Genergo Shares New On-Orbit Performance Data of Its Propellant-less Electromagnetic Propulsion System Following Space Tech Expo Europe

Milan, 1st December 2025 – Genergo, the Italian deep-tech company based in Como, concluded its first participation at Space Tech Expo Europe (Bremen, 18–20 November 2025). During the exhibition, the company presented new technical information regarding the performance of its propellant-less electromagnetic propulsion system, collected across multiple on-orbit missions.

The technology — protected by a growing portfolio of internationally granted patents — is the world's first known in-space propulsion system capable of generating thrust without using propellant or expelling reaction mass, flight-tested and validated on orbit. The system converts electrical energy into precisely controlled electromagnetic impulses, according to the principles described in the company's patents.

New on-orbit performance details shared in Bremen

During Space Tech Expo, Genergo shared some results from its three ongoing space missions launched aboard **SpaceX Falcon 9** (2022–2023):

- **More than 700 hours of cumulative in-orbit operation** (across three missions).
- **Thrust levels ranging from 200 µN to 1 mN**, confirmed also by tests in which engine activation produced objective and repetitive acceleration or deceleration of the satellite.
- **Energy consumption** between **2 W and 11 W**.
- **Current dimensions**: 2U/3U, scalable in both directions.
- **Current total mass**: approx. **2.5 to 5 kg**.
- **High repeatability** of the observed effects under **real operating conditions**.
- **Stable long-duration operation**, supporting the company's roadmap toward extended mission lifetimes.

These results contribute to the system's current technological maturity, assessed as **TRL** (Technology Readiness Level) **7/8**. Level 7 of technological maturity indicates that a prototype of the system has been successfully demonstrated in orbit under real operating conditions. Level 8 indicates that the system is flight-qualified and has demonstrated reliable performance in space through validated tests.

Scalability and mission profiles

Genergo's propulsion architecture is inherently scalable thanks to its operating principle, compact and modular structure, absence of propellant tanks and low energy consumption.

The company highlighted that the technology is suitable for all types of satellites (small, medium, large, etc.), subject to appropriate characterization and engineering adaptation.

Next steps: continued in-orbit campaigns – further characterisation and engineering

In Bremen, Genergo attracted interest from several major players in the industry and confirmed its roadmap, which includes:

- **continuation of space missions currently in orbit** and **launch of additional space missions** to further characterise, refine, and engineer the technology;
- development of a **controlled de-orbiting device** as the company's first commercial product;
- progressive steps toward **TRL 9** (system successfully proven in several space missions, fully operational, and ready for commercial use), supported by continued space operations on current missions and future missions;
- expansion of **industrial collaborations**, both in Europe and internationally.

For further information: www.genergo.space

About Genergo

Genergo is an Italian deep-tech company based in Como developing space-propulsion systems that convert electrical energy directly into thrust, without propellant and without expelling reaction mass. The company's proprietary system has surpassed 700 hours of on-orbit operation across three missions and has reached a maturity level equivalent to TRL 7/8, supported by independent analyses conducted on data acquired under real operating conditions. Genergo's vision is to make mobility in space safer, more sustainable, and reusable.

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