Deep Space Energy secures €350,000 in investment

Latvian space technology startup Deep Space Energy has raised €350,000 in pre-seed funding from two sources: firstly the local Outlast Fund and secondly from Linas Sargautis, co-founder of the Lithuanian space startup NanoAvionics (now Kongsberg NanoAvionics).

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Together with grants and public funding raised to date, Deep Space Energy has secured a total of €930,000. These funds are intended to develop the technology to a level where its functionality has been demonstrated in a laboratory, in order to establish a secure supply chain for raw materials and components required to manufacture the generator as a subsystem, and to build cooperation with potential customers in the form of space system integrators.

Deep Space Energy founder Mihails Ščepanskis does no bones about the fact that raising funding for a space industry project is very difficult, and particularly so in Latvia.

“In the case of Deep Space Energy, several factors combined in our favour. Firstly, we were able to secure public funding, which reduced the risk for private investors along with the capital required for technology development. Secondly, we already had contracts with the European Space Agency, which means that the agency—with all its technological expertise—believes in our solution. Thirdly, I’m no tyro startup founder—I have experience developing a technology startup, Cenos. Attracting an angel investor also proved to be crucial, because in our case it is an industry expert, which helped the Outlast fund to believe in our technology, even though it is still at a very early stage,” explains Ščepanskis.

Egita Poļanska, partner at the venture capital fund Outlast Fund, stresses that although space energy technologies have been limited for decades, the necessary elements are now finally coming together for real breakthroughs—new materials are emerging, energy systems are becoming smarter, and real commercial demand for Moon missions is appearing.

“At a time when Europe is looking increasingly ambitious and strategic in the direction of space technologies, it is especially important that our companies lead the way in this field. We are confident in our support of this team and are truly happy that our portfolio includes a genuine moonshot—in the most literal sense of the word,” says Poļanska.

She firmly believes that the technology developed by Deep Space Energy will make the next phase of space exploration and industry a reality.

Planning to generate electricity on the Moon

What exactly does Deep Space Energy do? This Latvian space technology startup is developing a new electricity generator for space that will utilise heat produced by radioisotopes obtained from nuclear waste, thus making electricity generation possible even when the Sun is not accessible. With this technology, the company plans to make Moon exploration and resource extraction possible sooner rather than later.

“The availability of future services and the scale of industrial activity on the Moon are directly linked to the availability and price of energy. By quintupling the amount of electricity generated per kilogram of radioisotope, we effectively reduce the cost per kilowatt-hour on the Moon. This means that all activities on its surface are more accessible. As a result, the volume of such activities will increase, along with demand for energy,” explains Ščepanskis.

He is convinced that Deep Space Energy represents Latvia’s opportunity to secure a foothold in the Moon economy, “By the middle of the century, the Moon economy will be roughly equivalent to Poland’s GDP. And we can be part of it. That means that Deep Space Energy’s operations on the Moon could double Latvia’s GDP. But that will be mid-century. For now, our technology can help Europe address an equally important challenge in the form of security.”

Strengthening the resilience of military reconnaissance satellites

Radioisotope generator technology also tackles important challenges in the defence sector.

“Modern warfare is based on satellite-provided intelligence data. For example, Russia was able to quickly eradicate Ukraine’s foothold in the Kursk region when the United States suspended the supply of intelligence data. This demonstrates just how critical satellite data is. Unfortunately, the lack of military satellites is the most serious gap in Europe’s defence. We rely on U.S. data because the U.S. has such satellites. Recent events show that greater independence—even from allies—and the development of sovereign assets in strategically important areas are vitally important. Military satellites, especially expensive geostationary ones, are a specific area in which Europe must invest resources,” stresses Ščepanskis.

The resilience of expensive military satellites against potential enemy interference is crucial for ensuring secure access to intelligence data. Therefore, one of the challenges in the latest call of NATO’s Defence Innovation Accelerator for the North Atlantic (DIANA) is specifically dedicated to the resilience of space assets. Deep Space Energy is the first Latvian company to be accepted into the NATO DIANA acceleration programme. Ščepanskis is particularly proud of this, because competition is fierce—only 4% of all project applications are approved.

“NATO member states do not have armies that are as big as those of some other countries, so NATO is investing in ensuring that the alliance’s technological excellence is superior to that of its adversaries. NATO selected us, because it believes that our technology has the potential to contribute to the alliance’s technological superiority. The DIANA space challenge group includes several UK and U.S. companies, as well as firms from Sweden and Portugal. It is already a major achievement that a Latvian startup has succeeded in joining this group, which has historically been dominated by major powers,” says Ščepanskis.

Deep Space Energy’s short-term strategy lies in the defence market, i.e. in helping to improve the resilience of NATO satellites. However, Ščepanskis believes that in the long term, the company will be among the participants in the Moon economy.

Photo: Deep Space Energy

Source: Labs of Latvia