

HTGF-FMV-Possible-ISPTech Press release

Towards a Greener Space Economy: ISPTech Secures €2M in Pre-Seed Funding for Innovative Spacecraft Propulsion Technology

- ISPTech is building propulsion systems for spacecraft of all sizes, from small CubeSats to large satellites, that offer the highest performance and reliability at the lowest price in the market.
- The rapidly growing space market has a high demand for affordable, quickly available and reliable propulsion solutions.
- ISPTech's technology is based on a key patent and more than 10 years of R&D by the two founders at the German Aerospace Center (DLR)
- The unique propulsion technologies will accelerate the transition to low or non-toxic propellants, delivering upon a strong market demand.
- The €2 million round is led by High-Tech Gründerfonds (HTGF) along with First Momentum Ventures and Possible Ventures, three renowned deep tech investors.

July 2, 2024, Lampoldshausen - InSpacePropulsion Technologies GmbH (ISPTech), a spin-off from the German Aerospace Center (DLR), announces the closing of its €2M pre-seed round. ISPTech is addressing a key challenge that satellite manufacturers and operators face, by developing innovative propulsion systems based on non-toxic, so-called "green" propellants. This approach allows significantly reduced overall costs, rapid availability and simplifies spacecraft operations. The propulsion systems offer superior performance compared to the current green propulsion market standard. With its solutions, ISPTech addresses any spacecraft, from small CubeSats to large satellites, capsules or landers. The round is led by HTGF and backed by co-investments of First Momentum Ventures and Possible Ventures, three renowned deep-tech investors. The investment will be used to make ISPTech's propulsion technologies ready for its first customers and spaceflight.

Current in-space propulsion systems are expensive, complex and operate with highly toxic propellants. These toxic propellants cause extensive handling efforts, which complicate and slow down the development and qualification process of propulsion systems, besides increasing the overall costs. In addition, alternative solutions currently on the market either lack performance or operational simplicity. These key challenges ISPTech has overcome: based on more than 10 years of R&D work at the German Aerospace Centre (DLR), ISPTech's founders developed advanced propulsion technologies that work with green propellants.



The team has developed two technologies: one is space-ready (HyNOx), and one offers unique advantages (HIP_11). HyNOx runs on Ethane and Nitrous Oxide. Contrary to competitors, ISPTech's system allows continuous operation at high performance without facing issues of overheating.

HIP_11 is a unique propulsion technology for large spacecraft like landers, capsules, and satellites. It offers less complexity and cost than other systems with similar thrust levels and will be refuellable. It also allows hybrid operation, i.e. electric and chemical propulsion simultaneously.

The space market is expected to grow 7% per year and thus has a high demand for affordable, quickly available and reliable propulsion solutions. By using its advanced technologies, ISPTech will satisfy this demand and propel the whole space ecosystem.

ISPTech already showed a fast pace and made significant progress: after its foundation in summer 2023 first paying customers were acquired, a paid flight into space was won and the first thrusters were qualified for space. Furthermore, major space players emphasized their interest in the technologies.

The acquired funding will be used to further develop the propulsion technology to achieve qualification for space flight and serve initial customers. ISPTech's technology will be used on first flights at the end of 2025. These missions will demonstrate the operability, robustness and performance of ISPTech's propulsion systems and space qualify the propulsion system for wider market adoption.

The founders of ISPTech Felix Lauck and Dr. Lukas Werling in a joint statement:

We spent many years researching propulsion technologies, testing the products of our current competitors and working with many of our future customers. During all these times, we saw a clear and large market demand for affordable, quickly available, and robust propulsion technologies. Our mission now is to meet this demand.

Dr. Koen Geurts, Investment Manager at HTGF: The satellite market growth in the next decade and the increasing need for space debris avoidance manoeuvres will see a huge demand for chemical propulsion systems, especially non-toxic solutions, democratizing access to space. ISPTech is the only startup offering solutions from below 1N to 1kN with high TRL and exceptionally positioned to set a new market standard.

Dr. Maximilian Ochs, Investor at First Momentum Ventures:

Over the next ten years, we anticipate an increasing demand for in-space manoeuvres that can only be facilitated by chemical propulsion. ISPTech is in a prime position to become the European leader in non-toxic chemical propulsion. Their systems are already way ahead of the competition in terms of performance, stability, and robustness.



Dr. Christoph Baumeister, Principal at Possible Ventures:

As the space economy expands, the demand for reliable, eco-friendly, and cost-effective chemical propulsion systems becomes indispensable. ISPTech's innovative approach and European engineering excellence positions them as the frontrunner, and we are proud to support their mission.

About ISPTech:

InSpacePropulsion Technologies GmbH (ISPTech) offers propulsion solutions to allow uncompromised mobility in space – suitable for every spacecraft from small CubeSats to large capsules and landers. The products are based on non-toxic propellants, combine high performance and robustness with affordability and good availability. ISPTech is a spin-off of the German Aerospace Center (DLR) and was founded in 2023 by Dr. Lukas Werling and Felix Lauck. The first propulsion systems will be demonstrated in space in 2025.

isptech.space

About First Momentum:

First Momentum, a pre-seed VC fund based in Germany, is a trusted partner for technical B2B and Deep Tech startups in Europe, investing between €200k and €1m. The team, mainly consisting of engineers and scientists, brings a unique understanding of technical products and teams, providing comprehensive support from fundraising to recruiting to sales and marketing. With a successful track record of around 40 investments, many of First Momentum's portfolio companies secured follow-on rounds from top international VCs like Khosla, Insight, and Co.

firstmomentum.vc

About Possible Ventures:

Possible Ventures is a Munich-based international venture capital firm investing in frontier technologies to tackle humanity's biggest challenges. Specializing in deep tech sectors like climate, energy, quantum, AI, cyber, space tech, and synthetic biology, the firm focuses on early-stage investments at the pre-seed and seed levels. Led by a team with extensive entrepreneurial experience, Possible Ventures has earned the trust of co-investors such as Accel, Benchmark, Bessemer, Insight Partners, and General Atlantic. For more information, visit www.possibleventures.com

About High-Tech Gründerfonds:

The seed investor High-Tech Gründerfonds (HTGF) finances tech start-ups with growth potential and has supported more than 750 start-ups since 2005. With the launch of its fourth fund, HTGF now has about 1.4 billion euros under management. Its team of experienced investment managers and start-up experts support young companies with expertise, entrepreneurial spirit and passion. HTGF's focus is on high-tech start-ups in the



fields of digital tech, industrial tech, life sciences, chemistry and related business areas. To date, external investors have injected about 6 billion euros of capital into the HTGF portfolio via more than 2,000 follow-on financing rounds. In addition, HTGF has already successfully sold shares in more than 180 companies.

Fund investors in this public-private partnership include the German Federal Ministry for Economic Affairs and Climate Action, KfW Capital and 45 companies from a wide range of industries.

www.htgf.de/en

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Images

Team:



Figure 1 Team of ISPTech

Picture of the founders:

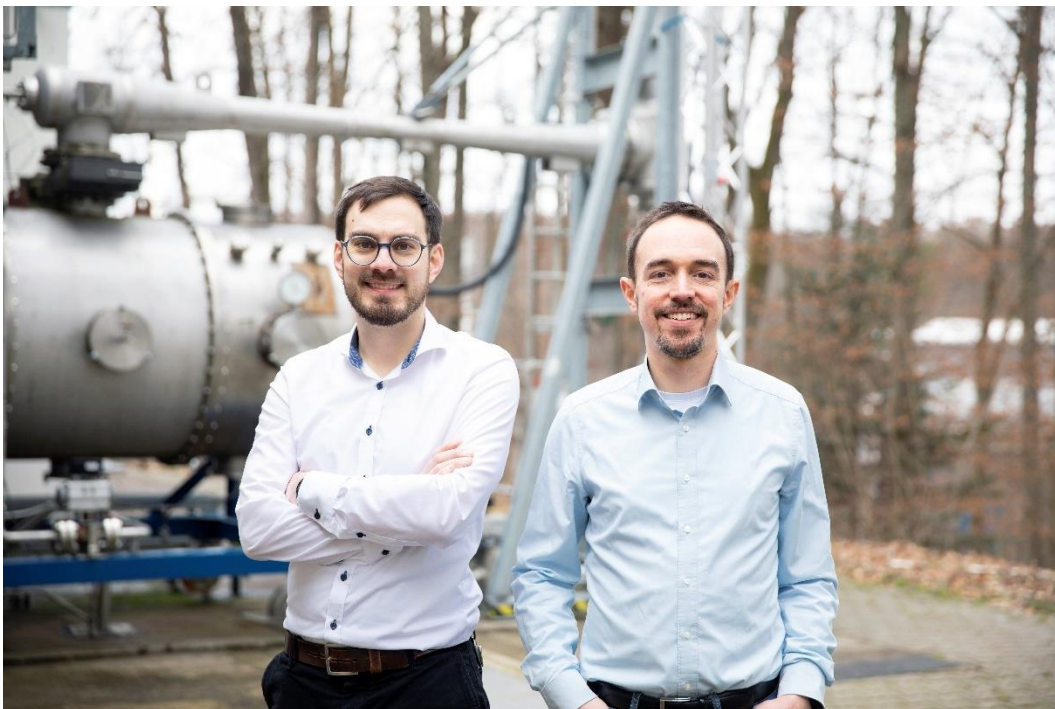


Figure 2: The founders Felix Lauck (left) and Lukas Werling (right)

Products:



Figure 3: HyNOx Thrusters with different thrust classes (from left): 1N, 5N, 22N, 200N

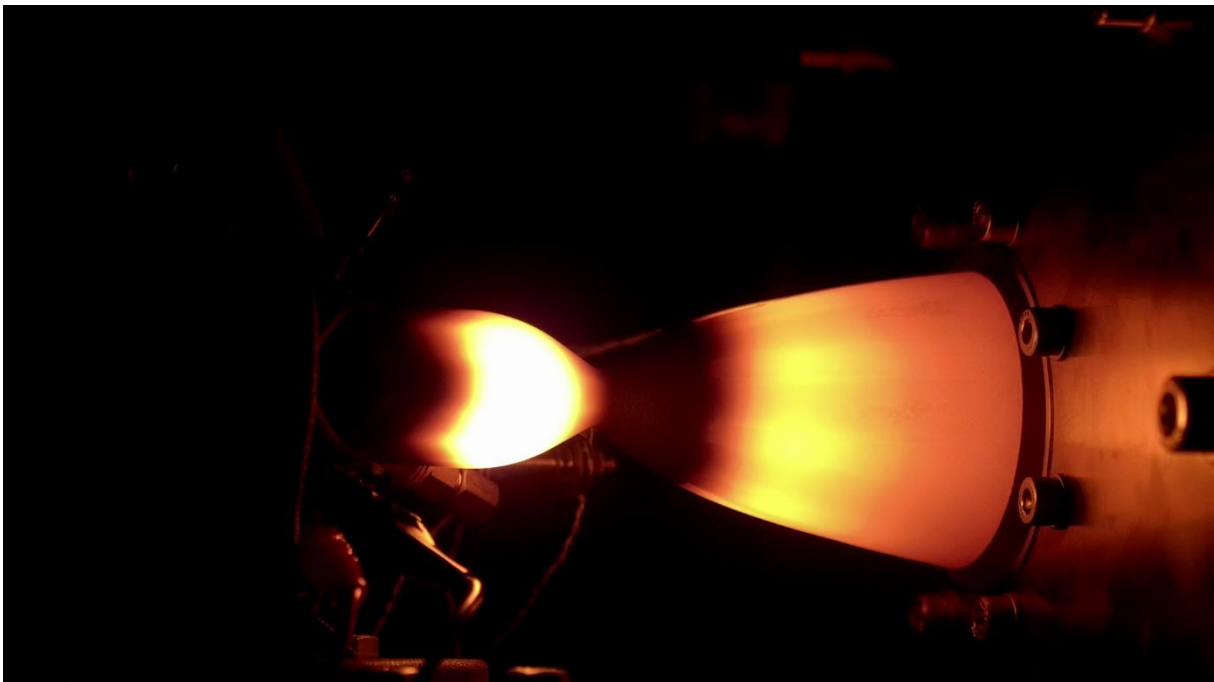


Figure 4: Hot Fire of HyNOx thruster