



VEREINIGUNG ZUR FÖRDERUNG
DER ÖSTERREICHISCHEN WELTRAUMINDUSTRIE

AUSTRIAN SPACE INDUSTRY ASSOCIATION

Annual Report 2025

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We, Europeans, can be proud of
our achievements in space.

[...]

For now.

[...]

If we want to maintain our lead
in space, we need to take bold
and decisive steps.

— From Commissioner Andrius Kubilius's speech
at the European Space Conference 2025

The current AUSTROSPACE Annual Report comprises
an up-to-date list of members, including their contact
information, along with contributions from industrial
members and research organizations detailing their
space activities throughout the year 2025.

Holzhausen, September 2026



Dieter Grebner
President



Hans-Martin Steiner
Vice President and
Managing Director

Why Space Matters for Austria



Resilience and Security – Europe's Sovereignty Begins in Space

The geopolitical reality of today—from military conflicts to digital threats—makes one thing clear: Europe must become more independent. Only through sovereign access to space via European launch vehicles, secure communication systems (Starlink is not European infrastructure), as well as autonomous navigation and Earth observation, can resilience for critical infrastructure be ensured. Austria's contribution to ESA secures strategic capabilities for crisis prevention, disaster management, and national security. Without independent access to space, resilience becomes an illusion—and autonomy an empty shell.



Highly Skilled Industrial Jobs for the Next Generation

Austria's space sector employs around 1,300 highly specialized professionals, with 75% working in research and development. Space activities drive not only innovation but also create future-proof jobs in high-tech industries—providing a vital and transformative boost for Austrian industry and a major opportunity for the next generation.



A Global Growth Market with Double-Digit Expansion Rates

According to reports by ESPI and McKinsey, the space sector is one of the fastest-growing global industries, with annual growth rates exceeding 10%. Europe has seen record investments in space companies in recent years—a clear signal of structural transformation toward an innovation-driven global market of the future. This is a momentum Austria cannot afford to miss.



Space as an Export Engine: €1 Generates €4

Studies show that every euro invested in ESA programs yields four times the value in export revenues for domestic companies. Austria's space economy already generates around €240 million in gross value added annually.



Fiscal Return: €1 In, €1 Back

The return on public investment through tax revenues is nearly 1:1. In 2025, the total fiscal impact of Austria's space sector amounted to €67 million—demonstrating highly efficient use of public funds.



© ESA - Philippe Sebirot

Statement by

Josef Aschbacher

ESA Director General

Austria is a crucial asset to the European Space Agency, ever since it joined as a member in 1987. In 2025, Austria has once again positioned itself as an important driving force in the European space sector. The Living Planet Symposium in Vienna showcased the importance of space for science, climate and innovation. Austria also sent a strong signal for technological sovereignty, competitiveness and the future of European space at the ESA Ministerial Council Conference by increasing its contribution to 340 million Euros.

The Austrian contribution to ESA is underpinned by the remarkable capabilities of the Austrian space industry. The Austrospace 2025 Annual Report highlights the vitality of the Austrian space ecosystem and the significant achievements it delivers in support of European and international programmes.

I am proud to see Austrospace companies making an active contribution to Europe's space efforts with excellence and a well-balanced mix of established and novel approaches. I reaffirm ESA's commitment to supporting the competitiveness and innovative capacity of the Austrian space industry.

Austrospace Members

Industrial members

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Leading supplier of advanced on-board digital signal processing solutions for satellite payloads, navigation solutions for precise orbit determination, drive- and human space electronics. Well-recognized partner for deployment/pointing subsystems (mechanisms and electronics) and high-performance mechanical ground support equipment (MGSE). European market leader for design, production and integration of space thermal insulation products.



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Enpulsion is transforming the future of satellite mobility and maneuverability. As a global leader in electric propulsion for small satellites, we design, build, and deliver precision thrusters powered by field emission electric propulsion (FEEP) technology. With more than 280+ units in orbit and a proven TRL 9 platform, our systems are trusted by commercial, civil, and defense missions.



EODC: EARTH OBSERVATION DATA CENTRE FOR WATER RESOURCES MONITORING GMBH

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Since its foundation in 2014, eodc has provided high-performance computing and dedicated cloud infrastructure for efficient access, processing, and analysis of EO data. It supports customers in developing cloud-native EO applications and specialises in the operational deployment of scientific algorithms for environmental and climate-related services.



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Develops and operates advanced information platforms and services for access and combined analysis of data provided by Earth Observation satellites and other geospatial sources with information of socio-economic origins. EOX is the technology partner of choice in major environment monitoring and space programs (e.g. Copernicus) and in application domains like agricultural monitoring and digital cartography.



EVIDEN AUSTRIA GMBH

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Eviden is a trusted technology provider securing what matters most people, data, critical infrastructure across the digital and physical world.

By bringing AI in vision analytics, mission-critical systems, and sovereign cybersecurity products, we empower public and private organizations to make smarter actions that protect lives, safeguard critical assets, and ensure operational continuity.



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As a dynamic opto-mechatronics company, Fantana GmbH offers innovative aerospace and defence solutions, specializing in software-dominated applications. The focus is on remote sensing optical sensors and intelligent data processing systems. Services cover the entire development process—from concept through mechanical, electrical design, and software integration. Solutions are used in satellite earth observation, optical wind measurement, drone systems, and drone defense.



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GATE Space is an Austrian space technology company specializing in green chemical propulsion for spacecraft. Founded as a TU Wien spin-off, it develops propulsion technologies enabling reliable mobility for satellites and orbital transfer vehicles. Its team of 29 engineers brings expertise in propulsion, mechanical design, avionics, and system testing to deliver mission-specific solutions for modern spacecraft and demanding operational requirements across full mission lifetimes.



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GeoVille is a leading provider of satellite-based Earth Observation, geospatial intelligence, and data access solutions, helping organisations worldwide transform spatial data into actionable insights. With more than 25 years of experience, GeoVille has established itself as a trusted partner for governments, international institutions, space agencies, public authorities, and private-sector organisations.



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Infineon Technologies Austria AG is a subsidiary of Infineon Technologies AG. In Austria, Infineon combines expertise in research, development, manufacturing, and global business responsibility. Its headquarters are in Villach, with additional sites in Graz, Klagenfurt, Linz, Innsbruck, and Vienna. With 5,886 employees from 79 nations, including about 2,500 in research and development, Infineon is Austria's most research-intensive company.



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iSEE (Impact Space Expedition & Exploration) is a global leader in space security, providing advanced multi-sensing AI-controlled technology for Space Based Situational and Domain Awareness (SSDA), delivering real-time monitoring, intelligent threat detection, predictive analytics, autonomous decision support to safeguard satellites, critical space infrastructure, commercial missions, government assets, and resilient operations across increasingly complex orbital environments worldwide.



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With more than 30 years of experience in the design, development, and manufacture of cryogenic fluid transfer and storage solutions, Magna Aerospace has established a strong reputation as a trusted and reliable partner within the aerospace industry. Our comprehensive capabilities cover the entire product lifecycle – from engineering and process development to industrialization and serial production – ensuring full compliance with the highest aerospace quality, safety, and regulatory standards.



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OHB Austria is a leading European aerospace company specializing in satellite-based navigation technologies, space systems, and scientific research. As part of the OHB Group, it contributes to cutting-edge space projects, including satellite mission planning, development, GNSS technology, and scientific work for space exploration. With its team's expertise, the company develops solutions, services, and applications tailored to customer and market needs.



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The company was founded in 2007 and is headquartered in Upper Austria. By now Peak Technology is one of the major providers for cryogenic storage systems and high-pressure vessels as lightweight hybrid composite structures, which are installed in commercial launcher and satellite applications. By combining the whole value chain from product design to manufacturing in one place, integrated solutions for complete repulsion tank systems can be provided to our customers.



PIDSO – PROPAGATION IDEAS & SOLUTIONS

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PIDSO is the Austrian specialist in the development and production of antennas, antenna systems, and radar technology. With expertise in national and international research programs and in customer-specific projects, the company covers the entire product lifecycle, from prototyping to certified series production in accordance with EN 9100. As a leading provider, PIDSO delivers weight-optimized and aerodynamically integrated high-frequency components "Made in Austria".



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Founded in 2017, qtlabs GmbH is an Austrian SME based in Vienna specializing in optical and quantum communication technologies for space applications. Leveraging decades of scientific excellence, the company delivers end-to-end quantum key distribution solutions, consulting, optical ground stations, simulation software, and executive education, supporting secure quantum communications across Europe and beyond.



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R-Space has reinvented the way in-orbit demonstrations (IODs) are conducted. With a modular satellite bus and standardized payload containers, R-Space is opening up an entirely new way to bring technologies into space—simply, flexibly, and reliably. Whether electronic components, innovative subsystems, mechanisms, materials testing, or pharmaceutical experiments, R-Space enables innovations to reach orbit faster and deliver insights that accelerate development and enable quicker market launches.



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European market leader of state-of-the-art satellite testing products and solutions. Our cutting-edge technological expertise allows for the provision of end-to-end Electrical Ground Support Equipment (EGSE) infrastructures such as Satellite Platform, Instrument and Payload test benches. We are a well-recognized longterm development partner and supplier of Ground Segment solutions for Mission Control and Earth Observation.



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TTTECH manages a group of high-tech companies with about 1100 employees in 11 countries and is headquartered in Vienna, Austria. Its business unit TTTECH Aerospace provides safe, deterministic networking and embedded control platform solutions in the aviation, space, defense, and adjacent markets – based on 25 years of technology leadership. It is known as innovator in on-board data handling with technologies such as TTEthernet and TSN.



Service members

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The ESA Phi-Lab Austria, located at Vienna Airport in Schwechat, is Europe's first ESA Phi-Lab and the European center of excellence for the commercialization and industrialization of upstream space technologies. It supports companies in bringing new ideas for the commercial space market to market readiness. Through regular calls for proposals, selected projects receive ESA seed funding of between €200,000 and €500,000 to develop their prototypes to an industrial level.



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BRIMATECH Services GmbH supports companies, start-ups, research institutions, and public actors in innovation, technology transfer, and international networking, with a particular focus on the space sector. As an interface between industry, research, and European programs, BRIMATECH accompanies projects in ESA, Horizon Europe, New Space, and Dual Use, and actively strengthens the Austrian space community through cooperation, events, and innovation initiatives.



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Driven by a passion for innovation, Science Park Graz and ESA BIC Austria support over 70 start-ups annually. As a premier hub for entrepreneurs, SMEs and researchers, ESA BIC Austria transforms cutting-edge space technologies into market-ready solutions that improve life on Earth. Through tailored expert mentoring, funding, and a strong professional network, ESA BIC Austria provides the ideal environment for high-impact technological development.



Research members

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Founded in 2010 as a spin-off from the Austrian Institute of Technology (AIT), AAC is a private company (SME) that provides research, development and engineering capabilities in materials technology and testing for industrial applications with a focus in aeronautics and space. AAC started in 1989 with the ESA-certified Space Materials Testhouse under ESTEC frame contract and is coordinator of European and national research cooperation projects in aeronautics and space.



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The IWF Graz focuses on the physics of our solar system and the diversity of exoplanets. With about 100 staff members from 20 nations it is one of the largest ÖAW institutes and the only Austrian institute that develops and builds space-qualified instruments on a large scale. Currently, the IWF is involved in 25 international space missions, covering fleets of satellites in near-Earth space and the exploration of (extrasolar) planets.



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The University of Applied Sciences Wiener Neustadt (FHWN) and its research company FOTEC have recognized expertise in space propulsion, small satellites, environmental testing, and developing and qualifying space technologies. This is complemented by the English-language Aerospace Engineering master's program, which trains highly qualified specialists for the international aerospace industry. Students also gain practical experience through a CubeSat program.



**FACHHOCHSCHULE
WIENER NEUSTADT**
Austrian Network for Higher Education

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JOANNEUM RESEARCH develops technologies for industry across sectors, conducting world-class research with 500+ employees at six locations. Partnering with Styria, Carinthia and Burgenland, it built an innovative research hub in southern Austria. DIGITAL, Institute for Digital Technologies, creates solutions, focusing on intelligent sensor systems that optimise processes, conserve resources, improve safety and address societal challenges.



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Austria's leading laboratory for radiation hardness assurance testing of EEE components, electromagnetic compatibility, and laser technology. Accredited for aircrew dosimetry services (AVIDOS). A pioneering facility for real-time space weather radiation prediction, with expertise in Monte Carlo modeling for aviation and space, as well as shielding optimization. Trusted partner of ESA, NASA, and international space industries, contributing to numerous space projects.



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Silicon Austria Labs (SAL) is Austria's leading research center for electronics and software-based systems, focusing on sensor systems, intelligent wireless systems, high-frequency technologies for 5G/6G applications and 5G-NTN satellite communications. A key player in the European chip ecosystem and EU Chips Design Platform. Expertise in millimeter-wave chip design, antenna design, energy-efficient communication, sensor technologies, R&D and 5G/6G testbed validation.



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Internationally renowned partner in the areas of nanosatellite technology, satellite communications and navigation, satellite geodesy, remote sensing as well as development and test of Space-qualified hardware and software. Responsible for the first Austrian satellite TUGSAT-1/BRITE-Austria and follow-up missions OPS-SAT and PRETTY. Home of the Aerospace Team Graz, an interdisciplinary student team that develops and constructs rockets and rocket components and participates in international competitions.



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The TU Wien is Austria's largest research and educational institution in the field of technology and natural sciences. More than 4,000 scientists are researching "technology for people" in five main research areas at eight faculties. The content of the studies offered is derived from the excellent research. More than 26,000 students in 62 degree programs benefit from this. As a driver of innovation, TU Wien strengthens Austria's economy and has stood for openness, tolerance, and social prosperity for more than 200 years.



TECHNISCHE
UNIVERSITÄT
WIEN

Institutional members

FACHVERBAND DER ELEKTRO- UND ELEKTRONIKINDUSTRIE (FEEI) ELECTRICAL AND ELECTRONICS INDUSTRY

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The association for Austria's electrical and electronics industry makes an essential contribution to securing Austria's position as an attractive business location and positively influences and shapes the economic and legal framework – in ways that benefit the electrical and electronics industry. Together with 30 network partners, the FEEI plays a central role in strengthening the competitive position of the represented industry segments in the global marketplace.



FACHVERBAND DER FAHRZEUGINDUSTRIE AUSTRIAN VEHICLE INDUSTRY ASSOCIATION

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The products made by the approximately 145 members of this Association include all kinds of vehicles: from bicycles and motorbikes to on- and off-road cars, utility vehicles, trailers, surface mountings and small airplanes, as well as components such as motors, gear boxes and parts for the space industry. The products of the Austrian vehicle industry enjoy a very high reputation all over the world, which explains the high quota of international direct exports of presently 82%.



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The metal technology industry (MTI) forms the backbone of Austrian industry. More than 1,100 member companies are active in the fields of mechanical engineering, metal goods, plant construction, steel construction and foundries. The export-oriented sector is medium-sized, consists of more than 85% of family businesses and accounts for a quarter of all Austrian exports.



FFG ÖSTERREICHISCHE FORSCHUNGSFÖRDERUNGSGESELLSCHAFT MBH (FFG) THE AUSTRIAN RESEARCH PROMOTION AGENCY

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The Austrian Research Promotion Agency (FFG) is Austria's national funding agency for industrial research, technology development and innovation. Through all its activities, FFG strengthens Austria's position as a globally competitive research and innovation hub. The FFG Aeronautics and Space Agency (ALR) serves as Austria's central gateway to the international space community. It implements Austria's national space policy and activities and represents the country in major international space organisations, including ESA, the European Union, EUMETSAT, ESPI and UN-COPUOS.



WIRTSCHAFTSKAMMER ÖSTERREICH, SPARTE INDUSTRIE AUSTRIAN FEDERAL ECONOMIC CHAMBER, DIVISION INDUSTRY

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The Division Industry of the Austrian Economic Chamber represents the interests of more than 5,000 members in Austria. The Austrian industry generates a production value of 220 billion euros and contributes 50 billion euros to Austria's gross value added. Austria's industrial companies employ more than 450,000 people and have a strong international network with an export ratio of 86 %.



Overview of Competencies

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	AAC	accent	Austrian Academy of Sciences	Beyond Gravity	Brimatech	EODC	ENPULSION	EOX	Eviden	FH Wiener Neustadt	Fantana	GATE Space	GeoVille	Graz University of Technology	Infineon	iSEE	JOANNEUM RESEARCH	MAGNA STEYR	OHB Austria	Peak Technology	PIDSO	qtlabs	R-Space	Science Park Graz	Selbersdorf Labor	Silicon Austria Labs	TU Wien	Terma	TTTech
Space Transportation, Manned Flights and Infrastructures																													
Guidance Navigation and Control (GNC)																			x										
On-Board Data Systems				x							x						x												x
Power															x													x	
On-Board Software											x					x	x		x										x
Telemetry Tracking & Command (TT&C)																	x				x							x	
Thermal Control				x																									
Mechanisms				x							x							x											
Structural Elements																		x		x									
Liquid Oxygen (LOx) / Liquid Hydrogen (LH2) Propulsion																		x		x									
Storable Propulsion												x								x									
Liquid Oxygen (LOx) / Hydrocarbon Propulsion												x						x		x							x		
Solid Propulsion												x								x									
In-Situ Resource Utilisation (ISRU)																													
Crew Habitation, Safe Haven and Extra Vehicular Activity (EVA) suits																											x		
Human Spaceflight and Micro-gravity Experiments																	x									x	x		
Satellite																													
Space System Control			x	x						x	x			x															
On-Board Data Systems			x	x							x			x			x					x				x			x
Power				x						x				x	x								x				x		x
On-Board Software			x	x							x	x		x		x	x		x			x				x			
Telemetry Tracking & Command (TT&C)														x			x				x							x	
Thermal Control				x						x		x												x					
Mechanisms				x							x	x						x						x					

	AAC	accent	Austrian Academy of Sciences	Beyond Gravity	Brimatech	EODC	ENPULSION	EOX	Eviden	FH Wiener Neustadt	Fantana	GATE Space	Geo Ville	Graz University of Technology	Infineon	ISEE	JOANNEUM RESEARCH	MAGNA STEYR	OHB Austria	Peak Technology	PIDSO	qtlabs	R-Space	Science Park Graz	Selbersdorf Labor	Silicon Austria Labs	TU Wien	Terma	TTTech
Satellite																													
Structural Elements										×		×								×			×						
Propulsion				×			×			×		×						×		×									
Passive Instruments				×									×																
Telecommunication and Navigation Payloads				×							×		×				×		×		×	×	×			×	×	×	×
Planetary Lander				×								×								×									
Planetary Lander Payloads			×								×						×												
Ground Segment																													
Ground Segment of Operating Spacecrafts										×			×				×											×	
Development and Construction of Space Segment				×							×		×						×	×		×	×						
Development and Construction of Ground Segment						×			×	×	×		×				×			×	×	×					×	×	
Operations support						×				×			×	×			×		×		×	×	×				×		
Data dissemination and access solutions						×					×		×	×			×		×								×		
Services																													
Management Support		×	×	×	×	×	×						×	×			×	×	×			×		×	×				×
Test and Certification	×		×	×			×			×		×		×			×	×				×			×	×		×	×
Research and Development	×	×	×		×	×	×			×	×	×	×	×			×	×	×	×	×	×	×		×	×	×	×	×
Monitoring and Analytics	×		×		×	×				×			×	×			×	×		×					×	×	×		
Satellite Data and Geoproduts			×			×		×					×	×			×	×		×					×	×	×		
Data Access and Streaming						×		×					×	×			×										×		
GI Systems and Platform Interfaces			×			×		×					×				×										×		
Advisory and Capacity Building		×	×		×								×	×			×							×			×		
Other		×	×			×		×					×	×			×	×	×			×	×		×		×		

Executive Committee

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ADVISORY COMMITTEE

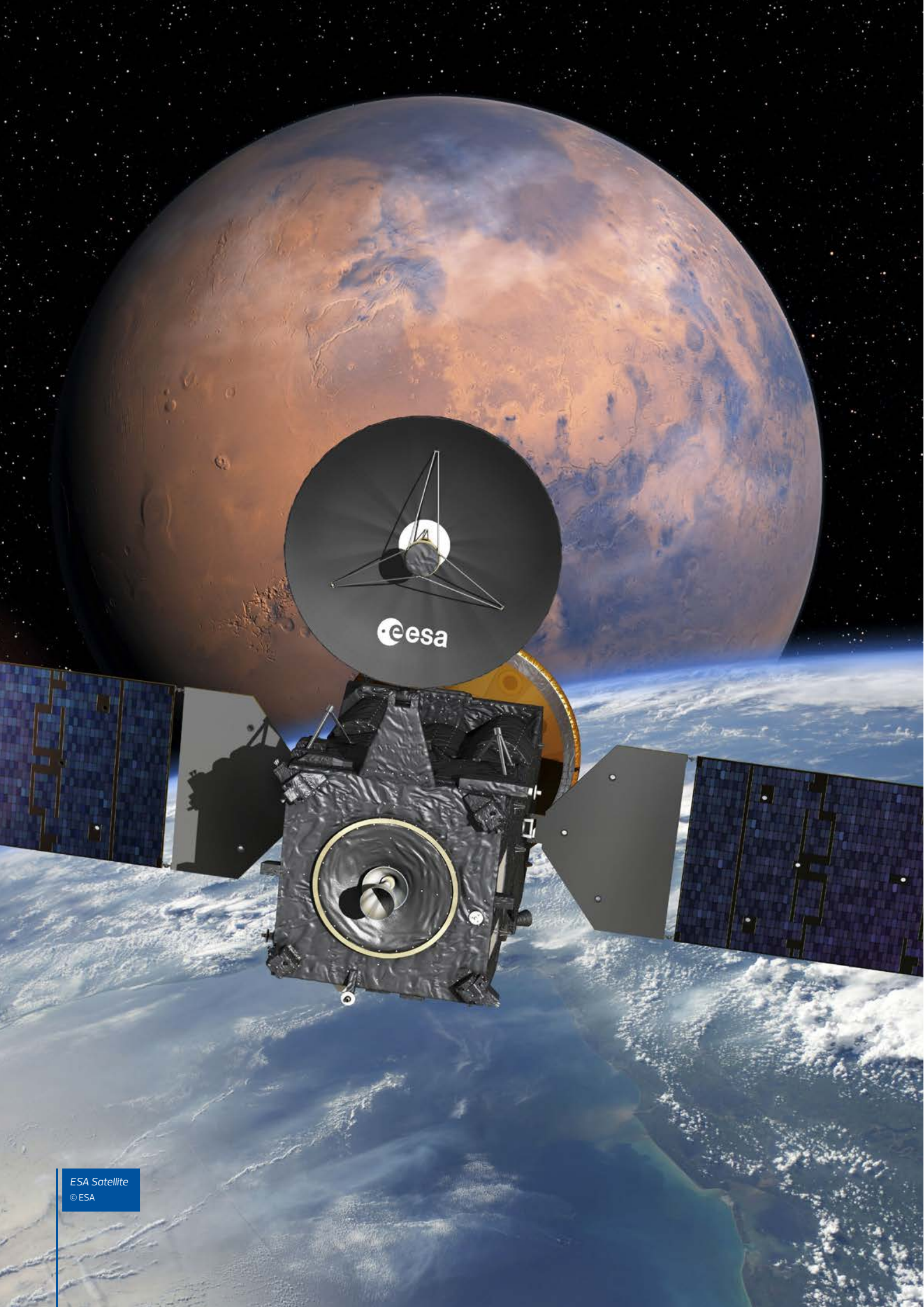
DI (FH) Christian Fidi
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Member Reports

This sparkling scene of star birth was captured by the NASA/ESA/CSA James Webb Space Telescope. What appears to be a craggy, starlit mountaintop kissed by wispy clouds is actually a cosmic dust-scape being eaten away by the blistering winds and radiation of nearby, massive, infant stars.

© NASA, ESA, CSA, and STScI



accent Inkubator GmbH

Partner of ESA Phi-Lab Austria

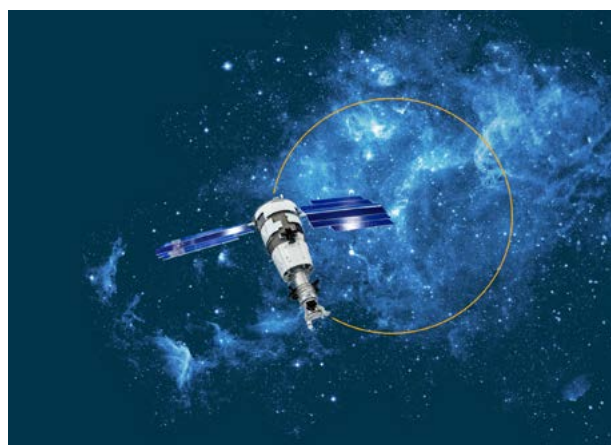
The ESA Phi-Lab Austria, based at Vienna AirportCity, serves as a specialized incubator and European center of excellence. The hub's core mission is to industrialize and commercialize upstream space technologies. Unlike purely data-analysis centers, the Austrian facility focuses specifically on hardware- and software-based innovations that are either deployed directly in space or provide the infrastructure required for space operations.

Its core activities are structured around the following strategic pillars:

- **Financial project support (seed funding)** during the development phase. Each selected innovation project receives financial support of between €200,000 and €500,000. This initial funding is primarily intended to accelerate the path to market readiness and help projects prepare more effectively for market entry.
- **Provision of technology infrastructure** that enables initial testing of product developments. This is ensured by the accent Space Factory, which opened in June 2026, complemented by direct access to specialized laboratories, advanced makerspaces, and state-of-the-art testing and manufacturing facilities for prototype development at highly specialized R&D partners.

The supported companies participate in tailored support programs. Network partners—including the accent incubator, Brimatech, Enspace, and tecnet equity—assist the founders in key business areas. These include business development, intellectual property protection, market analysis, and sustainability concepts for the New Space market.

Entry into the ESA Phi-Lab Austria takes place through so-called open calls. Through these annual calls for proposals, national and international teams can submit their research applications. The ESA Phi-Lab Austria organizes the evaluation process through a high-profile panel of experts, after which the Selection Board makes the final decision on admission.



Upstream Space Technology © ESA Phi-Lab Austria

As part of the European ESA Phi-Lab network, the companies are connected with European partners. The network facilitates technology transfer from traditional industrial sectors to the space sector and vice versa. Through this close integration of capital, technical infrastructure, and expertise, the ESA Phi-Lab Austria transforms academic space research into market-ready products, thereby sustainably strengthening the competitiveness of Europe's space-tech sector. Currently, 10 companies in the space sector are based at the site, and this number is expected to grow significantly.



Space Factory © ESA Phi-Lab Austria

accent Space Factory

The ESA Phi-Lab Austria at Vienna Airport in Schwechat is now being expanded with the "accent Space Factory." The recently opened facility is intended to provide young space-tech companies with state-of-the-art development, prototyping, and testing capabilities. The Space Factory is equipped with 3D printing systems, electronics and development workstations, a climate chamber, and a cleanroom workstation. The ESA Phi-Lab Austria has developed into a central center of excellence for innovative space technologies, and the Space Factory expands its offering with an important development facility.



ESA Phi-Lab Austria Team © Ben Leitner

Support & Network

The supported companies participate in tailored support programs. The network's partners—including the accent incubator, Brimatech, Enspace, and tecnet equity—assist the founders in key technical and business areas. These include business development, intellectual property protection (IP protection), market analysis, and sustainability concepts for the New Space market. The projects benefit from the partners' expertise and extensive space network: as part of the European ESA Phi-Lab network, the companies are connected with European partners.

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AustroSpace unites Austria's leading space industry players and research institutions, fostering collaboration and innovation in the exploration and application of space technologies, while actively representing and advocating their interests to national authorities.

Interested in becoming a member? Contact the committee.



AAC's Liquid Nitrogen Tank labelled
„AAC“ at the TFZ in Wiener Neustadt
© Daniel Hinterramskogler

Aerospace & Advanced Composites GmbH

The Aerospace & Advanced Composites GmbH (AAC) was founded in 2010 as a spin-off from the Austrian Institute of Technology (AIT). AAC is a private company (SME) that provides research, development and engineering capabilities in materials technology and testing for industrial applications with a focus in aeronautics and space. AAC's aerospace research started in 1989 with the ESA-certified Space Materials Testhouse under ESTEC frame contract. AAC acts as coordinator of European and national research cooperation projects in aeronautics and space. With its interdisciplinary background in physics, chemistry, materials science, polymer engineering and mechanical and electrical engineering. More than one hundred research projects have been successfully concluded in the past 35 years.

In 2012 AAC moved to its new premises in Wiener Neustadt, which is based on strategic decision: in this area several new research entities and one University of Applied Sciences are located which provide for AAC a more prosperous growth. The infrastructure covers one building with labs and offices and a hall for heavy test equipment and polymer composite prototyping manufacturing. The increasing number of TVAC-services offered to space industry, made it reasonable to extend the liquid nitrogen supply with a nicely visible tank.

New test services to space industry and ESA/ESTEC – more than 35 Years anniversary of the "Materials test-house" @ AAC: After achievement of the 35 years anniversary of AAC's frame contract to ESTEC on Metallic Material Characterisation ("ESA testhouse") in 2024 an extension for the next 3-5 years is already in preparation. The first contract of our space group to ESA/ESTEC could be established in 1989. At that time the space group was part of the Austrian Research Centers in Seibersdorf (now AIT). Since then, AAC was 4 times successful to re-establish this contract in open competition.

The aim is to validate new materials and processes for use in space. The contract shall provide data necessary for space engineers to apply new materials or processes in their missions. As qualification for space is cost and time consuming, this is usually not possible within missions.

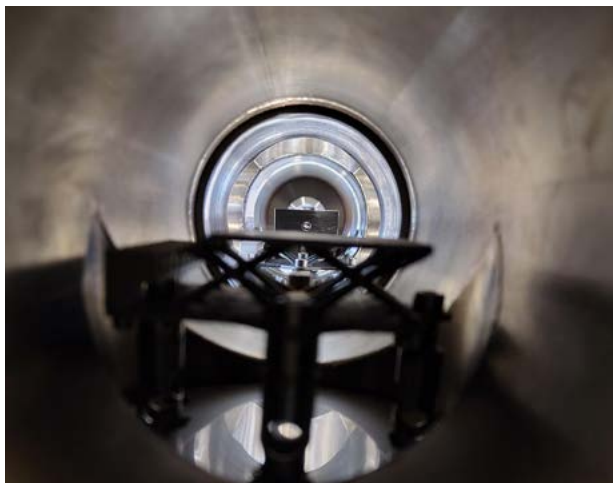
Recent studies continued validating the SCC-resistance of new materials made by AM (Additive Manufacturing, 3D-Printing). Recent studies were focusing on new Al- and Ti-based alloys. Results are published via ESA. One of the key competences within this contract is "Cold Welding" having been initiated by ESA in 1990ies. Finally ESA agreed with AAC on a test method to benchmark contact pairs for their risk to cold welding and published it as "STM-279". Meanwhile, several pairs were screened and the data generated is available via an online data base. Due to upcoming new needs, the standard was recently updated by AAC and is in review at ESA.



AAC's device for advanced outgassing © AAC

EVA MODEL – Evaporation Modelling

This ESA-project aims to develop a simulation tool to calculate lubricant evaporation losses of long life mechanisms including all most important mission factors (e.g., duration, thermal condition, geometrical parameters of specific assembly) influencing the total mass loss of lubricants. Via a web-based user interface, space engineers shall have the possibility to calculate the evaporation losses of their mechanisms with high accuracy and therefore optimize the amount / type of lubricant or the mechanism design. AAC has the project lead and is responsible for the testing activities.



Molecular Adsorption Coating concept © AAC

MAC – Molecular Adsorption Coating

This ESA-projects aims to develop a molecular adsorption coating that can be applied on satellites or on-ground support equipment to protect contamination-sensitive surfaces. Applying getter materials might open the possibility of either reducing operational constraints during on-ground handling from manufacturing to testing or improving the cleanliness by reducing the build-up of contamination layers while space operation. AAC has the project lead and is responsible for the testing activities.



Dry lubrication – cages for different types of bearings © AAC

A3-Lub2 – Austrian Dry Lubricant composite for deployment applications

The overall motivation is to identify and finally qualify bearings based on solid lubrication for deployment, with focus on large deployable antennas (LDA). Especially for the reflector a large number of bearings is needed. Therefore, omitting grease in bearings for LDAs would significantly reduce the amount of grease risking contamination and extend the usable temperature range for the operation of the LDA. AAC has the project lead and is responsible for the testing of the dry lubricated bearings, which are procured by Austrian companies.

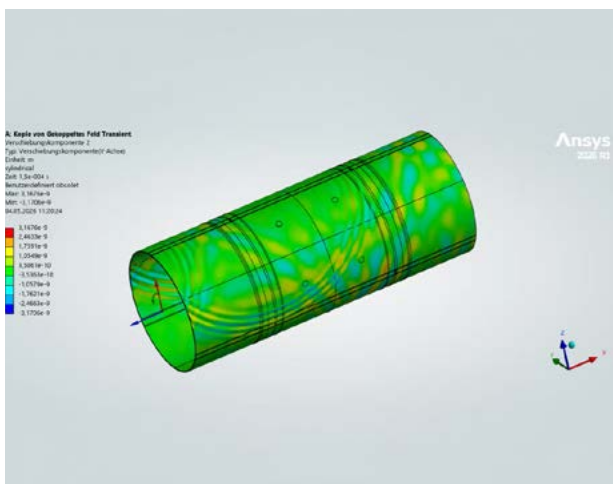


Profilm foils © AAC

ProFilm – European Protective Thin Films for Space Applications

ProFilm is a €1 million ESA-funded project led by HPS in collaboration with AAC and DLR, developing next-generation multifunctional polymer films for space applications. During 2025, the consortium successfully produced and characterized the first laboratory-scale film samples, demonstrating promising performance in terms of atomic oxygen resistance, thermal stability, and low reflectivity. A major milestone was the establishment of a prototype manufacturing facility and successful production of first thin-film transparent and black sheets with dimensions of up to 0.5 m², currently prepared for testing and qualification.

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Guided wave propagation in composite tube © AAC

Life Monitoring of Composite Space Structures

Within the last years, AAC developed a novel hybrid multifunctional piezo / temperature sensor and monitoring concept for flow front, cure and structural health monitoring of composite parts manufactured by resin infusion, mainly for aeronautic applications. The main objective of "LiMoCoSS" is to use the idea of the above-mentioned concept and to develop a sensor and monitoring technology for space relevant composite structures and manufacturing techniques such as wet winding for through live monitoring of composite structures during manufacturing, storage, transportation and usage.

Aerospace & Advanced Composites GmbH

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On 24 September 2025, Falcon 9 launched NOAA's Space Weather Follow On Lagrange 1 (SWFO-L1) spacecraft along with NASA's Interstellar Mapping and Acceleration Probe (IMAP) and the Carruthers Geocorona Observatory.

© Ben Cooper, www.launchphotography.com

Austrian Academy of Sciences – Space Research Institute

The Space Research Institute (Institut für Weltraumforschung, IWF) in Graz focuses on the physics of our solar system and the diversity of extrasolar planets. With about 100 staff members from 20 nations it is one of the largest institutes of the Austrian Academy of Sciences (Österreichische Akademie der Wissenschaften, ÖAW). The IWF develops and builds space-qualified instruments, analyzes and interprets the data returned by the space missions. Its core engineering expertise is in building magnetometers and on-board computers, as well as in satellite laser ranging, which is performed at a station operated by the IWF at the Lustbühel Observatory.

The institute is led by Christiane Helling and Luca Fossati serves as Deputy Director. It hosts eight research groups: Exoplanet Weather and Climate (Lead: Christiane Helling), Exoplanet Characterization and Evolution (Lead: Luca Fossati), Planet-Forming Disks and Astrochemistry (Lead: Peter Woitke), Solar System Planetary Physics (Lead: Helmut Lammer), Space Plasma Physics (Lead: Rumi Nakamura), On-Board Computers (Lead: Gabriel Giono), Space Magnetometers (Lead: Werner Magnes), and Satellite Laser Ranging (Lead: Michael Steindorfer). The IWF is mainly financed by the ÖAW and to a lesser extent through competitive grants from FFG, FWF, the European Union, ESA, and NASA.

The IWF cooperates closely with international space agencies and with numerous other national and international research institutions. Tight cooperation exists with the European Space Agency (ESA). In 2025, the IWF was involved in 25 active and future international space missions. The reentry of the second Cluster satellite in October 2025 continues the end phase of this highly successful ESA mission in near-Earth space. The four MMS spacecraft perform multi-point measurements to study the dynamics of the Earth's magnetosphere. CSES-1 has been studying the Earth's ionosphere since 2018, CSES-2 followed in 2025. On its way to Mercury, Bepi-Colombo had its sixth and last planetary flyby in January 2025. CHEOPS continues nominal science operations, characterizing exoplanets around bright stars. The NASA CubeSat CUTE is still delivering scientifically valuable data four years after launch. ESA's JUICE spacecraft is on its way to Jupiter and its icy moons Ganymede, Callisto, and Europa. SMILE (launch: 2026) will study the interaction between the solar wind and Earth's magnetosphere. PLATO (launch: 2027) is a space-based observatory to search for planets orbiting alien stars. Comet Interceptor (launch: 2029) will characterize in detail, for the first time, a dynamically-new comet or interstellar object.

In 2025, members of the institute published 136 papers in refereed international journals, of which 34 were first author publications. During the same period, articles with authors from the institute were cited 10671 times in the international literature. In addition, 95 talks (32 invited) and 39 posters were presented by IWF members at international conferences. Institute members lead or co-organized 13 international meetings.



Bistatic MHz space debris laser ranging setup. © ÖAW/IWF

Combined Satellite and Space Debris Laser Ranging Using a MHz Laser

In "Nature Communications" Michael Steindorfer et al. show the usage of Megahertz lasers to combine the strengths of both satellite and space debris laser ranging within one setup. The pulse length of 10 picoseconds in combination with up to 2 million successful range measurements within 15 seconds led to a micrometer level normal point precision to satellites equipped with retro reflectors. A laser power of 17 W allowed measurements to space debris targets showing details of the reflecting surfaces of the objects.

www.nature.com/articles/s41467-024-55777-8

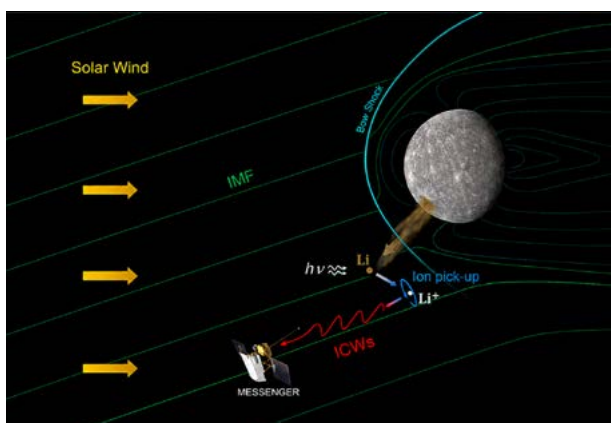


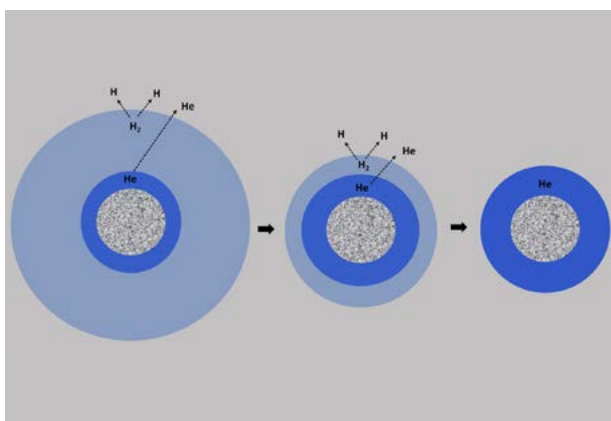
Illustration of the generation mechanism of the electromagnetic pick-up ion cyclotron waves in Mercury's space environment.

© Adapted from Schmid et al., Nat. Comm., 16, 6205, 2025

Electromagnetic Waves Reveal Mercury's Hidden Lithium

Mercury, the closest planet to the Sun, has yielded fresh evidence refining our understanding of its chemical composition. Using a cutting-edge magnetic wave detection technique, a "Nature Communications" study by Daniel Schmid et al. has identified lithium in the planet's exosphere for the first time. Meteoroid impacts eject lithium that becomes ionized and picked-up by the solar wind, generating electromagnetic waves detected by NASA's MESSENGER magnetometer. These signals indicate that Mercury's crust contains more volatile elements than previously believed.

www.nature.com/articles/s41467-025-61516-4

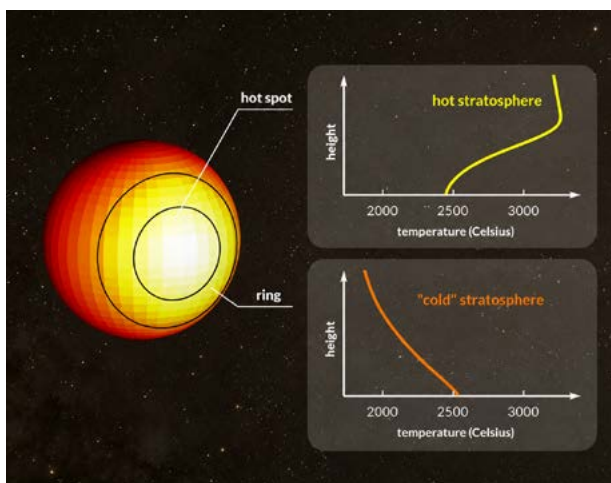


An Earth-like planet with a primordial atmosphere initially dominated by hydrogen and helium can evolve into a planet with a helium atmosphere within millions of years. Hydrogen, which is four times lighter, largely escapes into space, whilst some of the heavier helium remains as part of the atmosphere. © ÖAW/IWF

Earth-Mass Planets with Helium Atmospheres

In "Nature Astronomy" Helmut Lammer et al. found that Earth-like planets with 0.95–1.25 Earth masses inside the habitable zone of Sun-like stars can accrete primordial gaseous envelopes during the gas disk phase. Depending on the radiation environment of the young host stars it is shown that planets can end up with Helium-dominated primordial atmospheres. The future discovery of such planets will not only enhance the understanding of the accretion speed of terrestrial exoplanets, but will also open questions related to the habitability of Earth-like planets.

www.nature.com/articles/s41550-025-02550-6



3D temperature map of exoplanet WASP-18 b. © ÖAW/IWF



Artist's impression of JUICE's Venus flyby on 31 August 2025.

© ESA

Exoplanet Thermal Structure from a JWST Spectroscopic Eclipse Map

In "Nature Astronomy", an international team with significant IWF participation reported the first detection of temperature and chemical variability in the atmosphere of the ultra-hot Jupiter WASP-18 b across latitude, longitude, and altitude. Unlike previous studies, which relied on hemisphere-averaged spectra, observations from the James Webb Space Telescope (JWST) enabled a multidimensional spectroscopic eclipse map. The results reveal weaker longitudinal temperature gradients than predicted, highlighting the role of hydrogen dissociation and/or nightside clouds in shaping the planet's thermal emission. www.nature.com/articles/s41550-025-02666-9

25 Active and Future Space Missions

In 2025, the IWF was involved in 25 active and future international space missions. Two new missions carrying Graz-built magnetometers were launched: the China Seismo-Electromagnetic Satellite (CSES-2) and the Space Weather Follow On-Lagrange 1 (SWFO-L1). BepiColombo flew past Mercury one last time before the European-Japanese dual-probe mission will reach its destination in November 2026. ESA's Jupiter Icy moons Explorer (JUICE) performed a course correction near Venus, thereby completing the second of four gravity assist maneuvers before its arrival in the Jupiter system in 2031.

oeaw.ac.at/en/iwf/research/space-missions

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Brimatech Services GmbH

Partner of ESA Phi-Lab Austria

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BRIMATECH Services GmbH supports companies, startups, research institutions, and public institutions in innovation processes, technology transfer, and international networking, with a particular focus on the European space and security sector. As an interface between business, research, and European funding and innovation programs, BRIMATECH supports stakeholders along the entire innovation chain – from the initial project idea and international partnerships to the successful implementation of ESA, Horizon Europe, and national research projects.

A particular focus is on supporting the ESA Phi-Lab Austria, where BRIMATECH is actively involved as a key support partner. Together with partner organizations, BRIMATECH contributes to promoting projects focused on industrialization by design and strengthening exchange within the Austrian and international space community. Through events, workshops, and targeted networking activities, BRIMATECH supports the development of a dynamic innovation ecosystem around the space hub in AirportCity Vienna.

Furthermore, BRIMATECH is active in several European Horizon Europe and EUSPA projects, particularly in the areas of exploitation, dissemination, and stakeholder engagement. The goal is to make research results visible, unlock new market potential, and establish sustainable European innovation partnerships. BRIMATECH collaborates closely with industry, research institutions, public institutions, and international consortia in this endeavor.

At the national level, BRIMATECH is also heavily involved in research and innovation projects. The focus is primarily on projects in the areas of GNSS interference detection, resilience, and security-relevant applications. Here, BRIMATECH is involved in projects such as KIRAS, ASAP, and FORTE, supporting consortia in project management, stakeholder communication, and exploitation and dissemination activities. Topics such as GNSS jamming, interference monitoring, and robust navigation and positioning solutions are gaining increasing strategic importance for civilian and security-critical applications.

Another focus is on supporting startups and innovative SMEs in the space and deep tech sectors. BRIMATECH assists companies in developing European collaborative projects, accessing funding programs, and strategically positioning themselves within the European innovation ecosystem. By combining European project expertise, community building, and international networking, BRIMATECH actively contributes to the further development of Austria as a space and innovation hub.



ESA Phi-Lab Open Call Event © Ben Leitner

ESA Phi-Lab Austria & Space-Hub Community

As a key support partner, BRIMATECH assists ESA Phi-Lab Austria in building a strong innovation ecosystem for Earth observation, AI, and data-driven applications. The focus is on community building, international networking, and the organization of workshops, pitching events, and stakeholder formats. Together with partners from research, industry, and the startup scene, BRIMATECH contributes to the further development of the Space Hub in AirportCity Vienna as an important meeting place for the Austrian space community.

esaphilab.at



Transfer Space - Non-Space © CHATGpt

ESA Technology Broker & Technology Transfer

As an ESA Technology Broker, BRIMATECH supports companies in transferring technologies and know-how between the space and non-space sectors. The goal is to identify new application areas for space technologies and to make innovation potential usable across industries. BRIMATECH assists companies in developing transfer projects, building international partnerships, and accessing European funding and innovation programs, thereby actively and sustainably strengthening Austria's position as a hub for innovation.

esatechnologybroker.at



Demonstrationsbus PAVE-SCAN Projekt © LinkedIn

Horizon Europe & EUSPA projects

BRIMATECH is active in several European Horizon Europe and EUSPA projects, focusing particularly on exploitation, dissemination, and stakeholder engagement. The aim is to make research results visible, unlock new market potential, and build sustainable European partnerships. Through close collaboration with international consortia, BRIMATECH supports the development of innovative applications in the fields of data from space, navigation, and safety-related technologies.



**GNSS Interference
Detection Testmessungen**
© Susanne Katzler-Fuchs

GNSS Interference & Resilience projects

BRIMATECH places a special focus on projects in the areas of GNSS interference detection, resilience technologies, and safety-relevant applications. BRIMATECH is actively involved in several national KIRAS, ASAP, and FORTE projects and supports consortia in project management, stakeholder communication, and commercialization and dissemination activities. Topics such as GNSS jamming, interference monitoring, and robust navigation and positioning solutions are becoming increasingly important for critical infrastructure, mobility, government agencies, and safety-critical applications in the civilian and public sectors.

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Delegation Visit at the Space Hub Vienna © ESA Phi-Lab Austria

International Space Ecosystem & Community Building

BRIMATECH is actively involved in building and networking the Austrian space ecosystem internationally. Through the organization and co-design of workshops, matchmaking events, delegations, and community events, BRIMATECH fosters exchange between startups, industry, research institutions, and public stakeholders. The focus is on developing new collaborations, knowledge transfer, and increasing the visibility of Austrian expertise in the European and international space sector. In doing so, BRIMATECH makes a significant contribution to strengthening the Austrian space community and its international competitiveness.

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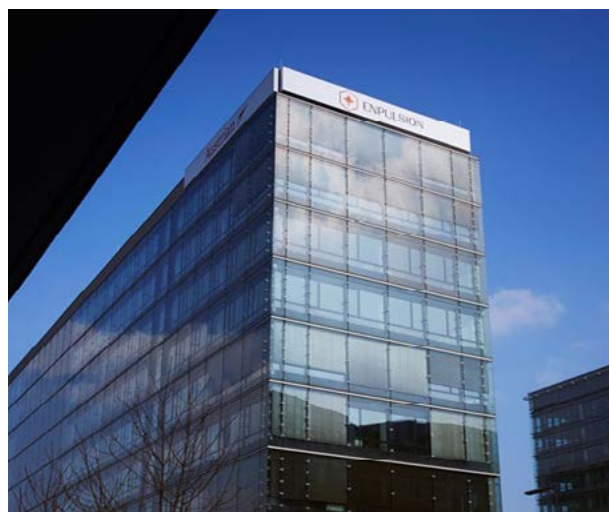




Each propulsion system is undergoing rigorous testing
© Enpulsion

ENPULSION GmbH

2025 was a pivotal year for the company. In May, Enpulsion unveiled Nexus, its most advanced propulsion system to date available in multiple configurations. Built on Enpulsion's established FEEP technology (Field Electric Electric Propulsion) for spacecraft up to 500 kilograms and delivers significantly increased thrust with enhanced orbit-raising capabilities, evolving from TRL9 Micro R³ system which itself carries flight heritage from over 280 units. Nexus is ideally suited for a range of mission profiles, including orbit-raising and deorbiting for SDA-class buses, constellation maneuvering and maintenance, responsive government and defense missions, and stationkeeping support for larger platforms. Nexus is also designed for flexible clustering and offers a compact, non-ITAR solution for international customers seeking high-thrust performance in a scalable architecture.



ENPULSION New Premises at the Airport © Enpulsion

Beyond product development, Enpulsion strengthened its market position throughout the year, by signing key contracts on leading initiatives across the globe in established space countries. Its compact thrusters have been credited with powering dozens of smallsat, addressing European need for sovereign, homegrown satellite mobility technology.

The company announced its rebranding in Spring 2026. More than a new look, the refreshed brand reflects the company's mission to make advanced propulsion solutions simple and reliable, ensuring seamless performance and responsiveness throughout every stage of a satellite's mission. It also reaffirms Enpulsion's vision: expanding satellite mobility and maneuverability through extraordinary technological advancements that support a sustainable, more agile future in space. Enpulsion has over 340 propulsion systems as for early 2026.

Throughout the year, Enpulsion was actively involved in multiple trade shows and specialized conferences covering propulsion business cases and fundamental research on physics. The company also reinforced its relations to institutional partners such as KASA or the Turkish space agency. The company has been in the process of deploying a new strategic positioning and 2025 has been a founding year for these key developments. By early 2026, the company had also closed a series B funding round to finance this key strategic move.



NEXUS © TBL

New propulsion system revealed: NEXUS

Built on Enpulsion's heritage Field Emission Electric Propulsion (FEEP) platform, Nexus is a direct evolution of the company's TRL 9 Micro R³ system that leverages the flight heritage of over 280 units in orbit. With a thrust-to-power ratio optimized for early mission phases, Nexus mitigates one of the primary limitations traditionally associated with electric propulsion – initial orbit-raising speed. With this innovation, Enpulsion's Nexus offers a groundbreaking alternative to Hall Effect Thrusters (HET) in the smallsat class.

www.enpulsion.com/products/nexus



ENPULSION © TBL

Rebranding

Enpulsion, a global leader in electric satellite propulsion systems, announces the launch of its new brand identity and website. The rebrand marks a pivotal milestone for the company, aligning its public-facing presence with the engineering excellence, flight heritage, and forward-thinking mindset that have defined Enpulsion since its founding. More than a new look, the refreshed brand reflects the company's mission to make advanced propulsion solutions simple and reliable, ensuring seamless performance and responsiveness throughout every stage of a satellite's mission.



Partnership with Melchers © Melchers

Partnership with Melchers

Enpulsion entered a partnership with Melchers, a leading global trading and services company specializing in industrial goods, technology, and logistics. Melchers has built a strong presence in Asia with 160 years of history on the continent, notably in South Korea which will be the point of focus for this partnership. The partnership will allow Enpulsion to expand its operations in Asia..



Vienna Airport City © Gyuri

Meeting with national agencies

Last year, the ENPULSION Team got closer to a number of key institutional actors. ENPULSION welcomed Korea Aerospace Administration KASA Deputy Director Dongchul Choi in the airport premises. This visit was an opportunity to exchange insights and European Korean relations in space and discuss future-oriented roadmaps. In late Autumn, Gyuri Biro and Mohammed Aftab met with Can Bayraktar, Chief Senior Specialist for Business Development and External Relations and Hakan Yalçındağ from TUBITAK UZAY (the Turkish Space Agency) at SpaceTech Expo Bremen.

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Natural History Museum © ENPULSION Team

Sponsoring IEPC Gala

What a blast! Enpulsion sponsored the gala of the International Electric Propulsion Conference 2025 which was taking place in London at Natural History Museum. The event was a great opportunity to reconnect with the propulsion community and share advances on product development. The IEPC is the premier international forum for spacecraft primes, hardware developers, government researchers, academic scholars, and students in the field of electric propulsion.

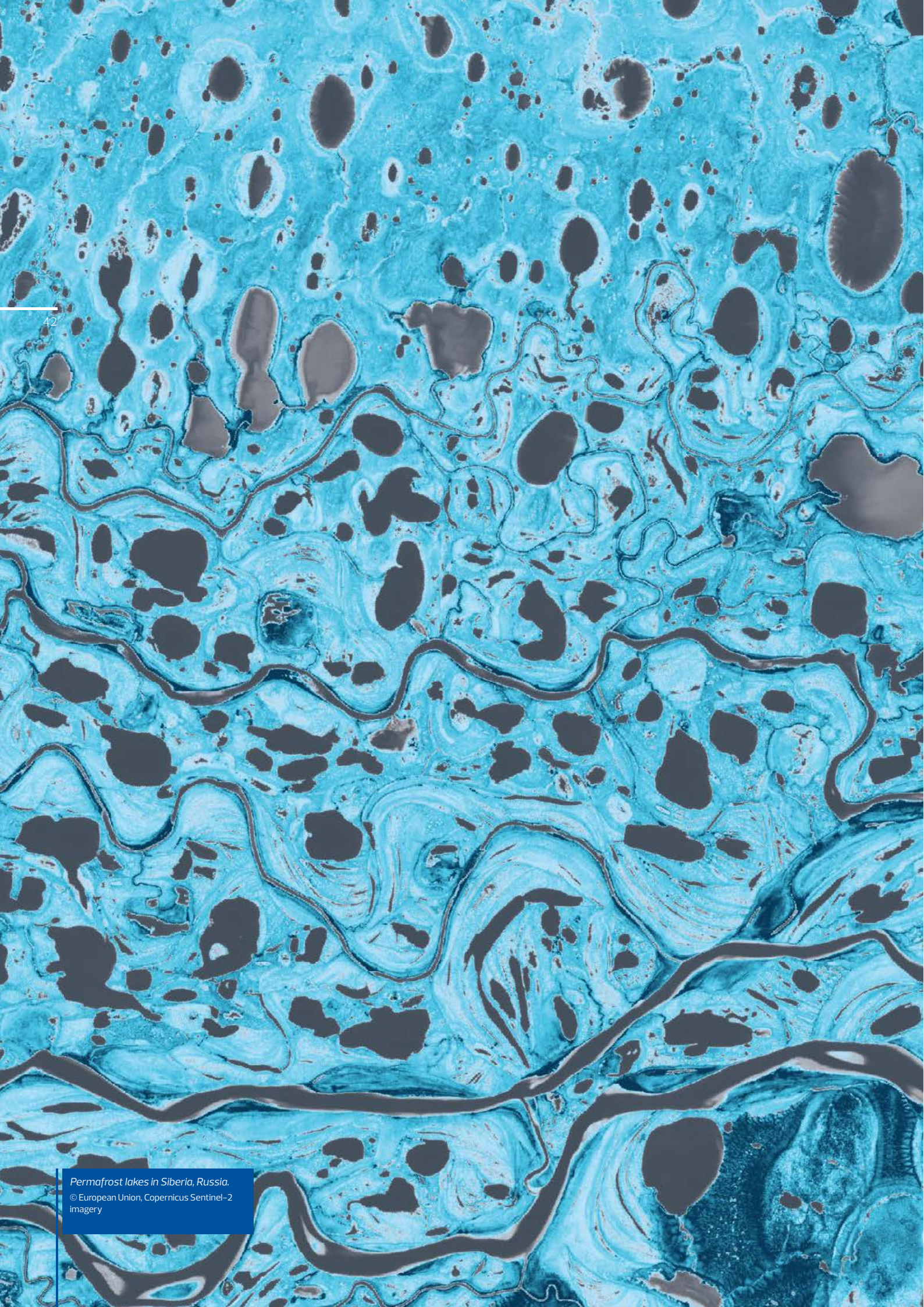
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Earth Observation Data Centre (eodc)

The Earth Observation Data Centre for Water Resources Monitoring GmbH (eodc) was established in May 2014 to tackle the challenges associated with increasing volumes of data from the operational Copernicus Sentinel missions. With the support of Austrian actors in the Earth Observation (EO) domain, eodc was set up as an international player with a focus on European activities related to Copernicus, ESA, EUMETSAT and ECMWF.

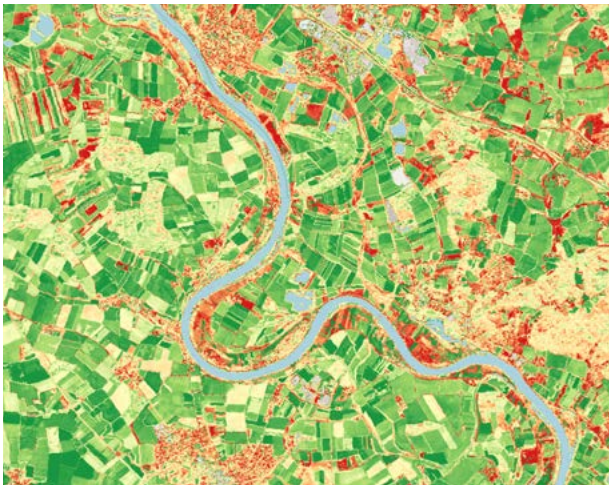
eodc works with its shareholders and partners from academia, public institutions, and the private sector to facilitate the use of EO data. Part of this mission has included the development of a long-term archive of Sentinel data. To this end, eodc has successfully developed a disk and tape storage solution, which was connected to the supercomputing facility of the Vienna Scientific cluster (initially VSC-3, now VSC-4 and VSC-5). Moreover, eodc has established its own cloud computing infrastructure based on OpenStack, enabling access to the eodc data repository and collocated private folders.

Furthermore, eodc has served as a forerunner in delivering EO-focused cloud services since 2014. It provides customers with a dedicated cloud infrastructure for accessing Copernicus Sentinel data, thereby enabling the development of cloud-native EO applications. In addition, eodc has a proven track record in the operational service implementation of scientific algorithms, beginning with the ESA Climate Change Initiative (CCI) Soil Moisture, followed by the Copernicus Climate Change Service for Land Hydrology and Cryosphere, the Copernicus Global Land Monitoring Service, and the Global Flood Monitoring component of the Copernicus Emergency Management Service.

The eodc team brings together broad expertise spanning state-of-the-art high-performance computing, data centre and cloud infrastructure, network operations, and high-performance storage systems, as well as the software stack required to automatically provision, configure, and manage these infrastructure layers.



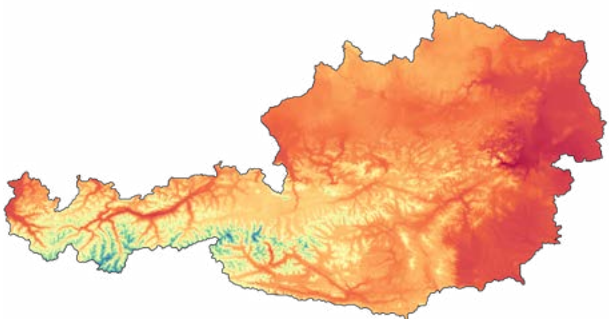
eodc infrastructure © Raimo photography



Copernicus Land Monitoring Service data over Osterhofen, Austria.
© eodc



Crop fields in Texas, USA. © European Union, Copernicus Sentinel-2 imagery



Spartacus (Geosphere Austria) data showing mean daily maximum temperatures in Austria, January 2024 © eodc

Copernicus Land Monitoring Service

The Copernicus Land Monitoring Service (CLMS) Lot 1 focuses on the operational delivery and evolution of global land bio-geophysical products that support environmental monitoring and policymaking. The service provides near-real-time and long-term information on vegetation, the water cycle, energy balance, soil moisture, land surface temperature, and other Essential Climate Variables derived from satellite observations. These products support applications in agriculture, forestry, biodiversity, climate change adaptation, water resource management, and land degradation assessment. eodc is responsible for operating the vegetation-related products SSM1km and SWI1km.

land.copernicus.eu/en/products?tab=bio_geophysical_variables

The EOPF Sentinel Zarr Samples Service

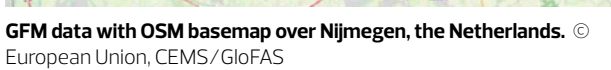
The Earth Observation Processing Framework (EOPF) Sentinel Zarr Samples Service provides early access to Copernicus Sentinel data transformed into the cloud-native EOPF Zarr format, enabling efficient, scalable analysis in modern computing environments. The service demonstrates harmonised data structures across Sentinel missions, optimised access to large Earth observation datasets, and seamless integration with data science and AI workflows. Through open data access, notebooks, APIs, and cloud-based tools, it supports the adoption of next-generation geospatial processing standards.

zarr.eopf.copernicus.eu

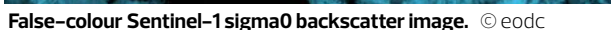
Austrian Data Cube

The Austrian Data Cube (ACube) is Austria's national Earth Observation platform, providing streamlined access to diverse geospatial datasets, including Copernicus Sentinel, airborne, model, and in-situ data. Built on modern cloud-native technologies such as STAC, openEO, and Zarr, ACube enables efficient discovery, analysis, and visualization of large-scale Earth observation data without extensive downloads. The platform supports research, public-sector decision-making, and innovation by transforming complex geospatial information into accessible, actionable knowledge.

eodc.eu



European Union, CEMS/GloFAS



False-colour Sentinel-1 sigma0 backscatter image. © eodc

Global Flood Monitoring

The Global Flood Monitoring (GFM) component of the Copernicus Emergency Management Service (CEMS) provides continuous, near-real-time monitoring of flood events worldwide using Sentinel-1 Synthetic Aperture Radar (SAR) satellite data. Operating as a fully automated service since 2021, GFM rapidly generates high-quality flood and water extent maps, supporting emergency responders, policymakers, and disaster management organisations. Its global coverage, fast delivery, and robust processing enable timely situational awareness and more effective flood risk management and response activities.

global-flood.emergency.copernicus.eu/react/technical-information/glofas-gfm

Destination Earth Data Lake

The Destination Earth Data Lake is a cloud-based platform that transforms large-scale EO and Digital Twin datasets into analysis-ready, cloud-optimised data cubes. It combines efficient data discovery, access, and processing through open standards such as STAC, openEO, and Zarr, enabling users to analyse massive geospatial datasets directly in the cloud. By bringing computation close to the data, the service supports scalable scientific research, AI applications, and evidence-based environmental decision-making.

data.destination-earth.eu

Earth Observation Data Centre (eodc)

Lothringerstraße 4/1, 1040 Wien
eodc.eu

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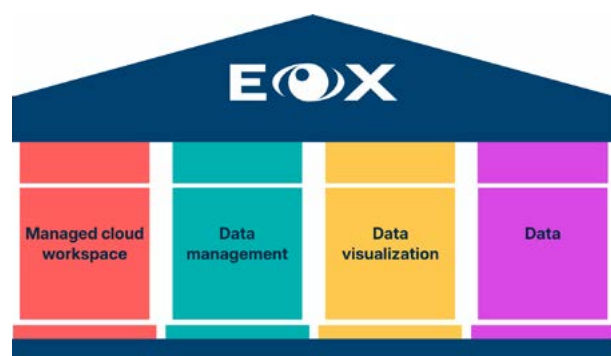
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EOX IT Services GmbH

EOX IT Services GmbH (EOX) is a geospatial engineering and service company based in Austria. It develops software and tools to allow people to consume and process geospatial data in the cloud and on the Web. EOX furnishes software and cloud infrastructure services to selected customers in geoscience and European government organisations.

EOX is among the main ESA contractors in Austria and has successfully carried out more than 80 engineering and operations projects for ESA. EOX also supports private industry, research institutes, and FAIR science through consultancy, mapping products, and managed online workspaces.



EOX's solutions and services © EOX

EOX also offers satellite mapping products to world-wide consumer markets. EOX further provides managed on-line workspaces in the cloud to process and analyse satellite data for the Common Agriculture Policy (CAP) applications or researchers. EOX recently added a focus to support research teams conducting FAIR and open science projects.

EOX has eighteen years of experience in space software projects building components of Earth Observation satellite payload ground segments, including geospatial Web GUI implementations together with adequate server infrastructure functions including data cubes. EOX also provides high-throughput processing lines for production of exploitation-ready satellite data which are used in downstream applications for viewing and analysis. EOX has gained special expertise related to the deployment of processing lines and data access software functionality on cloud-based ICT infrastructures like on Copernicus Data Space Ecosystem OTC and CreoDIAS, AWS, and GCP.

EOX is committed towards using and contributing to Open Source Software for example via the EOX GitHub organisation. EOX is an active member of FOSSGIS and OSGEO, the associations promoting free and open source software in the geospatial sector. EOX is further committed to comply with and improve Open Standards particularly those of the Open Geospatial Consortium (OGC).

EOX is certified according to the IT security standard ISO27001-2022. The company employs approximately 30 permanent staff, supported by external freelancers, master's students and stagiaires.



EOxHub Workspaces

EOxHub Workspaces is a cloud-based environment for Earth Observation (EO) professionals, researchers, and data scientists. An EOxHub Workspace is an online-accessible environment where individuals or teams can work with geospatial services and applications – all from a unified web interface. It is designed for flexibility, making it suitable for anyone who needs pre-configured tools and cloud resources. The provided applications include for example JupyterLab, Conda Store, Argo and others.

hub.eox.at

EOxHub Workspaces Scheme © EOX



GTIF – Daily Traffic Volume © EOX

Green Transition Information Factory (GTIF)

Green Transition Information Factories (GTIF) produce geospatial content from Earth Observation (EO) data, quantifying and helping to understand the complexities of transitioning our energy and mobility sectors to Carbon neutrality. They generate input for the planning of sustainable cities and deliver factual data needed in the management of climate change adaptation processes. Service functions, called "GTIF Capabilities", are grouped into the application domains "Energy Transition", "Mobility Transition", "Sustainable Cities", "Carbon Accounting", and "EO (Climate) Adaptation Services".

gtif-austria.info



ADUCAT © Stadt Wien

Actionable Data Space for Urban Climate Adaptation

ADUCAT (Actionable Data Space for Urban Climate Adaptation and related socio-ecological, local Transformation) is a digital innovation project for satellite-supported urban development in Stadt Wien (City of Vienna). The core application areas are heat mitigation and temperature forecasting, monitoring of vegetation and green spaces, and early warning systems based on radar remote sensing and InSAR technologies. Selected results are made publicly accessible via open data platforms such as Open Government Data Vienna.

digitales.wien.gv.at/en/projekt/aducat



Area Monitoring Services © EOX

Area Monitoring Services

EOX offers Agricultural Area Monitoring solutions based on satellite EO data to support expert judgement and decision making compliant with the EU Common Agricultural Policy (CAP). The following figure shows the "Parcel Explorer" user interface for crop type validation which is an example from a number of tools which EOX provides to Paying Agencies in EU Member States for assessment of farmer applications for subsidies. EOX has provided operational CAP Area Monitoring Services to the Paying Agencies of Austria and Ireland.

agri.demo.hub.eox.at



VirES Mission © ESA, EOX, AOES Media Lab

Virtual environments for Earth observation Scientists (VirES)

The VirES services have been operated by EOX for ESA providing operational user services for the Earth Explorer missions Swarm and Aeolus. EOX is continuously synchronising the entire Swarm and Aeolus mission data archives and providing data access to them. Besides the direct access via the dedicated Web GUI for data exploration, EOxHub supports a workflow supporting scientific collaboration by using Jupyter Notebooks for code sharing. In order to welcome users (of various degrees of expertise) into the environment, a detailed documentation has been created.

vires.services, aeolus.services

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Eviden ensures high quality satellite communication with its next generation satellite monitoring system SkyMonNG.

© Eviden

Eviden Austria GmbH

The satellite communications industry has witnessed unprecedented growth over the past five years. Driven by the rapid deployment of LEO constellations and the exponential increase in satellites, space technology is transforming global connectivity and enabling data-driven solutions at an entirely new scale. At the heart of this evolution are next-generation satellites designed for unparalleled efficiency, adaptability, and high throughput. Leveraging advances in digital signal processing, software-defined radios, and cloud integration, these systems introduce capabilities such as real-time reconfiguration, digital beamforming, advanced interference management, and dynamic resource allocation. As a result, satellite networks are becoming more intelligent, resilient, and responsive to changing operational demands.

Our next-generation SkyMon NG system takes satellite monitoring to the next level. Built on a cloud-ready, state-of-the-art microservice architecture, it provides a scalable and future-proof platform that minimizes operational risks while adapting seamlessly to evolving requirements. Its high-performance core ensures reliability, flexibility, and continuous availability.

Powered by artificial intelligence, big data analytics, and cloud-native technologies, SkyMon NG introduces intelligent, automated monitoring capabilities. It integrates smoothly with business applications, processes data from distributed sources in real time, and delivers actionable insights through an intuitive, user-centric dashboard. This enables faster decision-making, improved operational efficiency, and enhanced service quality.

Redefining satellite monitoring for a connected future

SkyMon NG is designed to meet the dynamic demands of today while enabling the innovations of tomorrow – transforming satellite monitoring into a true driver of efficiency and intelligence.

What we offer:

Satellite Monitoring for QoS and regulation

- Quality of Service monitoring for operators
- Spectrum control for regulators
- Interference detection and geolocation

Strategic Space Intelligence

- Earth observation from space
- Satellite Communication Situation Awareness (SCSA)
- Ground segment SIGINT analytics

Space Domain Awareness / Space Situational Awareness

- Space observation from ground systems
- RF monitoring of space objects
- Integration of radar (SAR) and communication satellites



SkyMon NG © Shutterstock



SkyMon carrier monitoring and geolocation system

© Created by the author



LEO COM constellations © own illustration



VSAT communication © Getty Images

Carrier monitoring and geolocation system

SkyMon's carrier monitoring and geolocation system is a satellite RF management solution that continuously monitors signal carriers, analyzes satellite signals to detect anomalies and interference in real time. It automatically classifies carriers, tracks key parameters like frequency and power, and triggers alerts when issues occur. Using advanced geolocation techniques, it precisely identifies the source of interfering signals, enabling rapid troubleshooting, protecting bandwidth, and ensuring reliable, high-quality satellite communication services.

eviden.com/solutions/mission-critical-systems/satellite-payload-monitoring

Monitoring of LEO Satellite constellations

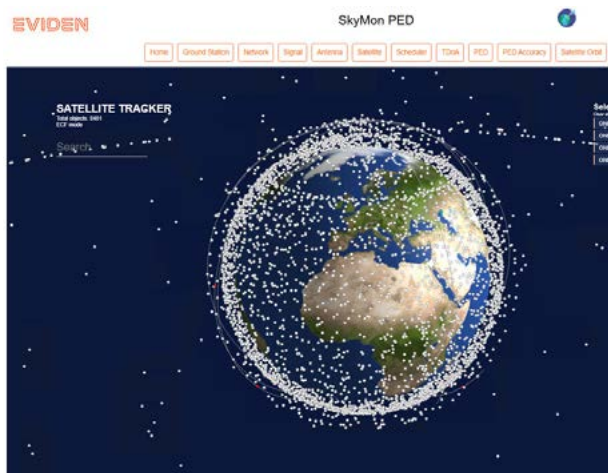
LEO communications are transforming global connectivity, but their scale, speed, and dynamic behavior require advanced monitoring solutions. SkyMon addresses this with automated pass prediction, rapid signal acquisition, high-speed tracking, and real-time performance analysis. Unlike traditional GEO tools, SkyMon is specifically engineered for LEO constellations, enabling continuous visibility, efficient handling of fast-changing link conditions, and reliable monitoring of large, complex satellite networks.

eviden.com/solutions/mission-critical-systems/satellite-payload-monitoring

Fully integrated VSAT monitoring and geolocation solution

Poorly installed VSAT stations cause serious and growing issues. Hundreds of incidents occur each year, with increasing risks of both accidental and intentional interference. Identifying the source is complex due to VSAT communication technologies. SkyMon VSAT provides the solution, enabling operators to monitor networks, identify interfering terminals, and accurately locate their origin, allowing faster and more effective resolution of interference problems..

eviden.com/wp-content/uploads/2024/01/ECT-231127-JR-FS-SkyMon_VSAT-web.pdf



SkyMon Satellite Tracking © SkyMon Satellite Tracking



From Space Awareness to Operational Superiority
© own illustration by Olivia Aubauer

Enhance geolocation accuracy and satellite orbit tracking

SkyMon STS is a high-precision satellite tracking system that determines positions and trajectories of satellites in GEO, MEO, and LEO orbits. As an RF sensor, it enhances situational awareness by mapping exact orbits and continuously calculating ephemeris data through its Passive Ephemeris Determination (PED) capability. By using Time Difference of Arrival (TDoA) measurements from multiple ground stations, it passively tracks signals and improves geolocation accuracy, operational efficiency, and insights into satellite maneuvers.

eviden.com/wp-content/uploads/2024/01/ECT-230906-JR-FS-SkyMon-PED-Web-2.pdf

Unlock Advanced Space Intelligence & SSA

SkyMon addresses the growing complexity of space by providing real-time monitoring and analysis of satellite RF signals across LEO, MEO, and GEO. As space becomes more crowded and contested, especially for defense and intelligence, the solution enables identification, tracking, and assessment of satellite behavior. It delivers space intelligence (SIGINT) and space situational awareness (SSA), allowing users to detect threats, understand activities, and support operational decisions. In essence, SkyMon helps governments maintain security and readiness by turning satellite signals into actionable intelligence.

page.eviden.com/rs/247-MBJ-716/images/Advanced%20Space%20Intelligence%20and%20SSA%20with%20SkyMon_Eviden.pdf?version=0

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EVIDEN
Safe in Life-Safe Online



Fachhochschule Wiener Neustadt

and FOTEC Forschungs- und Technologietransfer GmbH

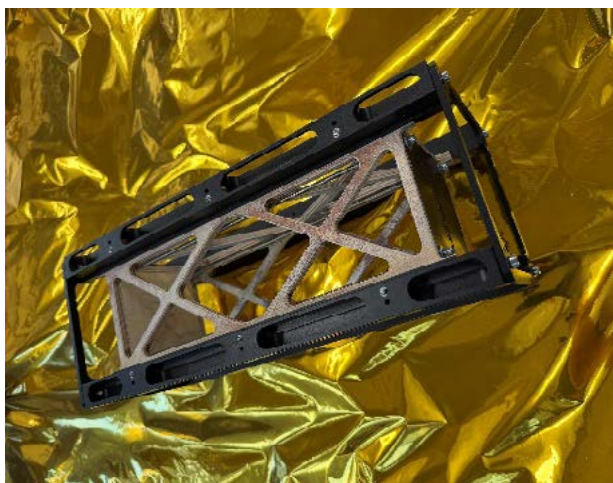
The ESA_Lab@UAS Wiener Neustadt & FOTEC is a joint initiative of the University of Applied Sciences Wiener Neustadt (FHWN) and its research subsidiary FOTEC Forschungs- und Technologietransfer GmbH, established as part of the European Space Agency's ESA_Lab@ network. The laboratory serves as a center of excellence for applied space research, education, and technology transfer, bringing together academia, industry, and ESA to accelerate innovation in the European space sector.

The primary focus of the ESA_Lab is the development, testing, and application of small satellites, with particular emphasis on enabling advanced mission capabilities through electric and chemical propulsion systems. Research covers the complete lifecycle of small satellite missions, from system design, simulation, and manufacturing to integration, qualification, launch preparation, and mission operations.

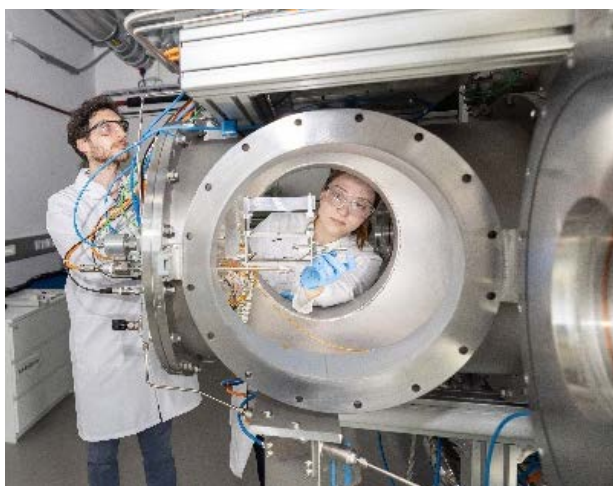


Remote sensing payloads of small satellites are as well key objectives as the intention to increase the mobility and operational flexibility of CubeSats and other small spacecrafts. This will enable future missions in Low Earth Orbit, cislunar space, and beyond. Dedicated research is conducted on electric propulsion technologies, green chemical propulsion systems, propulsion integration, and mission concepts for orbit maintenance, formation flying, deorbiting, and deep-space exploration. A distinguishing strength of the ESA_Lab is its extensive testing and diagnostics infrastructure. FOTEC and FHWN operate advanced facilities for thermal vacuum, vibration, shock, environmental testing, plasma diagnostics, direct thrust measurement, beam characterization, and propulsion qualification. These capabilities allow comprehensive verification of both electric and chemical propulsion systems under representative space conditions while supporting industrial partners, research institutions, and future ESA missions.

Beyond research, the ESA_Lab integrates education and public outreach. Students participate in hands-on satellite projects, propulsion research, expert workshops, and collaborations with ESA and industry partners. The laboratory also promotes knowledge transfer through conferences, scientific publications, and public engagement activities, strengthening Austria's role in the rapidly growing field of small satellite technologies.



Wood-based CubeSat prototype structure in simplified deployer for environmental testing. © FOTEC



Test stand for monopropellant and bipropellant thruster testing and characterization © Daniel Hinterramskogler



Mechanical pressure regulator prototype developed by FOTEC and manufactured by RHP © FOTEC

GLOW (Green Low-Earth Orbit Woodcraft)

GLOW investigates novel bio-based structural materials for future small satellites, with a strong focus on demisability and sustainable space systems. The project evaluates engineered wood materials from Wood K plus as lightweight alternatives to aluminium, aiming to minimize the formation of persistent aluminium oxide particles during atmospheric re-entry. Candidate materials will be assessed for mechanical strength, thermal stability, outgassing, and UV radiation compatibility. The outcome will establish a roadmap for environmentally friendly, high-performance satellite structures supporting future ESA Zero Debris and sustainable space initiatives.

Chemical Propulsion

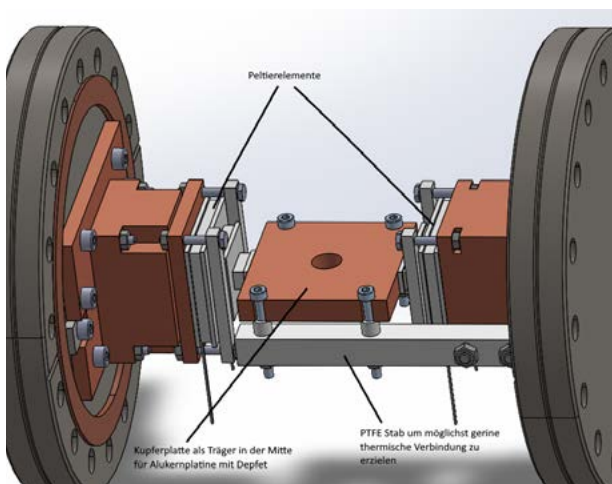
FOTEC develops sustainable chemical propulsion systems for small satellites based on green, non-toxic propellants that provide a safe and environmentally responsible alternative to conventional hydrazine. Research focuses on high-performance 98% hydrogen peroxide monopropellant and nitrous oxide-based bipropellant thrusters, advanced catalyst technologies, and efficient propulsion architectures. These systems reduce handling complexity, lower operational costs, and eliminate the need for hazardous processing procedures while maintaining competitive performance. Extensive in-house testing supports the development of reliable, efficient, and sustainable propulsion solutions for future space missions.

LISA-PRS (ultra-low-noise, high-precision pressure regulators)

The LISA-PRS project develops a new generation of ultra-low-noise, high-precision pressure regulators for cold gas micro-propulsion systems. Designed for missions such as LISA, these regulators prioritize exceptional reliability, long-term stability, and extremely low pressure noise, enabling the precise thrust control required for gravitational wave detection and other high-accuracy scientific measurements. Prototype manufacturing is carried out by RHP Technology, while FOTEC contributes design support, testing, qualification, and validation. Together, the partners are establishing a fully European pressure regulator solution using advanced manufacturing technologies and materials.



Two CubeSat systems in front of the ^{60}Co source for exposure to gamma rays during the irradiation test. © FHWN/Seibersdorf Labs



Cooling concept of a miniaturized vacuum chamber, developed for sensor operation © FHWN

SSRN (Small Satellite Research Network)

SSRN (Small Satellite Research Network) is dedicated to establish small satellite as a research tool within Austria and Lower Austria. Within the project a network of research institutes, universities and companies is formed by organizing technical workshops and public events as well as by the development of infrastructure for environmental tests. Radiation damage has been identified as a major challenge for COTS based missions. For this reason, irradiation tests are developed at Seibersdorf Laboratories (TID) and MedAustron (SEE).

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AstroDEPFET (RNDR-DEPFETs for Astrophysics)

In the AstroDEPFET project, high precision detectors (DEPFET) with repetitive non-destructive readout (RNDR) are evaluated for their application of space telescopes for direct exo-planet observations. This technology is capable of single electron resolution due to the averaging of several individual measurement of the same signal. The project is done in close cooperation with MedAustron – to evaluate the radiation hardness of the device – with the semiconductor laboratory of the Max-Planck society – to provide sensors and technologic know-how.

Fachhochschule Wiener Neustadt and FOTEC Forschungs- und Technologietransfer GmbH

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www.fhwn.ac.at

CONTACT

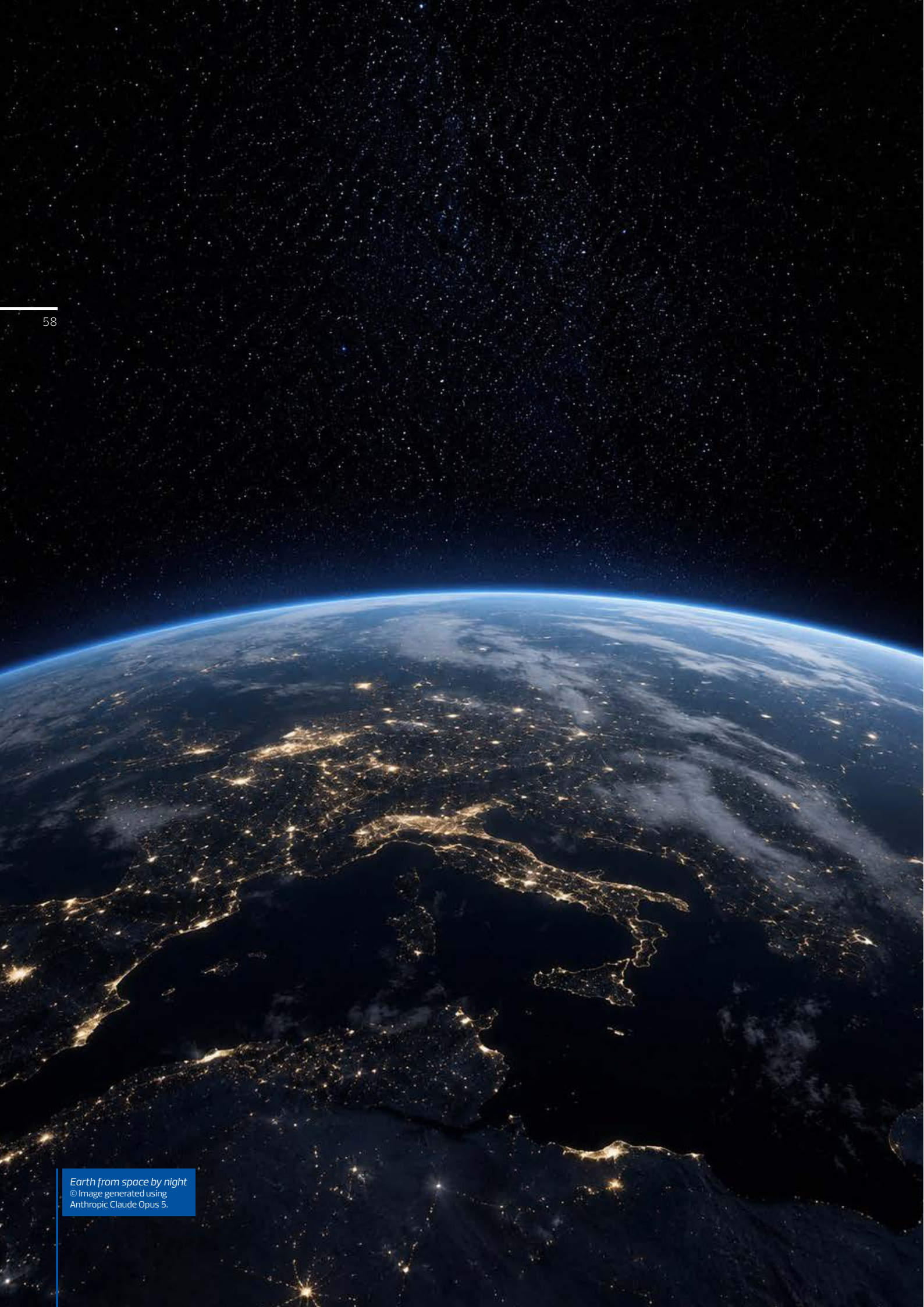
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**FACHHOCHSCHULE
 WIENER NEUSTADT**
 Austrian Network for Higher Education



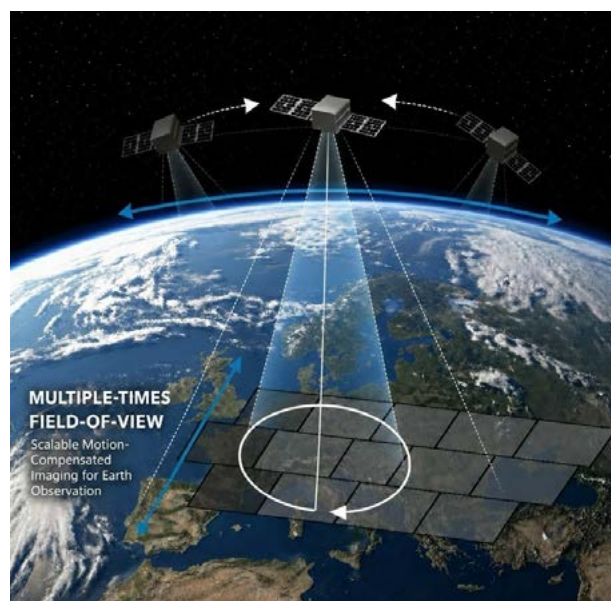
Fantana GmbH

Fantana GmbH is an Austrian opto-mechatronics company specialising in compact, high-performance optical payloads for Earth observation. The company combines in-house expertise in optics, opto-mechanics, electronics and software to build complete imaging instruments – from telescope and detector to active focusing, motion compensation and on-board image processing. Rather than supplying isolated components, Fantana delivers integrated payloads in which every subsystem is designed, prototyped, tested and qualified together.

In 2025 Fantana made optical payloads its clear strategic focus. The centrepiece is the LEO2VLEO constellation, a high-resolution Earth-observation payload developed with partner ASA Astrosysteme and kicked off in Brussels in July 2025. The resulting instrument, ST-100, packs a diffraction-limited telescope, a five-band multispectral sensor, active focusing and motion compensation into a compact 2U envelope, targeting metre-class ground resolution from low-Earth orbit.

Fantana's payloads are built around the full optical chain, so radiometric and geometric performance can be characterised and maintained across the mission lifetime. On-board software adds compression, analytics and data reduction directly at the sensor, cutting downlink volume and shortening the time from acquisition to actionable imagery – supporting environmental monitoring, agriculture, land-use mapping and disaster response.

By keeping the full system development under one roof, Fantana iterates quickly, controls quality across the whole payload, and adapts its instruments to a wide range of small-satellite missions – turning demanding Earth-observation requirements into dependable, flight-ready hardware.



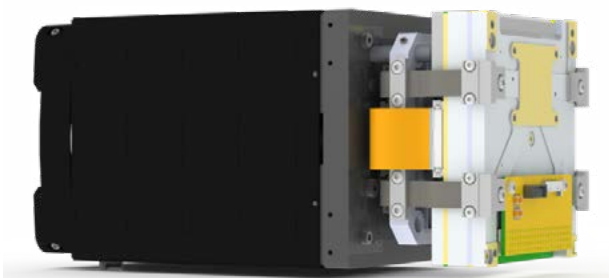
Multiple-times field-of-view: scalable, motion-compensated imaging. © Fantana GmbH



Optical payloads for Earth observation from Earth orbit.
© Fantana GmbH



ST-100: a compact 2U Earth-observation telescope.
© Fantana GmbH



ST-100 payload with active focusing and control electronics.
© Fantana GmbH

High-Resolution Optical Payloads for Earth Observation

Earth-observation missions demand ever-higher image quality together with smarter on-board data handling. Fantana's optical payloads integrate precision optics, opto-mechanical design and embedded software into a single compact instrument that holds its performance through launch loads and the thermal and radiation environment of orbit. The result is dependable, high-resolution imagery – with scalable, motion-compensated fields of view – for environmental monitoring, precision agriculture, land-use analysis, infrastructure mapping and rapid disaster response, delivered reliably from low-Earth orbit.

The ST-100 Optical Payload

Kicked off in Brussels in July 2025 with partner ASA Astrosysteme, LEO2VLEO produced ST-100: a compact 2U telescope for high-resolution Earth observation. Its catadioptric Ritchey-Chrétien optics are diffraction-limited from 450 to 900 nm and feed a five-band multispectral sensor (VIS to NIR), delivering less than 4 m ground resolution from 500 km at a signal-to-noise ratio above 20.

Precision Optics, Focusing and Motion Compensation

Image quality in orbit depends on keeping the optics precisely aligned and the line of sight stable. ST-100 uses active focusing at the secondary mirror, driven by a piezo actuator with strain-gauge feedback and combined with low-CTE, athermal materials, so that focus is held across the wide temperature swings of an orbit. Active motion compensation steadies the image during integration, preserving sharpness at the payload's highest resolution even on a fast-moving platform.



On-board processing: resolution enhancement and target detection. © Fantana GmbH



Earth from space by night
© Image generated using Anthropic Claude Opus 5.

On-Board Image Processing and Data Pipeline

A key focus of 2025 was Fantana's on-board image-processing and data pipeline. Imagery is compressed on board using lossless CCSDS compression – around 2.9× at full frame rate – and packaged for a robust X-band downlink, while on-ground stitching and correction reconstruct large, seamless scenes. The approach keeps downlink volume manageable, preserves the information that matters most for downstream analysis, and even makes short continuous (video) acquisitions feasible from a small satellite.

2025 Highlights

2025 was defined by major progress towards delivering the optical payloads for the LEO2VLEO constellation. The project kicked off in Brussels in July, the ST-100 payload concept was fully defined, and a proof of concept was completed – optical, thermal, vibrational and mechanical simulations, two prototypes, a 3D-printed assembly mock-up and functional checks of the active focusing unit, with component manufacturing under way. In early 2026 ST-100 passed its Preliminary Design Review, including successful engineering-model magnetic-dipole and first functional tests of all essential subsystems.

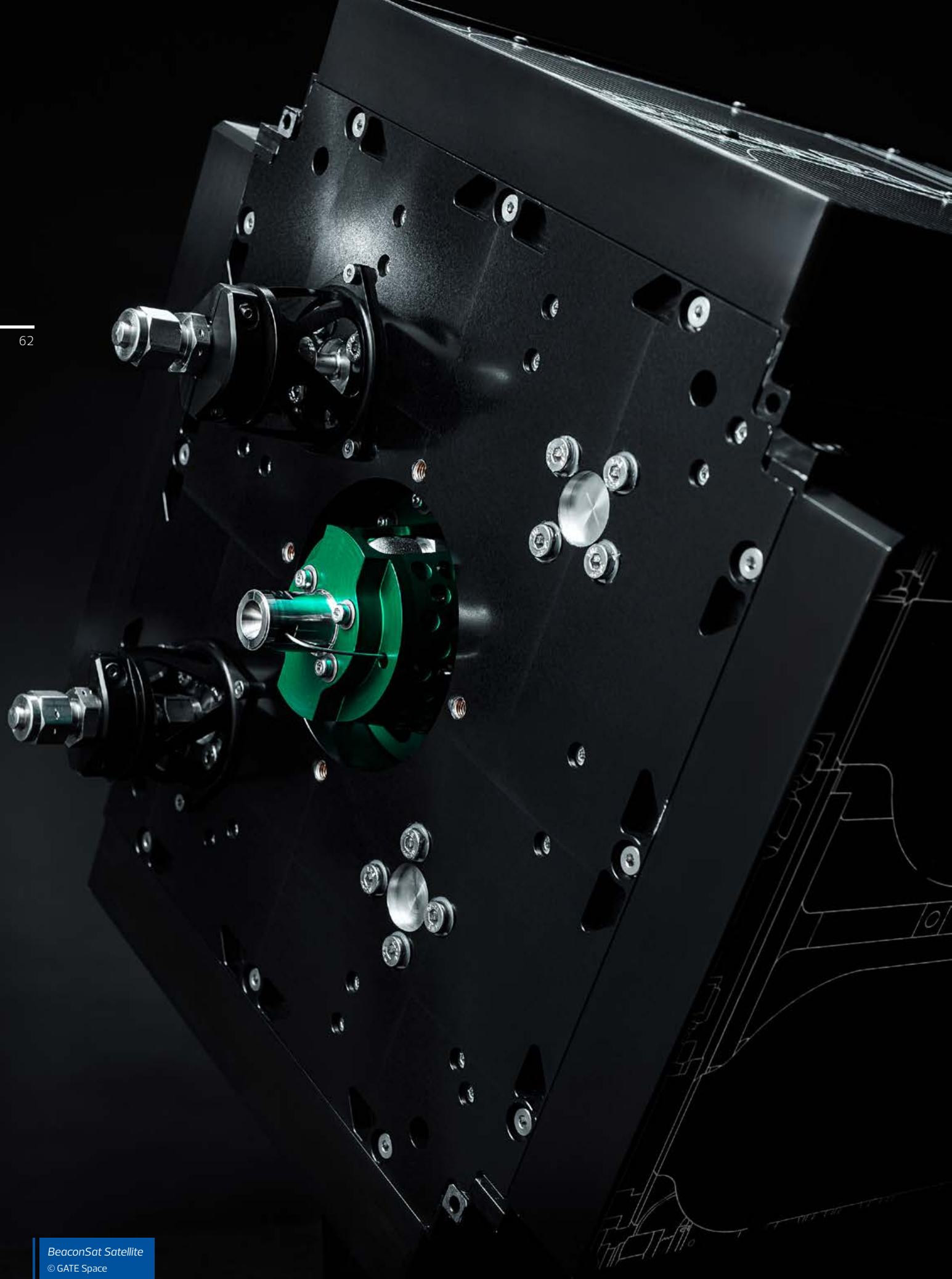
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FANTANA



GATE Space Innovation GmbH

GATE Space is an Austrian space propulsion company developing and delivering green chemical propulsion systems for satellites and other spacecraft. The company provides complete propulsion solutions, including compact single-thruster systems, multi-thruster architectures, the GATE Jetpack, and customized integrated propulsion systems. Its work is focused on missions where reliable in-space mobility, fast execution, and strong technical ownership are essential.

GATE Space's technology enables reliable and precise in-space mobility throughout all phases of a spacecraft's operational lifetime. The systems are based on a modular building-block approach, using configurable components such as thrusters, tanks, valves, fluid systems, structures, and avionics. This allows propulsion solutions to be adapted to specific spacecraft geometries, mission profiles, thrust requirements, and integration constraints while maintaining a clear and structured development path.

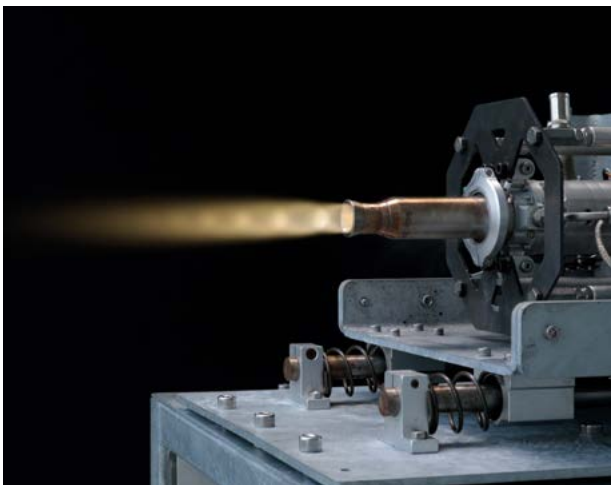


Thruster Module Integration © GATE Space

Propulsion systems are designed, manufactured, assembled, and tested in-house at GATE Space's 560 m² production facility in Vienna, Austria. Vertically integrated capabilities include precision CNC machining, CMM-based metrology, aerospace-grade cleaning, and ISO 8 cleanroom assembly and integration.

An advanced, in-house vacuum hot-fire test facility, complemented by thermal vacuum (TVAC) testing capabilities, enables validation of propulsion system performance under representative space conditions. This integrated approach supports strict quality control, full traceability, rapid development cycles, and reliable delivery schedules.

GATE Space's first space mission is scheduled for launch in February 2027. BeaconSat is the largest satellite ever built in Austria. Developed in collaboration with the Austrian Federal Ministry of Defence, ESA, Space Inventor, IGASPIN, and other partners, BeaconSat will detect and characterize interference affecting satellite-based navigation systems from orbit. In this defence mission, GATE Space serves as the prime contractor and delivers the full custom propulsion system. The company is also contributing to ASTRAL, Europe's first satellite refuelling mission led by Orbit Fab, by providing the propulsion and mobility capabilities for rendezvous, docking support, propellant transfer, and end-of-life de-orbiting.



Hot Fire testing campaign of the GATE Thruster © GATE Space

GATE Thruster

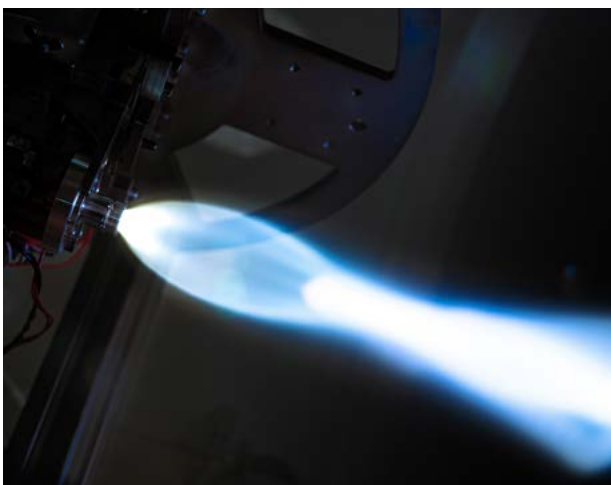
GATE Space's deep-throttling thrusters cover thrust classes ranging from 2 N to 200 N. Based on patented injection technology and closed-loop thrust control, they provide stable performance across a 1:10 throttling range while compensating for feed-system pressure variations. As chemical propulsion systems, they deliver immediate thrust response and fast maneuver execution, making them suitable for time-critical collision avoidance, responsive orbit changes, proximity operations, docking support, formation flying, and de-orbiting.



GATE Space Custom Propulsion System © GATE Space

GATE Space Custom Propulsion System

GATE Space's custom propulsion systems are built around individual customers' mission needs. Based on modular building blocks, propulsion systems are configured to match spacecraft geometry, thrust requirements, redundancy concept, total impulse, and integration constraints. GATE Space delivers complete end products, from propulsion architecture and hardware manufacturing to cleanroom integration, validation, and testing, providing customers with a mission-ready propulsion system without the complexity of managing multiple suppliers.



Vacuum Hot Fire of GATE Thruster XS © GATE Space

GATE Thruster XS

GATE Thruster XS is the smallest and most precise member of the GATE Thruster family, developed for fine maneuvering and ultra-low impulse-bit operations in both hot gas and cold gas modes. With a thrust range of 1–6 N, it supports station keeping, collision avoidance, attitude control, precise rendezvous and proximity operations, and de-orbiting. Qualified under continuous vacuum conditions to TRL 7, GATE Thruster XS will be used in the BeaconSat mission, demonstrating GATE Space's propulsion capabilities in orbit.



GATE Jetpack in configuration with 4 GATE Thrusters © GATE Space

GATE Jetpack

The GATE Jetpack is a plug-and-play green chemical propulsion system designed to provide ESPA-class small satellites with mission-lasting mobility. Built around the GATE Thruster and a modular, scalable architecture, it enables rapid orbit transfers, station keeping, collision avoidance, and reliable end-of-life de-orbiting. Its simplified integration process reduces spacecraft development effort, cost, and schedule risk. Developed in close collaboration with ESA, the GATE Jetpack builds on extensive component-level validation and will achieve flight heritage by June 2027.



GATE Space Testing Site © GATE Space

Why GATE Space is trusted

GATE Space critical development steps are controlled in-house, from manufacturing to verification. Its Vienna and Lower Austria facilities include precision machining, metrology, aerospace-grade cleaning, cleanroom assembly, integration, leakage testing, thermal vacuum testing, and vacuum hot-fire test infrastructure. This allows hardware to move through a documented process, where components are inspected, cleaned, assembled, and tested under controlled conditions. Combined with high-volume ignition campaigns, long-duration firings, and subsystem-level verification, this creates traceability from manufactured hardware to measured performance.

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Landcover Dynamics

© Bing Satellite © Carto DB © GeoVille

GeoVille Information Systems and Data Processing GmbH

GeoVille is a leading provider of satellite-based Earth Observation, geospatial intelligence, and data access solutions, helping organisations worldwide transform spatial data into actionable insights. With more than 25 years of experience and over 500 successful national and international project implementations across 140 countries, GeoVille has established itself as a trusted partner for governments, international institutions, space agencies, public authorities, and private-sector organisations.

GeoVilles mission is to deliver turnkey geospatial intelligence solutions that enable more efficient operations, informed decision-making, and sustainable resource management. Through combining advanced Earth Observation technologies with deep domain expertise, GeoVille provides reliable information products and tailored services that maximize the value of spatial data.

GeoVille offers a comprehensive portfolio of value-added services derived from satellite imagery and geospatial data, covering land monitoring, environmental management, climate resilience, agriculture, forestry, water resources, infrastructure planning, security, and digital transformation. Interdisciplinary teams of scientists, engineers, GIS specialists, software developers, and data experts develop innovative solutions that address complex challenges across sectors and geographic regions.

Over the years, GeoVille has built profound expertise in satellite data access, data streaming technologies, cloud computing, high-performance processing environments, highly scalable production systems, and interactive geospatial web applications. GeoVilles advanced technology stack enables the efficient processing and delivery of large-scale Earth Observation data streams, transforming raw satellite imagery into meaningful intelligence for operational and strategic use. In addition to its leading role in Earth Observation and geospatial intelligence, GeoVille has extensive experience in the design, implementation, and operation of large-scale satellite communication (SatCom) and digital connectivity projects. Working closely with international institutions, governmental organizations, development agencies, and industry partners, GeoVille supports the deployment of innovative space-enabled services that bridge connectivity gaps and enable digital transformation in remote and under-served regions.

GeoVille contributes expertise across the entire project lifecycle, including requirements analysis, system design, service integration, operational implementation, monitoring, and capacity building. By combining satellite communications with Earth Observation, cloud-based infrastructures, and geospatial information systems, GeoVille develops integrated solutions that support disaster management, environmental monitoring, public services, infrastructure development, and socio-economic growth.

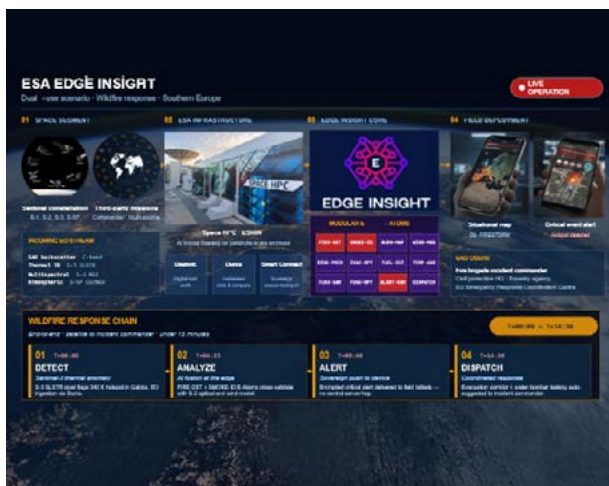
As a fully independent, privately owned Austrian company, GeoVille combines innovation, quality, and agility with a strong commitment to environmental responsibility and social impact. We are dedicated to supporting our clients with cutting-edge geospatial solutions that help build a more resilient, sustainable, and data-driven future.



ESA SUNRISE OneWeb – Copernicus Hub, EarthStreamer
© ESA, Eutelsat OneWeb, GeoVille

ESA SUNRISE OneWeb – Copernicus Hub, EarthStreamer

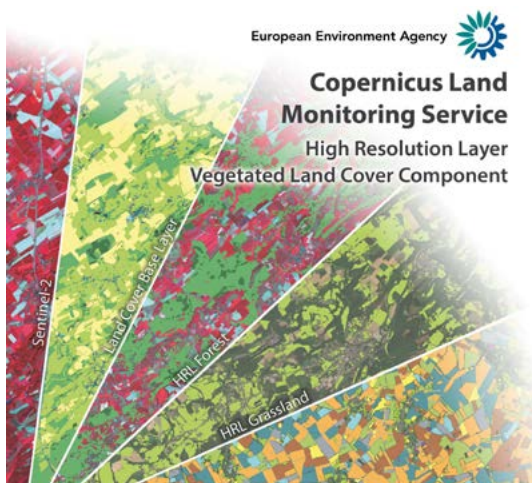
One year after launching the OneWeb Copernicus Data Hubs initiative with Eutelsat and the European Space Agency, GeoVille has made significant progress in the development of the software and is expanding how Earth Observation data is accessed. Particularly through enabling complete Copernicus Sentinel archives over SatCom, a key feature has successfully been implemented. Through combining smart data compression together with Eutelsat's OneWeb satellite connectivity, the feature delivers EO data quickly and reliably, even where fibre or mobile networks are unavailable.



ESA Endure – Edge Insight © GeoVille

ESA Endure – Edge Insight

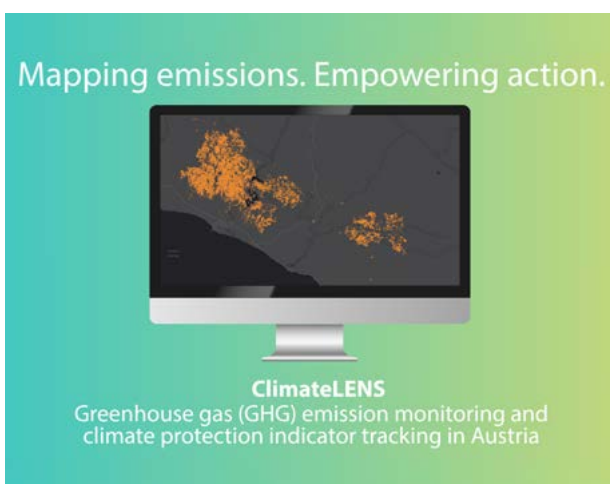
The ESA EDGE INSIGHT is a next-generation, AI-driven Earth Observation (EO) intelligence platform developed by GeoVille to deliver secure, real-time situational awareness directly at the edge, where operational decisions are made. Building upon established ESA infrastructures and ecosystems – including Space HPC, DestinE, Dunia, and SmartConnect, the project combines technical maturity with rapid deployment capability and cost efficiency. Through modular AI-powered “E-Atoms,” advanced data harmonization, and resilient microservice architectures EDGE INSIGHT enables scalable and sovereign EO analytics across decentralized environments.



EEA CLMS HRL NVLCC © European Environment Agency

High Resolution Layers Vegetated Product Suite

The new high resolution layers (HRL) Vegetated product suite (HRL VLCC) represents one of the future four major groups of European HRLs (besides HRL Non-Vegetated, Cryo-/Hydrosphere and Small Woody Features) as part of the pan-European Copernicus Land Monitoring Service (CLMS) component for the EEA-39 countries. It consists of the HRL Forest, HRL Grassland, HRL Crop Types, and their derived or ancillary layers.

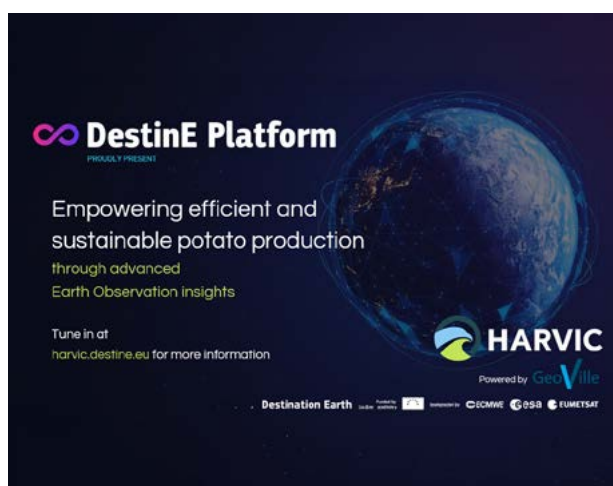


ASAP ClimateLENS | KlimaBLICK © GeoVille

ASAP ClimateLENS | KlimaBLICK

The Austrian Space Application Program flagship initiative ClimateLENS – Prototyping a GHG emission and climate protection EO-indicator Monitoring Reporting and Verification (MRV) system. ClimateLENS provides the solution to one of the key challenges nations and cities face today: the lack of reliable, consistent, and actionable data for climate monitoring. Transforming fragmented information into transparent insights:

- track greenhouse gas emissions and climate indicators with confidence
- identify where action is most needed
- evaluate the impact of implemented measures
- plan effective pathways towards climate neutrality



HARVIC © DestinE

GEO4A (Harvic)

HARVIC, a pioneer service of our subsidiary GEO4A, is now available via the EC DestinE platform. Through an innovative integration process of satellite data, in-situ field data, and meteorological information, HARVIC empowers companies of the Agro-Food industry to make informed decisions, enabling improved yield control, efficient logistics operations and sustainable practices. Clients range from Agrico, Solana Holland, Farm Frites, Golden Geest, Meijer Potato, and Jan Bakker, to public partners such as Binst, and FH Kiel.

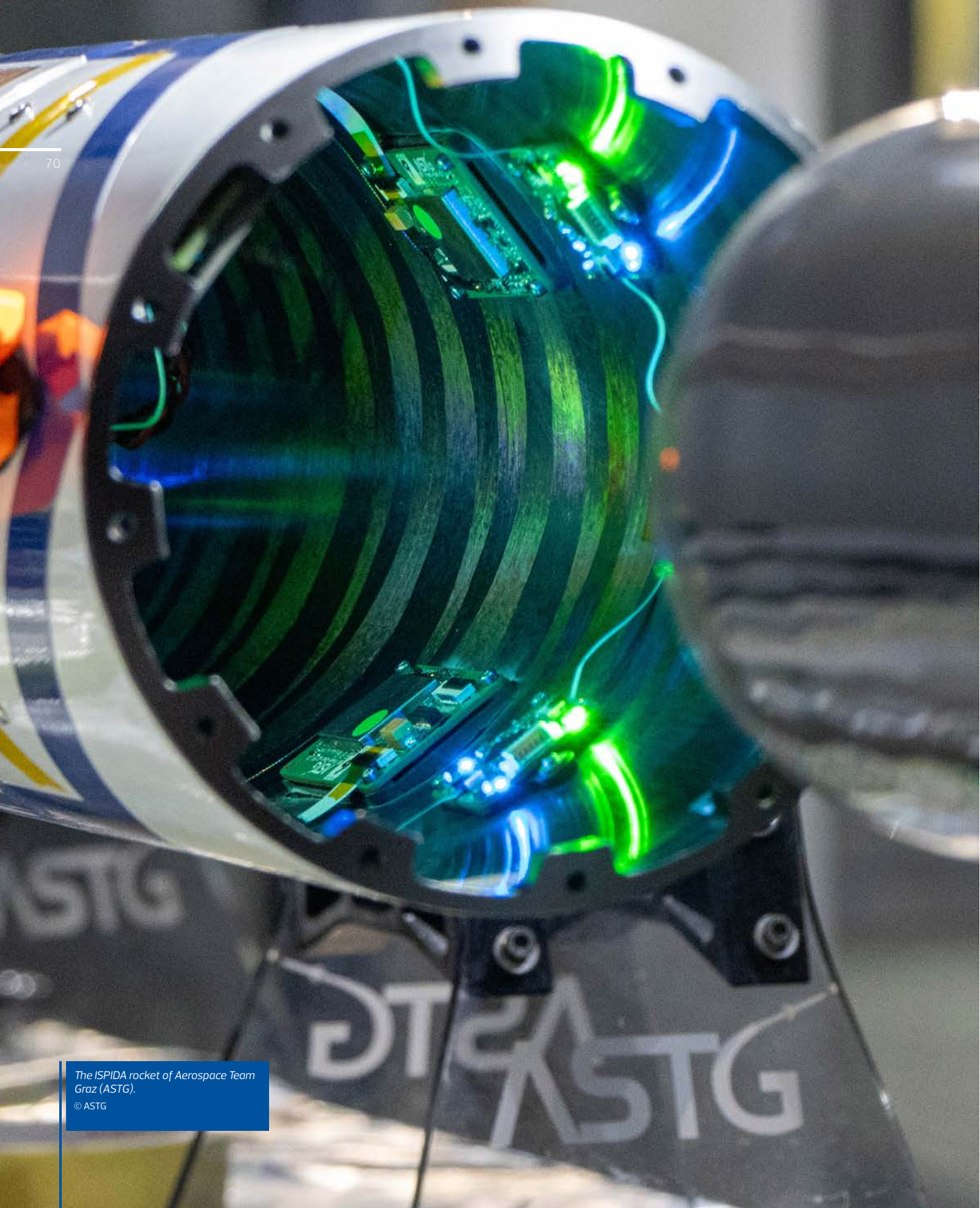
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GeoVille
 Information Systems and
 Data Processing GmbH



The ISPIDA rocket of Aerospace Team
Graz (ASTG).
© ASTG

Graz University of Technology

Also in the aerospace sector, Graz University of Technology is a renowned institution with its research areas nanosatellite technology, satellite communications and navigation, satellite geodesy, remote sensing and the development of space-qualified hard and software. Following the concept of research-led teaching, latest academic research in these areas is also part of the university's curricula. For the year 2025, several highlights can be reported not only in research but also in education and entrepreneurship.

It has become something of a tradition for the Aerospace Team Graz to return successfully from European Rocketry Challenges and the year 2025 was no exception. 2025 was also the year in which the REXUS payload APEX (Auroral Polarisation EXplorer) was developed, manufactured and verified by the Aerospace Team Graz. This began in January with the submission of the first version of the project documentation, followed by the 'Preliminary Design Review' in February. In mid-March, production of the APEX metal components began, so that a prototype could be presented at the 'Critical Design Review' in June. Over the summer, APEX was finalised and testing commenced, culminating in the 'Integration and Testing Week' at the beginning of December.

The Working Group of Navigation at the Institute of Geodesy (IfG) at TU Graz puts its focus on satellite-based positioning and navigation systems. In the field of satellite-based positioning the team focuses on robust and precise positioning algorithms and methods for Global Navigation Satellite Systems (GNSS) using software-defined GNSS radios (SDRs). Currently a special focus is on GNSS interference detection, classification, and countermeasures. In addition, the working group is exploiting other RF space-based signals (so called signals of opportunities – SoOPs) from LEO satellites for positioning and is transforming smartphones into high-integrity, high-accuracy GNSS sensors for both PNT (Positioning, Navigation, and Timing) and atmospheric science.

The Institute of Communication Networks and Satellite Communications (IKS) focuses besides wireless terrestrial communications on satellite communication and space technology. Austria's PRETTY satellite has exceeded its original mission (a passive reflectometer by Beyond Gravity for altimetric measurements and a dosimeter by Seibersdorf Laboratories) and was rebranded as OPS-SAT PRETTY—a test platform for software experiments led by IKS TU Graz, joining ESA's OPS-SAT Space Lab. The IKS is also focusing on satellite-to-drone communication for civilian purposes and is part of an ESA project with two Austrian partners. Furthermore, TU Graz is happy to announce that former participants of SpaceTech (an internationally accredited, part-time postgraduate master's program designed for mid-career professionals in the aerospace industry) founded a company and develop high precision optical power transfer and pointing systems for next generation space missions.



Aerospace Team Graz celebrates at EuRoC 2025 © ASTG

EuRoC 2025 – European Rocketry Challenge

Aerospace Team Graz (ASTG) can look back on a successful year. Their main focus is to develop rockets for international competitions such as EuRoC. At the event in Portugal in 2025, ASTG celebrated a historic success, securing the prestigious overall victory (EuRoC Award) as well as price in the "Hybrid 9 km" (H9) category with its rocket "ISPIDA". The objectives of the project, however, extend beyond the EuRoC competition and aims to mature the hybrid propulsion expertise as a stepping stone towards future liquid engines.

astg.at

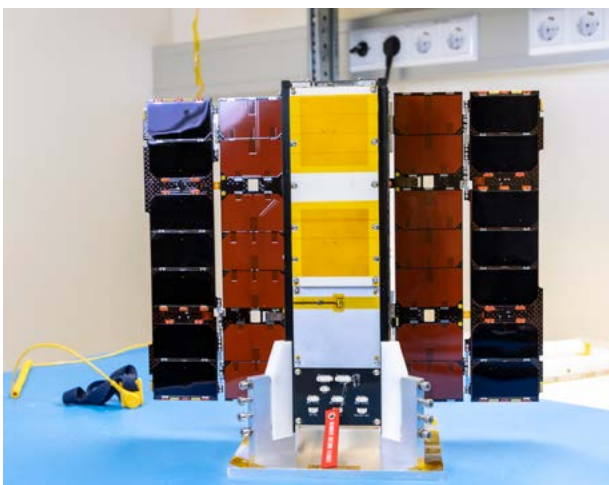


Rotating satellite dish on the roof of the Geodesy Building used to analyse the signal patterns of signals of opportunity © IFG/TU Graz

Deriving position information from actual satellite mega constellations

Currently the Working Group of Navigation at the Institute of Geodesy (IfG) is involved in GNSS interference detection activities together with the Austrian government as well as working on deriving position information from actual satellite mega constellations like Starlink and OneWeb. A new rotating satellite dish on the roof of the Geodesy Building is used to analyse the signal patterns of the so called signals of opportunities and to provide position, navigation, and timing solutions.

www.ifg.tugraz.at



PRETTY satellite © TU Graz / Lughammer

PRETTY by Name, Essential by Nature

After successfully completing its scientific mission, PRETTY was given a new purpose. It continues as part of the ESA SpaceLab programme, becoming OPS-SAT PRETTY. TU Graz provides critical operational expertise for this project. This ensures that Austria retains its sole, nationally operated orbital experiment platform. It offers all experimenters free, open access. Building on TU Graz's improvements, the platform drives national and international R&D and serves as a zero-barrier testbed for Europe. TU Graz's commitment to this project solidifies its reputation for sustainable space innovation.

opssat.esa.int/missions/pretty



Drone with an onboard satellite terminal © TU Graz

System Simulator for UAV Satellite Terminal Development

Satellite connectivity will be essential for many of the scenarios for which drones will be used in the future. In the course of an ESA Project, an end-to-end system simulator is developed that provides performance indicators which are key for the development of future satellite terminals on drones. In January 2025, the project consortium consisting of 4D-Aerospace, Air6 Systems and IKS TU Graz carried out test flights near Klagenfurt with a multirotor drone and an onboard satellite terminal.

resilience.esa.int/archives/projects/uav3s4daerospace



Some Theia team members at the Smallsat Europe Conference

© Theia Labs KG

SpaceTech TU Graz spin off on optical power transfer

Theia Labs KG, a SpaceTech spin off from TU Graz, develops high precision optical power transfer and pointing systems for next generation space missions. In 2025, the team advanced its laser based wireless power transfer breadboard within the ESA BIC Austria program, targeting key milestones in optical alignment, control algorithms, and subsystem integration. Theia Labs focuses on space qualified components that enable new mission architectures in energy transfer and optical payloads. The startup continues to grow within the European space innovation ecosystem.

theialabs.space

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Infineon Technologies Austria AG

Infineon Technologies Austria AG (Infineon Austria for short) is a subsidiary of Infineon Technologies AG, a leading global provider of semiconductor solutions for power systems and the Internet of Things (IoT). Semiconductors are essential for addressing the energy challenges of our time and shaping the digital transformation. Infineon's microelectronics drive decarbonization and digitalization, enabling pioneering solutions for green and efficient energy, clean and safe mobility, and a smart and secure IoT.

Infineon Austria combines expertise in research and development, manufacturing, and global business responsibility. Its headquarters are in Villach, with additional offices in Graz, Klagenfurt, Linz, Innsbruck, and Vienna. With 5,787 employees (approximately 2,500 of whom work in research and development) from 80 nations, the company generated revenue of €4.7 billion in fiscal year 2025 (ending September 30). With research and development expenditures of €721 million, Infineon Austria is the most research-intensive company in Austria.

Furthermore, Infineon is a leading supplier of discrete semiconductor components for the global aerospace industry, boasting nearly 50 years of "space heritage." Its high-reliability (HiRel) product portfolio ranges from microwave PIN and Schottky diodes to a wide variety of microwave transistors, radiation-resistant NOR flash memory, and PowerMOS transistors.

Unlike high-volume markets, which utilize cost-effective plastic packages, Infineon also assembles these specific semiconductor chips in hermetically sealed packages to produce HiRel products for demanding space applications. Crucially, Infineon's high-reliability components, including aerospace semiconductors, benefit significantly from the exceptionally stable manufacturing environment of high-volume wafer production for all markets.

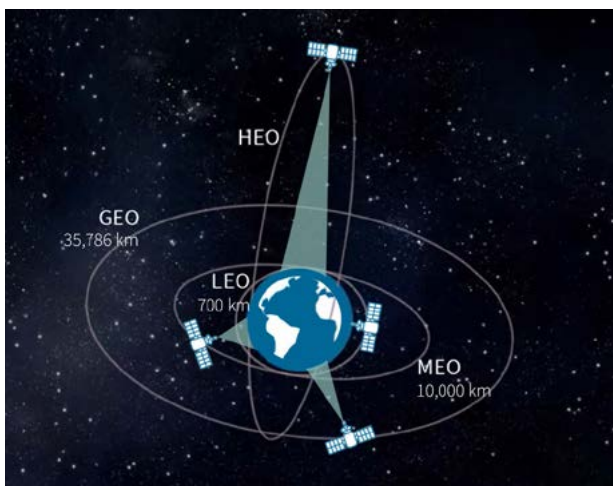
To support the "EEE Space Component Sovereignty for Europe", Infineon Austria, as a member of the ESA project consortium "EPOSIC", is researching the development of a "Radiation Hard (SEE & TID) SiC MOSFET" (semiconductor switch based on silicon carbide). This will make it possible to utilize the advantages of this material (higher efficiency, greater power density), resulting in smaller and lighter components, even in space.



Example image satellite © Infineon Media Pool

EPOSIC – European Power SiC Supply Chain

EPOSIC is a highly ambitious research project aiming to develop a European power-SiC technology for space applications, including the establishment of a European supply chain. The project is co-funded by the ESA, the Austrian Research Promotion Agency (FFG), and the German Aerospace Center (DLR). Infineon contributes its outstanding SiC expertise from its Villach site (process development and wafer fabrication), its packaging experience from Warstein, and its space expertise from HiRel (Munich). Currently, the first demonstrators are being defined and manufactured.



Satellite orbits © Infineon Media Pool

ESA project EURANTOS

The goal of this collaborative research project is the development of European high-frequency (HF) antenna semiconductor devices for ground-based and space applications for satellite constellations (LEO) in the Ka-band. Infineon Austria is contributing its communications expertise to this project. Together with partners TESAT and VITES, research is being conducted on receive (RX) and transmit (TX) beamforming front-end modules. These BFEMs (Radio-Frequency Integrated Circuit (RFIC) + Package) are designed for both the ground-based segment (single beam) and the space segment (dual beam) to support either TX or RX antenna applications.

Infineon Technologies Austria AG

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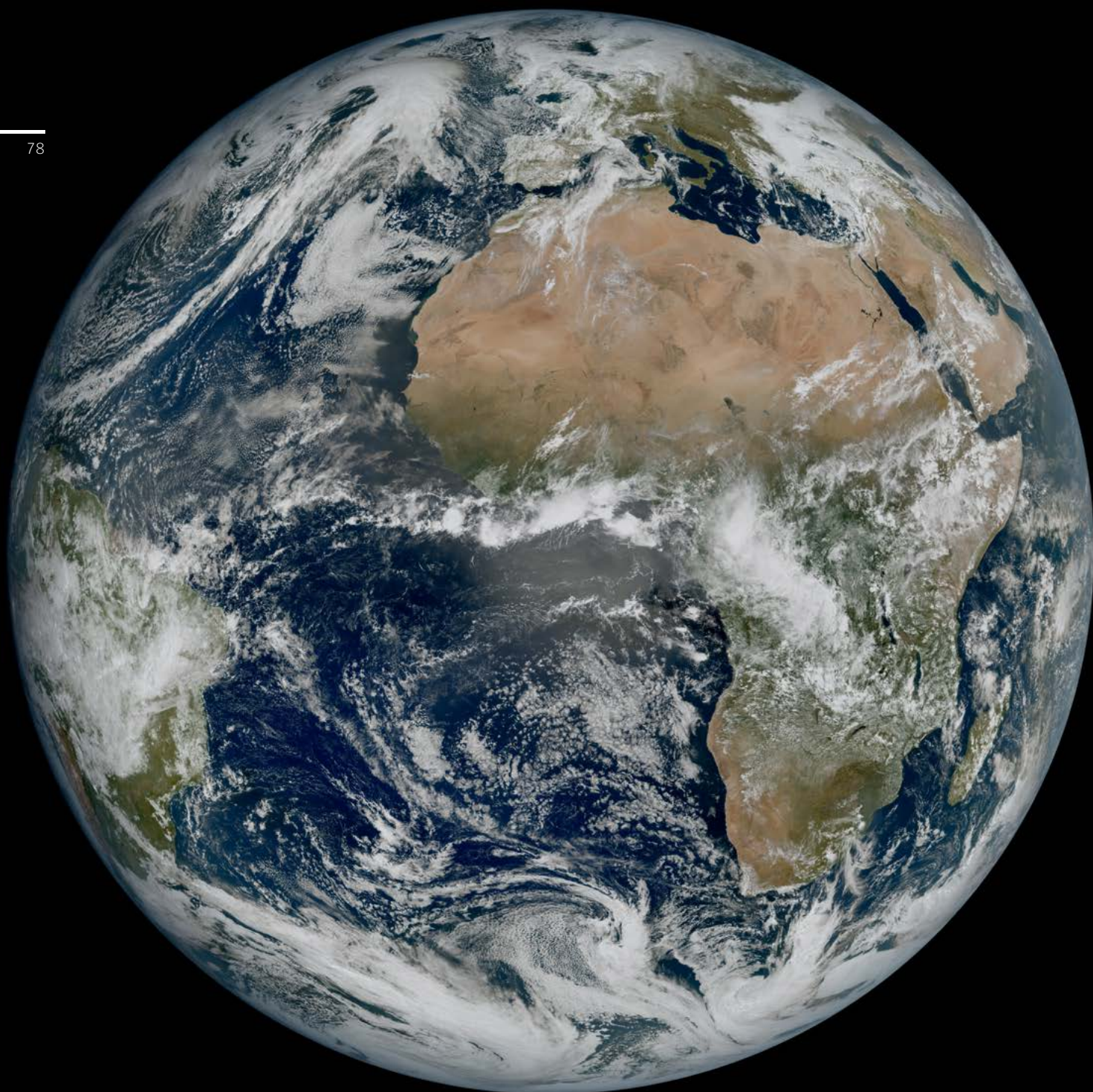
Dipl. Ing. Herbert Pairitsch
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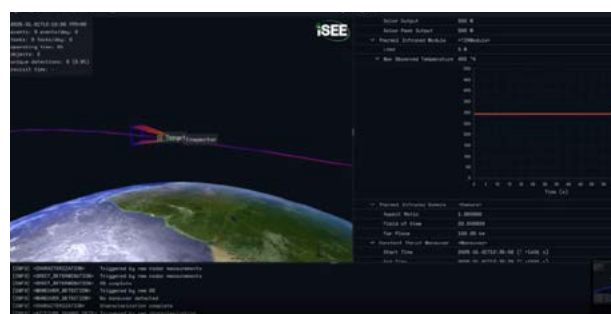
AustroSpace unites Austria's leading space industry players and research institutions, fostering collaboration and innovation in the exploration and application of space technologies, while actively representing and advocating their interests to national authorities.

Interested in becoming a member? Contact the committee.



iSEE

Space has become a critical infrastructure for modern society. From global communications and navigation to weather forecasting, environmental monitoring, financial transactions and national security, billions of people rely on services enabled by satellites every day. As the number of satellites in Earth's orbit continues to grow, so do the risks associated with congestion, space debris, accidental collisions and increasingly complex operational environments. Ensuring the safety, sustainability and security of space has therefore become one of the defining challenges of the new space era.



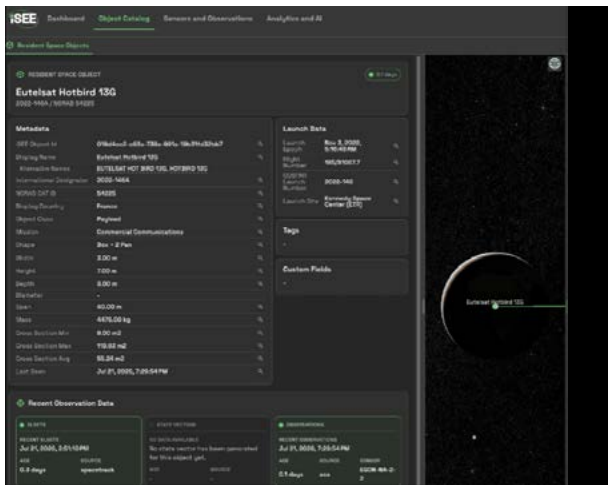
Closing the Blind Spots in Space

iSEE is addressing this challenge by developing next-generation Space Situational and Space Domain Awareness (SSDA) solutions that provide persistent, intelligent observation directly from space. Rather than relying solely on ground-based sensors, iSEE deploys advanced multi-sensor satellites equipped with artificial intelligence to continuously monitor orbital activities, detect potential threats and deliver actionable intelligence in near real time.

The company's innovative technology combines optical, infrared, radar and radio-frequency sensing with sophisticated onboard AI algorithms. By processing data directly in orbit, iSEE can rapidly detect, classify and characterize resident space objects while significantly reducing the amount of data that must be transmitted to Earth. This enables faster decision-making, higher operational efficiency and more reliable information for satellite operators, government agencies and defence organizations.

iSEE's integrated SSDA platform supports a wide range of applications, including collision avoidance, anomaly detection, mission planning, asset protection and strategic space security. Through advanced sensor fusion and predictive analytics, the platform delivers comprehensive situational awareness that helps customers understand not only where objects are located, but also how they behave and how their trajectories may evolve over time.

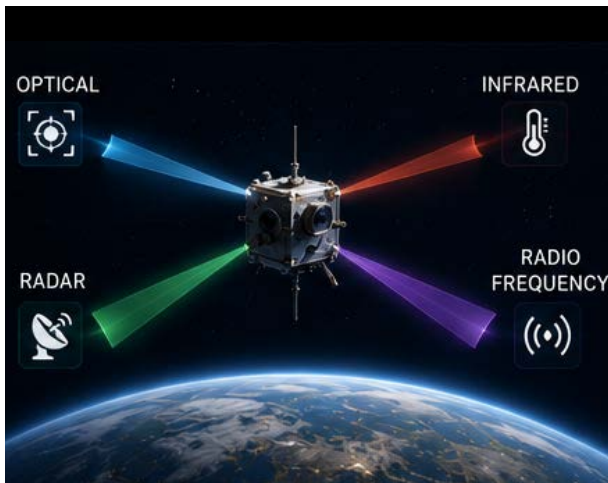
The company's technology has already been demonstrated through its successful in-orbit missions, including Adler-1 and Adler-2, which validated key capabilities for autonomous observation and space surveillance. Building on these achievements, iSEE continues to develop scalable constellations and mission concepts that provide persistent coverage of increasingly congested orbital regions.



AI-Powered Space Domain Awareness © iSEE – SSDA Platform

AI-Powered Space Domain Awareness

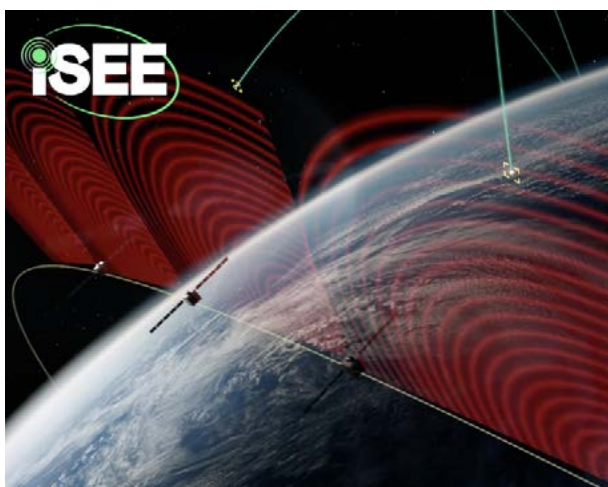
Artificial intelligence powers iSEE's Space Situational and Space Domain Awareness platform. Advanced onboard AI processes sensor data directly in orbit, enabling rapid detection, classification and tracking of resident space objects. This reduces data transmission requirements while delivering near real-time insights. By transforming raw observations into actionable intelligence, iSEE helps operators improve collision avoidance, identify anomalies and make informed decisions in an increasingly complex and congested orbital environment.



Multi-Sensor Intelligence © generated visualization

Multi-Sensor Intelligence

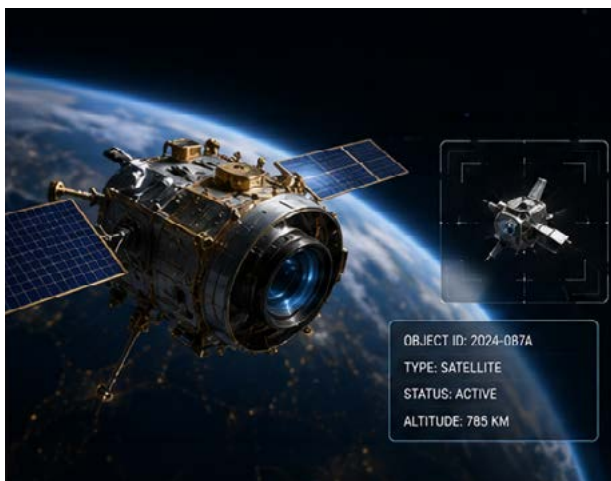
iSEE combines optical, infrared, radar and radio-frequency sensing into a unified multi-sensor architecture. Fusing complementary datasets provides more accurate tracking, object identification and characterization than any single sensor alone. The platform delivers reliable situational awareness, even in challenging conditions, supporting satellite operators, government agencies and defence organizations with trusted information for mission planning, asset protection and safer operations in space.



Persistent Observation from Orbit © iSEE Space Fence

Persistent Observation from Orbit

Unlike ground-based systems, iSEE's space-based sensors provide persistent observation with frequent revisit times and fewer observational blind spots. Continuous monitoring enables early detection of new objects, unexpected manoeuvres and changes in orbital behaviour. This persistent awareness improves operational safety, supports predictive analysis and gives customers a clearer understanding of activities in Earth's increasingly crowded orbital environment and critical assets in space.



Inspector Mission © generated visualization

Inspector Mission

The Inspector Mission focuses on the close observation and detailed characterization of satellites and other resident space objects. Using advanced multi sensors and onboard artificial intelligence, Inspector provides high-resolution data that supports technical assessments, anomaly investigations and mission planning. The mission delivers valuable intelligence for commercial operators, government organizations and defence customers while improving transparency and safety in space operations.



Guardian Mission © generated visualization

Guardian Mission

The Guardian Mission delivers persistent wide-area surveillance of Earth's orbital environment. Designed for scalable constellation operations, Guardian continuously detects, tracks and characterizes satellites and debris across large orbital regions. Combining multi-sensor observations with AI-driven analytics, it supports collision avoidance, threat assessment and long-term Space Domain Awareness, helping customers protect critical space infrastructure and ensure sustainable use of the orbital environment.

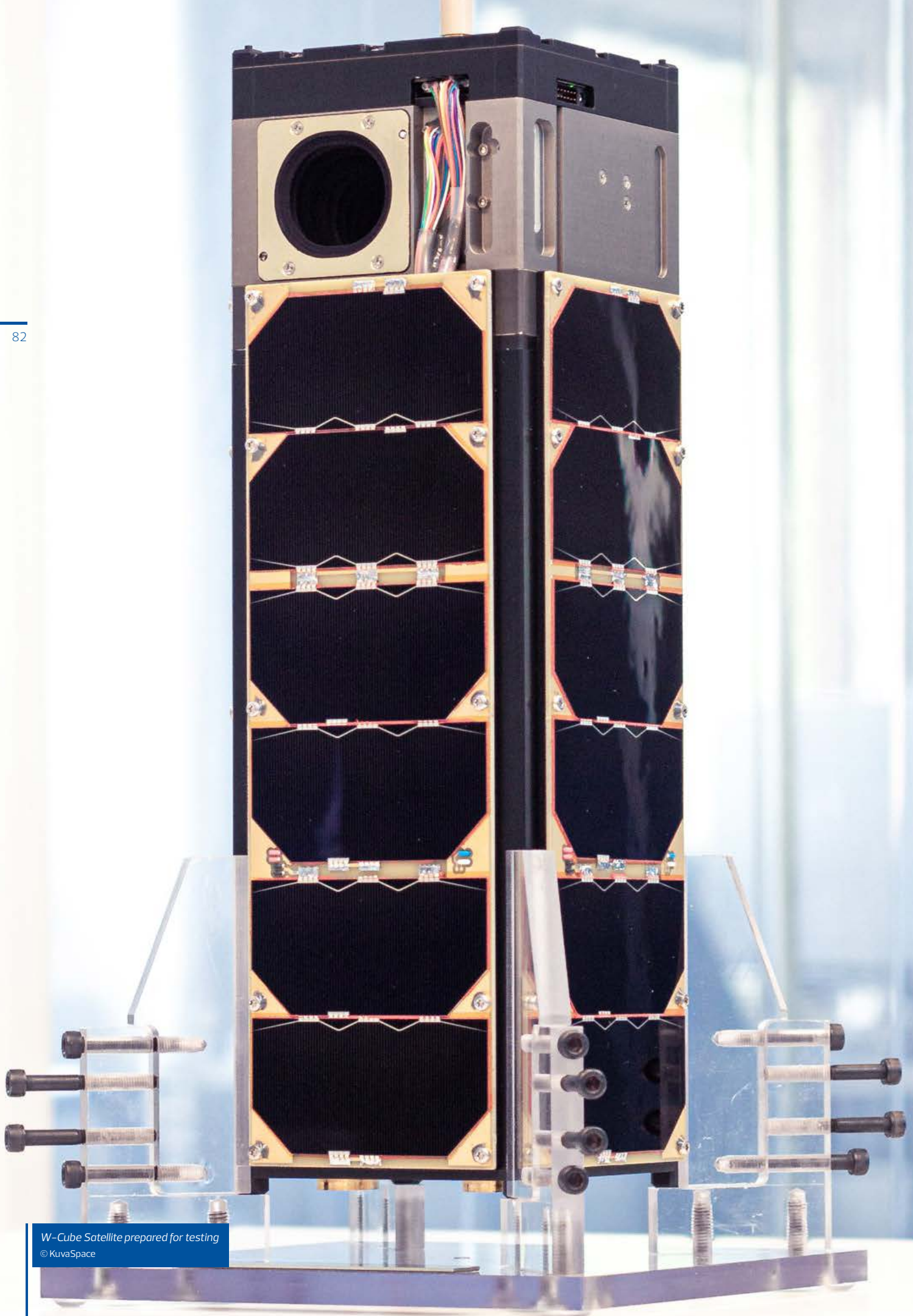
iSEE

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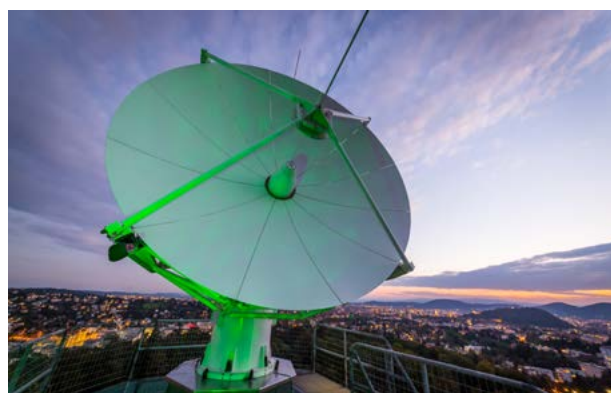


W-Cube Satellite prepared for testing
© KuvaSpace

JOANNEUM RESEARCH

Forschungsgesellschaft mbH

JOANNEUM RESEARCH has been actively engaged in space science, research, and technology development since 1978 and is recognised as one of Austria's leading applied research organisations in the field of space technologies. Through its Institute for Digital Technologies (DIGITAL), the organisation develops innovative solutions and technologies for both scientific and commercial space applications. The institute combines interdisciplinary expertise in satellite communications, satellite navigation, microwave propagation, radar technologies, remote sensing, and space robotics, addressing current and future challenges in the rapidly evolving space sector.



Q/V Band Ground Station in Graz/Hilmwarte © Joanneum Research

A major focus area is satellite communications and navigation. JOANNEUM RESEARCH develops advanced communication technologies, including modulation and coding techniques, software-defined radio systems, propagation modelling, and innovative Q/V- and W-band satellite communication systems. These activities support the development of next-generation high-capacity satellite networks and reliable broadband communication infrastructures. In satellite navigation, the institute works on high-precision GNSS technologies, localisation systems, and multi-sensor navigation concepts for terrestrial, airborne, and space applications.

The institute also has extensive expertise in wave propagation and satellite communication. Researchers investigate atmospheric effects on high-frequency communication links and develop methods for reliable system design and optimisation. These activities are complemented by field trials and validation campaigns that allow systems and services to be tested and optimised under realistic operating conditions.

In the field of Earth observation and remote sensing, JOANNEUM RESEARCH develops advanced methods for processing and analysing data from active and passive airborne and spaceborne sensors. Applications include environmental monitoring, forest damage assessment, land-use analysis, hazard mapping, and climate-related studies. A key objective of these applications is to support the prediction of environmental processes and hazardous events, contributing to enhanced resilience of critical infrastructure and society in the face of climate change and natural disasters. The organisation has developed innovative remote sensing services and tools that support public authorities, industry, and scientific institutions in data-driven decision-making processes.

Space robotics represents another important research area. JOANNEUM RESEARCH develops computer vision technologies, autonomous navigation systems, and 3D reconstruction methods for planetary exploration and robotic missions. These technologies contribute to future lunar and Mars exploration activities and support autonomous operations in challenging environments.

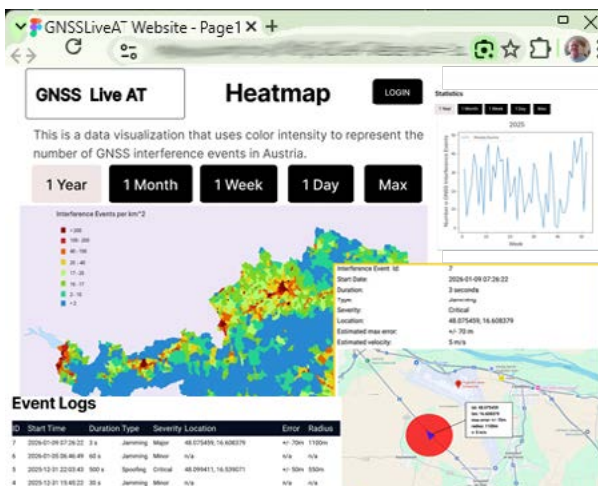


Ground station in Graz for the W-Cube Mission
© JOANNEUM RESEARCH

W-Cube LEO Mission

The W-Cube satellite mission, led by JOANNEUM RESEARCH within an international consortium, successfully operated in Low Earth Orbit for 4.5 years. During the mission, the team achieved a global milestone by receiving the world's first 75 GHz signal from space using the ground station in Graz, Austria. The collected measurement data provides essential insights into signal propagation and atmospheric effects, enabling the reliable dimensioning and development of future W-band satellite communication missions and contributing to next-generation high-frequency space communication technologies.

connectivity.esa.int/archives/projects/w-cube

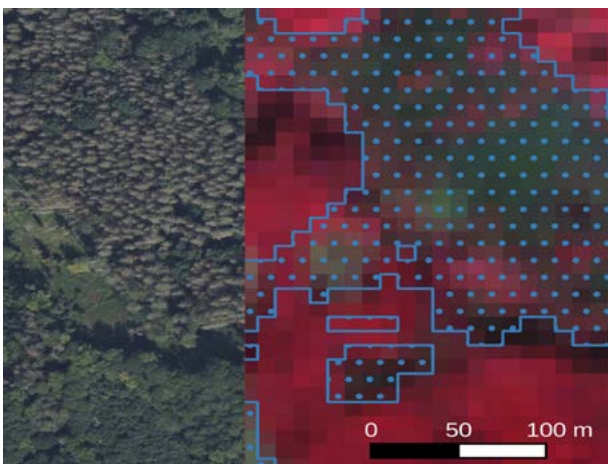


Screen shot of the GNSS Interference application
© JOANNEUM RESEARCH

GNSSLiveAT

The GNSSLiveAT project, led by JOANNEUM RESEARCH, aims to improve satellite navigation reliability in Austria through a live overview map integrating diverse sensor data. The system will automatically detect and warn users of GNSS disruptions, enabling rapid localization and resolution. Main objectives include stakeholder identification, technical concept development, feasibility analysis, and preparation of a business plan with an implementation roadmap. The project strengthens expertise in GNSS interference detection, builds on existing sensor networks, and offers commercial potential. Partners are TU Graz, OHB and Brimatech.

projekte.ffg.at/projekt/5139795

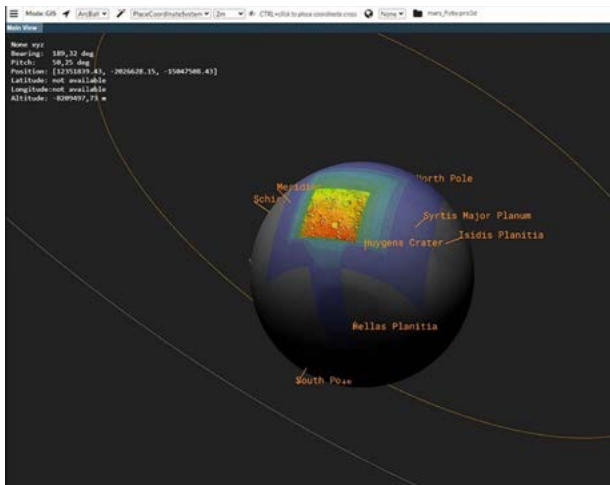


Bark beetle infestation, partly salvaged. Left: aerial image, right: Sentinel-2 false-color image with VDTc map overlay. Contains modified Copernicus Sentinel-2 data © ESA

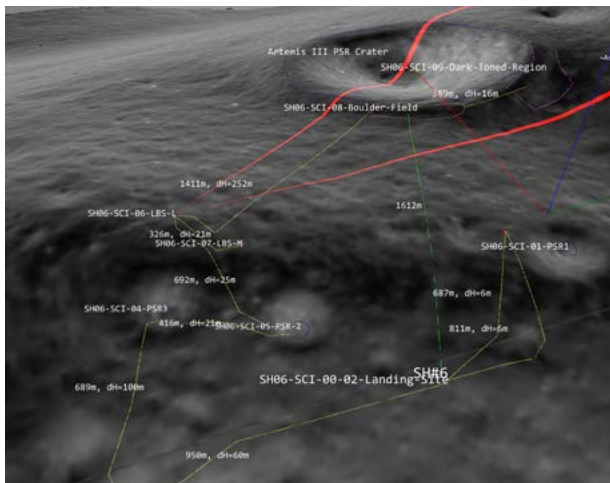
HR-VPP2 – High Resolution Vegetation Phenology and Productivity

HR-VPP2 is part of the Copernicus Land Monitoring Service and contracted by the European Environment Agency (EEA). It aims to further enhance the suite of products available on vegetation phenology. Vegetation Disturbance Tree Cover (VDTc), under development by JOANNEUM RESEARCH, is planned as a new product addition to the HR-VPP portfolio. VDTc enables improved monitoring of forest disturbances and vitality trends across Europe and features a range of new disturbance parameters like start date and disturbance magnitude.

www.joanneum.at/digital/en/project-seea-hr-vpp2-informationen-zu-stoerungen-der-europaeischen-baumbedeckung/



3D-GIS demonstrating Hera camera image projections during Mars-fly in March 2025 © NASA/VRVis/JR/Hera Team



Snapshot of LPSR high-level science targets and science operations
© USGS/LPSR-TASI-Team/VRVis/JR

Hera 3D Geographic Information System (3D-GIS)

To explore possibilities to influence the orbit of near-Earth asteroids, ESA's Hera spacecraft will arrive at the Didymos/Dimorphos double asteroid system by the end of 2026 and study the effects of NASA's DART probe impact of September 2022. JOANNEUM RESEARCH and VRVis have developed 3D vision processing and visualisation technologies to provide a 3D-GIS as major tool for scientific investigation of the DART impact. It was successfully tested during Hera's fly-by of Mars and its moons in March 2025.

Science Options for Lunar Prospecting and Scouting Rover (LPSR)

ESA's LPSR Mission will establish and demonstrate the ability to deploy and operate a rover on the Lunar surface by 2030. JOANNEUM RESEARCH under Thales Alenia Space Italy subcontract in 2025 supported Phase 1 of LPSR development with the identification of possible high-maturity scientific and technology demonstration payloads in compatibility with ESA's Lunar Science Objectives and mission constraints, payload resource and interface requirements, and the drafting of science targets and high-level operations close to the Lunar South Pole.

JOANNEUM RESEARCH Forschungsgesellschaft mbH

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MAGNA STEYR Fahrzeugtechnik GmbH & Co KG

Magna Aerospace combines decades of aerospace expertise with Magna's strong industrialization backbone, offering end-to-end engineering, validation, verification and production services for safety-critical aerospace systems and equipment.

With its location in Graz, Austria, established aerospace certifications, and proven capabilities in welded assemblies, fluidic systems, satellite subsystems, cleanroom production, non-destructive testing (NDT), and precision testing, Magna Aerospace is positioned as a reliable partner for prototype, small-series and scalable production programs.

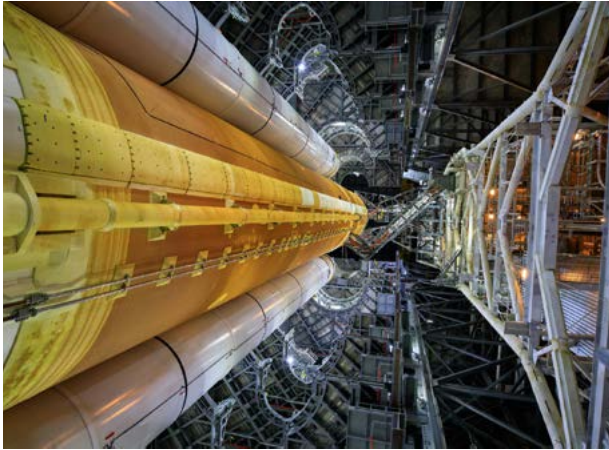
Building on its extensive expertise in cryogenic fluid transfer systems, compensators, and propulsion line assemblies, Magna Aerospace contributes to major international launch vehicle and space exploration programs. These activities demonstrate the company's capability to meet stringent aerospace requirements and deliver solutions for highly demanding mission-critical applications.

Magna Aerospace supports customers with multidisciplinary engineering capabilities including systems engineering, safety and reliability analyses, requirements management, mechanical design, structural and functional analyses, testing, verification and validation, as well as electronics and software engineering. This broad range of competencies enables the company to provide integrated solutions and support customers from requirements definition through qualification and certification.

On the manufacturing side, Magna Aerospace offers highly specialized production processes such as TIG, plasma, laser and orbital welding, metallic bellows manufacturing, precision cleaning, cleanroom production, non-destructive testing, and advanced assembly operations. These capabilities are supported by highly qualified personnel, state-of-the-art production equipment, and a robust quality management framework designed for safety-critical applications.

The company further differentiates itself through extensive in-house testing and inspection capabilities, including pressure, fatigue, cryogenic, leak, and dimensional testing, as well as radiographic, penetrant and eddy current inspections. This integrated approach enables Magna Aerospace to ensure product performance, reliability, and compliance throughout development and production.

The ongoing work on NASA's Space Launch System and Europe's Vega-E programs demonstrates Magna's ability to combine engineering excellence, manufacturing discipline, and long-term customer commitment. As programs move toward further qualification and future production phases, Magna Aerospace



SLS Artemis II © NASA

NASA Space Launch System (SLS)

NASA's SLS remains one of the most important launch systems for the return of humans to the Moon and for future deep-space exploration. Magna Aerospace is proud to contribute to this program with mission-critical hardware for cryogenic fluid conveyance and propulsion-related systems. Highlights of 2025 included the completion of cryogenic and acceleration testing, the successful execution of Acceptance Reviews, and significant progress in welding qualification and verification activities. Qualification and flight-model hardware successfully progressed through manufacturing, supporting production readiness and future milestones across the program.



Vega-E © ESA

ESA Vega-E

Europe's Vega-E launch vehicle features a cryogenic stage using LOX and LCH₄ as the final stage, enabling increased mission flexibility through an adjustable engine power. Magna Aerospace has been entrusted by AVIO the MR10 engine lines and the propellant lines equipped with compensators for the Vega Upper Stage. In 2025, the activities continued to progress toward the next maturity level of Critical Design Review phase, with a strong focus on qualification readiness and the further development of cryogenic fluid conveyance hardware.

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Austrospace unites Austria's leading space industry players and research institutions, fostering collaboration and innovation in the exploration and application of space technologies, while actively representing and advocating their interests to national authorities.

Interested in becoming a member? Contact the committee.



OHB Austria GmbH

Reliable navigation, and specifically Global Navigation Satellite System (GNSS) positioning and timing services, form the backbone of many applications and markets. Examples include navigation in aviation and the maritime sector, time synchronization of power grids, communication systems, and stock exchanges, localizing accident victims or rescue units, and tracking goods and vehicles. GNSS is relied on by many stakeholders. Civilian GNSS services are free of charge and globally available but insufficiently protected against unintentional and even intentional disturbances. OHB Austria provides solutions and services to ensure the safety and security of key societal functions.

Our company was created as a spin-off of the Graz University of Technology in 1999. Since that moment, OHB Austria has been realizing more than eighty complex Research & Development projects in the area of reliable navigation. Many of these projects were funded by stakeholders like the European Space Agency ESA, the Austrian Research Promotion Agency FFG, etc. Close cooperation with other specialized companies and research institutions is a key element of these activities.

Based on the expert know-how, created and permanently renewed within the framework of these R&D projects, OHB Austria has developed several ready-to-market products that have been gaining increasing interest and success in the market in recent years. OHB Austria is focusing on two key product families: GNSS signal simulation and GNSS quality assurance.

OHB Austria is a leading European aerospace company specialising in satellite-based navigation technologies, space systems, and scientific research. As part of the OHB Group, the company contributes to cutting-edge space projects, including satellite development, GNSS technology, and scientific development for space exploration. With the know-how of our team members, we develop solutions, services, and applications according to customer and market needs.

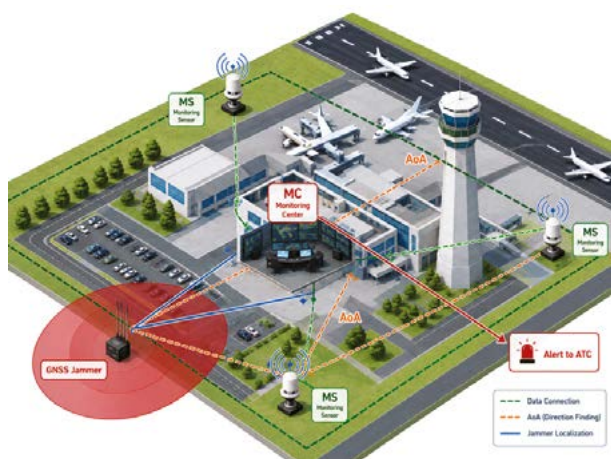
In 2024, the company was renamed from OHB Digital Solutions to OHB Austria to make its change in mission and strategy from 2025 onwards visible to the outside world. In parallel, the company was transferred from the business-segment Digital into the business-segment Space Systems within the OHB group to reflect the new direction of the company. OHB Austria will not only focus on GNSS signals but also extend its RF interference detection capabilities into other areas. Additionally, OHB Austria will expand its software offering to spaceborne GNSS Receivers and other transceivers, mainly for OHB System AG. To underline that OHB Austria is the representative of OHB group in Austria, the capabilities will be expanded to include satellite mission planning and other space services, including but not limited to military capabilities.



XPLORA © OHB Austria

XPLORA: The GNSS Signal Simulation

GNSS equipment development requires controlled, repeatable testing. Engineers, scientists, manufacturers, and system integrators must simulate satellite constellations and signals before deployment, reproduce precise scenarios, and test realistically in GNSS-denied environments without satellite line of sight. The modular and intuitive XPLORA is designed for accurate GNSS testing and development. It supports real-time RF playback, digital IF signal generation, and receiver observables simulation. Users can build customized GNSS environments with configurable satellites, interference, spoofing, and multi-receiver scenarios, enabling flexible hardware validation, research, and advanced constellation testing applications. www.ohb-austria.at/solutions/gnss-simulation



GIDAS © OHB Austria via ChatGPT

GIDAS: The GNSS quality assurance for every need

GNSS is globally available and free to use, but it remains vulnerable to a wide range of threats. GNSS signals can be disrupted or degraded by both unintentional interference and deliberate attacks. The first step in protecting GNSS-dependent applications and platforms is real-time, on-site monitoring of signal integrity. Especially in safety-critical applications, it is essential to monitor GNSS signals and services as close to the point of use as possible. That is exactly what GIDAS provides.

www.ohb-austria.at/solutions/gnss-quality



GIDAS in Romania © OHB Austria

National GNSS Interference Detection System in Romania

Together with the Romanian Air Traffic Services Administration (ROMATSA), we launched a nationwide project deploying our GIDAS Stationary solution at 17 airports across Romania. The system enables continuous GNSS interference detection and analysis, including real-time monitoring, jamming and spoofing detection, and centralized alerting via the Nationwide Airport Monitoring (NAM) interface. This large-scale initiative supports ROMATSA's commitment to Performance-Based Navigation (PBN) and complies with EU guidelines for safe and precise GNSS use in air traffic management.

www.ohb-austria.at/company/references/gidas-stationary-references

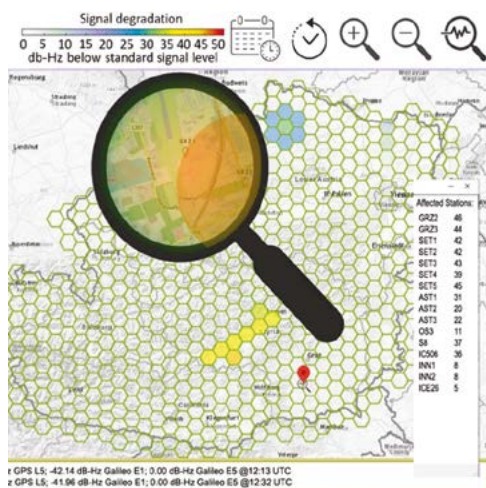


AGGA4GNSS © OHB Austria via ChatGPT

AGGA4GNSS: Demonstration of the AGGA-4 IP Core on a GNSS Receiver Breadboard

AGGA4GNSS is an ESA Future Earth Observation project demonstrating the AGGA-4 IP Core as a flexible alternative to the AGGA-4 ASIC for GNSS receivers. The project integrates the IP Core into a modern FPGA-based SDR platform and validates its functionality, performance, and reliability through realistic GNSS signal testing. The activity delivers a TRL 4 GNSS receiver breadboard and provides recommendations for future commercial and small-satellite receiver developments, supporting both flagship missions and NewSpace applications.

www.ohb-austria.at/company/projects/agga4gnss



GNSSLiveAT © JOANNEUM RESEARCH

GNSSLiveAT: Real-Time GNSS Signal Quality Map for Enhanced Nav. Services

FFG project GNSSLiveAT develops a real-time GNSS signal quality map for Austria to enhance the reliability, resilience, and security of satellite-based navigation services. The initiative monitors signal degradation, detects interference sources, and provides rapid disruption warnings for users and operators. Supporting sectors such as mobility, public safety, and critical infrastructure, the project combines technical assessments, stakeholder engagement, and system design within a 12-month feasibility study, contributing to Austria's green and digital transformation objectives.

www.ohb-austria.at/company/projects/gnssliveat

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Federal Minister Peter Hanke and Provincial Councillor Martin Winkler visiting Peak Technology's production facility.

© Manuel Domnanovich

Peak Technology GmbH

Peak Technology is headquartered in Holzhausen, Upper Austria, and specialises in the development and production of high-performance components for the aerospace, space and motorsport industries. The company combines expertise in carbon-fibre technology, lightweight construction and pressure vessels with comprehensive engineering and manufacturing capabilities.

To support its continued growth, Peak Technology is strengthening its in-house production capabilities. A major step in this development was the inauguration of a new electron beam welding machine in 2025. The investment supports the stable and high-precision production of composite overwrapped pressure vessels (COPVs) and other demanding components. Electron beam welding enables highly accurate and repeatable welds, while in-house operation gives Peak Technology direct control over the process. This allows the company to monitor and optimise critical production parameters, maintain consistent quality standards and further improve manufacturing reliability.

The new welding machine forms part of Peak Technology's broader investment in advanced production technology. Together with specialised expertise and robust internal processes, it strengthens the company's ability to industrialise its manufacturing operations and increase production capacity. Peak Technology is taking significant steps towards a more integrated and scalable production model, creating a strong foundation for future growth in the aerospace and space-technology sectors.

The commissioning of the new electron beam welding machine was also marked by a visit from Federal Minister Peter Hanke and Provincial Councillor Martin Winkler. Peak Technology was pleased to welcome both political representatives to its facilities and to present its production capabilities and ongoing industrialisation efforts. Their visit highlighted the importance of advanced manufacturing and space technology.



The electron beam welding machine is the newest addition to Peak Technology's expanding production capabilities. © Peak Technology



Close-Up of a 75L Gamma Tank © Peak Technology

Gamma Tank Family: First Tank Successfully Reaches Orbit

Peak Technology's Gamma Tank Family is a standardized platform for satellite propulsion systems, with tank volumes from 30 to 100 litres. Developed with ESA involvement and designed for demanding space applications, the modular family enables customers to select configurations for different mission requirements. The platform has already demonstrated its suitability in flight: a customer-qualified Gamma tank reached orbit aboard a SpaceX Falcon 9 in July 2026, and additional flight models have been ordered for upcoming missions.



A new electron beam welding machine, added in 2025, strengthens precise and reliable in-house production. © Peak Technology

Epsilon Tank Family Expands Cryogenic Launcher Portfolio

Building on Peak Technology's heritage in cryogenic tanks with orbital flight experience, the Epsilon Tank Family addresses growing demand for larger launcher pressure vessels. Developed with ESA involvement, the platform comprises helium tanks from 100 to 260 litres. The tanks are designed to operate both at room temperature and submerged in cryogenic propellants such as propane and methane, supporting different vehicle and propulsion configurations.

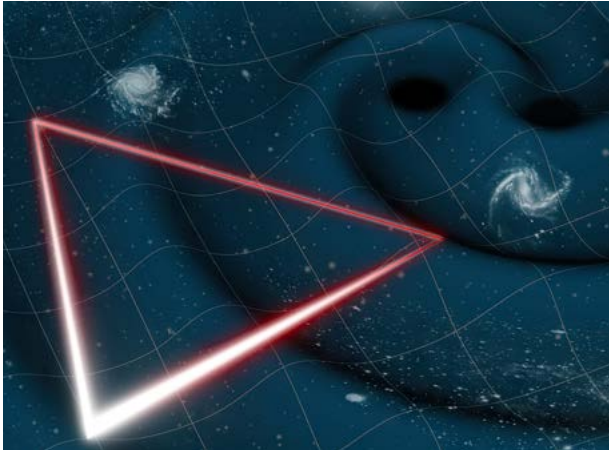


Small tank families from 3 to 30 L expand Peak Technology's off-the-shelf portfolio to cover volumes from 3 to 260 L.

© Peak Technology / AI-generated visualization

Kappa and Zeta Tank Families Bring Flexible Small Tanks to Spacecraft Missions

Peak Technology's Small Tank Family extends its standardized space-tank portfolio to compact spacecraft propulsion systems. The Kappa Tank Family covers volumes from 3 to 10 litres, while Zeta covers 10 to 30 litres. Together with the other tank families in Peak Technology's portfolio, they contribute to a product range covering tank volumes from 3 to 260 litres. This family-based approach supports scalable tank solutions for different spacecraft architectures and can reduce the need for mission-specific developments.



Peak Technology's Gamma Tanks Enable Precise Positioning for ESA's LISA Satellites. © ESA

Peak Technology's Gamma Tanks Selected for ESA's Ambitious LISA Mission

The selection of tanks from Peak Technology's Gamma Tank Family for ESA's LISA mission demonstrates the platform's suitability for demanding scientific space applications. LISA will comprise three spacecraft flying in a triangular formation approximately 2.5 million kilometres apart. Using precise laser interferometry, the mission will detect gravitational waves and investigate fundamental phenomena in the universe. The selection also underlines the potential of standardized tank families for both commercial spacecraft and major European space programmes.

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ESA's Vega Launcher © ESA-J. Huart

Vega Tank Development Enters the Qualification Phase

Peak Technology's tank development for the Vega launcher has reached another major milestone. Following the development activities reported previously, the tank has now entered its qualification phase, bringing the programme one decisive step closer to flight readiness. The ongoing qualification campaign will demonstrate compliance with the demanding requirements of the Vega launcher environment. Completion of the qualification programme is targeted for 2027, marking an important achievement for Peak's contribution to European launcher technology.

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PEAK
 TECHNOLOGY



*Illustration of a dual optical link
from space to ground for entan-
glement-based quantum key
distribution.*

© Alexandra Dragon – blickdicht

Quantum Technology Laboratories GmbH

Founded in 2017, Quantum Technology Laboratories GmbH (qtlabs) is an Austrian small and medium-sized enterprise (SME) headquartered in Vienna that specializes in optical and quantum communication technologies for space-based applications. qtlabs is involved in several ESA quantum communication missions such as SAGA and QKDSat by contributing core technology components and system knowhow. The company was founded by internationally recognized scientists in the field of quantum physics whose work is built on more than two decades of scientific excellence. Its co-founders are among the world's most highly cited quantum communication physicists and have contributed to research closely associated with Nobel Prize-winning discoveries, providing qtlabs with a strong foundation in cutting-edge quantum science and innovation.

qtlabs focuses on the development of secure communication technologies based on the principles of quantum mechanics, with particular expertise in Quantum Key Distribution (QKD). As one of the few European companies capable of covering the complete QKD value chain, qtlabs offers comprehensive solutions that span the entire development and deployment process. The company develops and supplies high-performance entangled photon sources, advanced receiver modules, fully integrated optical ground stations (OGS), and specialized simulation software for designing, testing, and optimizing quantum communication networks. In addition, its portfolio includes consulting services for quantum communication systems, security proofs, system validation, certification support, and technology integration.

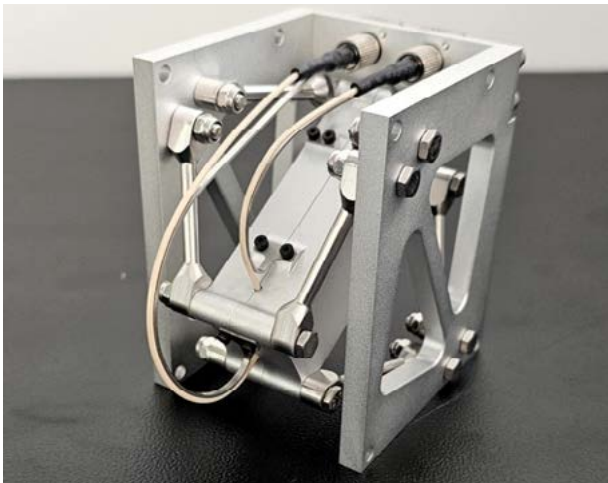
By combining world-class scientific expertise with practical engineering capabilities, qtlabs supports the development of next-generation secure communication infrastructure for governmental, institutional, and commercial customers. Its integrated approach, spanning research, product development, consulting, software, and complete system deployment, enables the company to address the growing demand for secure quantum communication technologies. Through continuous innovation and close collaboration with research institutions, industry partners, and public organizations, qtlabs contributes to strengthening Europe's technological leadership in quantum communications and plays an important role in advancing secure satellite-based and terrestrial quantum networks for future digital infrastructure.



Compact optical ground station with 80cm telescope. © qtlabs

Optical ground station for QKDSat mission

qtlabs successfully completed the Factory Acceptance Test (FAT) for two 80 cm aperture optical ground stations as part of the ESA QKDSat project. These stations enable secure quantum communication between space and Earth by supporting both quantum signal reception and optical communication up- and downlinks. The achievement demonstrates qtlabs' ability to deliver ESA-compliant quantum infrastructure. Several additional ground stations are currently in production for commercial customers and further satellite missions.



Compact entangled photon source for quantum communication © qtlabs

Quantum space source development

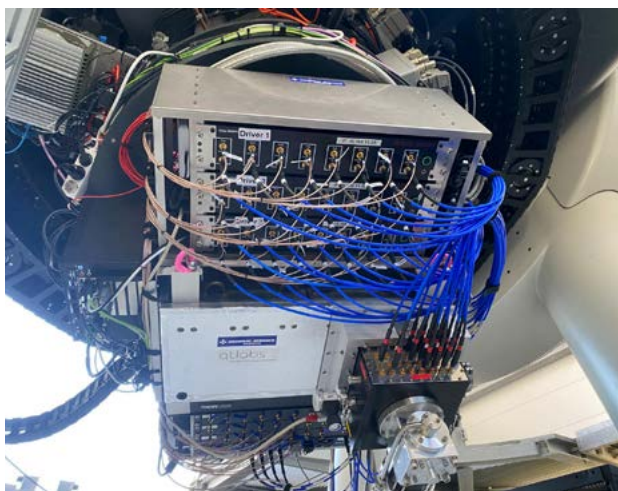
qtlabs develops advanced quantum sources for space applications that serve as the transmitter units for secure quantum communication systems. Its portfolio includes entangled photon sources for Quantum Key Distribution (QKD) and broader quantum communication applications, as well as faint pulse sources for prepare-and-measure QKD protocols. Several development projects are progressing toward Technology Readiness Level (TRL) 6 in 2026, with TRL 7 qualification targeted for 2027.



Container-based optical ground station © qtlabs

Commercial optical ground station successfully delivered

qtlabs successfully completed the Site Acceptance Test (SAT) and delivered an industrial-grade Optical Ground Station (OGS) to a commercial customer in Croatia. The system features an 80 cm telescope, high-precision satellite tracking, advanced pointing capabilities, and a flexible optical architecture for future quantum receivers. Designed to support satellite-based Quantum Key Distribution (QKD), the successful deployment demonstrates qtlabs' ability to deliver reliable optical ground infrastructure for operational quantum communication services.

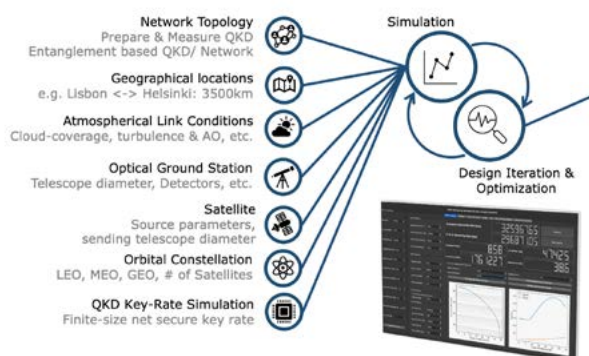


Laser receiver for deep-space optical communication © qtlabs

Deep-space optical communication

qtlabs played a pivotal role in establishing Europe's first optical deep-space communication link with NASA's Psyche spacecraft at a distance of 265 million kilometers. As consortium lead, the company designed the optical subsystem, delivered key receiver components, and managed system integration, testing, and commissioning. This milestone demonstrates qtlabs' expertise in advanced optical communication technologies and its contribution to enabling future high-speed deep-space and quantum communication missions.

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Link simulation software with input parameters. © qtlabs

Simulation and emulation software

qtlabs develops advanced simulation and emulation software for Quantum Key Distribution (QKD) applications, covering the complete system lifecycle. Its portfolio includes satellite-based simulation tools with realistic orbital dynamics and channel loss models, QKD post-processing software for secure key generation, numerical security proof implementations, and end-to-end system emulation. These capabilities enable the design, validation, optimization, and performance assessment of quantum communication systems before deployment.

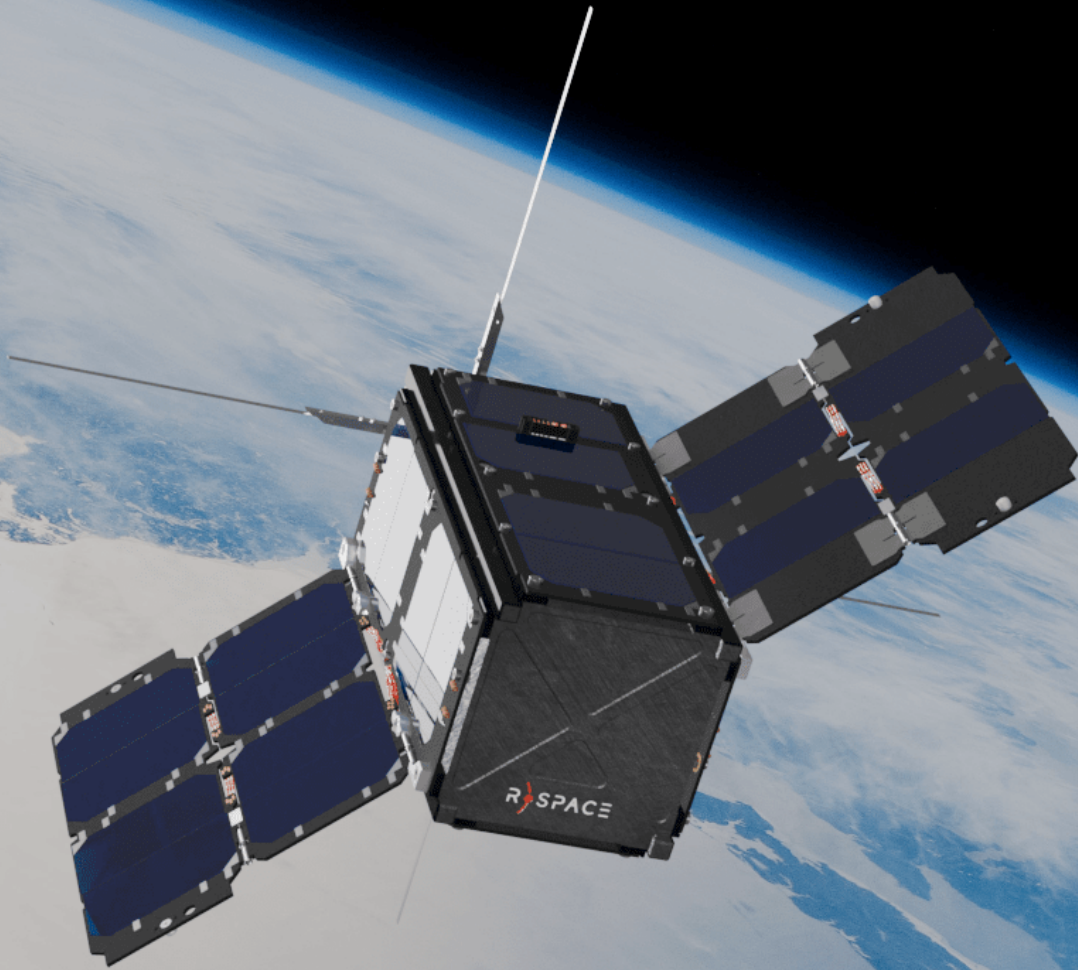
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 Quantum Technology Laboratories



Artist impression of Ausria's first commercial IOD mission
© R-Space

R-Space

The demand for fast, accessible opportunities for in-orbit demonstration (IOD) and in-orbit validation (IOV) has grown rapidly in recent years, driven by the commercialization of space and the growing number of private companies and start-ups entering the market. To remain competitive, these companies need timely and affordable access to space to demonstrate, validate and de-risk their technologies under real space conditions.

R-Space was founded in 2021 to address this need and fundamentally simplify the way technologies are demonstrated in orbit. Its patented GreenBox service provides fast, flexible and reliable IOD/IOV opportunities for innovative, high-risk technologies.

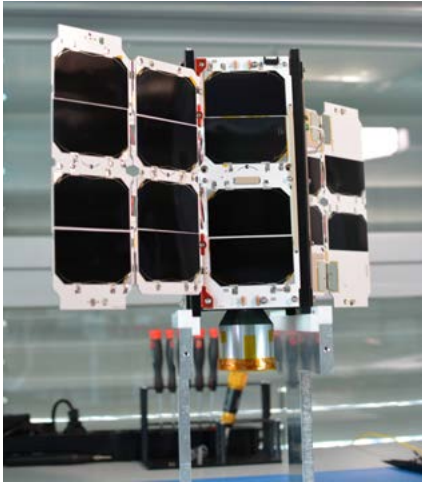
The holistic service covers all essential mission elements, from payload integration and launch through to commissioning and payload operation in orbit. R-Space's modular 2/6/6U satellite platforms can accommodate a wide range of payloads, including electronic components and subsystems, mechanisms, tribological experiments, propulsion systems and other advanced technologies.

The service is aimed not only at the traditional space industry developing upstream technologies, but also at companies from other sectors with limited or no experience in spacecraft development and space missions. To make access to space as simple and efficient as possible, R-Space combines innovative hardware with standardized processes. Key elements include a dedicated Payload Accommodation Unit (PAU), a highly modular satellite architecture and extensive use of commercially available, space-qualified COTS components. This approach reduces complexity, development time and cost while increasing flexibility and scalability.

R-Space's facilities at Vienna Airport combine office and laboratory space with dedicated capabilities for development, assembly, integration and testing. Building on its IOD/IOV expertise, R-Space has expanded its activities into both civil and defence applications. Today, its portfolio ranges from developing and executing technology demonstration missions to designing specialized satellite platforms for demanding applications. The first of these dedicated platforms is scheduled for launch in late 2027, marking the next step in R-Space's mission to provide fast, flexible and affordable access to space.



The R-Space team © R-Space



AT-Astra satellite: ready to go © R-Space

AT-Astra: Austria's first commercial IOD satellite

Austria's first commercial in-orbit demonstration satellite was designed and built in less than two years. The 2U platform, named AT-Astra, features a dedicated payload container and double deployable solar arrays. AT-Astra hosts the payloads of three different customers: a camera for space debris detection, a material science test rack and advanced solar cells. While in orbit, all three payloads will be operated, their functionality validated and their performance assessed. The satellite is presently in storage, awaiting its scheduled launch in Q4, 2026.



Artist impression of inter-satellite optical communication link
© R-Space

Specialized platform for high data throughput communication

Laser communication for satellites promises very high data rates and at the same time, very low probability of communication intercept and/or detection. However, integration and operation of such optical communication terminals (OCT) is a complex undertaking. R-Space is preparing a specialized nano-satellite platform to carry a commercial OCT into LEO and provide bi-directional communication. The platform is envisioned as a demonstrator for future high data throughput communication and relay satellites. The launch of the demonstrator is scheduled for late 2027.

R-Space

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Austrospace unites Austria's leading space industry players and research institutions, fostering collaboration and innovation in the exploration and application of space technologies, while actively representing and advocating their interests to national authorities.

Interested in becoming a member? Contact the committee.



*ESA BIC Austria has successfully
incubated numerous space technology
start-ups across Austria.*

© fotoCrafie | Chrissi Rechling

Science Park Graz

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The European Space Agency's Business Incubation Centre (ESA BIC) Austria serves as a premier destination for entrepreneurs, start-ups, SMEs, and researchers dedicated to improving life on Earth through the commercialization of space-enabled technologies.

Established in 2016 as part of Science Park Graz (SPG), the program expanded the portfolio of one of Austria's longest-standing and most impactful incubators. Science Park Graz acts as a vital partner to over 300 start-ups and entrepreneurial ventures across Graz, Styria, and beyond, offering comprehensive business coaching, technical guidance, access to financing, and professional infrastructure. Since its inception, ESA Business Incubation Centre Austria has successfully incubated nearly 90 space-technology start-ups across Styria, Lower Austria, and Salzburg.

The program's core mission is to bridge the gap between advanced space research and viable commercial applications, driving innovation across diverse terrestrial sectors. ESA Business Incubation Centre Austria facilitates this transition by providing up to 24 months of intensive support, including tailored mentorship, industry-specific expertise, and strategic business development. Our incubation process is designed to navigate the complexities of technology validation and market integration, ensuring that innovative ideas effectively transition from concepts to the global marketplace.

Beyond supporting individual ventures, ESA BIC Austria actively strengthens collaboration between academia, industry, and the public sector, fostering cross-sector partnerships that accelerate technology transfer and innovation. By connecting entrepreneurs with leading experts and international stakeholders, the program contributes to a resilient, competitive, and future-oriented European space ecosystem.

A defining advantage for participants is access to the expansive ESA BIC network, which encompasses more than 2,000 start-ups across over 30 locations—making it one of the most powerful innovation ecosystems in Europe. Incubated start-ups benefit from financial and technical support, office space and infrastructure with local incubation partners, strategic visibility and brand recognition, exclusive deals, as well as access to a global network of space-related investors.

SPACE-LOCK DYNAMICS

ADVANCING SPACE TECHNOLOGY



Upstream Technology

Space-Lock Dynamics is an innovative company developing mechatronic products for on-board of spacecraft applications. By combining global industrial production lines with local value creation and in-house space expertise, the company provides highly affordable, reliable components to the satellite industry. Following the successful ESA qualification of their Release Actuator in 2021 and maintaining ISO 9001:2015 certification, Space-Lock continues to expand its high-performance product portfolio.



Tech Transfer

Zyglox is developing a next-generation, contactless condition-monitoring system for rotating machinery in harsh environments. Traditionally, measuring complex loads in systems like railway wheelsets is highly intrusive and costly. By leveraging space-proven engineering principles—such as robust telemetry and autonomous on-board data processing—combined with our active magnetic field technology, Zyglox provides continuous, real-time data. This non-invasive approach is laying the foundation for next generation predictive maintenance across industries.



Earth Observation

Spacegraph is LETO SPACE's AI-driven discovery platform for space-enabled solutions, helping non-space industries identify, understand, and implement satellite data, Earth observation, geospatial intelligence, and other space technologies. Developed within ESA BIC Austria and shaped through collaboration with ESA, EU DG CLIMA, and the Covenant of Mayors, Spacegraph improves awareness, transparency, and accessibility in the space technology market. Its AI Compass guides users from their individual challenges to relevant providers, use cases, funding opportunities, and implementation pathways.

accurision

Satellite Navigation

Accurision is an Austrian high-tech company specialising in Global Navigation Satellite System (GNSS) technologies and the development of cost-efficient electronic warfare (EW) solutions for the protection of people, critical infrastructure, and armed forces. Accurision's SKYMARSHAL® product family includes capabilities for both electronic attack (EA) and electronic protection (EP), providing solutions for GNSS disruption, denial, and deception as well as for resilient positioning, navigation, and timing (PNT) in contested environments.

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Satellite Communications

ViehFinder is transforming livestock management in alpine regions by leveraging IoT technology for real-time, remote monitoring. Addressing the unique challenges of inaccessible pastures, ViehFinder's system operates independently of traditional mobile networks to provide continuous oversight of cattle location and health. By ensuring connectivity in the most isolated environments, ViehFinder enhances animal welfare and operational efficiency for farmers in rugged, remote landscapes.

Science Park Graz

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Science Park
The High Tech Incubator
Graz



Seibersdorf Labor GmbH

Seibersdorf Labor GmbH, operating under the name Seibersdorf Laboratories, is widely recognized for its strong commitment to delivering high-quality laboratory services and advanced measurement solutions. Situated at the TECH Campus Seibersdorf, approximately 30 kilometers south of Vienna, Austria, the organization brings together more than 190 highly skilled professionals and trainees. These experts work in an interdisciplinary environment that emphasizes precision, reliability, and innovation, ensuring that all services meet the highest standards of scientific and technical excellence. The company's longstanding reputation is built on its ability to combine cutting-edge technology with deep domain knowledge across multiple sectors.

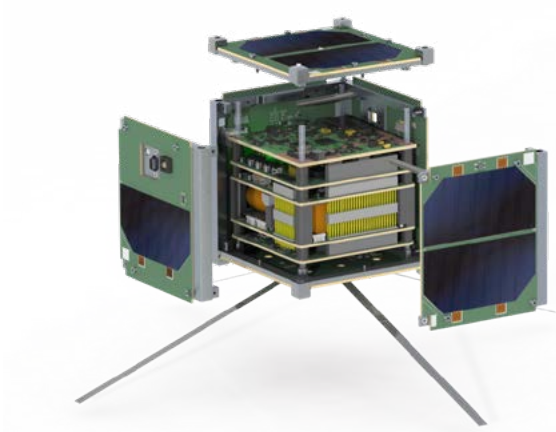
Established in 2025, the Aerospace Radiation Competence Center (ARC) represents a key specialization within Seibersdorf Laboratories. This business unit builds upon decades of accumulated expertise in radiation science and measurement. ARC provides comprehensive radiation hardness assurance testing for electronics and materials used in demanding environments such as space missions, aviation systems, nuclear technology, and medical applications. In addition to testing services, the center offers accredited dosimetry solutions for aircraft crew, enabling accurate monitoring of radiation exposure at flight altitudes. ARC also delivers expert consulting in space radiation, supporting airlines and collaborating with leading international organizations, including the International Civil Aviation Organization (ICAO) and the European Space Agency (ESA).

A central focus of ARC's work in the space sector is the study of space radiation and its effects on humans, electronic components, complex systems, and materials. As a recognized authority in this field, the organization provides specialized services in space weather analysis, radiation effects testing, and technical consulting. Its experienced team possesses deep expertise in critical areas such as aircraft crew dosimetry, total ionizing dose (TID), displacement damage (DD), and single event effects (SEE), ensuring compliance with stringent international standards.

All projects are supported by state-of-the-art infrastructure at the TECH Campus Seibersdorf. Key facilities include the EN ISO/IEC 17025-accredited TID testing laboratory, the TEC Laboratory, and the novel Seibersdorf SEE Laser Test Facility, which enables precise evaluation of radiation-induced effects in electronic components. The following section highlights selected project achievements from 2025.



Federal Minister Peter Hanke visiting the TEC-Laboratory Seibersdorf, a key European facility for radiation testing and qualification of space electronics © BMIMI, David Bohmann



SATDOS (top payload unit) integrated aboard the STS-1 satellite
© TU Wien Space Team



Seibersdorf Laboratories is leading the ESA CORHA-2 project on radiation hardness assurance of commercial components for use in space.

Austrian Minister for Innovation Visits Seibersdorf Laboratories, ARC

In October 2025, Austrian Federal Minister for Innovation, Mobility and Infrastructure Peter Hanke visited the Aerospace Radiation Competence Center at Seibersdorf Laboratories. During the visit, the TEC-Laboratory Seibersdorf showcased its capabilities in radiation testing and qualification of electronic components for space applications. As a long-standing partner of the European Space Agency (ESA), Seibersdorf Laboratories supports the development of reliable space electronics through advanced irradiation facilities, innovative testing methodologies, and collaborative research projects, strengthening Austria's contribution to Europe's space sector.

www.seibersdorf-laboratories.at/taetigkeitsfelder/radiation-services-products/strahlungsfestigkeit#c2734

SATDOS – Reference Dosimeter Onboard PRETTY

In 2025, SATDOS, Seibersdorf Laboratories' compact reference dosimeter for nanosatellites, was selected for its second space mission aboard STS-1, the 1U Cube-Sat mission of the TU Wien Space Team. Building on the successful PRETTY mission, SATDOS will provide in-orbit measurements of total ionizing dose (TID) and single event effects (SEE) to support the use of commercial-off-the-shelf components in space. The mission, scheduled to launch in 2026, further strengthens SATDOS's role in satellite lifetime analysis and advanced radiation monitoring for space applications.

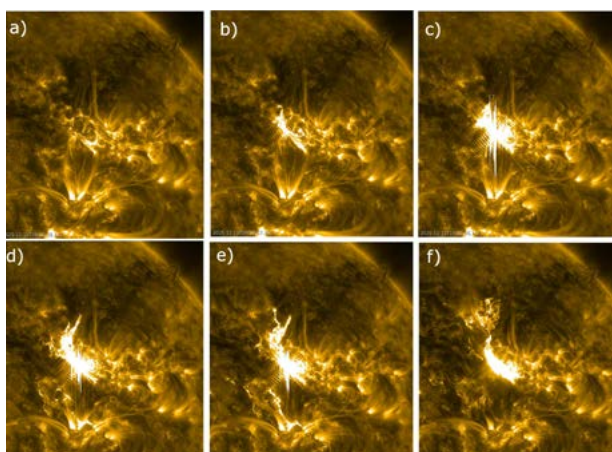
www.seibersdorf-laboratories.at/satdos

CORHA-2 – Investigating the Applicability of Commercial Components for Space

Seibersdorf Laboratories is leading the ESA CORHA-2 initiative, a three-year project focused on advancing radiation hardness assurance methodologies for commercial off-the-shelf (COTS) components in space applications. In 2025, a total of 22 components were selected based on feedback and requirements from European space companies. The project combines advanced radiation testing, database development, and AI-supported analysis to improve component qualification for future missions. The first total ionizing dose (TID) and single event effects (SEE) test campaigns are scheduled for 2026.

www.seibersdorf-laboratories.at/corha2

[LinkedIn: linkedin.com/showcase/corha-seibersdorf-laboratories](https://www.linkedin.com/showcase/corha-seibersdorf-laboratories)



Temporal evolution of the early phase of the solar eruption occurring on 11 November 2025 as observed by NASA's SDO mission.

© Reproduced from <https://doi.org/10.1016/j.asr.2026.03.023>.



AVIDOS – Cosmic Radiation onboard Aircraft

Seibersdorf Laboratories provides AVIDOS-based space weather radiation services to the private aviation sector, ESA, and ICAO via the PECASUS consortium. Ground Level Enhancement 77 (GLE77), triggered by a major solar eruption on 11 November 2025, is among the most significant events of Solar Cycle 25. During the event, AVIDOS real-time algorithms indicated moderate radiation dose levels at flight altitudes per ICAO criteria. The results align with independent studies, confirming the accuracy and reliability of AVIDOS services.

swe.ssa.esa.int/avidos-federated

10th RADHARD SYMPOSIUM 2025, May 6th – 7th

The RADHARD Symposium complements the RADECS conference as an important platform for exchanging practical insights in radiation hardness assurance (RHA). The 10th anniversary edition, themed "Quo Vadis New Space?", offered a retrospective on past developments, insights into future challenges, expert discussions, and opportunities for networking and collaboration. Laboratory visits, including the ISO/IEC 17025-accredited TEC laboratory, were also part of the program.

www.radhard.eu

Seibersdorf Labor GmbH

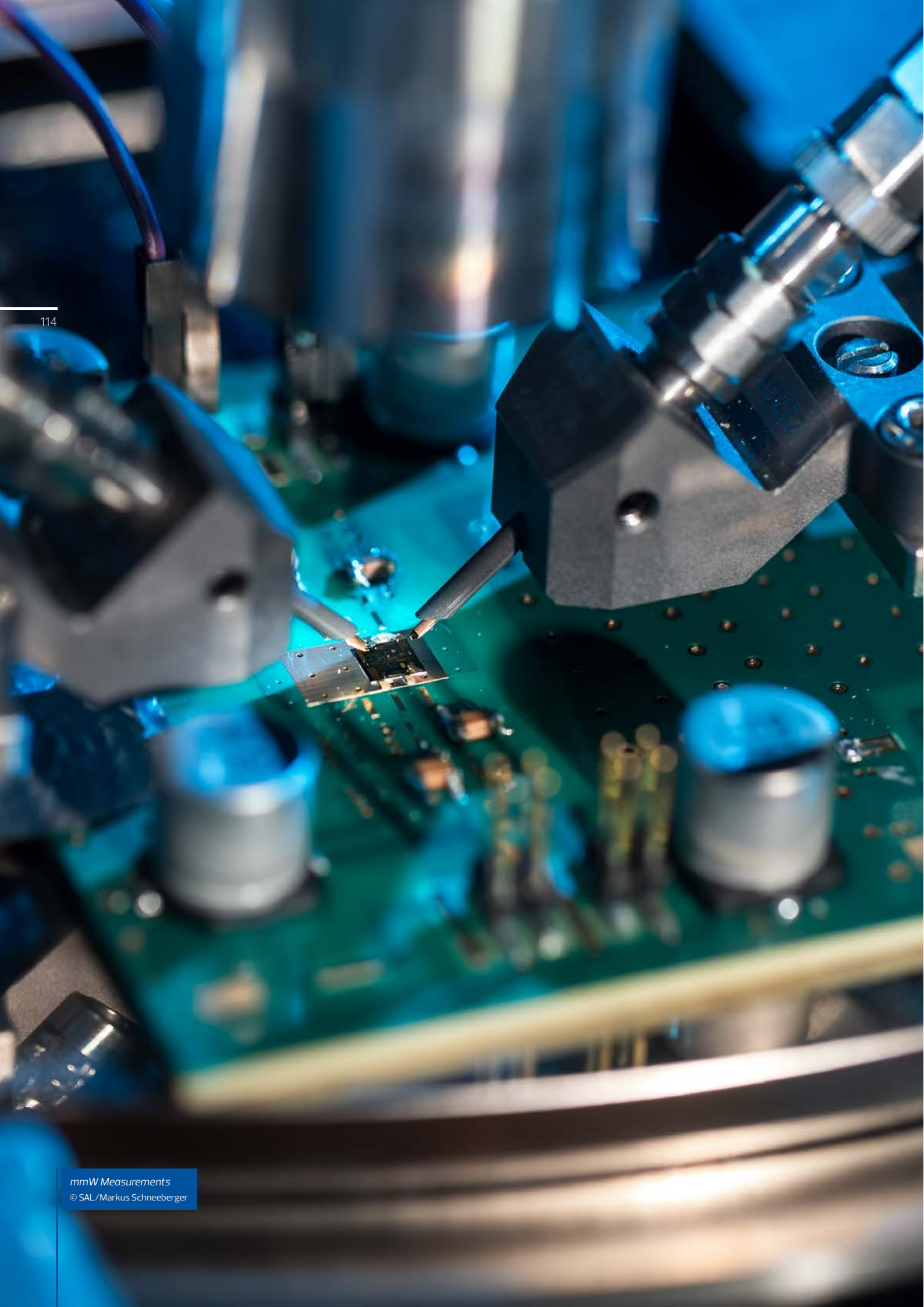
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SEIBERSDORF
LABORATORIES





Silicon Austria Labs GmbH

Excellent space research focuses on advancing space technologies for efficiency, safety, sovereignty and sustainability, covering areas like power electronics, sensor systems, autonomous systems, and communication technologies for harsh environments. Silicon Austria Labs (SAL) supports these industries with R&D from technologies to components and systems. The space industry is defined by high-intensity R&D, long innovation cycles, and stringent safety and certification requirements. It integrates advanced disciplines such as space engineering, micro electronics, micro integration and artificial intelligence to develop complex, mission-critical systems.

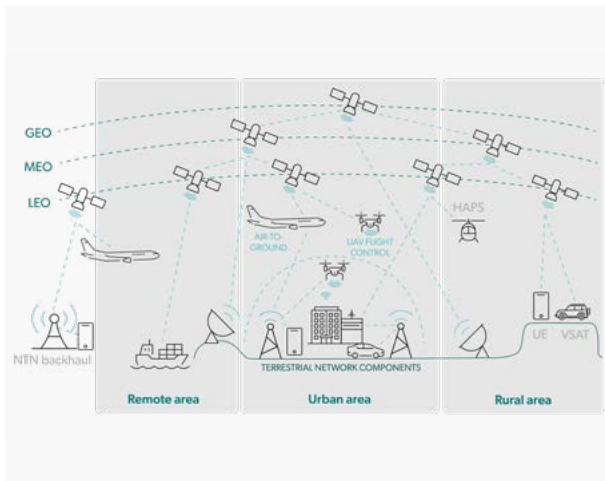
Research focuses on reliability, lightweight materials, and sustainable propulsion, often requiring extensive testing and validation. Collaboration with R&D institutions is essential, as high costs and risks make shared innovation and long-term investment fundamental to technological progress.

Europe's space sector faces growing pressure to accelerate R&D while reducing costs, shortening innovation cycles, and meeting sustainability goals. Bridging the gap between cutting-edge research and industrial deployment remains a key challenge.

Therefore, Silicon Austria Labs contributes its expertise in electronics and software-based systems, sensor & RF technologies as well as photonic solutions for extreme environments, enabling faster prototyping, improved system reliability, and efficient transfer of innovations from lab to market. The researchers at SAL are working together with ESA and other big players in the space business. SAL provides an innovative laser ignition system for space and aerospace applications, MEMS components for space, satellite to satellite communications and optimization for planar antenna systems, energy efficient systems for earth observation satellites using neuromorphic hardware based artificial intelligence chips on the edge, as well as robust and harsh environment sensors. SAL is still building up top notch testing and characterization facilities. The space industry encompasses all economic activities related to manufacturing, launching, and operating space-bound components and services. Both Upstream (launch, hardware) and Downstream (satellite data/services) are rapidly growing. Especially in the field of "New Space" SAL is supporting SMEs and start-ups in Austria.



Testing Facilities at SAL © SAL / Sarina Dobernig



5G NTN Environment © SAL

5G-Non Terrestrial Network User Terminal

Superior connectivity made in Europe: The forward-looking 5G-aNTenna project is driving technological independence. With significant involvement from SAL, a compact European user terminal is being developed that combines 5G-NTN and highly efficient phased-array antennas. The system enables highly secure and crisis-resilient broadband communication in the Ka-band. With this, the project consortium—which also includes TechniSat, FRITZ!, Terma Technologies, EnSilica, and CISC Semiconductor—is delivering the key technology for the new EU satellite infrastructure IRIS².



Solar Panels in Space © AI generated

Power usage optimization for solar array simulators

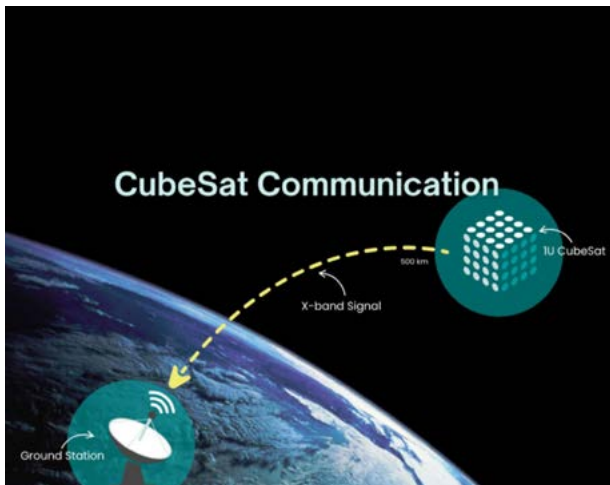
The PERFORM project is developing a control system for a solar array simulator with high power density and a switched shunt regulator. The goal is to create a particularly efficient and compact solution compared to existing solar array simulators. The controller operates in MPPT mode and enables fast control with freely programmable solar system characteristics. In addition, the previous analog, linear amplifier is being replaced by a more efficient digital amplifier, both in solar cell and battery simulators.



Laser Ignition System © SAL

European iNitiative for Low cost, Innovative & Green High Thrust Engine

A fiber-coupled laser-ignition-system for the reliable ignition of rocket engines. The goal is to replace conventional ignition methods with a more precise, compact, and robust technology. The system uses laser energy transmitted via optical fibers to ignite propellants safely and efficiently. This is intended to reduce weight, maintenance requirements, and wear while increasing operational safety. The development supports space applications where reliability, fast response times, and flexible integration options are critical. Additionally, the system enables better control of the ignition process under extreme operating conditions

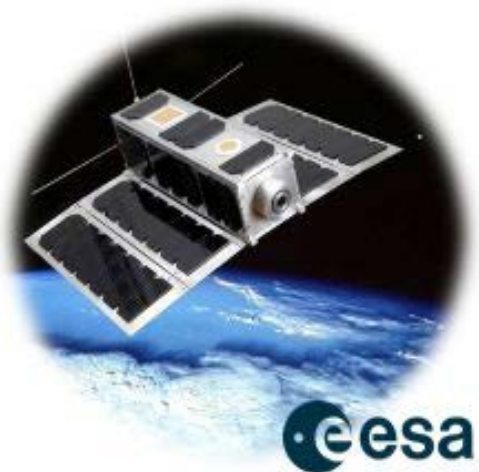


CubeSAT Scenario © AI generated

CubeSats Communication

The project investigates integrating beam-steering antenna systems into CubeSats to improve communication under strict size, weight, and power constraints. Following a literature review, a metasurface-based leaky-wave antenna is proposed as a passive solution, supported by design, simulation, and measurement results. For active beamforming, antenna array configurations are systematically evaluated. A system-level analysis also addresses power and thermal management to optimize CubeSat communications. The results support next-generation CubeSat missions and align with ESA's objectives for innovative, cost-effective small satellite technologies.

activities.esa.int/core/activity/4000145253



OPS-SAT © ESA

Edge AI based earth observation

In the FIRE-SAT project, funded by the FFG, SAL, together with Joanneum Research and OroraTech, impressively demonstrated the feasibility of space-based wildfire detection. Using customized machine learning methods, high-resolution live images were analyzed directly in orbit. This innovative on-board processing on resource-constrained hardware (FPGA) was successfully tested in space during in-flight experiments on the ESA OPS-SAT mission and a CubeSat platform from OroraTech.

projekte.ffg.at/projekt/4052522

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The Atmosphere-Space Interactions Monitor or ASIM, mounted outside the European laboratory of the International Space Station

© ESA/NASA

Terma Technologies GmbH

Terma is a global company partially owned by a commercial foundation and a Pension Fund, with roots in Denmark, about 2.100 employees and total annual revenue in 2025 of € 454 million. We develop, manufacture and service solutions for ground (e.g. airport radars), sea (e.g. maritime safety), air (e.g. aerostructures) and space (e.g. well proven electronics, software, and services for all phases of space missions) and provide advice to customers around the world.

In 2022, Terma Space celebrated 50 years in Space. Since our first mission in 1972, we have been part of more than 100 space missions – including the first Danish satellite in space Ørsted, which marked the beginning of a new era in measuring and monitoring the Earth's magnetic field and the ASIM project, which is a climate observatory installed on the International Space Station (ISS).

Terma Technologies GmbH specializes in the space sector, operating exclusively within the Terma Space Business Area. Located in Vienna, Austria, it serves as the headquarters of Terma Space and focuses on Satellite Testing, Satellite Communication, Satellite Control, and Automotive Battery Cell Testing.

As the home of the Ground Systems Business Unit, Terma Technologies acts as both the in-house R&D hub for Terma's Ground Systems products—such as ProUST FrontEnd, ProUST univerSAS®, the Battery Cell Tester suite, Terma SPECTRA (Terma's SDR TT&C Modem) as well as the main design center for advanced Electrical Ground Support Equipment (EGSE) solutions.

These tailored solutions provide customers with reliable, cutting-edge technologies essential for successful space missions, particularly during the Manufacturing, Assembly, and Integration phases of satellites and launchers. Terma Technologies delivers products, solutions, and services for:

- **Satellite and Launcher Manufacturers**
 - Electrical Ground Support Equipment (EGSE)
 - Instrument & Payload EGSEs
 - Spacecraft Platform Simulators
 - Special Check-Out Equipment (SCOE)
 - RF SCOE
 - Power SCOE
 - Solar Array, Battery, and Load Simulators
 - Launch Power Supplies (COTEs)
 - Data Handling SCOE
 - AOCS SCOE
 - RF Suitcases
- **Satellite Ground Stations**
 - SDR TT&C modem Satellite Controllers
- **Satellite Controllers**
 - Ground Segment Solutions and Integration
 - Mission Control System Maintenance & Evolution
- **E-Mobility Battery Cell Manufacturers**
 - Battery Cell Cyclers (leveraging space-grade technology)

In financial year 2025 the Business Unit achieved a revenue of € 23.5 million – a growth of about 50%, based on commercial space markets, institutional customers and Galileo activities. The share of Austrian ESA sales therein accounted for € 7.9 million. Following a successful integration into the Terma Group, the newly established Terma Technologies GmbH has commenced regular operations and has meanwhile achieved AS9100 certification in 2025.



Power-SCOE for Canadian Megaconstellation © Terma



Terma SPECTRA – SDR TT&C modem © Terma



Terma Battery Cell Tester © Terma

Satellite Testing: EGSE and SCOE

Terma Technologies delivers high-value solutions for AIT support. The company provides Electrical Ground Support Equipment and Special Check-Out Equipment for institutional, commercial, and international space missions. We continued to expand our EGSE offerings into the global commercial and military satellite manufacturing sectors. These efforts have led to deliveries of RF communication, central checkout, and power testing equipment for a Canadian Megaconstellation program, Hummingbird, a commercial project in Turkey, a Satcom Payload test system for Taiwan, GNSS SCOE for Korea and SCOE for ESA's LISA mission.

Terma SPECTRA Software Defined Radio Modem

In 2025, Terma's RF department advanced its "go digital" strategy to replace costly COTS equipment with in-house, software-based solutions. Collaborating with FFG and ESA, Terma developed a Software Defined Radio (SDR) modem, officially named Terma SPECTRA ("Software-defined Platform for Enhanced Communication Telemetry and Ranging Applications"). Presented at the SpaceOPS trade show in Canada, the product launch of Terma SPECTRA was performed during 2025, along with the first deliveries within a Terma EGSE system for the LEO PNT mission.

Battery Cell Cyclers – BCT (Technology transfer from Space)

Terma is entering the electric mobility market with ProUST univerSAS®, an innovative digital power supply derived from space-grade technology. Utilizing GaN MOSFETs, digital control, and high-efficiency power conversion, it offers exceptional integration and sustainability for EV manufacturers. In 2025, Terma successfully deployed 16-channel, 600 A/ch Battery Cell Testing (BCT) systems for Toyota and Subaru and integrated Electrochemical Impedance Spectroscopy (EIS) capabilities. An EMC certification campaign launched in late 2025 awaiting finalization. Additionally, ESA awarded Terma co-funding to develop "Battery Cell Testing as a Service" (BCTaaS).



ESA Main Control Room ©ESA

Ground Segment Systems and Mission Control Software

In 2025, Terma focused on evolving generic Mission Control and EGSE software architectures. The team advanced the ESA Common Core developments, highlighting the close synergy between EGSE and Mission Control systems through industry-driven showcase projects. Collaborating with ESOC Operations, Terma conducted studies covering offline and near-real-time data analysis, ground segment test automation, and ground station software interfaces. As part of a European initiative, these efforts successfully strengthen Terma's role in designing the next generation of European space mission control cores.

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TERMA[®]



*Advanced integrated systems and
deterministic networks for diverse
space applications*

© TTTech

TTTECH Computertechnik AG

TTTECH Aerospace supplies and develops highly dependable networking and embedded computing platform solutions for time-, mission- and safety-critical applications. Its products are based on open data networking standards (Ethernet, ARINC 664 part 7, TSN), time-triggered technology, and deep know-how in safety certification.

Its network switches and network interface solutions are used by global champions and technology leaders such as Collins Aerospace, Honeywell, NXP or Thales, and can be found, for example, in the Airbus A-220, Boeing 787 and Embraer C-390 aircraft, NASA's Lunar Gateway, the Ariane 6 launch vehicle and in critical infrastructure.



TTTech supporting Lunar Exploration © TTTech

TTTECH Aerospace is a business entity of TTTECH Group, a global group of high-tech companies with more than 1,100 employees and headquarters in Vienna, Austria. The solutions of the TTTECH Group are applied in different industries and markets – besides aviation, space, and defense, in mobile machinery, industrial machinery, energy, and automotive, among others.

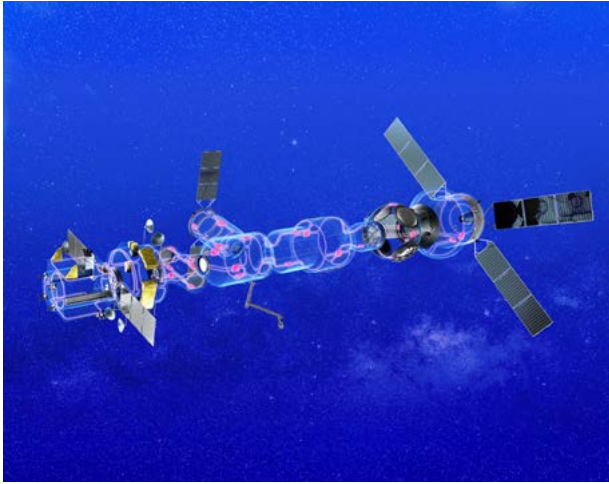
TTTECH is the innovator of Deterministic Ethernet and a driving force behind the IEEE TSN and the SAE AS6802 Time-Triggered Ethernet standards. TTTECH North America Inc serves the US market with offices in Andover, MA, and Houston, TX.

Exploring new ways to simplify spacecraft software and system architectures

TTTECH Aerospace also offers reliable radiation-hardened components and integrated modules for Deterministic Ethernet networking applications designed for the use in extreme environmental conditions found in space exploration and human-rated space flight missions or during launch. TTTECH Aerospace's solutions are used in major international space programs such as NASA Artemis, in space capsules, transportation systems, and space stations.

NASA and its international space agency partners have named TTEthernet®, the deterministic networking technology developed by TTTECH, as "International Avionics Systems Interoperability Standards (IASIS)" for programs like Artemis and future deep space missions.

TTEthernet allows the implementation of highly reliable systems sharing safety-critical data (e.g. flight control) and non-critical payload (e.g. video streams) on the same Ethernet backbone.



Lunar Gateway © TTTECH 2025

NASA Artemis – Lunar Gateway

In 2025 the NASA Artemis program dominated our space activities. Together with Beyond Gravity Austria we worked on key equipment, components and software for three main Gateway modules – PPE, HALO and Lunar I-Hab. In addition the architecture of the extra-vehicular robotics (Canadarm3) was being developed. The core component here is the TTEthernet Controller Space, an ASIC in hermetic housing, which TTTECH qualified together with STMicroelectronics. With this extremely complex device the physical limits of this enclosure type were tested.

www.tttech.com/aerospace/case-studies/nasa-gateway



Ariane 6 Launcher © ESA CNES ArianeGroup

Ariane 6 Launch Vehicle

The Ariane 6 launcher is a key program for TTTECH because of its use of a pure TTEthernet network inside and as a series production program with recurring revenue. The "nervous system" of Ariane 6 connects about 50 nodes with TTE-Controllers in the HiRel variant in automotive style housing and qualification. TTTECH is working with partners on upgrades and improvements – e.g. with our small TTEthernet switch for a new camera system.

www.tttech.com/aerospace/case-studies/ariane-6



GR765 Processor © Frontgrade Gaisler

Next Generation European Space Processor

Being recognized as experts in deterministic Ethernet networks, TTTECH was contracted to supply chip IP to Frontgrade Gaisler under an ESA ARTES contract. TTTECH's contribution will ensure high-speed, deterministic Ethernet access for the octa-core central processing units of this new flagship European SoC. In addition to chip IP TTTECH also develops embedded software and PC-based tooling for this next generation microprocessor for space – intended for use from low-earth orbit to deep space.



TTE-Switch MYTHOS © TTTech

New Architectures for Data Handling (Launchers)

Continuing a more than 10 year history of successful ESA FLPP projects, TTTECH helps its Irish and German-Italian partners Realtra and SPiN in developing concepts for advanced data handling in launch vehicles in the scope of this funded project.

The activity combines TTTech's Ethernet switch "MYTHOS" with GNSS, wireless and Remote-Data-Concentrator (RDC) functionalities, providing cost-effective solutions for launchers and orbital vehicles.

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Satellite Constellations ©TTTech

TERABIT Ethernet Router for SatCom

The Terabit project addresses the growing demand for ultra-high throughput, reliable inter-satellite and intra-satellite payload networking in modern satellite constellations. Future multi-orbit systems with optical intersatellite links require switching solutions capable of routing massive data volumes while guaranteeing predictable latency, quality of service, and resilience.

At the core of the project is the development of a technology-agnostic Ethernet switch chip IP supporting OSI Layer 1 to Layer 3 functionality, optimized for use in inter-satellite communication and regenerative satellite payloads.

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TTTECH



TU Wien

The TU Wien is one of Europe's leading technical universities. With its long-standing expertise in engineering, natural sciences, and planning disciplines, it makes significant contributions to the research and development of space technologies as well as to the design of future living and working environments on Earth and in space. As one of Austria's leading research institution, TU Wien combines technical excellence with a strong commitment to innovation, international collaboration, and social responsibility.

Space-related research and education are firmly embedded across numerous faculties and institutes at TU Wien. Research activities span satellite technologies, communications, and robotics, as well as materials science, energy and environmental technologies, architecture, habitability research, and sustainable infrastructure for extreme environments. Research on autonomous systems, sensor technologies, data analytics, and advanced materials designed for operation under the harsh conditions of space are also becoming increasingly important. Through interdisciplinary collaboration and international partnerships, TU Wien addresses the complex challenges of space exploration from multiple perspectives, developing innovative solutions that often have valuable applications on Earth.

A key component of this educational and innovation mission is the TU Wien Academy. Since 2005, it has served as TU Wien's central institution for postgraduate continuing education. Guided by the motto "Connecting Technology, Business & People," the Academy supports graduates as well as professionals and executives in achieving their individual goals and advancing their expertise. Through the knowledge and experience of renowned lecturers, it bridges the gap between research and industry by combining scientific excellence with practical application. In doing so, the Academy plays an important role in ensuring that the latest research findings are translated quickly and effectively into business and societal practice.

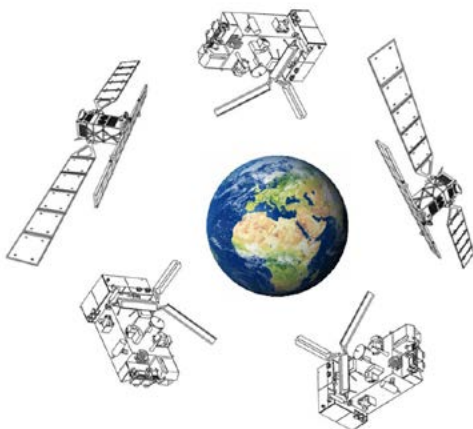
The Academy's programs address current developments in technology, management, sustainability, and innovation. Their objective is to make the latest scientific knowledge accessible and applicable in practice while empowering participants to actively shape processes of change. The broad portfolio ranges from specialized postgraduate programs and certificate courses to tailored continuing education formats designed to meet the needs of different industries and career stages. Together, TU Wien and the TU Wien Academy stand for academic excellence, lifelong learning, and the exchange of knowledge between science, technology, and industry. In doing so, they make an important contribution to the qualification of professionals and executives and to shaping an innovation-driven future.



Learning Journey of the Executive MBA Space Architecture & Management to Houston © TU Wien Academy



The team with Hedy after the successful flight © Martin Schmer



Radar data from EUMETSAT and Copernicus satellite constellations are used to capture dynamic hydrological processes. © Wolfgang Wagner + ESA (for satellite imagery)

Leadership for the New Space Economy

The Executive MBA Space Architecture & Management at TU Wien combines business, engineering, architecture, and the social sciences. This interdisciplinary program equips participants with the expertise to lead complex international projects and drive innovation in the rapidly growing space economy. Guided by internationally recognized experts, participants gain in-depth knowledge of cutting-edge technologies, investment strategies, and global challenges – from resource management to climate change – while learning how insights gained from space can contribute to sustainable solutions on Earth

[Space Architecture & Management | TU Wiens–space-architecture](#)

Successful Bi-Liquid Rocket Launch by the TU Wien Space Team

The TU Wien Space Team, a student-led association, launched its second liquid-propellant rocket, "Hedy," in October 2025. Powered by ethanol and liquid oxygen, Hedy reached an altitude of 5.3 kilometers during the European Rocketry Challenge in Portugal—the second-highest altitude achieved in the competition. After several years of development, this marks a long-awaited success for the project, but it is not the end. The rocket is currently being further improved with the goal of more than doubling its previous maximum altitude.

spaceteam.at/lamarr

Earth Observation

Earth observation is a key research area of the Department of Geodesy and Geoinformation (GEO) at TU Wien, with research teams working in the fields of photogrammetry and laser scanning, remote sensing, as well as climate and environmental remote sensing. The remote sensing team focuses on radar satellite technology, which is used for the global monitoring of soil moisture, vegetation, and water bodies as part of hydrology and climate research. In close cooperation with the EODC Earth Observation Data Centre, GEO manages satellite archives on a petabyte scale, including a global Sentinel-1 dataset.

www.tuwien.at/mg/geo

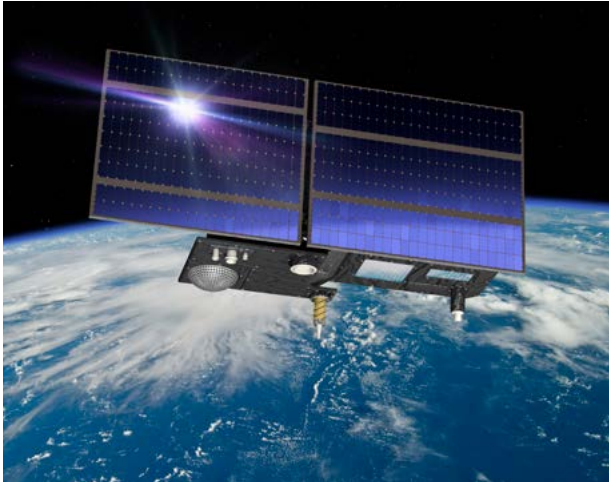
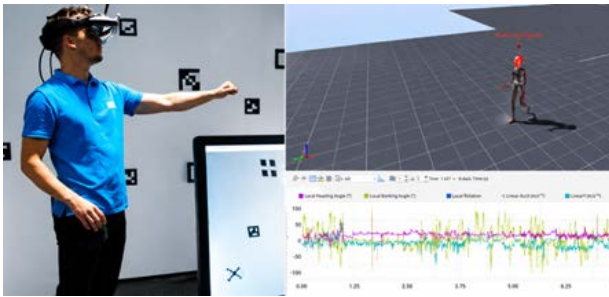


Illustration of the Genesis satellite with instruments for geodetic space techniques.. © ESA–D. Ducros

ESA Genesis Mission for an Accurate Reference Frame

An accurate terrestrial reference frame is essential for positioning and navigation on Earth, as well as for monitoring subtle changes such as sea-level rise. The ESA Genesis mission, planned for launch in 2029, is dedicated to improving the terrestrial reference frame. The satellite will combine four geodetic space techniques: GNSS, SLR, DORIS, and VLBI. For the first time, a dedicated VLBI transmitter will be placed onboard, generating signals similar to those emitted by quasars billions of light-years away and observed by large radio telescopes.

geoinfo.geo.tuwien.ac.at



Spatial interaction in mixed environments: Body tracking is used to capture and analyse movements and body postures in order to investigate human interaction behaviour in virtual and augmented environments.. © Ioannis Giannopoulos

Human-Centered Geoinformation and Spatial Interaction

Geoinformation is a key research area of the Department of Geodesy and Geoinformation. The research group investigates how people perceive spatial information and interact with physical environments and digital systems. Through human-subject experiments in real, virtual, and mixed environments, eye movements, head movements, and body movements are captured and analyzed. Using artificial intelligence methods, the team analyzes multimodal data and models human behavior. This research enables the assessment of cognitive load and other task-related processes, the investigation of challenges in user experience and spatial interaction, and the development of adaptive, user-centered systems.

geoinfo.geo.tuwien.ac.at

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Notes

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The image is a vertical composition. The top half shows a deep blue night sky filled with numerous stars of varying brightness. A prominent constellation, likely Orion, is visible in the upper center, with its stars connected by faint white lines. Below the stars, there are wispy, translucent clouds of white and light blue gas. The bottom half of the image is dominated by a large, vibrant nebula. It features a central, bright yellow-white core that transitions into fiery orange, red, and brown hues as it spreads out. The nebula has a complex, almost mountain-like structure with sharp peaks and deep crevices. The overall effect is one of cosmic grandeur and beauty.

www.austrospace.at

Photo: NASA, ESA, CSA, and STScI