TRL SPACE

ENGINEERING THE FUTURE OF SPACE MISSIONS

ONE PARTNER.
COMPLETE DELIVERY.
REAL OUTCOMES.

CAPABILITIES

MISSION DEFINITION & ANALYSIS

SYSTEM ENGINEERING

MECHANICAL DESIGN

STRUCTURAL & THERMAL ANALYSIS

ELECTRICAL & SOFTWARE DEVELOPMENT

AVIONICS

SUBSYSTEMS PROCUREMENT

MANUFACTURING & INTEGRATION

TESTING & QUALIFICATION

LAUNCH

OPERATIONS & DATA PROCESSING

We are mission integrators with a focus on small satellites and CubeSats.

We are working with an extensive list of partners across the globe to transform your needs into a space mission. Whether it is a CubeSat, small satellites, lunar orbiter, ISS experiment or even a constellation, we are ready to support you on your journey.

We are building our own deployer CAVE, we are part of the EnVision mission and we're leading multiple ESA feasibility studies for upcoming lunar missions. Our team is ready to support you at every stage of the mission, from early-phase development to operation and data analysis, or we are ready to lead the whole development for you.

COMMERCIAL & GOVERNMENT

TROLL NG

HYPERSPECTRAL NANOSATELLITE

A compact nanosatellite providing ~5 m resolution hyperspectral imagery across 32 VNIR bands. Equipped with on-board processing for compression, cloud filtering, and object detection, TROLL delivers timely, high-quality insights for agriculture, environmental monitoring, and security applications.

TRAP

DEFENCE EO MICROSATELLITE

TRAP is a high-resolution Earth observation microsatellite designed for defence, intelligence, and rapid-response applications. It delivers native ~0.9 m GSD imagery (up to 0.7 m using multi-frame super-resolution) in both panchromatic and RGB modes, with a ~10 km swath. Multiple imaging modes — including long-strip mapping (≥800 km per pass), high-quality Stop-&-Stare, and short video capture — enable both strategic and tactical use.
The satellite integrates on-board compression, data filtering, and object detection to optimise data throughput and reduce latency. Secure, encrypted communication and direct-to-user downlink ensure fast and protected access to critical intelligence.
TRAP is engineered for scalable constellation deployment, offering an outstanding performance-to-cost ratio.

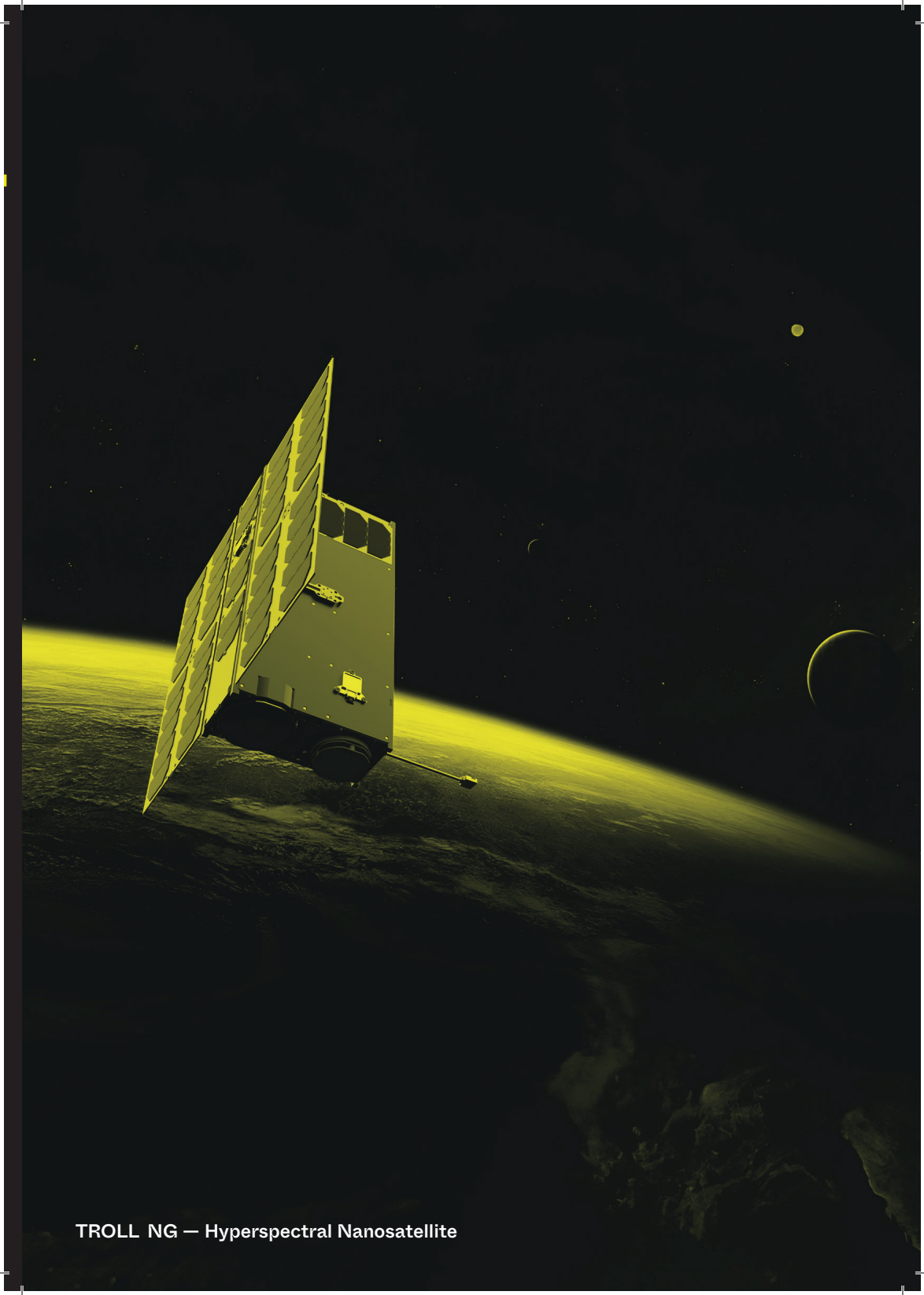
TRULY

YOUR ACESS TO SPACE DATA

Cloud-ready (or on-prem) C2 & analytics platform for satellites, drones and ground sensors. Plan missions and task assets, ingest and fuse data in near-real time, and deliver insights to end-users through a clean web/mobile app.

Features: multi-sensor tasking & tip-and-cue, on-board/edge filtering, object & change detection, alerting, role-based access, audit trails, APIs, and encrypted data flows. TRULY also supports a “virtual constellation” model — integrate your own spacecraft or third-party providers and scale coverage fast.

Key use cases: border surveillance, disaster response, critical infrastructure, agriculture.



TROLL NG — Hyperspectral Nanosatellite

ESA PROJECTS

TRL Space contributes to European science and exploration programs — from lunar orbiters to payload electronics for planetary missions. Our roles include electronics development, mission integration, PNT and navigation systems, and technology missions that enable the future lunar economy.

LUGO

LUNAR GEOLOGY ORBITER

Lunar orbiter designed to investigate volcanic activity and explore ancient lava tubes beneath the Moon's surface — suitable for future human bases. Operating in a highly elliptical orbit, LUGO performs close approaches just 20 km above the surface, combining a precision camera and advanced ground-penetrating radar to reveal subsurface structures, lava flows, and geological layers.

LUMI

LUNAR INSPECTOR
& MAPPER

LUMI is a lunar mapper targeting the Moon's south pole — a key region for future exploration. Using a narrow-angle camera, it will create a digital elevation model with ten times higher resolution than current data - this capability is vital for selecting safe, scientifically valuable landing sites and planning future lander and rover missions. LUMI also studies micro-traps, regolith, and potential ice deposits, providing crucial insights for a sustainable lunar presence.

LUREPOS

LUNAR RELATIVISTIC
POSITIONING SYSTEM

Innovative navigation experiment that demonstrates precise, GPS-independent positioning for the Moon. It integrates advanced communication receivers and timing technologies compliant with NASA, ESA, and JAXA standards, forming a foundation for interoperable lunar navigation systems. By testing relativistic corrections and cross-agency coordination, LUREPOS contributes to the calibration of future lunar communication and navigation networks — a vital step toward autonomous spacecraft operations, surface mobility, and lunar logistics infrastructure.

ENVISION

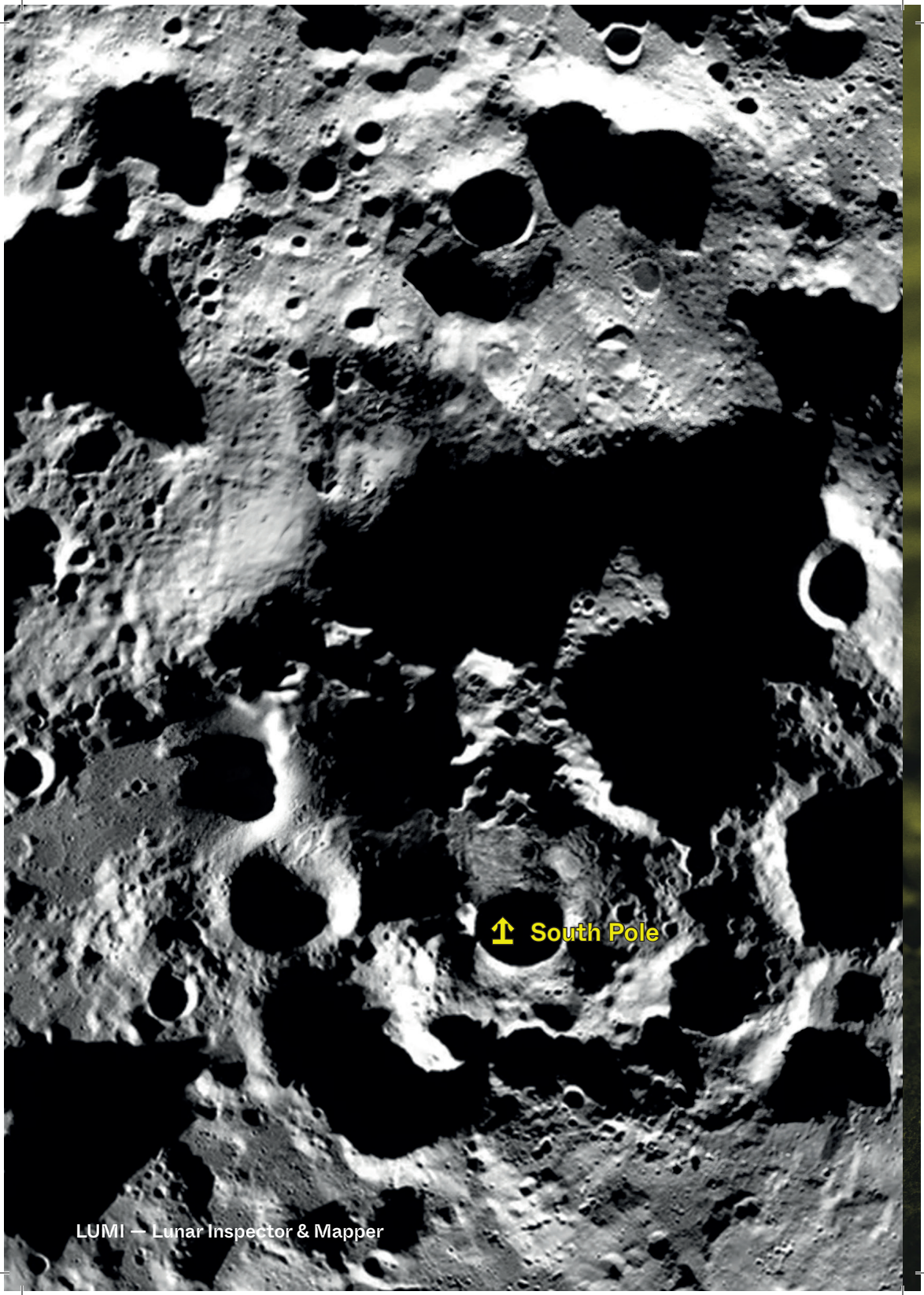
M-CLASS SCIENTIFIC
MISSION

EnVision is the European Space Agency's mission to investigate the evolution and geological history of Venus — our planet's enigmatic twin. TRL Space leads a Czech consortium delivering the complete payload electronics for the VenSpec-H spectrometer, which will study Venus's atmosphere to reveal how it diverged so dramatically from Earth's. Launching in December 2031, the mission also carries a symbolic copper silhouette of the 30,000-year-old Venus of Dolní Věstonice, celebrating Czech cultural heritage and uniting the story of human creativity with the exploration of its celestial counterpart.

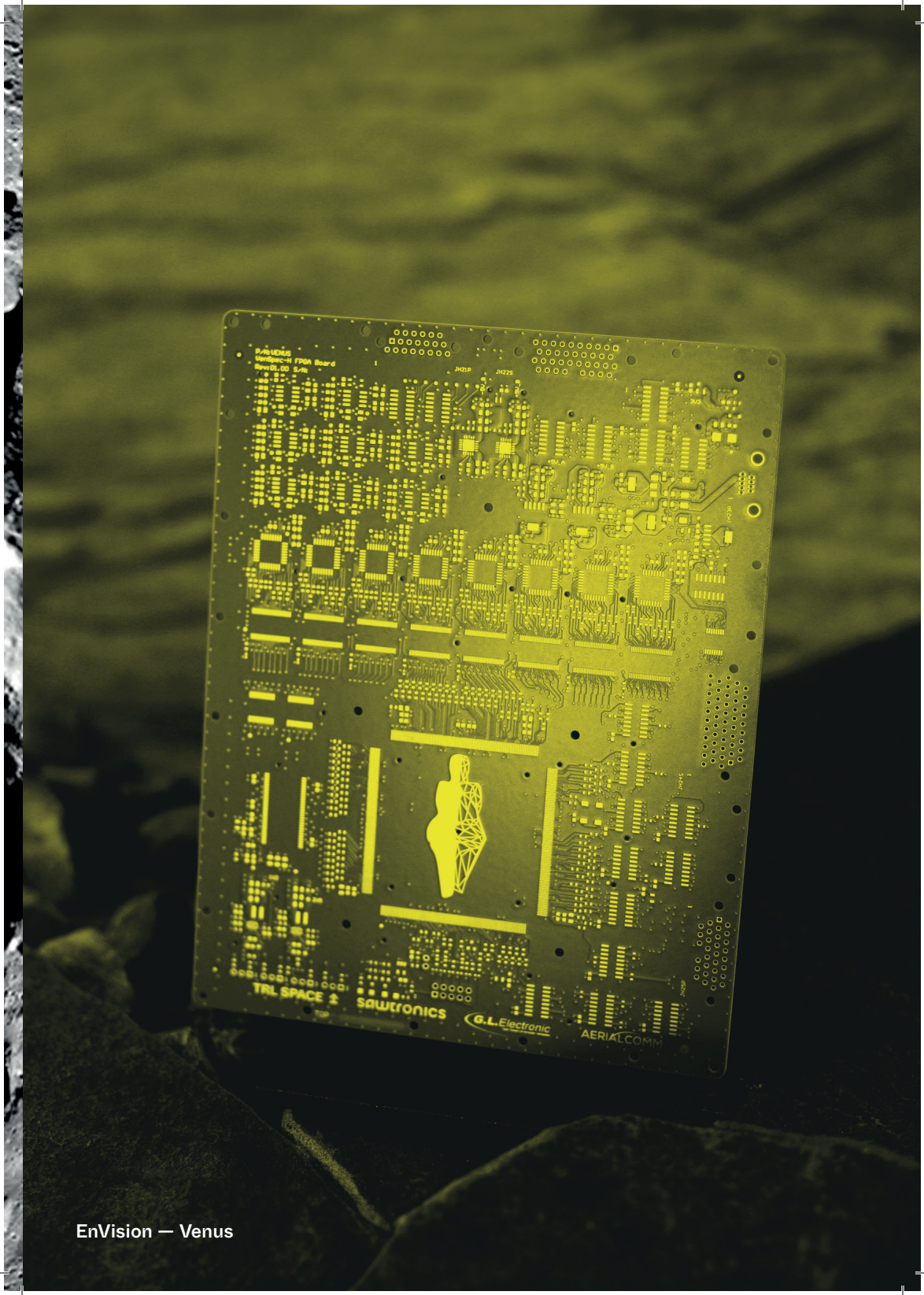
CONREX

ISS, CZ EXPERIMENT

The CONREX project develops and prepares an experiment for the International Space Station to study the behavior of nanorobots in microgravity. These microscopic robots could revolutionize space medicine and life support by targeted medicine delivery and cleaning air and water systems. The team includes leading researchers in the area to create the first nanorobots tested in orbit — paving the way for future "smart" biomedical technologies designed to protect astronauts during deep-space missions.

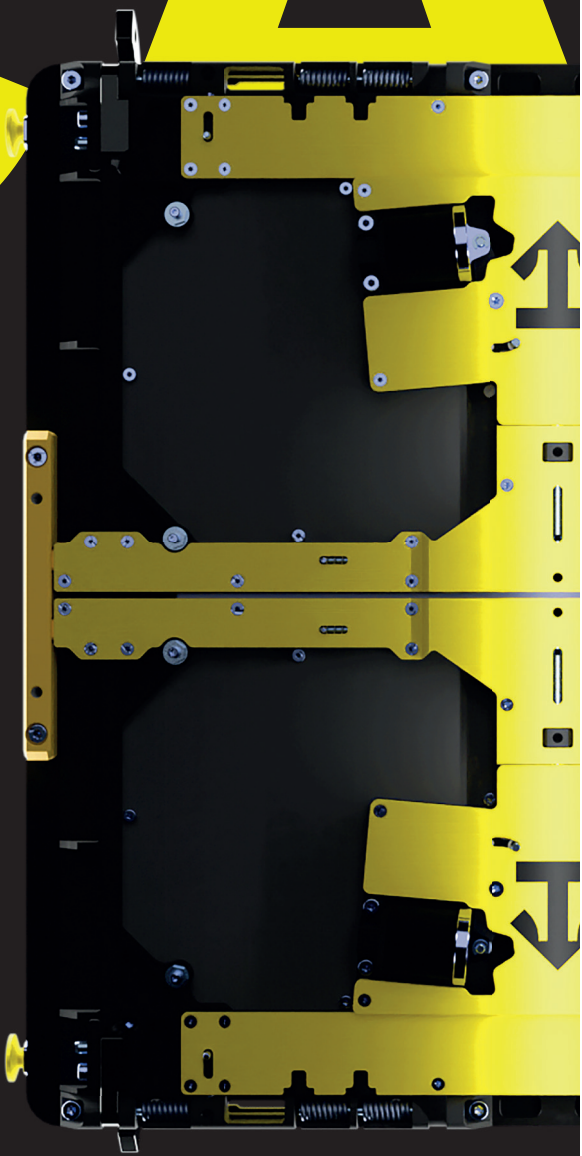


LUMI — Lunar Inspector & Mapper

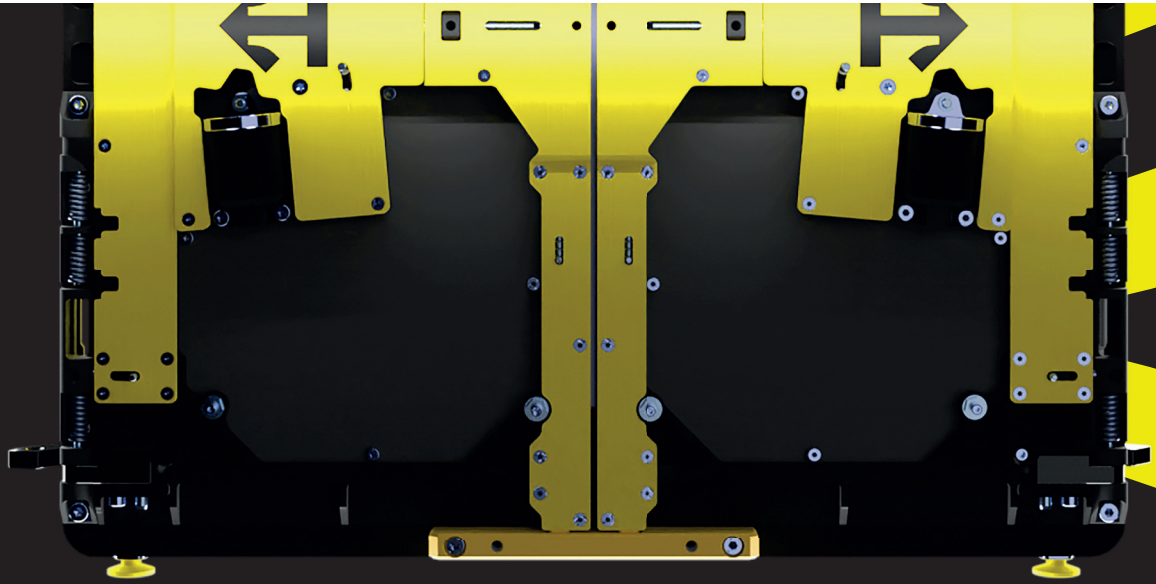


EnVision — Venus

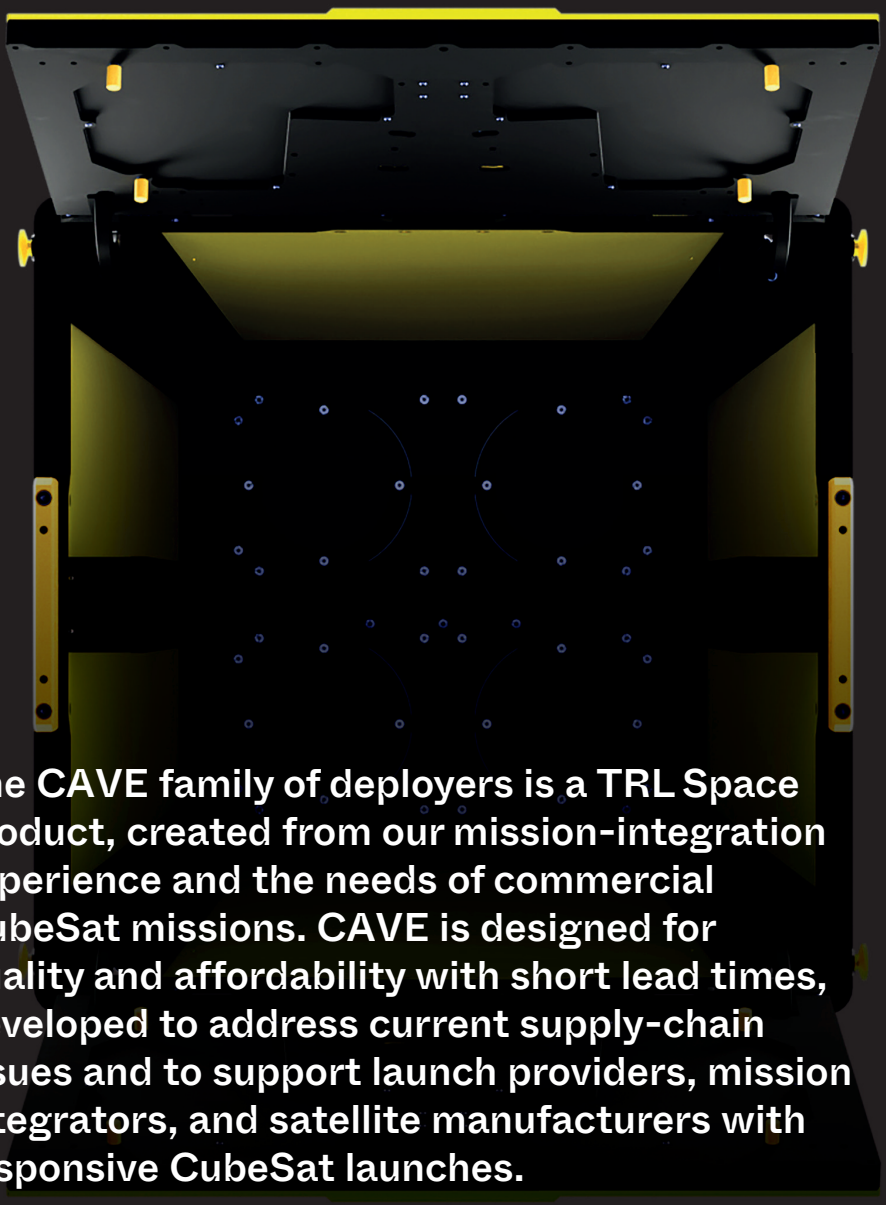
CA



TRL SPACE



CAVE
JUST A DEPLOYER



The CAVE family of deployers is a TRL Space product, created from our mission-integration experience and the needs of commercial CubeSat missions. CAVE is designed for quality and affordability with short lead times, developed to address current supply-chain issues and to support launch providers, mission integrators, and satellite manufacturers with responsive CubeSat launches.

S1 VARIANT
1 SLOT

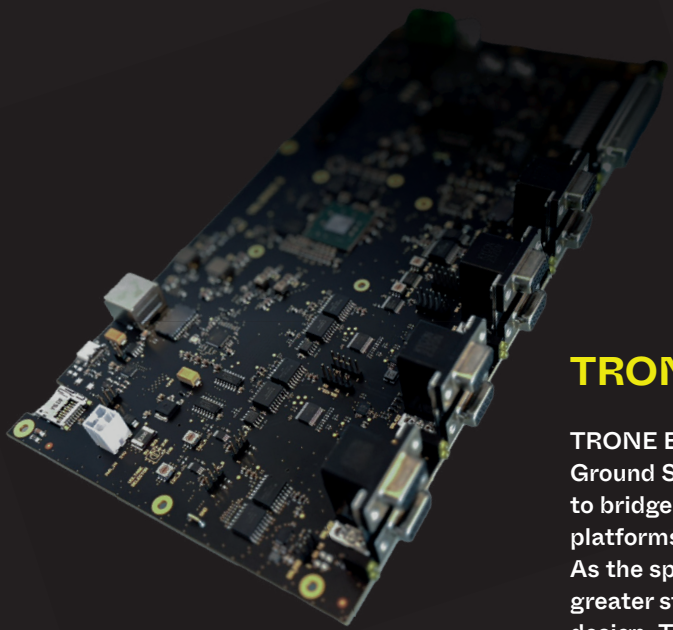
Compatibility:	12U, 12UXL, 16U
Protrusions:	28 mm
Customization:	Customizable CubeSat length from 12 to 16U
Activation:	Custom Developed redundant HDRM Mechanism
Telemetry:	Integrated deployment telemetry for mission assurance
Integration:	User-friendly integration with full access to the sides of CubeSat after integration
Rapid delivery:	Short lead times
Pricing starts at	€49,990

S2 VARIANT
2 SLOTS

Compatibility:	6U, 6UXL, 8U
Protrusions:	up to 28 mm
Activation:	Custom Developed redundant HDRM Mechanism
Telemetry:	Integrated deployment telemetry for mission assurance
Integration:	User-friendly integration with full access to the sides of CubeSat after integration
Rapid delivery:	Short lead times
Pricing starts at	€45,990

Why CAVE?
↦ Fast delivery, sharp pricing
↦ Easy integration + deployment telemetry
↦ Compatibility with launchers

OUR PRODUCTS



TRONE EGSE

TRONE EGSE is a flexible Electrical Ground Support Equipment designed to bridge the gap between satellite platforms and payload development. As the space industry moves toward greater standardisation and modular design, TRONE EGSE accelerates testing and integration by emulating payload behaviour during platform development. Developed in collaboration with leading system integrators, the system is shaped by real customer needs. The result will be a universal, high-performance tool that streamlines satellite production, shortens mission timelines, and reduces development costs.

We are developing TRONE EGSE under the ESA GSTP programme — and we're looking for additional system integrators to join us!

PRUSAMENT PC SPACE-GRADE

FROM YOUR PRINTER TO SPACE

Space-grade filament co-developed with Prusa Research for flight-adjacent parts on standard Prusa FDM printers. Low outgassing, ESD-safe — ideal for brackets, covers, cable guides and GS components. Fast delivery, repeatable quality.

WHY PRUSAMENT PC SPACE-GRADE?

- Low Outgassing — formulated for environments where material emissions must be tightly controlled.
- ESD-safe — antistatic properties help protect sensitive electronics.
- Made for space — ideal for brackets, covers, cable guides, small structural components, and ground-support parts.
- Accessible & repeatable — straightforward printing on Prusa or other manufacturers' printers with consistent results and short lead times.

Use Prusament PC Space-Grade when affordability, low lead time, reliability, and ESD control matter.

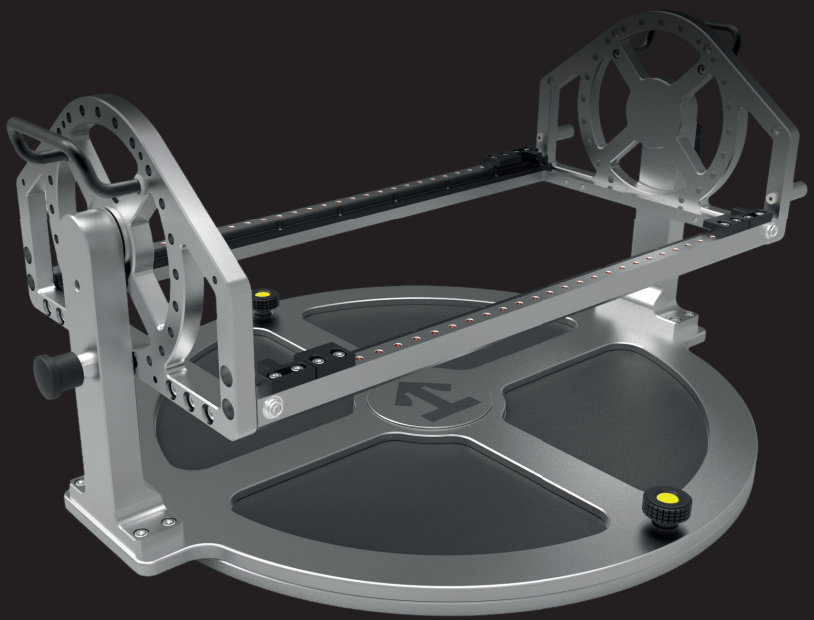
TILT

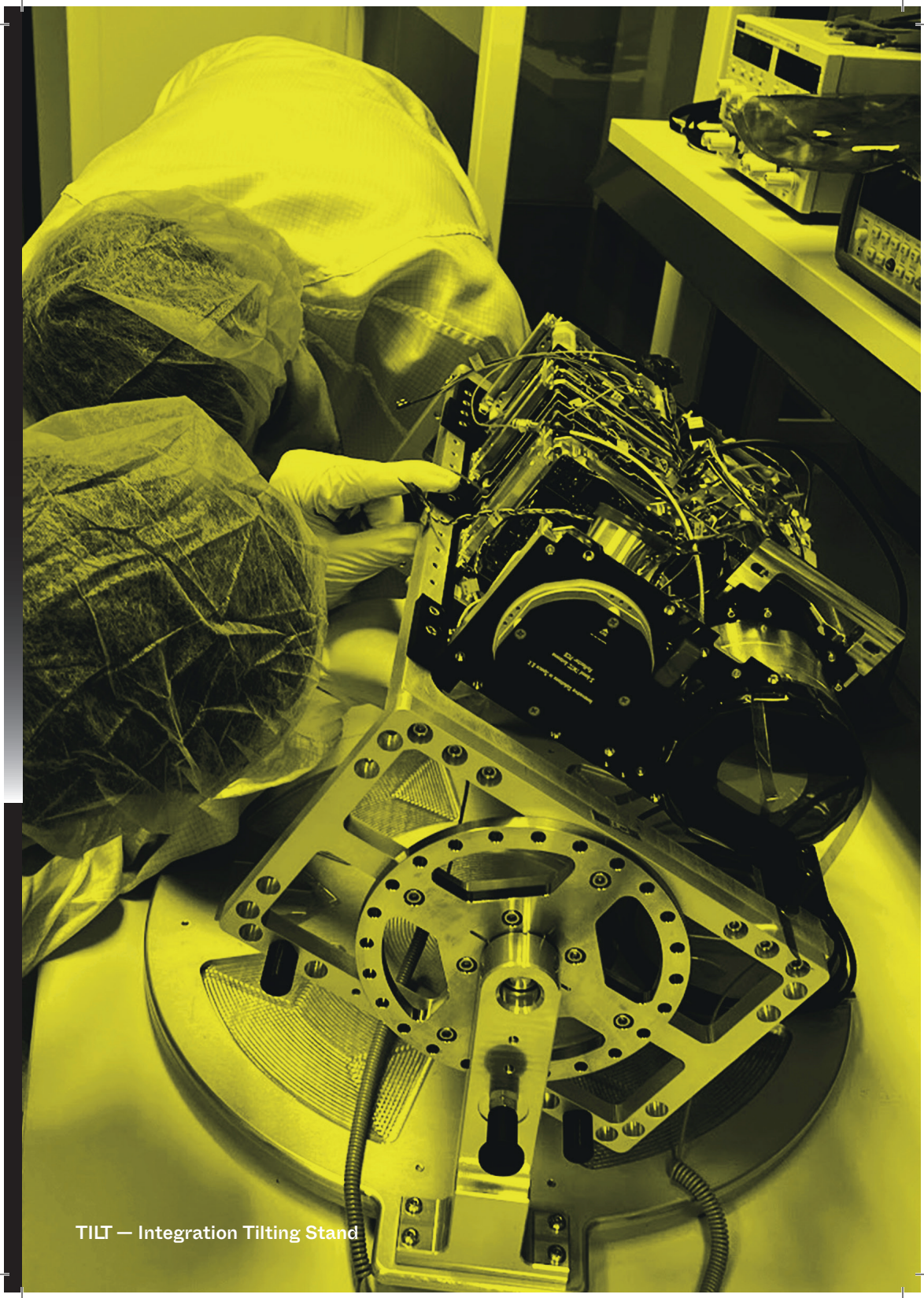
INTEGRATION TILTING STAND

2-axis stand for 6U–16U CubeSats, full access to all sides without dismounting. Faster MAIT, lower handling risk, flexible mounting.

WHY TILT?

- **Full accessibility — two-axis rotation for unobstructed access to all sides, ports, and harness routes.**
- **Faster workflows — speed assembly, inspections, fit checks, harness routing, and functional tests.**
- **Safer operations — minimises lifting and re-mounting, reducing the chance of handling damage.**
- **Flexible compatibility — adjustable fixtures support 6U–16U form factors.**





TILT — Integration Tilting Stand

SERVICES & PARTNERSHIPS

END-TO-END SERVICES FOR SPACE MISSIONS

From design and system engineering through MAIT (cleanroom, shaker, TVAC) and the Testing Centre Brno to operations. Within TRL Group we connect space with electronics, manufacturing, drones and software — accelerating delivery and lowering cost.

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TRL SPACE

SATELLITE PROGRAMS

TROLL NG
TRAP

ESA PROJECTS

LUGO
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PRODUCTS

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