual and special reports on discrimination, and proposes legislative and other measures to prevent and combat discrimination in Bosnia and Herzegovina. It calls for the elimination of systematic forms of discrimination and advocates the application of the highest standards in the field of human rights and the harmonization

of laws with the Law on Prohibition of Discrimination.

The Ministry has the obligation to regularly submit state reports to international bodies, and this process of reporting and presentation of Bosnia and Herzegovina reports before the competent commissions is carried out in cooperation with all responsible levels of government.

An important role in this process is played by the recommendations and concluding observations of international bodies that the state receives after the presentation. Recommendations and conclusions of international bodies are a mechanism through which states are required to better apply international standards, especially in the areas of harmonization of laws and practices to which they relate and protection against discrimination.

Citizens of Bosnia and Herzegovina may submit petitions to UN commissions based on ratified: Optional Protocol to the International Covenant on Civil and Political Rights, Optional Protocol to the Convention on the Rights of Persons with Disabilities. UN commissions, based on individual or collective petitions, may also issue appropriate recommendations to the authorities of Bosnia and Herzegovina regarding discrimination.

5. CONCLUSION

Based on the international legal framework for protection against discrimination taken over by Bosnia and Herzegovina, and the legal framework in Bosnia and Herzegovina in the field of education, it is necessary to ensure criteria that ensure the availability of education without discrimination.

In order to ensure the right to education without discrimination, education authorities have an obligation to take the measures at their disposal, and in addition to the physical and economic, to ensure a non-discriminatory dimension, especially towards the most vulnerable groups in society; to ensure greater coverage of children with pre-school education, free and compulsory primary education, and equal

access to secondary and higher education, where through the enrollment system of pupils and students, everyone would have equal opportunities for education.

All education authorities have an obligation to specify the composition and representation of all governing, managerial, advisory and professional bodies and bodies on a non-discriminatory basis, and to implement continuous active measures that improve the level of participation of parents, students and pupils in work and decision-making, and strengthen the autonomy of educational institutions in the community.

It is necessary to improve the existing curricula, and better include criteria for non-discrimination and respect for the principles of adaptability of educational programs to the needs of all students and parents, and in accordance with their commitments, while respecting individual differences.

Education authorities in Bosnia and Herzegovina should improve the content of existing regulations, which are adopted in educational institutions for protection against unacceptable communication, in a way that clearly and in detail

define the ways and principles of free expression of opinion and religious belief, and the role of members of the educational community in developing a culture of dialogue within educational institutions.

It is necessary to develop an improved system of monitoring, evaluation and assessment, adapted to the needs of students in educational systems, without discrimination and to establish an efficient and sustainable mechanism for combating all forms of violence in educational institutions. Without the establishment of clear rules of conduct in society, without timely recognition and action on all forms of discrimination and discriminatory behavior in Bosnia and Herzegovina, it is not possible to ensure the right to education.

All bodies and institutions of government at all levels are responsible for creating a democratic society, without any form of discrimination in the field of education, while providing adequate assistance to all participants in the educational process - management, governing, advisory and professional bodies in educational institutions, teachers, parents and guardians,

children, pupils and students - to recognize discrimination and act on time, which would contribute to the realization of the full right to education.

Recognizing and timely indicating the existence of discrimination in the field of education will greatly affect the quality of every aspect of human life and work, and prevent any rejection, marginalization and dehumanization of a person or group of persons, and eliminate the situation and intentions that jeopardize or prevent the exercise of rights. to education without discrimination and to act preventively on the occurrence of all forms of discrimination.

LITERATURE

1. Guideline for Recognition of Discrimination in Education in Bosnia and Herzegovina, OSCE BiH, 2018.
2. Universal Declaration of Human Rights, UN 1948
3. International Covenant on Economic, Social and Cultural Rights, UN 1966
4. Convention on the Rights of the Child, UN 1989
5. Convention against Discrimination in Education, UNESCO 1960.
6. European Convention for the Protection of Human Rights and Fundamental Freedoms, CoE 1950
7. Memorandum of Understanding for the Establishment of the Conference of Ministers of Education in BiH ", ("Official Gazette of BiH ", No. 19/08)
8. Law on the Agency for Preschool, Primary and Secondary Education ("Official Gazette of BiH", No. 88/07)
9. Law on the Agency for Preschool, Primary and Secondary Education ("Official Gazette of BiH", No. 88/07)
10. Framework Law on Higher Education in Bosnia and Herzegovina ("Official Gazette of BiH", No. 59/07 and 59/09)

11. Law on Prohibition of Discrimination in BiH ("Official Gazette of BiH", No. 59/09, 66/16)

12. Law on Republic Administration of the Republika Srpska ("Official Gazette of the RS" No. 118/08, 11/09, 74/10 and 86/10)

13. Statute of the Brčko District of Bosnia and Herzegovina ("Official Gazette of the Brčko District of BiH", No. 17/08, 39/09 and 2/10)

14. Scheme 4A, UN Committee on Economic, Social and Cultural Rights, 1999.

15. Law on the Human Rights Ombudsman of BiH ("Official Gazette of BiH", No. 19/02, 35/04, 32/06)

Constitution of BiH, Annex IV. Dayton Peace Agreement for Peace, 1995

USE OF LEAN TOOLS AND METHODS IN INCREASING PRODUCTION CAPACITY USE

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Summary: One of the fundamental challenges faced by today's organizations is capacity management. The capacity of the organization is the sum of the capacities of all machines and devices, i.e. the capacities of all organizational employees. The capacity of organizational employees is determined by their efficiency. If employees maintain low efficiency, which is determined by the total duration of activities that add value and the total duration of the process, this is also reflected in the capacity of the organization. The organization, given the demand for its products and services, needs to manage and prepare capacities. For capacity planning and management, it is necessary to measure the current capacity and allocate resources based on it, i.e. to develop an organizational plan. Furthermore, given the changes in demand and changes in the market, one of the requirements placed on the organization is to increase flexibility towards demand. To increase flexibility, as well as to increase capacity, an organization can use a variety of tools and methods developed within the Lean philosophy. The fundamental goal of the application of such tools is to equalize the capacities of all components within the process as well as to increase the utilization of current capacities.

Keywords: capacity management, business processes, Lean philosophy

1. INTRODUCTION

One of the challenges facing today's organizations is maximizing business process capacity utilization. Business process capacity is the sum of all capacities that machines and devices have, i.e. the capacity of each employee involved in the process. Due to various constraints, such as variability in employee performance, variability in machinery and equipment, etc., the capacity of the business process in an organization can be significantly reduced. In parallel with the reduction of process capacity, there is a decline in the efficiency of employees and machines and devices.

A decline in employee efficiency can also mean the emergence of problems associated with the delivery of the ordered quantity of products or services by the customer, which can reduce the income of the organization. Furthermore, due to limitations in the capacity of machines and devices as well as limitations in the capacity of employees, organizational management approaches planning with significantly lower planned values. However, it should be noted that the planned values defined by the management in the plans depend on the quantity demanded, ie the quantity of products and services defined by customers.⁹⁸

In order for an organization to be able to use the maximum capacity of its process, it is necessary to analyze the process and identify places in the process where there are bottlenecks. Bottlenecks in the process involve places of reduced capacity, which can be determined by a number of variables such as organizational employees, machine capacity, serial connection capacity between machines used in production, etc.⁹⁹

One way in which an organization can increase business process capacity utilization is to use Lean tools and methods. Lean philosophy emphasizes the so-called lean

organization that refers to an organization that does not exist or exists in a small percentage, process waste that reduces process capacity. The term process waste means unnecessary movements, unnecessary transport, etc.

The aim of this paper is to present the applicability of Lean tools and methods in increasing the capacity utilization of organizational processes as well as the application of Lean tools to increase or improve the efficiency of all components of the organization

2. CAPACITY MANAGEMENT

When talking about the capacity of the organization, it is necessary to make a distinction between qualitative and quantitative capacity. Quantitative capacity refers to the maximum amount of products and services an organization can produce with a given machine, device, and employee at a given time. On the other hand, qualitative capacity represents the ability of employees as well as the organization as a whole to use the available machines and devices and their quantitative capacity to make the most of their ability to produce or provide services.¹⁰⁰ Furthermore, quantitative capacity is determined by the demand for products and services and based on which the organization defines the minimum required quantitative capacity to be able to meet demand. Variability in demand can also result in lower utilization of quantitative capacity.¹⁰¹ Thus, organizational management lies between two extremes, the decision on the required quantitative capacity and the utilization of once selected quantitative capacity with the uncertainty of future demand for products and services that the organization produces. Based on this, organizational management should define how much products and services it will produce in accordance with the profit it makes per unit produced in order to return on investment related to the

⁹⁸ Proștean, G. (2007). Operations Planning Based on Theory of Constraints Decision System. IFAC Proceedings Volumes, 40(18), 591-596.

⁹⁹ Velumani, S., & Tang, H. (2017). Operations status and bottleneck analysis and improvement of a batch process manufacturing line using discrete event simulation. *Procedia Manufacturing*, 10, 100-111.

¹⁰⁰ Corsten, H., & Stuhlmann, S. (1998). Capacity management in service organisations. *Technovation*, 18(3), 163-178.

¹⁰¹ Herrmann, J. W. (Ed.). (2006). *Handbook of production scheduling* (Vol. 89). Springer Science & Business Media.

purchase of machinery and equipment, or to make a profit that will be used for further development of the organization. The basic goal is to determine the optimal amount of production, and given the cost and expected profit.

Capacity management is usually associated with a reduction in operating costs as well as meeting the required quantity of products and services. In the research, it was identified that there are two streams of scientific papers that talk about capacity and capacity management in terms of investing in machinery and equipment to increase capacity or reduce costs, and on the other hand the authors talk about the need for capacity management.¹⁰² Given that investing in machinery and equipment as such is a venture that requires large financial resources, a capacity management-based approach is much better as the organization seeks to maximize current capacity as well as reduce the costs associated with it.

Basically, the planning and capacity management of an organization is based on an analysis of the current demand for products and services in the market. Current demand is the basis for creating production plans, ie the deployment of employees in the organization to places in production. When deploying employees, it is necessary to take into account their competencies, ie knowledge and abilities to use machines and devices, while minimizing costs. With the developed plan, the implementation of the same is started, where a number of indicators are monitored, on the basis of which it is possible to identify whether the planned capacities are met or not and whether there are opportunities for improvement.¹⁰³

Since demand, as well as market conditions in general, is a variable that is subject to change, it is necessary to develop mechanisms based on which the production capacity, ie the capacity of machines and devices can be adjusted to the current market demand. This approach places requirement on the organization related to ensuring the

flexibility of organizational processes, i.e. the capacity that the organization has to be able to meet demand. In other words, capacity management in such situations is of particular importance and can be essential as insufficiently good planning and insufficiently optimized production can result in increased costs as well as inability to meet customer-defined requirements.

One of the ways an organization can increase the utilization of current capacity is, i.e. increase the flexibility of its processes is the use of tools and methods derived from the Lean philosophy, which aims to increase process efficiency by eliminating all activities that do not add value.

2.1. CAPACITY MEASUREMENT

In order for the organization to be able to approach capacity planning, i.e. capacity management, it is necessary to measure the capacity available to the organization. Capacity measurement consists of identifying the quantitative capacity of machines and devices available to the organization as well as the current capacity of organizational employees, and given their work routine as well as the organization of the work in the process.¹⁰⁴ The total capacity of organizational employees is calculated by subtracting from the total time available in the shift in which each employee works the duration of the meal break, the time employees spend preparing work, time spent preparing machines and devices, or replacing tools that are used on the machine, the time of cleaning the production plant, the time required to deliver resources, etc. The higher the number of such activities, the lower the used capacity of employees.

Capacity measurement is of particular importance when it comes to series production where a line of machines and devices is often used to produce several different products, and given the modifications that must be made to machines

¹⁰² Gunasekaran, A. (2001). *Agile manufacturing: the 21st century competitive strategy*. Elsevier.

¹⁰³ Ibid.

¹⁰⁴ Nelson, R. A. (1989). On the measurement of capacity utilization. *The Journal of Industrial Economics*, 273-286.

and devices can significantly reduce line capacity utilization. Based on this, one of the basic goals when measuring capacity is to identify, ie measure how much time is needed for a particular operation performed by organizational employees and how you can improve that operation to reduce the time required to prepare the machine.

On the other hand, it should be noted that capacity can be significantly reduced if an organization produces non-compliant products. The basic goal is to convert all raw materials, ie all resources, into output products in the first passage through the line, since each subsequent passage through the line increases costs and reduces the efficiency of the process.

2.2 CAPACITY PLANNING

Capacity planning is a method for estimating the production capacity that an organization needs to meet the changing requirements for its products. Project capacity is the maximum amount of work that an organization is able to perform in a given period of time in terms of capacity planning. Furthermore, the ability of the organization is the total amount of work that the organization is able to do in a given period of time due to limitations such as concerns about quality, delays, handling of materials, etc.¹⁰⁵

The difference between an organization's capabilities, or its capacity, and customer requirements results in inefficiencies, either in unused resources or in unmet customer demand. The goal of planning is to eliminate that difference. Demand for a company's capacity varies depending on changes in production, such as increasing or decreasing the amount of production of an existing product. Existing capacity can be best exploited by changes in the overall performance of machinery and equipment, by adding new methods, equipment and

materials, by increasing the number of staff or machinery, by increasing the number of shifts or by obtaining additional production facilities, capacity can be increased.¹⁰⁶

In terms of capacity planning, two principles are key - critical directions and bottlenecks. Unlike other options, a bottleneck is a process that has the ability to produce a significantly smaller amount of product than the rest of the whole. This has a cascading effect as capacity is reduced throughout the process. In the case of a specific individual or department, measures should be identified and defined to reduce or eliminate the bottleneck.¹⁰⁷

Therefore, for capacity planning, it is necessary to analyze or measure the current capacity available to the organization and based on current capacity and coping with market demand, or the ordered quantity of products, to undertake activities aimed at increasing capacity.

3. LEAN PHILOSOPHY

The Lean philosophy originated within Toyota's production system, or TPS, after the end of World War II. The basic goal of the Lean philosophy at that time was to increase the flexibility of the organization, i.e. production, so that the organization could compete with the much more developed economy of the United States, i.e. so that it could use the limited resources available to the organization.¹⁰⁸ As such, Lean philosophy emphasizes the importance of eliminating process waste from the organization, and process waste means unnecessary movements, unnecessary transport, non-compliance, overproduction, inventory and intellectual waste, or insufficient use of potential employees. The presence of such activities in the process

¹⁰⁵ Buxey, G. (1989). Production scheduling: Practice and theory. *European Journal of Operational Research*, 39(1), 17-31.

¹⁰⁶ Gunasekaran, A. (2001). *Agile manufacturing: the 21st century competitive strategy*. Elsevier.

¹⁰⁷ Ceryan, O., & Koren, Y. (2009). Manufacturing capacity planning strategies. *CIRP annals*, 58(1), 403-406.

¹⁰⁸ Sundar, R., Balaji, A. N., & Kumar, R. S. (2014). A review on lean manufacturing implementation techniques. *Procedia Engineering*, 97(1), 1875-1885.

significantly prolongs the duration of the process, i.e. significantly affects the efficiency of organizational employees.¹⁰⁹

For each type of process waste, the Lean philosophy defines a set of tools and methods by which such activities can be reduced, or by which the business process can be improved, and thus employee efficiency. Employee efficiency is seen as the ratio of value-added activities to the total duration of the process. In other words, the longer the duration of value-added activities, the lower the efficiency of the process, and thus the lower the capacity utilization of the organization.

However, one of the fundamental principles that is of particular importance when talking about increasing the capacity utilization of the organizational process, and on which lies the Lean philosophy is the constant improvement of the process, i.e. reducing the duration of all activities that do not add value. In other words, this approach focuses the focus of employees on activities that are aimed at meeting the requirements of stakeholders and customers.

4. TOOLS AND METHODS OF LEAN PHILOSOPHY FOR INCREASING CAPACITIES

One of the fundamental challenges faced by today's organizations is better capacity utilization, and based on the challenges that can be identified in organizational processes, it is necessary to define measures to eliminate all bottlenecks in the process, and to make existing capacity as possible used more. To achieve greater capacity utilization, the organization can apply the tools and methods developed within the Lean philosophy, which, along with their application, are shown in Table 1.

As can be seen from Table 1, the Lean philosophy and the application of the tools and methods of the Lean philosophy represent the optimal way to increase the capacity utilization that an organization has. Through the application of 5 + 1S tools, the organization can significantly influence the better organization of the workplace, ie the position of the tools used by organizational employees. On the other hand, all obstacles due to which employees would move more slowly around the production plant are eliminated, the ergonomics of employees' work is increased, which in the long run can result in reduced time needed for organizational employees to perform certain activities in the process. Consequently, it increases the time that employees spend performing activities that add value, which also affects the increase in capacity utilization.¹¹⁰

Table 1: Tools and methods for increasing the use of capacities

Method name	Description	Impact on capacity
5S+1S	It refers to achieving workplace cleanliness, better workplace organization, easier access to tools and machines used in the process.	Employees reduce unnecessary and unwanted movements resulting in their greater efficiency.
Just in time	It refers to delivering all the necessary resources on time to the organizational process thus	Arriving resources at a precisely defined place at a precisely defined time reduces the need to wait,

¹⁰⁹ Arunagiri, P., & Gnanavelbabu, A. (2014). Identification of major lean production waste in automobile industries using weighted average method. *Procedia Engineering*, 97, 2167-2175.

¹¹⁰ Omogbai, O., & Saloniitis, K. (2017). The implementation of 5S lean tool using system dynamics approach.

	reducing waiting.	and thus increases efficiency.
SMED	It refers to the process of simplified replacement of individual parts of machines and devices so that they can be adapted to the new series.	By reducing the time of replacement and preparation, i.e. cleaning, the utilization of machines increases.
Kanban	It means simpler inventory management as well as simpler and better workplace organization.	Because of the clarity of the tasks that need to be done, employees are significantly faster and get the job done as well as ordering supplies on time which reduces waiting times.
Heijunka	It refers to the equalization of the output of each of the machines and devices used in the process..	It has a significant reduction in the queue or through the equalization of the capacity of each machine; the input and output of each machine are equalized.
Poka-Yoke	It refers to the reduction of the possibility of problems in the process,	By defining the way in which employees must do their

	i.e. the possibility of reducing employee error, and thus reducing the need for rework.	job, activities are standardized, i.e. the possibility of employee error is reduced.
Jidoka	It refers to automation in the process, i.e. automation of all activities that are performed manually, and thus reduces the possible variability that may occur when employees perform the same activities.	Through automation, the acceleration of the process is significantly influenced, which also increases the capacity in the process.

Source: Author work

In addition to the application of 5S + 1S, the organization can also apply the SMED method, which involves the organization of the replacement of machine tools in production, in the shortest possible time. Therefore, shorter preparation time of the machine, i.e. its cleaning increases the possibility of using its capacity, which affects the overall efficiency of the organizational process. Furthermore, one of the approaches to the organization of stocks, i.e. reducing the need for stocks is the delivery of the necessary resources on time to the process, or in accordance with the process. This approach significantly increases employee efficiency as employees do not have to move for resources, but resources get to where employees work.¹¹¹

In addition, through the application of the kanban system, organizational employees may notice in time that certain resources needed for production are missing as well as

¹¹¹ Sousa, E., Silva, F. J. G., Ferreira, L. P., Pereira, M. T., Gouveia, R., & Silva, R. P. (2018). Applying

SMED methodology in cork stoppers production. *Procedia manufacturing*, 17, 611-622.

that they can order them in time. Furthermore, by applying the kanban board, which implies defining the activities that need to be performed as well as defining the employees who are in charge of performing a particular activity. Thus, the organization of work is significantly affected, as well as the better utilization of work, i.e. organizational employees.¹¹²

However, one of the most important tools that an organization can use to make better use of capacity is heijunka, which means equalizing production, i.e. equalizing the output of all machines used in the plant. This reduces the possibility that a single machine or individual employee produces significantly more than the rest, which will result in the creation of queues, especially if it is a serial connection between machines and devices, or organizational employees.¹¹³

5. CONCLUSION

The capacity of each organization is determined by the amount of products and services that the organization can produce in a given time. The capacity of the organization should be planned because the demand for products or services that the organization offers in the market is subject to variability, and thus comes to the application in the required quantity. Given that, in order for an organization to meet demand as much as possible, it is necessary to manage capacity as well as plan capacity. Through capacity planning, operating costs in the process can be significantly reduced, which also affects the final profit of the organization.

Based on this, one of the goals of every organization is to increase capacity utilization, ie to increase the efficiency of employees involved in the process. The lower the efficiency of employees, the lower the utilization of organizational capacities. In order to make the most of the capacity of the organizational process or the capacity of the organization as a whole, the organization can

use a number of tools and methods derived from the Lean philosophy, which aim to increase the flexibility of the organization. By increasing the flexibility of the organization, the ability of the organization to respond to requests for products and services, ie to adapt to demand, is significantly influenced. Organizational flexibility, given the variability in demand, is one of the characteristics of competing organizations due to the growing changes in the market and the imperative for organizations to adapt to emerging conditions.

LITERATURE

- [1]. Arunagiri, P., & Gnanavelbabu, A. (2014). Identification of major lean production waste in automobile industries using weighted average method. *Procedia Engineering*, 97, 2167-2175.
- [2]. Buxey, G. (1989). Production scheduling: Practice and theory. *European Journal of Operational Research*, 39(1), 17-31.
- [3]. Ceryan, O., & Koren, Y. (2009). Manufacturing capacity planning strategies. *CIRP annals*, 58(1), 403-406.
- [4]. Corsten, H., & Stuhlmann, S. (1998). Capacity management in service organisations. *Technovation*, 18(3), 163-178.
- [5]. Corsten, H., & Stuhlmann, S. (1998). Capacity management in service organisations. *Technovation*, 18(3), 163-178.
- [6]. Gunasekaran, A. (2001). *Agile manufacturing: the 21st century competitive strategy*. Elsevier.
- [7]. Herrmann, J. W. (Ed.). (2006). *Handbook of production scheduling* (Vol. 89). Springer Science & Business Media.
- [8]. Nelson, R. A. (1989). On the measurement of capacity utilization.

¹¹² Powell, D. J. (2018). Kanban for lean production in high mix, low volume environments. *IFAC-PapersOnLine*, 51(11), 140-143.

¹¹³ Rewers, P., Hamrol, A., Żywicki, K., Bożek, M., & Kulus, W. (2017). Production leveling as an effective

method for production flow control—experience of polish enterprises. *Procedia Engineering*, 182, 619-626.

- The Journal of Industrial Economics, 273-286.
- [9]. Omogbai, O., & Salonitis, K. (2017). The implementation of 5S lean tool using system dynamics approach.
- [10]. Powell, D. J. (2018). Kanban for lean production in high mix, low volume environments. IFAC-PapersOnLine, 51(11), 140-143.
- [11]. Proştean, G. (2007). Operations Planning Based on Theory of Constraints Decision System. IFAC Proceedings Volumes, 40(18), 591-596.
- [12]. Rewers, P., Hamrol, A., Żywicki, K., Bożek, M., & Kulus, W. (2017). Production leveling as an effective method for production flow control—experience of polish enterprises. Procedia Engineering, 182, 619-626.
- [13]. Sousa, E., Silva, F. J. G., Ferreira, L. P., Pereira, M. T., Gouveia, R., & Silva, R. P. (2018). Applying SMED methodology in cork stoppers production. Procedia manufacturing, 17, 611-622.
- [14]. Sundar, R., Balaji, A. N., & Kumar, R. S. (2014). A review on lean manufacturing implementation techniques. Procedia Engineering, 97(1), 1875-1885.
- [15]. Velumani, S., & Tang, H. (2017). Operations status and bottleneck analysis and improvement of a batch process manufacturing line using discrete event simulation. Procedia Manufacturing, 10, 100-111.

COMPATIBILITY OF COMMUNICATION COMPETENCE WITH EMERGENCIES AND PANDEMIC COVID – 19

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Abstract: *Compatible corporate communication enables the improvement of the processes performed by the business system and the achievement of optimal results in the projected business strategy. At the same time, it is essential to have adequate business behavior that provides members of management and other employees with the necessary knowledge and skills to achieve the set goals. Communication processes are considered the basic instrument that the company implements in the context of achieving a competitive advantage in a complex domestic and foreign markets. The fierce struggle on the world stage imperatively insists on a competent performance based on the permanent training of the relevant subjects of the system. Within such market conditions, the improvement of the communication process leads to the achievement of positive business results. These postulates especially apply to business during emergencies, such as natural disasters, terrorism, organized crime, mass migration and other contemporary challenges, risks and threats. The current pandemic COVID - 19 marks a first-class danger 2 of planetary proportions. It implies the comprehensive incorporation of the appropriate concept of corporate communication at all levels of organization of society. The decision-making actors of the country Đ strategic management in business organizations must implement appropriate concepts of human health protection Đ corporate economic existence.*

Key words: *communication competence, corporate communication, compatibility, management, business entities, emergency situations, pandemic COVID - 19*

INTRODUCTION

The communication competence of influential subjects in society - companies or business systems - plays a decisive role in the realization of projected business strategies - in resolving current controversies. Communication competence is an ability that enables the interaction of persons - compatibility in solving specific situations. It is a personality trait that allows them to interact with others to choose appropriate communication behaviors that lead to the achievement of business goals. Information is considered a notification, announcement, and processed data. It is very important that all information is checked, reliable, accurate, managed and of course dynamic over time. All information can be interpreted differently depending on the time interval in which it is observed. Information is subject to the time effect and is constantly changing, so in connection with that, the communication process is constantly becoming more dynamic.

If communication is viewed from the aspect of a business system, through the system it forms, and through formal and informal channels, it is possible to send employees messages that in most cases relate to the desired behavior expected of them, which is related to the goals that the business system advocates. It often happens that due to objective factors or due to inadequate interpersonal relationships, the communication system is disrupted, which can further lead to the realization of unwanted business results and endanger the survival of the company in the future.

Business communication is considered the basis of the business world. Communication can be defined as the process by which a common or general understanding is reached between two or more persons, through the transmission and reception of verbal or nonverbal messages. Such a message can be information about a phenomenon or object. It can have different forms: words, symbols, gestures.

Communication can also be defined as the process in which people send and receive information. Communication is also the transmission of information from the sender to the recipient, but such a transmission that

the recipient understands what it means to be a two-way process. The science that deals with communication in general is called communication science. Organizational behavior is an applied scientific discipline that investigates how individual, group, and organizational factors influence people's behavior in order to improve the efficiency of organizations and people's satisfaction.

Business communication and employee behavior is especially important in the conditions of crises caused by extraordinary events with large repercussions. This often implies the introduction of a state of emergency and a state of emergency, in accordance with legal regulations and normative acts of business systems. The current malignant pandemic COVID - 19 with huge human casualties and economic cataclysm in all countries represents an essential challenge for the authorities, the management of literary subjects, employees and the entire population. The main role in eliminating this and other plagues is played by scientists and highly qualified professional human resources.

1. Communication competence in corporations

Theorists of communication science, as a scientific field that has its origins in ancient times, have been dealing with various postmodern aspects of that academic discipline for decades. Innovative processes and new paradigms of functioning imply a changed approach and constant training of corporate factors. The topic of communication competence in the function of achieving optimal business results, achieving a competitive advantage in the market of goods, services and increasing profits is especially treated. The scientific contents are based on the research of Friedrich, Spitzberg and commissioned by Catherine Rirdon. The basic position defines the phenomenon of communication competence as a system of knowledge, abilities - skills necessary for successful communication.

Conditions for communication competence are:

- motivation,

- possession of knowledge necessary for communication
- immanence of skills, developed and activated for the purpose of business behavior

An important assumption is the cognitive dimension of communication, which includes the processes of awareness - cognitive processing of information, interpersonal awareness, taking social perspectives, self-control, empathy and other cognitive components. Behavioral dimension implies interactional involvement, flexibility of behavior, listening to partners, communication style ò other. Postmodern theory the practice of competent communication is a very attractive topic for researchers of social phenomena. The application of modern information and communication technologies is indispensable here.

Communication can be defined in several ways. Depending on the aspect from which it is viewed, communication acquires new features. One of the definitions of this process says that it is a process that is used in order for managers to be able to realize the functions of planning, organizing, managing, coordinating and controlling, i.e. the basic functions related to their jobs. Within the organization, in that way, the entire communication network is formed with its participants. Communication enables an organization to live, for activities to take place in it and for each actor to become part of the business system. The company thus manages to achieve the set goals with its vital process. This especially refers to extraordinary events and introduced emergency measures, emergency situations and state of emergency, as is the case with the COVID-19 pandemic in Serbia and the world. Legally based obligations of all factors in society must be fully realized at all levels of organization. It is primarily conceived for the purpose of protecting the life and health of citizens.

The origin of the word communication can be found in the Latin word *communis*, which means together or mutual.¹¹⁴ Communication can also be defined as a

process within which a common, ie general understanding between several persons is realized, through the process of transmitting and receiving certain communication messages. A message can refer to a specific phenomenon or an object. It can take various forms, such as words, gestures, facial expressions, symbols, etc. Communication can also be defined as the process by which people send and receive information that is relevant. Communication in this sense is the transmission of information from the sender to the recipient, but it is especially important that the recipient understands the message that has been sent. Communication must be a two-way process, which means that feedback on understanding the sent message is important.

The term business communication means all messages that are sent and received, in order to implement official activities that may relate to starting a business, managing organizational activities, managing staff and business, etc. Business communication is more formal than communication which is realized as part of social processes.

The success of any company lies in a well-established communication system. Communication takes place among all economic entities within the market, within the organization, between numerous stakeholders. It is realized between the user and the organization, between the owners and employees, between the organization and the public, which means that there are many actors involved in this process, both internally and externally. Any form of communication that is realized by the organization, has a great impact on business goals. If communication is planned effectively and efficiently, then it is clear that it can promote any business interest and contribute to the success of the company in the market. Engagement in emergency situations implies the responsibility of the holders of functions in the country, the management of companies, as well as other segments, ie individuals in the field of individual safety.

Ukoliko komunikacija nije efektivna, onda ona može da predstavi organizaciju u lošem

¹¹⁴ Tomić, Z., Communication, print, Beograd, 2003, page 9.

svetlu i može negativno da deluje na poslovne interese dugoročno gledano. If communication is not effective, then it can present the organization in a bad light and can negatively affect business interests in the long run. Communication has its main goal, and it primarily refers to encouraging actions, in order to achieve the mission of business. Communication is inevitable for the functioning of the organization, only effective communication is avoidable. Despite tremendous advances in communication and information technology, communication in an organization is still a desirable thing. Communication between people does not depend so much on technology as on themselves.¹¹⁵

Within each company, there is a problem with establishing an appropriate communication system. If a cancerous system is established, it is very difficult to maintain. Problems related to the management process at the level of the whole system can primarily be solved by eliminating errors within the communication process. If one of the orders in the company is not understood, there may be problems and non-realization of delivery to customers. Problems can be transmitted to other parts of the system, which means that the disturbances will be felt on a large scale. If the listener does not understand his interlocutor, it is clear that the communication process is considered inefficient and unnecessary. Moreover, if the information is misinterpreted, an atmosphere will be created that is more undesirable than it would be if the communication did not even take place. Both parties in the communication process have certain limitations, which can be of different nature, so they can interpret information in different ways.

Every company has some kind of internal communication. People in the company communicate in order to achieve common results. They devise ways to agree and find the means to enable communication to take place in the best possible way. When communication is realized within a company, then it is an internal communication. Then

when communication takes place outside the organization, with any interested party, then it is an external communication.

The process of communication seems simple, but it is a very complex set of activities that is realized among people. In order to understand the process of communication, it is important to determine its basic elements and to clearly understand the connections that are established between them. Emergencies channel a specific paradigm of written communication. The sender of information (orders, instructions, measures), the recipient of information, ie the recipient (population, employees) must act in the context of the provisions of crisis communication. Information must have all the necessary science-based features. Therefore, decision makers must have the necessary knowledge in the field of crisis communication and crisis management.

The basic elements of any communication process, regardless of the type of communication that is realized are:¹¹⁶

sender,
recipient,
message,
channel,
feedback.

The sender is the person who initiates the communication process and who communicates a certain message. Depending on the way the person communicates the message, a sufficiently effective communication process will be created. The transmission of a message is also important for the validity of the message, as it defines the degree of persuasiveness with which listeners will accept the information and understand the significance of the message being transmitted.

The recipient of the message is the person who participates in the communication process. He receives a message sent by the sender. The communication process ends when the recipient accepts a certain message and makes it known that he has interpreted its meaning.

The message is considered an element of communication and it can include thoughts, feelings, and ideas. It can sometimes

¹¹⁵ Orlić, R., *Personnel Management*, Zoran Damjanović and Sons, Belgrade, 2005, page 92.

¹¹⁶ Videnov, A., *Business Communications*, Faculty of Education, Uzice, 1995, page 15

represent a code or a code. Each code must be created so that it is understandable to both the sender and the recipient.

The communication channel is the means used to transmit the message. The method of conveying the message is essential for the message, i.e. for the final effect of the message. A message that is expressed in words, which is clear and concise, has a greater effect than a message that is written vaguely. Feedback is the recipient's response to the message received. When feedback is seen, then one can speak of the message as complete.

If the message is not conveyed as expected, numerous intolerances and disagreements can occur in the organization, and such a situation leads to conflict and conflict. It is not only important to convey information, but it is important that it is understood as intended. The content of the message and the way it is communicated is crucial for the success of the whole process. The sender of the message is obliged to convey the information in a way that allows people of different intellectual abilities to understand the meaning of the information being transmitted. If he finds that a certain way is not effective, the sender of the message must find some other way to communicate the desired thought.

Organizational behavior is the youngest discipline in the system of organizational sciences and a new concept in the theory and practice of organization and management. It can be talked about from a theoretical and a practical point of view. Organizational behavior in the theoretical sense means a separate scientific discipline that deals with the study of human behavior in the work process, or in the organization or other work team. In the practical sense, organizational behavior means management activities that shape the behavior of people in the process of work, i.e. in the organization.¹¹⁷

Organizational behavior is a new approach to human resources in the organization, that is, the behavior of employees and managers and the management of that behavior. Organizational behavior can be defined as a

scientific discipline that investigates the behavior of people in organizations in order to, by understanding, anticipating and directing it, improve organizational parameters and increase the satisfaction of members of the organization. From the definition, it can be concluded that organizational behavior is a special scientific discipline or field of research, which has its limits in which it moves, research topics, subject, goal and research methodology. Shaping, directing and controlling people's behavior in the work process is a management activity that managers deal with. Behavior shaping means management measures and activities that affect changes and the development of personal and, in part, collective characteristics, as well as changes and the development of the situation in which the work takes place.¹¹⁸

Shaping the behavior of employees includes management measures and activities of managers, which change and direct the behavior of employees in the desired direction. This process sometimes takes place by adapting the situation in which the work process takes place with appropriate means and mechanisms of change and projected goals, in order to increase productivity and economy. By changing employee behavior and adapting to situations, behavior can be improved and made more useful for achieving the organization's goals. If the desired behavior can be achieved on the basis of changes in habits, perceptions, expectations, plans and other parameters, it is not necessary to change the situation. Experience to date indicates that for a more serious change in human behavior, as a rule, it is necessary to change and adapt people and situations.

The combined approach gives the best results, since human behavior is changeable, elusive and difficult to shape, and situations are subject to frequent and unpredictable changes. For these reasons, organizational behavior uses a number of methods and scientific approaches, in order to more comprehensively and fully consider and analyze the subject of observation. People's

¹¹⁷ Janićijević, N., *Organizational change management*, Faculty of Economics, Belgrade, 2007, page 200.

¹¹⁸ Janićijević, N., *Ibid*, Belgrade 2007, page. 210.

behavior is viewed on the basis of three levels: individual, group and organizational.¹¹⁹

At the individual level, individual behavior is perceived and shaped, ie the behavior of the employee as an individual. At the group level, group and team behavior, relations within the group, intergroup relations, teams, relations of work and management team, intertim relations and the like are studied, analyzed, shaped and controlled. In observing, studying, shaping and controlling the behavior of employees in the entire organization, the focus of interest is placed on the organization, as a whole and all its employees.

Scientific and other results obtained by theorists of organizational behavior benefit both managers and employees. Thanks to them, managers better understand the behavior of the people they work with and manage. In addition, they help them to make wise, rational, timely and adequate moves in the process of human resource management and the organization as a whole. The importance and further development of organizational behavior depends on the results achieved by providing such assistance.¹²⁰

Another type of assistance is provided to employees to understand both other people's and their own behavior, tasks and goals of business and development policy of the organization and management measures and activities of managers, in order to be more fully integrated into the organization and its strategic goals. The successes of organizational behavior and its failures, most directly reflect on the productivity and economy of the organization. In this regard, it is necessary to use the results of other scientific disciplines in order to be in line with the requirements of the time and everyday challenges and dilemmas.

Organizational behavior has become the subject of attention of numerous scientists

and researchers around the world. Organizational behavior is an applied and interdisciplinary scientific discipline. Interdisciplinarity is determined by theories and concepts that explain the nature of human behavior in organizations, and are borrowed from other social sciences - psychology, social psychology, sociology, anthropology and political science.

In the process, borrowed theories and concepts are adapted and changed. Based on psychological theories and concepts, organizational behavior explores:¹²¹

- personality,
- motivation,
- individual learning,
- perception,
- job satisfaction,
- stress at work and
- decision-making process.

Social psychology is a science that studies the influence of groups on individual behavior and consciousness and offers organizational behavior concepts and theories of social psychology useful for understanding the following concepts: values, attitudes, norms, behavior change, group processes, group decision making, communication and leadership.¹²²

2. Compatibility of communication with emergency situations - pandemic COVID - 19

Theories and concepts of communication in social processes are used in understanding the macro level of corporate behavior, such as: group relations, conflicts, power, leadership, formal organization, organizational change. Compatible communication is a significant aspect of compatible behavior. This is crucial for the successful implementation of strategic decisions of company management and other

¹¹⁹ Janićijević, N., Organizational change management, Faculty of Economics, Belgrade, 2007, page 218.

¹²⁰ Duljević, B., Ramović, A., Migration Processes and Cross - Border Cooperation in the Western Balkans in a Modern Economic Environment, Thematic collection of papers, book 2, Legal and security aspects of migration and the consequences of the

migrant crisis, Proceedings, ""Constantin Magnus, Naisus 2017", Niš: Faculty of law, security and management, "Constantine the Great" Niš, 2017, page 190.

¹²¹ Mihailović, D., Psychology in organization, FON, Belgrade, 2008, page. 134.

¹²² Mihailović, D., Ibid, Beograd, 2008, page 135.

social actors. The most famous concept taken from anthropology is culture, which has been transformed into organizational culture in organizational behavior. Power and political processes in society are studied by political sciences, on the basis of whose theories, in organizational behavior, we explain: power in the organization, political processes, conflicts and leadership.

Corporate (organizational) behavior does not take over some basic concepts and knowledge of basic human behavior sciences to further build theory, but to apply them and thus explain people's behavior in organizations and make it predictable and controllable. Modern challenges, risks and threats initiate the possession of comprehensive knowledge and abilities of function holders' resilience of segments of a particular community. The result is an adequate implementation of existing knowledge, i.e. writers and skills. This means that organizational behavior is an applied science, which is its other important characteristic as a scientific discipline.¹²³ This phenomenon gained first - class importance during extraordinary events, the introduction of emergency measures, such as the case of the globalization of the COVID - 19 pandemic.

Practical issues and solving practical problems of people's behavior, their relationships, satisfaction and improvement of organizational parameters, is the focus of organizational behavior. Organizational behavior as a special scientific discipline, in the nineties of the last century, faced a great challenge. Current challenges with pandemics, emergencies and situations imply adequate knowledge and action in specific circumstances.

Leadership and management teams of many world organizations have demanded that new incentives and means be found without delay to increase employee motivation. The results of research by numerous experts confirmed that stimulants exist, but that they are not sufficiently used. Attention is focused on mechanisms for changing, adapting, and otherwise controlling human behavior. An

employee cannot be sufficiently motivated to work if his goals and interests are opposed to the goals and interests of the organization. Without the consent of these goals and interests, sooner or later big and difficult problems will appear.

By strengthening its position, organizational behavior offered numerous answers to these questions and dilemmas. Thus, new preconditions were created for its further development and affirmation. Empirical and other research indicates a change in the attitude of managers towards employees and their role in the organization. An employee comes to the organization not only to work, but also to ask about something, to show and prove himself and to enjoy what he does.

He wants to know what the goals of the organization are and what his contribution is to their realization or non-realization. He also needs information about the achieved results of the organization. Based on the results of scientific research work, managers come to valuable data on human behavior and the possibilities of its formation. By combining appropriate measures and resources, managers can more strongly influence the change and adjustment of employee behavior.

Each situation requires special consideration and adjustment of behavior. There is no ideal pattern of behavior. Even the slightest change in strategy, situational factors, organizational system, defense structure and the like, requires appropriate changes in the behavior of employees. Once formed, behavior is not both permanently modeled and adapted behavior. Everything is subject to constant changes and modifications. Managers need top knowledge and appropriate practical experience.

Emergency measures, especially emergency situations, are the product of major crises with devastating consequences in the observed community, primarily human victims. Prevention of emergencies as their causes implies numerous activities of competent factors. The produced risks, such as the global epidemic COVID - 19, indicate potential dangers for the population and other

¹²³ Petković, M., Janićijević, N., Bogićević Milikić, B., Organization, Faculty of Economics, Belgrade, 2008, page 76.

factors of state units. Adequate performance of all segments of the country and elements of business systems is contained in the scientific concepts of risk management and crisis management.

CONCLUSION

Communication competence of management and influential subjects of the system is essential for the successful implementation of business decisions and business strategies in corporations and social institutions. This is especially manifested in times of emergency situations such as the COVID-19 pandemic. Business processes cannot be performed without verbal communication; non-verbal communication is gaining in importance. Organizational behavior is a special area of management and as such is considered a special scientific discipline. We live in an organized society. Organizations include various types of companies, professional agencies, government departments, but they are also local sports leagues, political parties, trade unions, etc. The same goes for all of them: securing members is easy, but getting them to play together is harder.

Getting people to work together is one of the results of studying organizational behavior. If organizations are inefficient, then we will leave everything at a lower level of prosperity than we could have achieved. Effective organizations have happy people. If the organization functions in such a way that everyone can give their best and in return achieve certain benefits then everyone will be happier and more prosperous. With the help of various sciences, we can very often explain what is happening, change what is happening and control events.

Knowledge is a prerequisite for understanding human nature and human behavior, and experience is a prerequisite for good foresight, successful design and effective control of employee behavior. The concept of organizational behavior is becoming increasingly relevant. An increasing number of scientific disciplines deal with it. It has become available in almost all parts of the world. The need to expand and deepen scientific and other knowledge about man, his desires and interests, abilities and potentials, goals and expectations, his

motivation and satisfaction, his behavior and interests, and thus the need for further development of organizational behavior, will eventually become growing.

Contemporary challenges, risks and threats imply an innovative approach of relevant actors, with consistent implementation of the envisaged concept. Emergencies, terrorism, organized crime, mass migrations, meteorological hazards and others require the introduction of special provisions such as emergencies. This includes the COVID - 19 pandemic, which with its malignant exposure represents a first - class challenge for all relevant institutions of society. The task of the scientific community is to curb this scourge, direct decision-makers at the state level, i.e. the management of business entities in order to minimize the consequences and eliminate the causes. In addition, it is necessary to permanently train decision makers and executors at all levels of organizing the social environment.

LITERATURE

1. Janićijević, N., Organizational change management, Faculty of Economics, Belgrade, 2007.
2. Mihailović, D., Psychology in organization, FON, Belgrade, 2008.
3. Milićević, V., International Management - Recent Tendencies, Faculty of Organizational Sciences, Belgrade, 2002.
4. Nešković, S., Nešković, M., Business communications and information warfare in the modern global environment, Proceedings "The power of communication 2017", Banja Luka: Pan-European University APEIRON, 2017.
5. Nešković, S., Contemporary Paradigm of Corporate Security and Methodology of Crisis Management Implementation in The Countries Of The Western Balkans, Science and Technology 9/2017, Travnik: International University Travnik, 2017.
6. Nešković, S., Jovanović, Ž., The Concept of Europeanization of the System of Higher Education in the

- Western Balkan Countries, Conference Innovation, ICT and education for the next generation, Thematic proceedings, Novi Sad: Faculty of Economics and Engineering Management, 2017.
7. Nešković, S., Risk Management as a Methodological Concept of Safe Functioning and Business Activity of Corporations, 12th International Conference "Risk and Security Engineering", Kopaonik, Proceedings, Novi Sad: High Technical School of Vocational Studies in Novi Sad and Faculty of Technical Sciences, University of Novi Sad. Novi Sad, 2017.
 8. Nešković, S., International Position and European Integration of the Western Balkans Countries, Ulcinj, Montenegro: Scientific Journal "Monte", No.1, Vol.1. 2019.
 9. Nešković, S., Modern Paradigm in the Context of Reform of the Public Authority and Administration, Yearbook of Department "Administration and Management" 2019 Volume 4, New Bulgarski University, Sofia, 2019.
 10. Nešković, S., The National Security Paradigm and National Interest in Postmodern Globalization Flows, Cross - Border Book Series "New Challenges to Security and Development of the Balkans" Vol. 7, Problems of National and Corporate Security, Proceedings of International Scientific Conference 22 - 23. 11. 2019, University "St. Cyril and St. Methodius" Veliko Tarnovo Bulgaria, 2020.
 11. Nešković, S., Western Balkan Countries Strategies and the European Union Security Paradigm, Thematic Collection of Papers of Leading National Significance "Social Development and Community Security with Emphasis on the City of Valjevo and Kolubara District", Edition Security in the Postmodern Ambience Book 30, Proceedings, International Scientific Conference, Belgrade: CESNA B, University "St. Cyril and Methodius" Veliko Trnovo Bulgaria and International University Travnik BiH, Valjevo, 2020.
 12. Nešković, Sl., The National Security Paradigm and National Interest in Postmodern Globalization Flows, Cross - Border Book Series "New Challenges to Security and Development of the Balkans" Vol. 7, Problems of National and Corporate Security, Proceedings of International Scientific Conference 22 - 23. 11. 2019, University "St. Cyril and St. Methodius" Veliko Tarnovo Bulgaria, 2020.
 13. Orlić, R., Personnel Management, Zoran Damjanović and Sons, Belgrade, 2005.
 14. Petković, M., Janićijević, N., Bogićević Milikić, B.: Organization, Faculty of Economics, Belgrade, 2008.
 15. Tomić, Z., Communication, Čigoja print, Beograd, 2003.
 16. Videnov, A., Business Communications, Faculty of Education, Užice, 1995.

THE ECONOMIC AND SOCIAL POTENTIAL OF TOURISM IN AN INNOVATIVE INTERNATIONAL AMBIENT

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Abstract: *Modern tourism represents a significant industry and development opportunity for the most countries in the world. The international community is characterized by numerous contradictions in all areas, especially in the area of economic existence. There are inhumane relationships on the scene with a tendency to completely eliminate rivals. The fierce competition in the processes of globalization implies the engagement of all available potentials in the concept of achieving competitive advantage in the market and tourist economy. The monitoring and implementation of modern trends, innovations and the mobilization of all potentials become a priority obligation of relevant community entities. The essential role belongs to science and academic structures with permanent training of management and other segments of society.*

Keywords: *tourism, innovation, international environment, economic potential, social context*

Introduction

The society of each country in the current international environment manifests a tendency of prosperity with a center in economic development, where tourism occupies an increasingly important position. The main function of state policies, i.e. specifically political and economic diplomacy, which they should conduct for better positioning on the international market, is the protection of national economic interests in international economic relations. With the globalization of the world economy and international politics, the interest of certain economies to be promoted abroad and to fight for the greatest possible participation and share in the realized profit on the world market, becomes the state interest of their countries. At the beginning of the 21st century, in terms of these activities, Serbia still faces a large number of different problems, which did not allow it to focus its resources on purely economic goals.

Therefore, the results are somewhat worse than planned, which was largely due to the global economic crisis, which has placed the level of restructuring of the domestic economy, the volume of exports, directing available resources to profitable industries, Serbia is still underdeveloped and market competitive international position. .

Namely, today we have a situation that it is almost impossible to separate political diplomacy from economic diplomacy. It is even possible to claim that these are two sides of the same medal. The reason for that is because economic and political goals are equal today and there is no possibility of drawing a clear line between them. In the background of achieving every political goal is the economy, and vice versa, in the background of every economic success is the political interest to achieve that success. Today, the world's leading economic powers are also the leading political powers. This means that there is no economic without political power, that is,

that the political aspect of economic diplomacy is indispensable in any analysis of this type of state practice. We conclude that monitoring and analysis of economic trends in the world market and the economic situation in the country, as well as leading the initiative to transform the country's economy in line with the interests of its economic expansion and one of the priorities of every national economy.

The world market, through globalization, puts certain countries in completely new circumstances, new relations and new problems. The issues of attraction of economic activities, as well as the role of world actors, attract attention, because they influence the creation of real conditions in which a small country, like Serbia, must devise its own development strategy. This paper deals with the issue of how to adapt Serbia to current and future challenges, along with its own strategic path of development and promotion of tourism, as an important modern economic branch today. In other words, how to adapt to globalization and achieve key national economic interests, and whether tourism is an area through which Serbia would provide increased activation of its own economic potential, ie greater positioning on the international scene.

1. Economic potential of tourism in the world

The second half of the 20th and the beginning of the 21st century will, among other things, remain recorded in the history

of tourism as a period in which dramatic changes took place. Tourism has become a world phenomenon, an integral part of the life of the dominant part of the world population. The need for tourism has become almost a part of existential needs. No socio-economic phenomenon has had such impressive changes as international tourism, especially in the first half of the 21st century. What has caused great changes in the understanding of modern tourism are the epochal quantitative, qualitative, structural, spatial, economic, sociological, cultural and other transformations both in the space of demand and in the sphere of supply. The spatial dispersion of tourism is impressive, as are the micro and macro-economic effects. Almost most countries in the world are covered by tourist movements both as emitting and as receptive areas.¹²⁴ The beginning of the 21st century has definitely shown that tourism, as a world industry, has achieved primacy over other industries.¹²⁵

Observing the concept and characteristics of tourism from different angles, as with most of the analyzed concepts throughout history, we can say at the beginning that there is no single definition of tourism in the literature so far. We can often hear that travel and tourism are used as synonyms, even if they are not in a realistic basis.¹²⁶ However, in order to better understand what the term tourism in its essence means, with special emphasis on its dominant content, Unković and Zečević (2006) list several different scientific approaches to the concept of tourism, and they are:

¹²⁴ Emitting tourist countries are those in which a higher intensity and tendency of the population to travel has been observed (Germany, Japan, Great Britain, Italy, Sweden, USA). Receptive tourist countries are those that accept tourists from emitting countries to a greater extent. See in: Jovićić, Ž., Basics of tourism, Beograd: Naučna knjiga, 1990, page 79.

¹²⁵ Čerović, S., Strategic Management of the Tourist Economy of Serbia, Belgrade: Želnid Press, 2016, page 6.

¹²⁶ The term travel is related to the change of place of residence, and it actually forms the basis of tourism, ie. tourist movements. It is often said "every tourist is a traveler", wanting to emphasize that changing places is the basis of tourism development, as well as that "every traveler is not a tourist", because there are those categories of travelers whose travels are not motivated by reasons of rest, entertainment and recreation. See more in: Tomka, D., Fundamentals of Tourism, Novi Sad: Faculty of Sports and Tourism, 2006, page 12

- Institutional approach - which predominantly deals with the role and importance of individual institutions, intermediaries and organizations in tourism activity;
- Production approach - which focuses research on tourism service, its production, market and demand;
- Historical approach - which follows the historical and developmental aspects of the phenomenon of tourism;
- Management approach - which defines in particular detail the planning, organization and control in tourist recreation;
- Economic approach - based on the analysis of supply, demand, the impact of tourist demand on the national economy,
- Sociological approach - which considers issues related to the behavior of people (tourists) as individuals or in groups, as well as the wider impact of tourism on society;
- Geographical approach - which brings to the fore the issues of the location of natural, ie geographical elements and
- Interdisciplinary approach - which views tourism as a phenomenon that has an impact on all elements of economic and social life.

Without going deeper into the issue of various definitions of tourism based on the mentioned approaches, we will list some of the definitions that have stood out in the relevant literature so far that have dealt with this issue:

- Tourism is movement in a space outside the place of permanent residence in order to get to know new things, people and their lives during a temporary stay in another place;
- Tourism is a part of the national economy that supplies tourists who visit localities outside their permanent place of residence where they live and work;
- Tourism is a set of relations and phenomena that arise from the travel and stay of visitors to a place, if that stay does not establish a

permanent residence and if that stay is not related to the performance of economic activity;

- Tourism is a new need of people that is caused and enabled by a general increase in living standards.

Today, a large number of people participate in modern tourism, and the effects and impacts of these trips can be observed from various angles of economic and social life of people. The so-called "Tourist movements" have a great role in terms of developing the general cultural and educational level of the population of each country, because tourists not only get to know the cultural and historical heritage of individual countries, but also get to know the customs, habits and life of other peoples. In this way, in direct contact, the cultural and educational level of participants in tourist trips is raised, the cognitive sphere is expanded, certain cultures are mixed, communication and better understanding among people. What distinguishes tourism from other economic branches is its note of ethics, which is present through the "tourist movement", through the establishment of relations between tourists, especially from different cultures. So, in addition to the economic importance that tourism occupies in the country, tourism is becoming a true and important factor in ensuring peace in the world and better understanding among people, but also a factor in strengthening the political prestige of a country at the international level.¹²⁷

Tourism acquired the character of a mass phenomenon when it included almost all structures of society and when the consequences of tourist traffic began to be felt by all its participants. Modern tourism has many functions that are interconnected and form an indivisible whole that has a significant impact, not only on economic but

¹²⁷ Unković, S., Zečević, B., *Economics of Tourism*, Belgrade: Publishing Center of Faculty of Economics in Belgrade, 2006, page 22

also on overall social life. The basic functions of tourism, as economic branches, could be classified into two groups: primary or economic and secondary or non-economic functions. The action of the mentioned functions is interconnected, because the action of social functions conditions the existence of economic functions as well.

The economic functions of tourism can be observed on the basis of the effect that the consumption of tourists has on the national economy and from this point of view we can distinguish three forms of action directly, indirectly and multiplicatively (multiple action). Within direct action, the most important functions of tourism are: the impact of tourism on social product and social income, the impact of tourism on the development of underdeveloped areas, the impact of tourism on the country's balance of payments, the impact of tourism on employment and the impact of tourism on the tourism economy.

International tourism and the funds obtained from that tourism directly affect the increase of the national income and the social product ¹²⁸ because that income was created outside the borders of the country. As a service activity, tourism does not create material goods, and therefore does not create a social product such as industry and agriculture, as production activities. If it is a question of domestic tourism, then there is a redistribution of income, which is at the disposal of tourist demand, from one area of the national territory to another. When it comes to the development of foreign tourism, then the available funds, which foreigners spend, directly affect the increase of the domestic social product and the national

income. It is the income created outside our national territory, in the economic potentials of the countries from which tourists come, and through tourist consumption it flows into the domestic economy.

With the realization of tourist consumption, the economic functions of tourism begin to function, which means that tourism takes on the character of an economic category. Tourism has direct effects on direct providers of tourist services (hotels, trade, transport organizations and other participants in providing direct services to tourists), and through them indirectly affect the increase in gross domestic product and national income. Countries that transfer part of their social product and national income to other countries on the basis of tourist consumption are also called (already mentioned) emitting or initiative countries, and countries that achieve a positive balance on the basis of international tourism are receptive countries.¹²⁹

In short, the development of tourism in a particular area provides a significant opportunity for direct employment in the activities of the tourism industry (accommodation, food, transportation), but also in activities that are indirectly involved in tourism (industry, construction, agriculture). Some occupations in tourism, especially in catering (hotel), are suitable for the employment of women, so in some developed tourist countries, in the mentioned activity, the employed female workforce amounts to up to 70% of the total number of employees. Tourism enables the employment of people of various educational profiles, from those who directly provide services in the production process (waiters, maids, etc.),

¹²⁸ National income is an indicator of the achieved level of economic development during the observed time period (1 year), and the social product is the amount of goods created during 1 year that are available to society to meet its needs. The result is transferred values from previous periods (depreciation - written off part of the value) and newly created values in that year. See: Jeremić, Lj.,

Ivaniš, M., *Fundamentals of Finance*, Belgrade: Singidunum University, 2009, page 54.

¹²⁹ Nešković, S., *Business Ethics in Transport, Ecology and Economy of Southeast European Countries - Methods and Instruments of Implementation*, Science and Technology, No. 10, Travnik: International University Travnik, Bosnia and Herzegovina, 2018, page 34.

who work in various technical and technological processes (cooks, confectioners, animators), to those creative staff who form modern tourist products. and deal with development policy (highly educated staff).

The tourist offer of a certain country should correspond to the requirements of the present, which will also be the needs for the future. This implies, through the tourist offer, a wide range of services that must be adapted to the specific needs of tourists (consumers), achieving an original and quality product, and thus directly affects the overall development of the tourist economy. Of course, all this presupposes that the country has developed the necessary activities such as catering, transport, trade, travel agencies, as well as activities and activities that directly and indirectly participate in meeting the needs of domestic and foreign tourists (various industries, agriculture, construction, etc. Tourist spending (domestic or foreign tourists) has a strong impact on all ancillary activities that present tourism as a complex system. It can be concluded that there is a pronounced interdependence between the realized tourist consumption and the development of certain activities of the tourist economy. Namely, services and other forms of creating a creative and entertaining environment, which are in quantity, quality, price and other elements adapted to the requirements of tourist demand, inevitably contribute to higher tourist consumption.

As an indirect impact of tourism on the economy, there is the fact that the financial resources that are spent in a particular country require the development of activities that are indirectly related to tourism. Of course, we are talking about economic branches such as industry, construction, agriculture and other activities, which expand the market for the placement

of their products through tourism.¹³⁰ In this way, the market expands within one country and gives a chance to the entire national economy to place its products within the tourist demand. The multiplicative function of tourism is reflected in the form of concentric circles from direct to indirect participants in meeting tourist demand. That is, the greater the number of hands through which the money paid by tourists passes, the greater the effect of tourism on the national economy.

The non-economic functions of tourism are:

- Health function - one of the extremely important functions of tourism, and is reflected in the field of health care and treatment of the population. In both cases, in health tourism, domestic population and foreign tourists in many cases use specialized facilities (hospitals, spas) in places such as facilities with thermal water, spas, mountain centers, etc. It is important to note that in in the field of health tourism, in recent years there are more and more users, not sick, but those tourists who want to engage in recreation, sports, want to eat healthy food, want to control their health and generally want to spend their free time in nature in an active way;
- Entertainment and cultural function - modern form of tourism very much prefers this as its important role in the psychological recreation of tourists. The content of the tourist offer in the field of entertainment, leisure and culture makes the tourist stay more pleasant, which contributes to a more complete satisfaction of tourist needs and
- Social function and political function - the social and political function of tourist movements is reflected in the possibility of interactive communication between people, getting to know different cultures,

¹³⁰ For example, the industry of furniture, carpets, glass and various other equipment equips tourist

facilities, then construction builds new tourist facilities, and agriculture places a significant part of its products in tourism.

languages and customs, their economic and other achievements. Tourism is said to act as an ambassador of peace, that is, it erases borders and unites people.¹³¹

Tourism, as an economic activity, has a multiple impact on numerous areas of socio-economic life of individual countries and the entire human community. In this paper, we will focus on the effects of tourism on the economic sphere of society. With the advent of travel came the need for some help to make travel easier to prepare and complete. In addition to tourists, the existence of other economic entities is important for every economy, such as tourist agencies, traffic-tourist and tourist-catering organizations, and various other companies that participate in the tourist offer and demand. Tourism as a branch of the economy meets the needs of movement and stay outside the domicile, both domestic and foreign tourists. When we say tourist traffic, in economic terms, we mean the traffic of domestic and foreign tourists expressed in the number of visiting visitors and the number of overnight stays. The statistically realized number of visitors is broken down into domestic and foreign tourists, as well as the number of realized overnight stays. The provision of services to foreign tourists is especially important for the state's economy, because it represents a special type of economic exchange of a receptive tourist country with the countries of origin of service users. The costs of foreign users incurred in the purchase of goods, services and products in connection with the tourist stay are usually calculated in foreign currencies, foreign currencies. In that sense, the inflows of receptive tourist countries are considered foreign exchange inflows. When it comes to foreign tourism, it should be pointed out that it is one of the most profitable types of

exports with special specifics. In this way, goods of an intangible nature are "exported" through tourism, which could not be "sold" without tourism. If we say that most of the tourist consumption is conditioned by the movement of tourists, and consists of transportation costs, accommodation, food, travel agency costs, services in the field of insurance, culture, utilities, etc., and also contributes to the availability of natural resources in which have not invested some specific material investments, it can be said that tourism very much contributes to the economic strengthening of each national economy, and to which no other economic activity could contribute in this way.

The two basic preconditions for the expansion of tourism at the international level are an increase in the leisure fund and the growth of free funds. These two preconditions enabled fast, stable and constant growth of tourist activity. Tourism is no longer viewed only as one of the economic branches, but as a global phenomenon, which is confirmed by the key indicators of its role in the world economy and society in general with the following indicators:

- 9% of total GDP in the world;
- 9% of all jobs in the world (over 120 million employees);
- 6% of world exports.

The World Tourism Organization, based on trends in the tourism industry, predicts continued growth of international and domestic tourism of 3.3% per year. According to its indicators, in 2030, 1.8 billion international arrivals would be realized, which is an increase of 58% compared to 2014. In addition, incomes and revenues from tourism will grow faster than the growth rate of world GDP.

¹³¹ Unković, S., Zečević, B., *Economics of Tourism*, Belgrade: Publishing Center of Faculty of Economics in Belgrade, 2006, page 55.

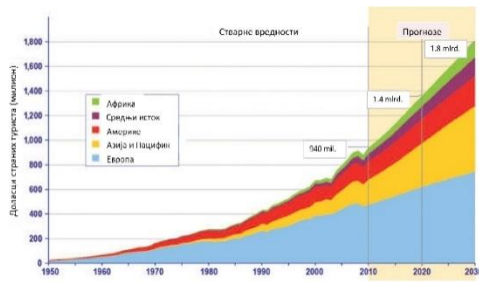


Figure 1. Vision of tourism until 2030

Source: Stojanović, R. (2015). *Promotion of new tourist destinations - Belgrade suburban municipalities*

2. Social context and innovations in international tourism

Innovation in tourism is often seen as one of the ways in which an economic entity, and thus the entire economy, can increase its comparative advantage, and can also influence business growth or increase profitability, as well as the overall economic growth of a country.

After World War II, there were great changes in social relations, where tourism began to develop at an accelerated pace. In addition to the changes that have occurred in social relations, and with the increasing activity of the state, which is beginning to understand tourism as an important economic branch and where tourism is not seen as a luxury available only to privileged classes of people. Paid leave (in the form of annual leave) was provided to people, and there was a cultural, health, social, and economic expansion of the impact of tourism. Major changes in the improvement of technology, especially in means of transport, then channels of mass communication of people, the way of providing tourist facilities, food consumption, increasing diversity and characteristics of tourists, this area gained

unprecedented proportions that imply the world economy and its movements. Changes in the development of tourism are reflected in different approaches to this prosperous industry that aspires to occupy a high position on the international market scene. In this regard, there are: changes in tourism products, changes in business processes in tourism, changes in the field of information management, changes in the field of tourism management and institutional innovations.¹³²

Product innovations refer both to the development of completely new tourist products and to the improvement of existing ones. Modern trends in the tourism market indicate the emergence of hyper segmentation of the tourism market and the creation of tourism products and services intended for narrow market segments of very homogeneous characteristics. This leads to the development of tourism of special interests, ie the development of market niches such as, for example: round trips, events, network tourism, ecotourism, etc. Additional examples of changed approaches in this area include consumer loyalty programs, building environmentally sustainable accommodation, organizing events based on local tradition, etc. Unlike other areas, changes in the field of tourism products are very easily perceived by consumers, and they are often a decisive factor in making decisions about their purchase.

Innovations in business processes are related to the optimization of business processes, ie reducing business costs by applying innovative technological solutions that can reduce the need for production inputs. When it comes to tourism as a labor-intensive activity, the optimization of business processes is most often achieved by applying those technological solutions that reduce the need to use the production input of labor.

¹³² Todosijević R., Factors for choosing a strategic option for a tourist destination, Scientific conference "Hotel House", Kopaonik, 2004, str. 151.

Innovations in the field of business processes are also due to the need to constantly raise the quality of the tourist product. An example of such innovations is the introduction of standards related to food storage, preparation and serving (so-called HACCP composition), the application of which enables faster food preparation in better hygienic conditions, and at lower costs. Another example of innovation is those aimed at faster flow of passengers, luggage and goods through terminals of air, rail and other modes of passenger transport, or faster flow of visitors through the composition of tours of tourist attractions. Recently, innovations of business processes in the function of saving energy and reducing the negative impact of tourist activity on the environment are very current.

Innovations in the field of information management are most closely related to the development of information and communication technologies.

The development of ICT, and especially the Internet, in the last two decades has resulted in major changes, especially in the field of marketing. However, in addition to marketing, ICT has found a very important application in other business functions of tourism companies such as procurement, production, finance, accounting, administrative functions and the like. In addition to raising the efficiency of business processes, the innovative application of modern information and communication technologies achieves particularly favorable synergy effects when the innovative application of modern ICT is combined with other strategic measures such as building key competencies and quality human resource management.

Institutional innovations imply new types of organizational structures or legislative frameworks aimed at strengthening and facilitating the conduct of tourism business. For example, as an example of institutional innovation, the relationship between banking houses (payment cards Visa, Mastercard, etc.) and large tourism companies (airlines, international hotel chains) is a good example of important institutional innovation, based on mutual benefits of cooperation. Another important example of institutional innovation is the emergence of global distribution forms that have simplified the sale of airline tickets, and later made it possible to reserve accommodation quickly and without intermediation. Examples of institutional innovations are: franchise agreements that have enabled the rapid spread of innovation around the world, the emergence of organizations that promote the so-called. social tourism whose main goal is to bring tourism closer to the most vulnerable citizens, the emergence of destination management companies, as a market reaction to the growing demands of business organizers to organize specific programs in the destination, etc. Finally, it is important to emphasize that the previously mentioned division of innovations in tourism, but also other service activities, should not be taken literally, because some innovations can be classified into several different categories at the same time, and with the development of technology, the boundaries between certain types of innovations are decreasing.¹³³

The development of tourism in Serbia so far confirms that its effects are multiple and significantly woven into its overall economic and social development. Negative social events in the 1990s (wars, sanctions)

¹³³ Nešković, S., *Geostrategic Position and Security Sinergies of the Black Sea Region trough Cooperation with the European Union*, Cross - Border Book Series "New Challenges to Security and Development of the Balkans" Vol. 5, Cross - Border

Cooperation, Security and Development Perspectives of the Wider Black Sea Region, Proceedings of International Scientific Conference 16 - 17.11.2017, St. Cyril and St. Methodius University of Veliko Turnovo, Bulgaria, 2018, p. 14.

inevitably influenced the development of tourism in Serbia, especially in the field of foreign tourism (invisible exports), to be briefly interrupted and to prevent the projection of further development and forecasting of economic effects. However, the 21st century brings some new opportunities and chances for the development of tourism in Serbia, which should be used on a good material and qualitative basis, solid resources, positive tendencies in the international and domestic tourist environment and with an adequate economic policy led by the state. an environment that will satisfy and express in a positive balance its effects on tourism as an important industry on which modern Serbia rests.¹³⁴

Conclusion

The focus of all activities in the field of tourism is man, his expertise, character and readiness to develop tourism in all aspects and types of modern innovative tourism. It is the key to success, because through the development of tourism comes the development of other economic sectors, and all this has a continuous synergistic effect on the entire economy and the economy.

By analyzing the current situation, the existence of a general world tendency of growth and development of tourism has been noticed, which in recent decades has recorded notable results in the world economy. Serbia, which is at the crossroads of its economic development and EU accession, as a great market potential, which will enable further prosperity and development of the Serbian economy, has the potential and opportunities to influence the development of the Serbian economy through its own potential in tourism. This enables it the existing wealth that Serbia as a

tourist destination inevitably possesses, and which it can certainly innovate and develop, that is, to adapt to the existing demand in the sphere of tourist interests of modern tourism. In addition to these basic goals, the Republic of Serbia should encourage the development of a positive image on the world market, ensure the protection and sustainable use of nature and cultural heritage as a resource for tourism development, improve the quality of life and ensure the protection of tourist consumers.

It is necessary to follow the role of the state in creating a competitive advantage with a stable macroeconomic environment, quality public institutions, stable political and legal system, which are necessary, but still not sufficient to achieve long-term economic progress and progress. Entities of the national economy must be able to create quality products and services using sophisticated methods. The role of the state is to shape the context, institutional structure and environment that encourage companies to gain a competitive advantage, instead of managing the industrial structure, to protect markets and inefficient economic entities. The state should encourage changes, improve domestic competition, avoid excessive market interventions, encourage the creation and implementation of standards, reduce trade barriers and the like.

Having in mind all the stated strategic potentials and real, and identified main shortcomings of Serbia, which with a good tourism development strategy, which is present in recent years, can certainly enable the construction of its own recognizable competencies in tourism, offering tourists around the world various tourism products. They combine attractive natural, historical and social elements that Serbia abounds in. In this way, all relevant participants in tourist traffic are connected, the number of

¹³⁴ Čerović, S., Strategic management of tourism economy, Želnid press, 2016, str. 234.

employees in direct or indirect (through other economic and related branches) is increased, and all this must be related to the recognizable Serbian lifestyle that can best be experienced in this cultural environment.

Literature

1. Čerović, S., Strategic Management of the Tourist Economy of Serbia, Belgrade: Želnid Press, 2016.
2. Jeremić, Lj., Ivaniš, M., Fundamentals of Finance, Belgrade: Singidunum University, 2009.
3. Jovićić, Ž., Osnovi turizmologije, Beograd: Naučna knjiga, 1990.
4. Nešković, S., Jokanović, I., Stefanović, G., Reconstruction of Dysfunctional Urban Corridors: Case Study Cairo, Journal of Road and Traffic Engineering, Belgrade, Vol 64, No 4, 2018.
5. Nešković, S., Geostrategic Position and Security Sinergies of the Black Sea Region trough Cooperation with the European Union, Cross - Border Book Series "New Challenges to Security and Development of the Balkans" Vol. 5, Cross - Border Cooperation, Security and Development Perspectives of the Wider Black Sea Region, Proceedings of the International Scientific Conference 16 - 17.11.2017, St. Cyril and St. Methodius University of Veliko Turnovo, Bulgaria, 2018.
6. Nešković, S., Business Ethics in Traffic, Ecology and Economy of Southeast Europe - Methods and Instruments of Implementation, Science and Technology, No. 10, Travnik: International University of Travnik, Bosnia and Herzegovina, 2018.
7. Todosijević R., Factors for choosing a strategic option for a tourist destination, Scientific Conference "Hotel House", Kopaonik, 2004.
8. Tomić, P., Romelić, J., Introduction to tourism, Novi Sad: Faculty of Science, 2003.
9. Tomka, D., Fundamentals of Tourism, Novi Sad: Faculty of Sports and Tourism, 2006.
10. Unković, S., Zečević, B., Economy of tourism, Beograd: Publishing center of Faculty of Economy in Belgrade, 2006.



