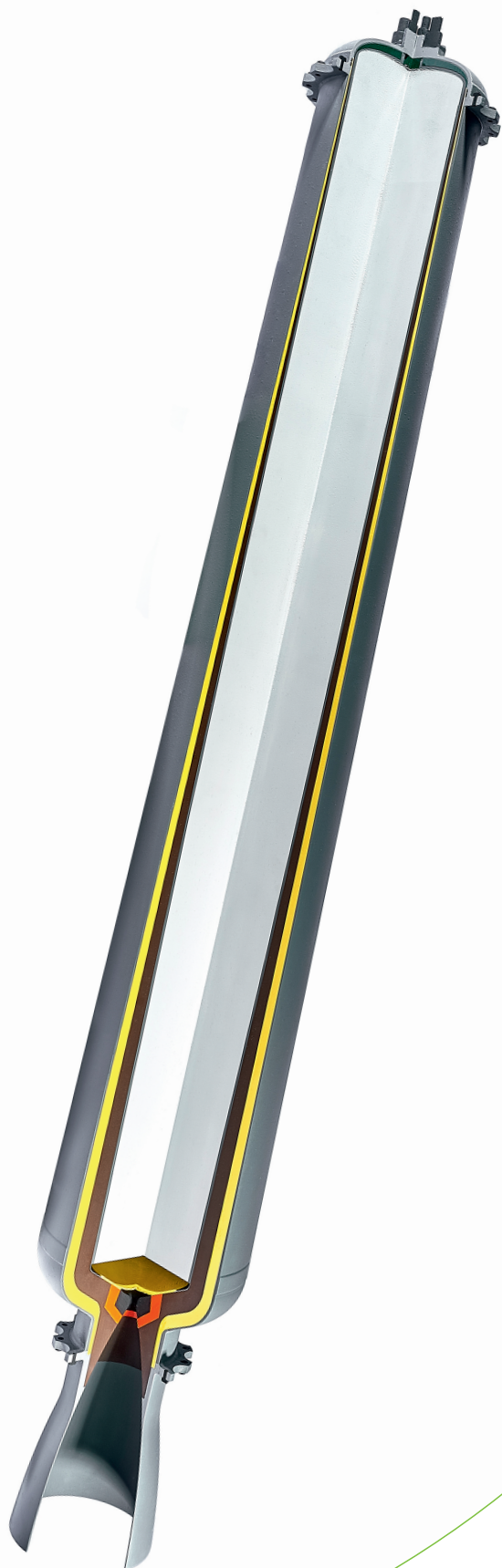




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of Aviation



Solid propulsion compliant
with Space Debris Mitigation Guidelines
is an excellent choice
for direct de-orbit manoeuvres

SPROD

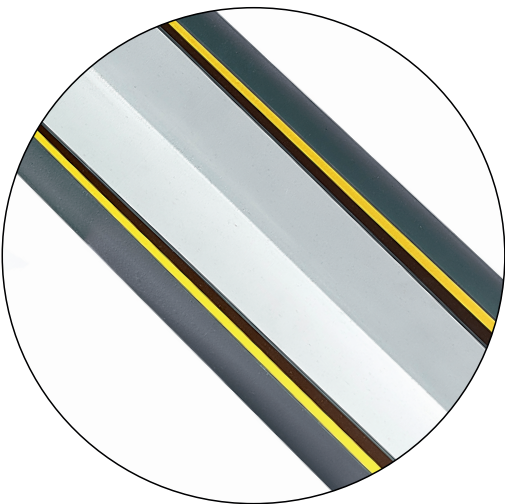
**SOLID ROCKET MOTOR
FOR SPACECRAFT
ORBITAL
MANEUVERS**

CHARACTERISTICS

SPROD is a 250 N class solid rocket motor designed for satellite and space object deorbitation at the end of their operational life. It also enables orbital manoeuvres, supporting safe and sustainable use of space. Thanks to its simple architecture, SPROD offers high reliability and long-term in-orbit storage capability. A dedicated high-performance propellant has also been developed specifically for this system.

KEY FEATURES

- Scalable architecture enabling cluster operation.
- High total impulse at a moderate thrust level, enabling significant orbital manoeuvres without high acceleration.
- Reduced particle emissions thanks to a dedicated aluminum-free propellant formulation.
- Long-term in-orbit storage capability.
- Optional Thrust Vector Control (TVC) system.

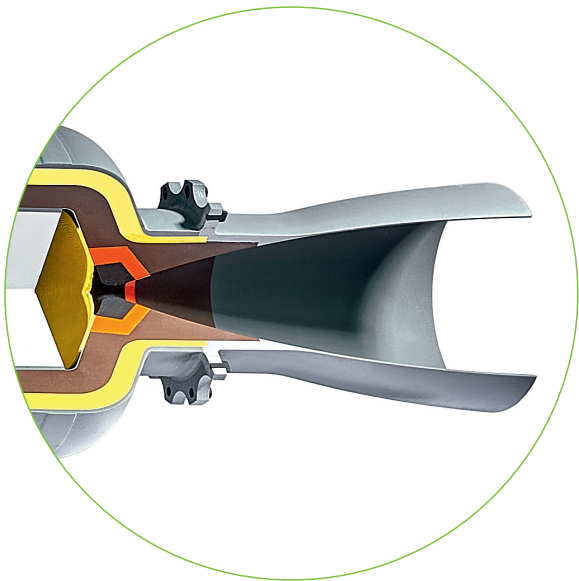


Development status:

the engineering model has reached Technology Readiness Level 4 [TRL 4]. Further development is planned within future civil and defence programmes.

Developed for the European Space Agency (ESA), featuring the world's first dedicated solid propellant compliant with ESA CleanSpace requirements.

This information sheet is part of the promotion of the project and its results.



TECHNICAL INFORMATION

Parameter	Value
Thrust	250 N
Burn time	400 s
Total mass	50 kg
Specific impulse	283 s
Total impulse	82.5 kNs



The Łukasiewicz Research Network – Institute of Aviation offers a wide range of specialized research, engineering services and products. We provide comprehensive solutions, ranging from dedicated analyzes, simulations, engineering design, through the selection, testing and certification of materials and structures, to rapid prototyping and additive manufacturing.

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