

## **Volodimir Solovichenko**

### **WHO IS ELON MUSK AND WHY IS HE IMPORTANT?**

I will tell you about several companies founded by Elon Musk and their achievements in technical terms. One of them is a well-known spacecraft company - Space X. "The company was founded to promote human space exploration. This is the main reason for our existence." Garrett Reisman, astronaut and then senior engineer at SpaceX, spoke.

Space Exploration Technologies Corporation was founded in 2002. The first launch of a Falcon 1 rocket-The first private liquid-propellant launch vehicle to deliver cargo to the ISS, which unfortunately was unsuccessful. But in 2008, a successful launch of a rocket of this model took place, which saved the company. At the last launch of this rocket, the RazakSat satellite was delivered to Earth orbit. His mission was to research natural resources and collect meteorological data. In 2010, the Falcon 9 rocket, the next stage in the development of the Falcon family, was launched which became lighter and much faster than its predecessor. This rocket is needed to deliver into orbit communication satellites, research spaceships, as well as Dragon-type spacecraft [1].

Six months later, the first spacecraft, Dragon 1, was delivered to orbit. The need for new cargo ships arose from the United States due to the termination of the Shuttle flights. Spacecrafts of this type made 22 flights and delivered a huge amount of cargo to the ISS. Four years later, a manned version of this spacecraft, Dragon two, was developed, which is already designed to deliver astronauts and not cargo. Spacecraft of this type can accommodate four people and are equipped with an accurate and modern emergency rescue system. Since 2019, the company has done a lot of work. They put into orbit a large satellite responsible for GPS navigation. Launched one of the largest and powerful rockets in the world Falcon Heavy. This rocket can deliver a huge amount of cargo, and this entire structure is carried by 28 engines. The TESS space telescope that searches for exoplanets, that is, those that are outside the solar system. This telescope has explored the vast expanses of space and allows the exploration of habitable planets. And also put 60 satellite into orbit, laying the foundation for the creation of a global Internet coverage by all over the world. In total, the Starlink program plans to deliver approximately 12,000 satellites into space over the next few years [2]. Last year, the company received a large order from the US Department of Defense for the development of anti-missile defense systems and sent Dragon 2 into space with two astronauts on board thereby completing the development of this model of the spacecraft. Well, the company has come a very long and difficult way in the nineteen years of its existence. But this path was successfully traversed by them. The company is worth over \$ 100 billion and employs about 7,000 people. The company plans to deliver people to Mars by 2030 or even earlier, create a global Internet network for the whole world and participate in the new Lunar program. Let's hope that the company will withstand all the upcoming difficulties and make a new breakthrough in the development of mankind.

The other company is Tesla. The fame of this company has brought the production of electric vehicles, in order to care for the environment of our planet. The history of the company began in 2003, and the prototypes of the first car were presented already in 2006. This car turned out to be the Tesla Roadster, which became quite successful commercially, about 2600 cars were produced and sold. Over the following years, the company produced 7 more models of both cars and trucks, in 2019 becoming the most successful car manufacturer, and in 2021 the most profitable car company in the world.

But, the activities of Elon Musk are connected not only with the production of cars and spacecraft. One of the very interesting branches of his work is the company Neuralink. It was founded in 2016 and is focused on the production of chips implanted in

the human brain. Such devices will have to help people with various brain diseases, directly connect with electronic devices, such as computers and so on. Experiments on animals gave good results, therefore, human trials of the chips are planned for a fairly close time.

Thus, we can say that Elon Musk and the companies he founded are one of the main engines of progress at the moment, and their scientific and technical achievements never cease to amaze.

References:

1. <https://businessinsider.com.pl/musk>
2. <https://www.uranian.edu.pl/starlink/obserwacje>

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Research Supervisor – Olena Bryntseva, Senior lecturer