

**MAJOR TECHNOLOGICAL BREAKTHROUGHS IN UKRAINIAN
SCIENCE THAT HAVE INFLUENCED THE WHOLE WORLD
(PAST, PRESENT, FUTURE)**

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Few people know that most of the modern inventions that are now actively used around the world were invented in Ukraine. It is difficult to overestimate the importance of these inventions, as they have truly changed the world, are changing it now, and I am sure that new inventions by Ukrainians will change the world in the future.

I am curious to know what technological inventions of Ukrainian scientists from the past have influenced the world today. If we talk about world-famous Ukrainian inventions, we cannot but mention Igor Sikorsky and his helicopter.

Ihor Sikorsky was a Kyiv-based aircraft designer who was the inventor of the helicopter and multi-engine airplane. In 1919, Sikorsky emigrated to the United States, where he founded his own company, Sikorsky Aircraft. In 1924, his first cargo and passenger airplane, the S-29A, was produced, carrying up to 1900 kg of cargo and not requiring a runway. 1939, September 14 – Ukrainian-born aircraft designer Igor Sikorsky flies his first VS-300 helicopter in the United States. Three years later, the U.S. began mass production of the two-seat S-47, which was adopted by the U.S. Army. It was also used in the UK. At the same time, the designer himself believed that the main task of such vehicles was to save people, not combat. And he was sincerely happy when helicopters were particularly effective in search and rescue and sanitation operations. His son Sergiy Sikorsky estimates that his father's machines saved more than a million and a half lives. The last work of the designer was the S-58 helicopter, which was operated in 50 countries.

It is hard to imagine the course of history if the helicopter had not been

invented. Many people might not have been saved and many key historical events might not have happened if it were not for Ukrainian technological science. But Ukrainian technical science has had a global impact not only on the aviation industry. The modern X-ray machine would not have existed without Ukrainians.

Ukrainian scientist Ivan Pului was the first to develop an X-ray tube, which is the prototype of the modern X-ray. This happened 14 years before Roentgen Wilhelm announced a similar device to the world. Ivan Pului was the first in the world to take an X-ray of a human skeleton. His achievements in this field, his research and development, became fundamental for modern X-ray machines. Millions of lives were saved because of the invention of the X-ray machine. It's scary to imagine how many people could have died because of an undetected or misdiagnosed injury or disease.

Today, X-ray machines are used in medicine, at airports and checkpoints, and many other places. The impact of this invention on the world is enormous. And we should remember that without Ivan Pului, none of this would have happened. Unfortunately, Pului did not patent his development and did not become the official inventor of X-rays, but the international community has repeatedly confirmed that it was a Ukrainian who initiated the development of this crucial industry. In particular, Albert Einstein himself expressed a similar opinion.

Ukrainians have made many such large-scale discoveries in the past. For example, Fedir Pirotsky's electric tram (Fedir Pirotsky's electric tram, Volodymyr Melnykov's eco-fuel for cars. (October 28, 2023), Volodymyr Melnykov's eco-fuel for cars, Sergiy Korolyov's first rocket engine (Sergiy Korolyov's first rocket engine. (October 28, 2023), Invention of seawater desalination technology by the Odesa State Academy of Refrigeration, and many more. For many years, Ukrainians have been contributing to the world's technology and now they continue to do so.

The life of people with diabetes is difficult and that is a fact. But a scientist from Zakarpattia, Petro Bobonych, has found a way to make their lives much easier! The man began creating his model of a glucometer in 2002. He invented a glucometer (a device for measuring blood sugar) in the form of a wristwatch and received his

first patent in 2004. With this device, diabetics can check their blood sugar levels at any time without having to donate blood. Obviously, in today's realities, when many people suffer from diabetes, this invention can save thousands of lives!

The Ukrainian technical field of science does not stand still and is actively developing despite any obstacles. In the future, we will see a large number of technical inventions from Ukrainians who demonstrate their scientific and technical potential every day. Given the way Ukrainians are now implementing the production of their own drones and unmanned aerial vehicles during a full-scale war. I am confident that after the victory, the scientific and technological potential of the Ukrainian nation will grow exponentially.

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