



European
Commission

SPACE LAUNCH

EIC HORIZON
prize



PRIZE WINNER

ISAERO

What is the EIC Horizon Prize on a Low Cost Space Launch?

Space Matters for Europe. Space technology, data and services have become **indispensable** in the daily lives of Europeans when using mobile phones and car navigation systems, watching satellite TV or withdrawing cash for example. Satellites also provide immediate information when disasters, such as earthquakes, forest fires or floods strike, enabling better coordination between emergency and rescue teams. The **EU space policy** help tackle some of the most pressing challenges today, such as fighting climate change, helping to stimulate technological innovation, and providing socio-economic benefits to citizens.

Small, agile satellites revolutionise space-based connectivity, internet-based services, Earth imaging and positioning. This calls for **dedicated regular launch** services for these satellites.

In June 2018, the European Commission launched a **€10 million prize** to reward an **innovative, cost-effective** and **commercially viable** solution offering dedicated **low-cost launch** services for **light satellites** into Low Earth Orbit and optimising European **technological non-dependence**. The prize was one of the six European Innovation Council (EIC) Horizon Prizes, run under the Horizon 2020 Research & Innovation programme, EIC pilot.

Winner of the EIC Horizon Prize on a Low Cost Space Launch

ISAERO: Independent Space Access for the European Revolution in Orbit

The **ISAERO** solution proposed by **Isar Aerospace** is designed with sustainability and scalability in mind: a first stage designed for re-usability, clean-burning propellants and time, cost-efficient automated production processes, and competitive launch service tailored to the needs of light satellites.

Isar Aerospace's **launch vehicle, "Spectrum"**, including its Aquila engines, is **fully designed, manufactured, integrated, and tested in-house within Europe**. This vertically integrated value chain allows for maximum flexibility, speed, and high autonomy.



Daniel Metzler, CEO of Isar Aerospace said: "Winning the EIC Horizon Prize is a great honour and underlines our strategic and technological approach to revolutionizing a fast-growing industry! Europe is a big part of Isar Aerospace's DNA – more than 90% of our investors are European and about 90% of our development, production and supply chain lies within the EU. We are proud to be part of that European ecosystem and actively shape the global space industry."

Research and
Innovation

The **ISAERO** solution:

• **Financially sustainable and commercially viable** model resulting in Isar Aerospace adding an independent, low-cost, and flexible European space launch service for institutional and commercial customers.

• **Launcher characteristics:**

- Payload capacity of up to 1 000 kg;
- 2 Stage Orbital Launch Vehicle:
First stage: 9 engines, Second stage: 1 engine;
- Vehicle dimensions: length 28m; diameter 2m;
- Liquid oxygen (LOX) and liquid propane, a high-performing, sustainable and **environmentally friendly** propellant.

• **Manufacturing process:** high degree of **automation** and advanced technologies like **additive manufacturing** and the use of **carbon composite** materials.

• **Launch flexibility** with respect to time to launch, place of launch, orbit parameters and payload mass;

• Internationally competitive **pricing** for small satellites at around €10 000 per kilogram.



Company description

Isar Aerospace **develops and builds launch vehicles** for transporting **small and medium-sized satellites as well as satellite constellations** into earth's orbit. The company was **founded 2018** by the three Co-founders Daniel Metzler (CEO), Josef Fleischmann (COO) and Markus Brandl (Head of Combustion) and **is fully privately financed**. Isar Aerospace **offers flexible, sustainable and cost-effective access to space**, contributing to Europe's independence and competitiveness in space and meeting the growing global demand for launch capacity.

Facts and Figures

on

Isar Aerospace



More than 40 nations:
> 200 employees



European footprint
over 90% of development and production and supply chain lie within the EU



First test flight:
planned for the end of 2022



Private capital raised:
€150 MILLION, around 90%
from European investors



4 international locations:
Germany, Sweden, Norway and the US