

- the impact of humanity on the biosphere as an ordinary biological species;
- super-intensive hunting without changing ecosystems during the formation of mankind;
- changes in ecosystems as a result of processes occurring naturally: grazing, increased growth of herbs by burning, and the like;
- intensification of the impact on nature by plowing soils and deforestation;
- global changes in all environmental components of the biosphere as a whole.

The increase in the scale of extraction of mineral resources raises the problem of protecting the subsoil. The rational use of subsurface resources and reducing the loss of useful components during mining and processing should be considered. For this, it is necessary to introduce the integrated use of mineral raw materials, widely apply modern effective technologies for the extraction and processing of depleted ores, and waste management. The aggravation of these problems makes it necessary to solve the problem of the further coexistence of man and nature based on the rational use of natural resources.

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ELON MUSK: THE MAN OF TOMORROW

BOGDAN KUZMYCHEV, student

OLGA SLATOVA, Senior Teacher, Scientific Adviser

OLENA ANISENKO, Senior Teacher, English Language Adviser

O. M. Beketov National University of Urban Economy in Kharkiv

The 46-year-old entrepreneur, engineer, inventor, investor and billionaire Elon Musk is known for his “fantastic” ideas, many of which he has already been able to realize. For many people, his name is associated only with Tesla Motors, but in fact, he is the founder or investor of a large number of other companies, each of which reflects Musk's dreams to change the human concept of life on the planet.

Many of his ideas at first glance seem unbelievable – but not so long ago, the autopilot of the Tesla electric car also looked something impossible.

In 2002, Musk founded SpaceX: according to him, this became one of the most important events in the history of mankind.

Today, SpaceX is developing and launching state-of-the-art rockets and spacecraft. With this project, Musk wanted not only to revolutionize space

technology, but also to make space rockets more accessible and, finally, to allow people to settle on other planets.

Musk believes that humans should become an "interplanetary" species, and dreams to colonize Mars.

In 2012, the SpaceX Dragon was the first spacecraft capable of delivering cargo from the International Space Station back to Earth. The official website states that the Dragon capsule was designed to transport people into space, and in 2018, Musk would like to realize this goal.

In 2017, Dragon is the only real cargo spacecraft in the world that can return to Earth, and the Falcon 9 rocket aims to send people into space – while the company is working with NASA to realize this idea.

In 2004, Musk also invested in Tesla Motors, which produces electric power, and soon became a member of its board. A few years later he became the CEO – after he invested his own funds in the "rescue" of the company.

Tesla recently unveiled its new electric installation, and in Australia built the world's largest lithium-ion battery, which provides energy to 30,000 homes per hour.

Musk has also become an investor in SolarCity, a company that produces solar panels and builds gas stations for Tesla machines. Among the many other companies that Musk invested in include Mahalo.com, Stripe, Vicarious, DeepMind Technologies (which he sold to Google), NeuroVigil.

The entrepreneur also invested in the nonprofit organization OpenAI, which is working on researching the safe use of artificial intelligence. Musk himself has repeatedly warned that he considers the development of artificial intelligence the greatest threat to humanity in the 21st century.

In 2013, Musk announced the idea to create the Hyperloop project – a railway system that will allow people to travel in a capsule through a tunnel at a speed of more than 1000 kilometers per hour. From the very beginning, Musk proposed the project as an opportunity to travel safely and energy efficiently between two cities in the USA (San Francisco and Los Angeles), but in 2016 the company published a list of 10 routes in different countries where such a railway could appear.

In 2014, they established an industrial space for the development and testing of project components, and already in 2016 in Nevada began the construction of a test “tunnel”, the first photos of which appeared in the spring of this year. In May, the company announced the first successful test of the tunnel.

On the official website of the project it is indicated that now "the company is working aggressively to achieve the goal of having three operational systems until 2021."

This spring, SpaceX announced plans to deploy satellites to provide “alternative” ultra-high-speed Internet. In 2019, Musk plans to send 4425 satellites into space, promising affordable prices for incredibly fast Internet for

people from all over the Earth. The project is planned to be implemented until 2024.

In 2016, Musk founded The Boring Company, an infrastructure project aimed at building tunnels through which cities can travel at speeds of up to 200 kilometers per hour. The name itself contains a play on words and in translation means both “Drilling Company” and “Boring Company”.

Musk's ideas are often criticized, calling them implausible and fantastic. For example, Zubrin, president and founder of the Mars Society, a non-profit organization for relocating people to Mars, told The Guardian that Musk promises too much, but often does not even keep up with his projects deadlines, although he can accept criticism and adjust goals to make them more attainable.

However, if Musk can still fulfill all his promises, he will change the course of history forever.

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UKRTRANSGAZ. EXPERIENCE AND PERSPECTIVES

ANTON LYKHOBABA, student

IVAN I. KAPTSOV, Professor, Doctor of Science in Engineering, Scientific Adviser

YEVHENIIA S. MOSHTAGH, Associate Professor, PhD (Philology), English Language Adviser

O. M. Beketov National University of Urban Economy in Kharkiv

Ukrtransgaz transports gas through pipelines to consumers in Ukraine, the EU, the Balkan countries and Turkey. The Ukrainian gas transmission system (GTS) is one of the most reliable and powerful in Europe. Its input capacity is 302.1 bcm per year, including 23 bcm per year from the EU, and output capacity is 178.5 bcm per year, including 146 bcm per year towards the EU and Turkey. To ensure safe natural gas transmission to Ukrainian and European consumers, Ukrtransgaz cooperates with GTS operators in neighboring countries and with major energy companies including PGNiG (Poland), Gaz System SA (Poland), Eustream a. s. (Slovakia), FGSZ (Hungary), JSC “Moldovagaz” (Moldova), SNTGN Transgaz S.A. Medias (Romania), OJSC “Gazprom” (Russian Federation), OJSC “Gazprom Transgaz Belarus” (Belarus), E.ON (Germany), RWE (Germany), Engie (France), Net4Gas (Czech Republic), Bulharhaz EAD (Bulgaria), DESFA (Greece), Botas (Turkey) and others.

Gas underground storage management.

Given the fact that Ukraine stopped gas imports from Russia in November 2015, the year 2016 was the first when Ukraine did not use Russian gas while