

NEW TRENDS IN TRAFFIC SAFETY

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Abstract: In this paper the important events in the auto industry all over the world, situation with automobile industry in Serbia, the concern for safety of drivers and other participants in traffic, with special stress on the protection of children in traffic, as well as the obligation of environmental protection are presented. Unfortunately, mortality in traffic is becoming epidemic. The interactive map showing the basic parameters of traffic safety in all countries in the world has been started. Every year on the roads throughout the world even 1.240.000 persons are killed. On the roads in Serbia the most frequent causes of traffic accident with serious consequences are: speeding, driving under the influence of alcohol and not fastening seat belts. Children in traffic are killed mostly as passengers. Research shows that Serbia is positioned very low comparing to European Union countries when it comes to the safe transport of children in vehicles and the use of seat belts. Agency for Traffic Safety in the Republic of Serbia in December 2013 celebrated 4 years from foundation and on that occasion the importance and necessity of connecting and coordination in work of all subjects competent for the field of safety was emphasized.

Key words: AUTO INDUSTRY, TRAFFIC SAFETY, ENVIRONMENT, PROTECTION, SERBIA.

1. Introduction

In March 2012, on the International Car Show in Genève, Serbo-Italian automobile "Fiat 500L" had its world's premiere and then it was stated precisely that this automobile is going to be produced only in Kragujevac, in Serbia.

The important changes are happening all over the world. During October 2013 public was informed about the action of the women from Saudi Arabia, who took the steering wheels in their hands in spite of the prohibition of the Government. Defying to the measures of the Government, threats of arrest and criminal prosecution, few women were driving cars in the streets of the Saudian towns. Then The King Abdulach gave support to some cautious reformes, such as the development of women's education and their employment, taking care to avoid the conflict with conservatives.

In this paper important events in the auto industry all over the world, situation with automobile industry in Serbia, obligation of the environmental protection, as well as the concern for safety of drivers and other participants in traffic, with special stress on the protection of children in traffic are presented.

Organization of Serbian drivers pointed out to their rights that they are also fighting for: - the obligatory privileged length of service, - recognizing of daily wages in foreign currency for drivers for the days spent abroad, - and to respect the rights of drivers and the help "friend on the road"

2. News in the world and in Serbia in the area of Auto Industry

Italian "Fiat"¹ has very strong presence on the American market. In 2013 in Detroit negotiations with trade union of automobile workers were successfully ended and conditions for Italian producer "Fiat"² to become 100% owner of the "Crysler" and car company with global reach were created. This agreement was realized and in 2014. "Fiat" completely took over "Crysler", the smallest member of the Detroit "big three", founded in 1925.

At the same time Serbian Auto-Moto Union reported that according to all criteria of the Euro NCAP tests for security the Chinese car "Coros 3 Sedan" was the best in 2013³. This car achieved the best result with maximal five stars in all segments of evaluation.

At the Serbian market models "Nissan Qashqai 360 Family" as well as "Nissan Juke", alluring from the advertisements in our surroundings at the end of 2013, are offered.

Cooperation with "Mercedes" company is dated from 1997.⁴ when the long-term contract on cooperation in production and investment in the "Mercedes-Benz Icarbus" buses was signed. And the contract on strategic cooperation between the world's giant in auto industry "Mercedes" and domestic producer of buses "Icarbus" should be signed in the middle of 2014. and then in Zemun⁵, near Belgrade the production of entire production program of Mercedes buses would start.

The first bus "Icarbus" was produced in 1954 by the license of the company "Saurer" from Austria. The founder of the "Icarbus" company was Dimitrije Konjović, a Serbian pilot and a maritime officer. In 1968 year the first bus with its own frame was produced and till today more than 80% of produced buses are with "Icarbus" frames. The production of the prototype bus on "Mercedes" frame has already started. This vehicle was made by the most modern standards and it was presented at the end of March 2014. on the International Fair of economic vehicles in Belgrade, Serbia. These are so called **gama models of buses** which meet strict professional but also ecological standards, because they have the motors of „euro 6“ standard. The present production capacity of "Icarbus" is around 250 buses per year.

In the world, "Detroit Auto Show", was held in USA where the "Lincoln" motor company presented the most fuel-efficient, inspired, innovative, ingenious new "Lincoln 2014 MKZ Hybrid". But since its start, in 1911. "Chevrolet" has sold more cars than any other auto maker providing itself to be the "US brand" in these iconic models. In 2013 "Ford" fuel-efficient line⁶ are as we know: "Fiesta", "Focus", "Fusion", "C-max", "Escape", "F-150" while they also must introduce all new 2015 "Ford Mustang" too.

It is interesting that competing with more than 1000 participants from the whole world Marko Luković⁷ from Belgrade, Serbia, for the second time won prize on the contest in Detroit, that is, the automobile of the Serbian designer is among the best in the

⁴ It was predicted that "Mercedes-Benz" delivers frames with aggregates and other equipment, and in "Icarbus" the buses of European standard and quality with recognizable sign of "Mercedes" are installed. By the contract production of 5 types of buses, among which "Icarbus" took over 2-low ground bus for city transportation and high-tourist class bus, encircling with this the assortment of its products, was defined. After realisation of few buses according to this contract, further cooperation was abandoned because of too high price for domestic market.

⁵ In Zemun section the most modern city, intercity and tourist buses, as well as pickup trucks will be made on "Mercedes" frames, while "Icarbus" would do the annex.

⁶ 2013 C-max Hybrid with fuel efficiency and smart technology too.

⁷ In 2001, this professor at the Faculty of applied arts in Belgrade, won the first "Peugeot" contest at the Frankfurt Car Salon with the futuristic car concept for year 2020.

¹ The greatest Italian employer in private sector was founded in year 1899.

² In 2009. "Fiat" bought 58,5% of "Crysler", the smallest member of the Detroit "big three" at that time in bankruptcy. The sale of "Fiat" and "Fijata 500" produced in Mexico and "Fiat 500 L" coming from Serbia (on the market from the summer 2013.) during year 2013. was 1,4% less.

³ In 2012. year 33 vehicles were tested, and criteria were protection of adult passengers, children, pedestrians and safety equipment these vehicles have .

world At "Detroit Auto Show" cool colors and concepts of cars were exhibited.

The "Tokyo Motor Show 2013" took place in Japan and the new "Toyota" named "Tundra" is at disposal in 2013. and "Toyotathon" and all new Nissan Rogue R.

In September 2013, the public was informed about all innovations in auto industry at the Car Salon in Frankfurt /Germany/. "Forester", the new "Subaru" model was presented.

The technological company "Google"⁸ appeared in the world of automobilism i.e. auto-moto industry came to an agreement with big producers (partnership was concluded with companies "Audi", "General Motors", "Honda" and "Hundai") at the opening of Auto Show in Las Vegas. Partners will think out together how to include mobile operative system "android" in cars operation, what should make operation more simple and improve safety. In that way, "Google" tends to reach the competitor "Apple" which has already been working on this with "Mercedes" company.

3. Importance of Environmental Protection

In the middle of May 2013, the draft Program for environmental protection of the city of Belgrade for the period of 10 years was presented with the aim to define directions of development and environmental management politics on the whole territory of the city and after the adoption it will be an obligatory document in the process of local policy creation in all 17 municipalities of Belgrade. This project predicts realization of several projects, the adequate treatment of waste waters and waste disposal being some of them. The city transportation company points out that the total consumption of fuel is about 100.000 liters on work days .

In our country, Pančevo will become the only local autonomy in Serbia with 7 vehicles with electric drive, and simultaneously the first charging spot⁹ for electrical cars.

The vehicle of the Chinese company "BID" that will be included in public transportation is currently being tested in our capital Belgrade. We speak about the new generation of high technology ecological buses, the use of which considerable reduces maintenance costs and improves air quality, because there is no emission of harmful gases.

It is well known that Germany is the residence of big car producers ("BMW", "Wolkswagen", "Deimler") and that the drafts of new EU regulations might endanger industrial production and its business sector.

Anyway, "Mercedes" has the famous bus brand "Setra" under its wing which currently produces the most modern and "the greenest" buses that do not in the least pollute the environment. In October 2013, the public found out that Germany protected its car industry from European Union (EU) regulations.

The Ministers of environmental protection of member countries of the European Union adopted the German request to alter already reached agreement on the introduction of the new regulation on the emission of harmful gasses of the new automobiles in June again. This agreement which is now going to be altered, would limit emission of CO2 from new cars to 95 gr per covered kilometer by 2020. The implementation of the decision was prolonged by 4 years and activists for environmental protection have criticized that decision and the European Commissioner for climate changes, as well as director competent for EU transportation policy at "Greenpeace".

According to the European directives, by the end of 2020 we should increase the share of biofuels in public transportation fuel consumption. It is well known that the advantages of hybrid vehicles are at lower level of harmful gasses emission, smaller consumption of diesel fuel and lower noise level, while the shortcomings are certainly their high price, they are considerably

heavier than classic buses, the battery duration is limited and they require special maintenance and additional caution measures because they operate under high voltage of around 600 Volts (hybrid buses are used most in North America, where passengers are transported by around 6.200 buses, while they appeared in Europe not until 2007. and for the first time in London).

4. Traffic Safety - risks and solutions

Unfortunately, mortality in traffic is becoming epidemic. The interactive map showing the basic parameters of traffic safety in all countries in the world has been started. Every year on the roads throughout the world even 1.240.000 persons are killed. On the roads in Serbia the most frequent causes of traffic accident with serious consequences are: speeding, driving under the influence of alcohol and not fastening seat belts.¹⁰ Children in traffic are killed mostly as passengers. Research¹¹ shows that Serbia is positioned very low comparing to European Union countries when it comes to the safe transport of children in vehicles and the use of seat belts.

It is interesting that in Serbia during the last 4 years, around 300 drivers have passed "corrective" tests because their driving licence has been taken away for received 18 negative points. In the same period, close to 3000 drivers lost their licences because of violent driving.

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However, thanks to the Law on traffic safety which came into force in December 2009, this year 176 persons less were killed in traffic accidents compared to the same period 4 years earlier.

During 2013 according to the newest data that number was reduced by more than 9%, i.e. 59 persons less were killed compared to the same period in 2012. We should point out that 2.813 pedestrians were killed in Serbia in the period from 2001 to 2012, and more than 13.000 were seriously and more than 28.000 slightly injured. Only last year 165 pedestrians were killed, that is by 10 more than in 2012. The results of this research are also the base for further activities of the Agency for Traffic Safety on the protection of pedestrians.

The UN action for traffic safety on the Planet is under way. United Nations have started global initiative titled "My world after 2015" in which they call for citizens of the Planet to choose the priorities for the better world and life in it (16 priority goals of human community development were offered, among which voters should choose the 6 most important).

The International Automobile Federation /FIA/ and Serbian Auto-Moto Union joined the action of the United Nations, because one of its parts is related to the improvement of road traffic safety. That is connected with the preparation of the Resolution on Global Road Traffic Safety in the framework of the 10 year-lasting action of the United Nations for traffic safety on the Planet from year 2011. to year 2020.

The idea to drive auto-plane that would be a combination of aircraft without pilot and car-robot coming from Technological Institute in Masachusets is interesting, but this is not favorite in public, because it is understood as the carrier of spy equipment. Those special machines would be computer-operated. Technology of wireless guidance is used by all "Airbus" and many "Boing" planes. Experts of aeronautics and astronautics consider that there

¹⁰ Examples of France and Germany show that in these countries 95% of passengers fasten seat belts also on the back seats in the vehicle, while in Serbia that percentage is barely 4% of passengers.

¹¹ Project with title "Methods of monitoring indicators of road safety and their importance for the strategic management of traffic safety" done by the Faculty of transport and traffic engineering in Belgrade on the request of the Agency for Traffic Safety, which is a member of the European Council for Road Safety.

⁸ The American internet giant „Google“ intends to expand its popular operative system „android“ in the cars.

⁹ This is the present of the Italian province Ravenna in order to protect environment.

are no obstacles for starting road-air traffic by flying cars – **DRONES**. However, there are certainly some cultural and psychological obstacles, because we are not ready to give up cars (published by “Tanjug” from London, at the beginning of November 2013.).

It is planned that **drones** will soon start to be part of the everyday life, for example, for delivering packages¹², but also as the assistance in space orientation. The laboratory of the American University MIT constructed a robot with the aim to help people, but it takes time to find the interaction between people and robots.

5. Conclusion

This paper is written with a wish that the cited newest improved models of automobiles throughout the world lead to as little as possible traffic accidents, injuries and destruction, to increase traffic safety in all countries, and also to reduce pollution that traffic causes. It should be insisted on the reduction of CO2 emission by year 2025 and of course on its inclusion in the regulations. It is interesting that the position of Germany was supported by Great Britain and Poland, while France, Belgium and Italy took the original agreement's part.

It is necessary to stress in media and inform wider public on the importance of environmental aspects of traffic taking into consideration the well known fact how much cars reduce air quality by emission of harmful gases.

At the opening of Auto Show in Las Vegas company “Google”¹³ appeared in the world of auto-moto industry coming to an agreement with few big producers (partnership was concluded with companies “Audi”, “General Motors”, “Honda” and “Hundai”). Partners will think out together how to include mobile operative system “android” in cars operation, what should make that operation more simple and improve safety. It is well known that the price of the secret program of drones is high and that in the world debate “for drons and against them” is lasting. In the era of sophisticated technologies however humans are irreplaceable.

In the Republic of Serbia a lot is invested in the traffic safety on the national as well as on the local levels all over the country. Cooperation between countries is something we should lean on more in the future in order to find solutions for environmental and traffic safety problems easier and fight them together.

6. References

1. Djindjić N. et al. Work stress related lipid disorders and arterial hypertension in professional drivers – A cross-sectional study, *Military Medical and Pharmaceutical Journal of Serbia*, 2013, 70(6), 561-568.
2. Law on Road Traffic Safety, „Official Gazette RS“, no. 41/09, 53/10, 101/11.
3. Kombeg info, Privredna komora Beograda, no. 47, June 2013.46.

¹² Company „Amazon“ will use these aircrafts for delivering packages up to weight of 5 kilograms.

¹³ American internet giant „Google“ intends to expand its popular operative system „android“ in the cars.