

Perspectives of the auto world during the pandemic – international and national view

Nataša Tomić-Petrović

University of Belgrade, Faculty of Transport and Traffic Engineering, Belgrade, Serbia,

e-mail: natasa@sf.bg.ac.rs

Abstract: We live in a time of the Covid pandemic, when losses are being noticed in the car industry. Experts state that stabilization of the market is not expected before 2023. Data from the European Automobile Manufacturers Association (ACEA) showed that for the first time in 2021, hybrid electric cars were equalized with "diesels" on the European Union market. Last year, 1.901.239 new hybrid electric vehicles were registered on the common market. In April 2021, our capital Belgrade was awarded for the best Urban Mobility Plan. Our city has increased the safety of traffic participants, given priority to pedestrians and cyclists, reduced emissions and improved energy efficiency, while expanding pedestrian zones. The National Association of Autonomous and Electric Vehicles has launched a project aimed at increasing environmentally friendly traffic in Serbia. Eco 2 line of electric buses works in Belgrade from January 2022. And in Serbia, parts for Audi, Porsche and BMW will be produced in the "Motherson" factory, which was opened at the end of November 2021.

KEY WORDS: AUTO INDUSTRY, "TESLA", URBAN MOBILITY, SERBIA, PANDEMIC

1. INTRODUCTION

The first car magazine was published in the United States in 1895 under the title "The Horseless Age", which clearly showed that the old mode of transportation became old-fashioned.

"Lancia"'s 115 years and memories of more than a century of famous Italian elegance remain. The Lancia brand was founded in Torino on November 27th 1906 by Vincenzo Lancia and Claudio Fogolin, car enthusiasts employed by Fiat. Although there are no new models in "Lancia" today, their first car was produced in 1908. And that was the "Lancia" model with 12 hp. The fame of the brand grew, they went through the First World War, followed by the models "Lambda", "Augusta", and after the Second World War in 1950, "Lancia" presented the model "Aurelia", the first car in the world with a V6 engine. By the way, "Ipsilon" is the longest up-to-date and the best-selling "Lancia"'s model in history, with more than three million cars sold.

Today we live in a time of the Covid pandemic, when losses are being noticed in the car industry. [see: 5] Experts state that stabilization of the market is not expected before 2023. In China, production has been slowed down since the beginning of the pandemic, and this continued in 2021, and the production of semiconductors for cars and technical devices are bearing the brunt. The digital age [see: 3] and pandemic are rapidly changing our lives.

Data from the European Automobile Manufacturers Association (ACEA) showed that for the first time in 2021, hybrid electric cars were equalized with "diesels" on the European Union market.¹ Sales of the gasoline using cars in the EU fell by 17.1% last year, and of all new cars registered in the EU, hybrid vehicles made 19.6%, electric vehicles on batteries 9.1%, and plug-in hybrids for 8%.

2. THE CASE OF SERBIA

In April, 50 years ago, the production of "Stojadin" i.e. "Zastava 101" began, which was presented at the fair in Belgrade in April 1971 and it was produced until November 2008. 1.045.458 cars left the factory in Kragujevac, what makes it the best-selling "Zastava" model in the history. In the 12th of April 2022, the production of Fiat 500 L continued, after the return of workers from the paid leave. At the "Fiat-Chrysler Automobile Serbia" factory, cars will be produced in two shifts, and up to 200 cars will come off the lane in one shift. The specific management plan for the car factory in Kragujevac is still unknown and in July

2021 it was announced that company "Siemens" intends to make the city of Kragujevac the center for train production in Europe.

In April 2021, our capital Belgrade was awarded for the best Urban Mobility Plan.² Belgrade is the winner of this year's the European Sustainable Urban Mobility Planning (SUMP) Award, given by the European Commission and launched in 2012. Our city has increased the safety of traffic participants, given priority to pedestrians and cyclists, reduced emissions and improved energy efficiency, while expanding pedestrian zones.

The National Association of Autonomous and Electric Vehicles³ has launched a project aimed at increasing environmentally friendly traffic [see: 1] in Serbia. Eco 2 line of electric buses works in Belgrade from January 2022. But due to the introduction of this line, one bicycle path in the city disappeared.

It is planned that the construction of the subway in our capital starts from the 1st of November 2021. The first line has been announced in 2028, and the second in 2030. At the same time, works on the BG train are under way. [see: 4]

And in Serbia, parts for Audi, Porsche and BMW will be produced in the "Motherson" factory, which was opened at the end of November 2021.

And after several months of testing and evaluation of cars that are present on the Serbian market since the beginning of 2021, in April 2022, the commission announced the results and the car of the year in Serbia in 2022 is "Toyota Jaris Cross". At the same time, due to the high level of safety, availability on the market, favorable vehicle maintenance conditions and despite the extraordinary circumstances of the pandemic, "Volkswagen ID.4" was rightly crowned with title of the electric car of the year in Serbia in 2022.

A school example of the evolution of the model is the new "Peugeot 308" on whose instrument panel is the flag of the French Republic. It is a sophisticated vehicle equipped with radars and sensors. It is considered to be the most aggressive "lion" so far, because the car knows how to brake itself, everything works on the button. The quality of all functions is the highest, but still, if the driver is taller /185 cm/, there is no room left behind him for an adult passenger, what is the most serious shortcoming. Due to the lack of cars, every model that arrives in Serbia is sold.

² Previous winners of this award were the cities of Brussels, Manchester, Malmö, Bremen and others.

³ This non-profit professional organization is a regional partner for urban mobility of the European Institute of Innovation and Technology and in April 2021. It launched the "E-retrofit" project. The "Fiat 500 L" was chosen as a model vehicle.

¹ Last year, 1.901.239 new hybrid electric vehicles were registered on the common market.

3. NEWS FROM THE AUTOMOTIVE INDUSTRY IN THE WORLD

It is interesting that the German "Volkswagen" (VW) became the main partner in the project of "greening" the traffic system on the Greek island of Astypalaia⁴, in the Southeastern Aegean. [see: 2] The German giant supplies the island with 1,000 electric vehicles of various types and purposes, so as to replace 1,500 vehicles powered by fossil fuels. Vehicle charging stations and a system of renewable electricity - generators for solar and wind power - will also be provided. Unfortunately, "Volkswagen" has to compensate 8.5 million of its customers in the EU who before 2015 bought diesel vehicles of that company with a built-in eco-decoy what was an industrial scandal. It was announced that in 2017 it was acknowledged that more than 600,000 vehicles sold on the American market were equipped with special cheating software, so the official control of harmful gas emissions showed 40% lower values than those achieved in regular traffic. VW has also joined a growing group of manufacturers developing autonomous multi-purpose electric vehicles. VW has presented a concept of robotaxi called "onepod", which has large glass surfaces and drives itself while passengers have an undisturbed view on the surroundings.

And in Croatia, the company "Rimac cars" (innovator is Mate Rimac, and he founded the company in 2009) presented a new vehicle. It is the first Croatian production car, called "Nevera" /after an unexpected and strong Mediterranean storm that "runs" on the Adriatic Sea/. This remarkable car has even 1,914 horsepower and can develop a top speed of 412 kilometers per hour. This hypercar is expected to go on sale. And during July 2021, this Croatian company⁵ became the majority owner of "Bugatti", a well-known French sports car manufacturer, which has so far operated within the "Volkswagen" group.

According to the research, Chinese consumers are more willing to accept alternative powertrains than European or American customers. At the beginning of 2021, the Chinese phone manufacturer "Xiaomi" informed the public that "Xiaomi" plans to start the production of electric cars in the year 2024. However, the electric model "Mask Myth 9" with three rows of seats for six passengers and a system for biometric driver recognition was presented at the salon in the Chinese metropolis of Guangzhou. With one charge of lithium-ion batteries, the range is up to 520 km, and it is announced that a version with a range of 650 km will appear in 2023. In January 2022, sales of electric cars increased by 132% compared to January last year. Although the price of raw materials, such as lithium, is rising.

And the Romanian manufacturer "Dacia" made a hit with the electric car "Spring"⁶. This car is increasingly in demand, it is the cheapest electric car in Europe, and its sales in Serbia should start in 2022. 7,000 Dacia Springs have already been ordered from Germany.

In Malaga, a 100% electric driverless bus has appeared in Spain, which travels six times a day from the port to the center of Malaga, in the south of Spain. This was initiated by the company "Avansa".

The American company Ford Motor has to withdraw 617.000 vehicles due to the problems with the roof racks of vehicles, after an investigation on the problem during 2020. In

April 2021, after the investigation, the National Traffic Safety Agency asked "Ford" to withdraw the vehicles, i.e. when there were 11 cases of tearing off the roof racks on the "SUV Explorer" vehicles. This withdrawal referred to models produced in 2016 and 2019.

"Toyota" has presented the new crossover "bZ4X", the first model in the new series of battery electric vehicles (BEV), and the name of the series "bZ" is an abbreviation of "beyond Zero". The advantages of this new electric SUV vehicle are thanks to the use of the battery⁷ as an integral part of the chassis, under the vehicle floor, which is spacious and comfortable. This vehicle will also offer advanced technological functions, including a solar panel on the roof, to help charge the battery while driving or at rest. However, the American plan is that half of the cars will be zero-emission.

From Korea, they presented a super modern SUV with advanced technology, "Hyundai Tucson Hybrid", which is the fourth generation of "Tucson" which reaches a maximum speed of 193 km/h. And finally, the "Hyundai Ioniq electric"⁸, a Korean electric car, which confirmed the practicality of everyday city driving.

The Bavarians have introduced the "BMW i4" - the premiere of the new generation of "BMW drive" command system that focuses on the functionality of the touch screen. This model is a combination of sporty energy typical for BMW and a range that brings peace on long journeys with the elegance of design, spaciousness and practicality of the four-door model. Produced in the Munich plant, it is a fully electric and the range with full batteries is between 510 and 590 km, depending on the version.

"Tesla" is the most famous company that produces electric cars, and one of the new companies is the Chinese "NIO" electric car company, which announced the ET7 model, an electric sedan with autonomous driving technology, as well as a new luxury electric crossover EC6. Despite the pandemic that reigns, "Renault" has confirmed its leading position on the European electric car market.

And when we speak about safety the German giant Daimler AG, which owns Mercedes-Benz, has registered an interesting patent, which deflates tires at high speed in the case of emergency. When the standard braking system fails, the driver could be able to activate an additional function and thus stop the vehicle. This patent includes a central (control) unit and an air release mechanism, and is primarily intended for electric /hybrid models, although it could also be used by cars with internal combustion engines. Daimler AG has focused on electrified models, as they do not use brake cables and hydraulic systems, but drive-by-wire technology. The deflated tire adheres more to the ground and creates more friction, which contributes to stopping the vehicle. But if you blow out too much air it can fall off the rim. Because of that German engineers designed a pressure balancing valve to solve the problem. We will see when this technology will come to life in four-wheelers, and there are many candidates. The models from the EQ family are primarily considered.

Ab aeterno it was dreamt of extending the age of human existence on all meridians. It was dreamt of moving into outer space, and the possibility of salvation was sought in the event of overpopulation on the Planet Earth and other dangers. Attempts were also made to develop ideas about the means of penetration into space (Tsiolkovski KE 1857-1935). Belief in science was almost unlimited.

⁴ This island has an area of 97 square kilometers and is an exemplary model of an island with "climate-neutral mobility". This is a unique example in this part of the world, because all commercial and service vehicles will be powered by electricity.

⁵ It will own a share of 55% in Bugatti, and produces electric powertrains and batteries for the world's major carmakers, as well as small series of exclusive electric sports cars, such as "Nevera".

⁶ "Spring" is 3.73 meters long and with a single battery charge (27.4 kWh) provides a range of up to 230 kilometers. It is powered by an electric motor with 44 hp.

⁷ With a fully charged battery, the expected range is more than 450 kilometers, depending on the version.

⁸ Unlike most electric cars, the e-motor is at the front, as in classic models.

And today... in connection to space exploration, at the beginning of December 2021, several space missions were organized from various parts of our planet. Launch of "Falcon 9"⁹ from the Space Center in Cape Canaveral. "Currently, the golden age of human spaceflight" is considered by experts from NASA, and new astronaut flights to the Moon are planned for 2025 at the latest. The mission of a Chinese solar-powered space robot rover landed on the moon three years ago to explore the dark side of this celestial body and it continues.

4. CONCLUSION

We need a green planet. It is significant that Japan has also increased its target rate for reducing carbon emissions to 46% by 2030, from 2013 levels. E-cars are much more [ally friendly. It is believed that soon there will be more chargers for e-cars in the world than classic petrol stations. Electric car sales in China increased for 132% in a year.

And after several months of testing and evaluation of cars that are present on the Serbian market since the beginning of 2021, in April 2022, the commission announced the results and the car of the year in Serbia in 2022 is "Toyota Jaris Cross". At the same time, due to the high level of safety, availability on the market, favorable vehicle maintenance conditions and despite the extraordinary circumstances of the pandemic, "Volkswagen ID.4" was rightly crowned with title of the electric car of the year in Serbia in 2022.

The turmoil in the world, especially the crisis and the war in Ukraine have led to many changes, "Audi", for example, has stopped production in certain locations. Despite the announcements on the closure, from the Russian factories the plants of "Stelantis" and "Micubishi" were still working at the end of March 2022. The transport of goods¹⁰ also suffered losses. Some firms have a problem maintaining the liquidity. Anyway the electric car market has experienced rapid growth and evolution.

With hope that the war in Ukraine will end soon, we shall continue to hope and save our Planet for the next generations...

Concordia civium, murus urbium – (Harmony of citizens is the rampart of the cities).

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⁹ The task of "Falcon 9" is to place NASA's powerful X-ray device in Earth orbit, which should detect and explore black holes and neutron stars.

¹⁰ About 10,000 companies are operating in the transport sector, of which 1,700 in the international sector.