Space directory

2025

LUXEMBOURG SPACE AGENCY

space-agency.lu

Space directory

2025

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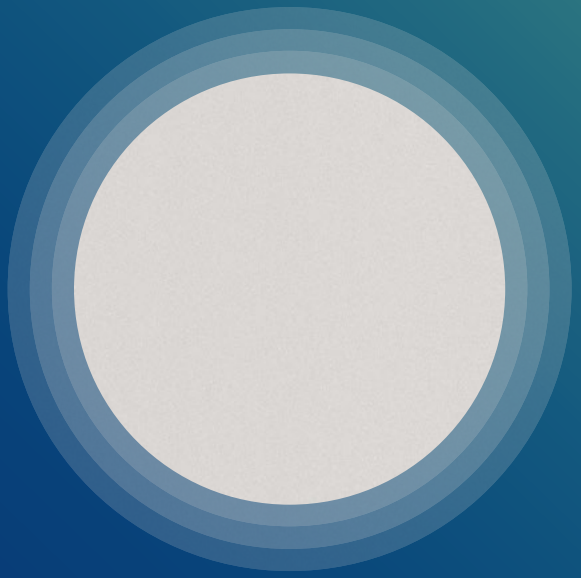
Table of Space capabilities
Space capabilities at a glance



01

Luxembourg, a European Hub for Commercial Space

Foreword

In today's booming space sector, the next generation of space technologies is being designed and built by a steadily growing community of entrepreneurs, scientists, researchers and engineers.
Luxembourg is proving to be the European focal point for this 'new' space industry, and for good reason.
These space entrepreneurs need to be supported: they need access to research, finance and technical services. But if support is essential, cooperation is key. More than anything, today's space entrepreneurs need to be connected with one another, and with the world. Building bridges between businesses is the way towards new and rewarding projects that will lead to the next generation of space technologies.
This directory is designed to foster that process of discovery and connection. It showcases the capabilities of the space industry already established in Luxembourg and extends an open invitation to potential partners from around the world, inviting them to explore the rich potential for international research and business development which exists in the Grand Duchy.
In Luxembourg, the space industry is driven by a dynamic, multilingual and international workforce. Many of the players presented here are known well beyond the borders of the Grand Duchy, their capabilities acknowledged by the international space community.
Since its first edition, this directory has charted the constant expansion and consolidation of the space industry in Luxembourg. We are happy to present the 2025 edition, which we strongly believe has a part to play in that story, helping to connect potential collaborators from around the globe in Luxembourg, the place for space development in Europe.

Luxembourg: a growing space eco-system

For more than three decades, Luxembourg has been at the forefront of commercial and co-operative initiatives that have shaped a vibrant space economy.
Today, the Grand Duchy is home to approximately 80 companies and research labs. The space sector's contribution to the nation's GDP is among the highest ratios in Europe.
Luxembourg's first foray into space came in 1985, with the creation of the Société Européenne des Satellites (SES), a landmark for satellite telecommunications and a global leader in this sector today. Further space-related services and businesses have developed alongside SES giving birth to an entire space industry in Luxembourg.
A second, important factor in positioning the country in the space sector was Luxembourg's accession to the European Space Agency (ESA), on 30 June 2005.
From then on, the space industry in the Grand Duchy has continued to grow and diversify, with three identifiable segments:

- **The space segment:** manufacturing of satellite and instrument structures, system integration of micro-satellites, electric propulsion for satellites, robotic payloads, in-space manufacturing, composites, RF payloads, FPGA.
- **The ground segment:** ground stations development, mechanical and electrical ground support equipment, communication networks, operations.
- **The service segment:** teleport services, satellite-based media and telecommunications services, risk management services, data analytics, environmental applications and services, aeronautical information services, analytics platform.

Luxembourg: a sustainability focused strategy

Luxembourg's national space strategy revolves around four sustainability pillars.

Resources for space – sustainable and responsible use of space resources

The accelerating pace of technological progress and the emergence of privately-funded commercial start-ups in the space sector have encouraged Luxembourg to explore more deeply the long-term economic potential of space. Launched in February 2016 and led by the LSA, the SpaceResources.lu initiative positions Luxembourg as a pioneer in the exploration and utilization of space resources. With this initiative, Luxembourg has defined a framework to promote and support the sustainable exploration and utilization of resources from 'celestial bodies' such as the Moon and asteroids.
The Grand Duchy is the first European country, and the second worldwide, to offer a legal framework on the exploration and use of space resources.
In years to come, the focus on space resource exploration and utilization will generate attractive opportunities in areas including materials science, additive manufacturing, remote sensing, communications, robotics, data analytics and artificial intelligence.
In November 2020, the European Space Resources Innovation Centre (ESRIC) has been established in Luxembourg, powered by the Luxembourg Space Agency (LSA), the European Space Agency (ESA), and the Luxembourg Institute of Science and Technology (LIST) to create additional opportunities for European and international innovation. ESRIC aims to become the

internationally recognised centre of expertise for scientific, technical, business and economic aspects related to the use of space resources for human and robotic exploration, as well as for a future in-space economy.
The SpaceResources.lu initiative also brings an ethical dimension to the project, seeking to ensure that space resources utilization serves a peaceful purpose. It aims to ensure these resources are gathered and used in a sustainable manner, compatible with international law and for the benefit of humankind.

Economic sustainability

As well as human resources and innovation, space development requires serious financial input.
No business is going to get very far without funding. Luxembourg's unique cross-border expertise in international finance and the development of dedicated funding resources, have been crucial factors in the creation of a sustainable space industry.
The country is the global hub for fund distribution and 19 out 20 of the largest Private Equity firms have a presence in Luxembourg. Moreover, private-equity firms with a focus on space and space-related industries, such as NewSpace Capital, have a presence in the country as well.
Together with a group of private and public investors, the Luxembourg Government has invested a stake in Orbital Ventures, an investment fund focused on early-stage companies engaged in space activities. Anchored in Luxembourg, the venture capital investment fund will provide equity funding for early-stage space companies with ground-breaking ideas and technologies.
At the European level, Luxembourg contributes to the European Space Agency programs, which support the development of technology and of products, services, and infrastructure in areas such as Telecommunications and Earth Observation. These contributions open the door for players in Luxembourg to access the space market in Europe. The national space program (LuxIMPULSE) implemented in partnership with ESA, also plays a key role in financing groundbreaking technological developments with strong market potential.
In general, the economic sustainability of space activities is directly linked to the primary objective pursued in developing commercial space in Luxembourg: economic diversification.
It aims at the perpetuation of the competences developed until now and will therefore be a question of consolidating the national positioning on the preferred market segments but also of identifying new segments offering interesting commercial opportunities.
While economic sustainability is one of the pillars of our national strategy, new challenges linked to a more intensive use of Earth orbits also arise, as recent years have witnessed technological developments facilitating the development of entrepreneurial initiatives.
In that context, Luxembourg's strategy for the development of the civil space sector has been reviewed. We aim to continue fostering the development of the space sector to make it a cornerstone of the national economy.
At the same time Luxembourg wants to see space as a major contributor to the sustainability of activities on Earth and to favour a responsible approach to activities in Space.

Sustainability in space

The new dynamics witnessed in the space sector over the past couple of years, added to the intensive use of Earth orbits foreseen for the coming years, is leading to an increase in the risks of in-orbit operations and a proliferation of space debris.
Yet today, space is part of our everyday life. What is more, space infrastructures also provide commercial, security, environmental and societal benefits. It is therefore urgent and imperative to promote a responsible and sustainable use of space. Luxembourg's commitment will be materialized at both national and international levels, and through the development of national competencies in space traffic management and in-orbit services.

Sustainability on earth

Space can bring answers and a major contribution to societal and environmental issues we are facing today. Contributing to the sustainability of activities on Earth implies building bridges between the space sector and the terrestrial sector. LSA also aims at strengthening national competencies in fields of activity likely to serve other national economic sectors.
The development of competences will also target segments which can contribute to some of the sustainable development objectives, with a particular focus on those which are relevant to Luxembourg's commitments with regards to cooperation and humanitarian action.
One key element of this strategy is to broaden access to space-related data. Huge data sets, gathered from space, represent an essential source of insight and opportunity for the space industry. Meanwhile, these self-same data sets are being used by non-space businesses searching for better ways to work on planet Earth. Data is the point of intersection for many high technology businesses.
The *Luxembourg Space Agency Data Center* was created in 2019 to support businesses in Luxembourg with reliable, fast, and intuitive access to data streams from the European Copernicus Earth Observation programme. The detailed optical and radar imaging data made available by this project can help us manage the environment, understand and mitigate the effects of climate change, and ensure civil security.
New products which make use of this data are of interest for businesses in many sectors including the environment, maritime, meteorology, agriculture, mobility, aviation and health, thus leading to a massive uptake of satellite-based products by end users.

Talent for space

The Space industry needs a huge array of skills and talent. Several initiatives have been initiated in Luxembourg to foster the development of the necessary skills and expertise needed by the growing space ecosystem. Among these, a two-year Interdisciplinary Space Master program has been launched by the University of Luxembourg in fall 2019.
Set up in collaboration with the Luxembourg Space Agency, the Interdisciplinary Space Master provides solid knowledge in all aspects of the space value chain, along with space engineering expertise. Using a project-based learning approach, graduates get a fundamental understanding of the scientific and technical basis and business requirements of successful space missions. Courses touch upon space systems engineering, space operations, space resource utilization, space data mining and intelligent systems, satellite communications, and robotics.
Young graduates from Luxembourg also have the opportunity to enter the ESA training program (Luxembourg National Graduate Trainees) This program, set up by LSA and the ESA, is an opportunity to gain valuable experience in the development and operation of space missions and to qualify for the many opportunities within Europe's space industry.

The future

The pace of innovation in space related technology continues to accelerate. To make tomorrow's technical possibilities a reality requires practical support today.
In Luxembourg, the space industry finds a nurturing and supportive environment with an established community of high-tech businesses, researchers, and entrepreneurs along with access to the necessary services and facilities.

02

Companies

adwäisEO

Core business

adwäisEO SA provides i. IT services (IaaS, PaaS, SaaS) and ii. Data Services such as data collection, data set storage/ maintenance/archival, data (re)processing, and data distribution (DaaS), and Data Analytics, related to geospatial data in general and Earth Observations (EO) by satellites in particular.

E.g., it provides components of Payload Data Ground Segments (PDGSs) of Satellite missions and support the added-value downstream sectors of EO, designing algorithms and implementing processes for Big Data Mining and Data Transformations along with high performing and cost-effective solutions such as multi-Petabytes archives, intuitive geoportals and efficient processing solutions in cloud and/or HPC environment.

E.g., it implements data pipelines for AI factories, in particular AI model training.

Products & services

adwäisEO provides Data services for space agencies, companies, public and private institutions, NGOs and research bodies on its own hybrid Cloud or on Public Clouds, and on HPCs:

- Data collection, storage, dissemination and management, long-term archiving, to take care of your data respecting your privacy.
- Data hubs, geo-portals, APIs and metadata generation and metadata standardizing to make the data easily accessible.
- Cloud computing, HPC Cluster and efficient orchestrator for all your processing needs.
- Geo-Data mining and analytics, to extract valuable information from the data and produce knowledge.

The company designs and develops native cloud and/or HPC solutions to provide tailor made services and products which can be distributed between IT infrastructures with support of orchestrators.

Technical means

The IT facilities of adwäisEO are hosted in TIER IV data centers in Luxembourg with back-ups in France. The company use the best of the available technology:

- Cloud-computing: infrastructure and namespace-as-a-service (10 000 vCpus in a private cloud).
- Cloud-Storage 2 PB of in house S3 object storage with geographical replication
- Scalar storage for massive data archiving (more than 70 PB).
- LTO tape libraries for backup and preservation (more than 100PB).
- Fast NVME storage for computation (2 PB)
- High speed internal network (> 400 Gbps) to feed processing node without delay and 30 Gbps Internet lines for no waste while data are transferred.

The company offers:

- A team of ICT specialists, remote sensing experts, data engineers.
- A library of EO data processors tuned to the analysis of long-term series of geo-physical/ chemical/biological/ecological data of the global world.

Main customers

Space Agencies, European Commission, Public Institutions, Private Companies, Research organisations.

Major space projects

- Design, Development & Operation of the largest European data repository of the Sentinel-1 (S1) and Sentinel-2 (S2) satellites: the LSADC
- Cloud-Optimized formatting of Earth Explorer and Earth Watch satellites' data
- Provision of Data, Cloud & HPC processing resources, and an Artificial Intelligence (AI)-based data processing & analytics system to the Digital Twin Earth/DestinE platform DESP
- Copernicus Long Term Archive
- Systematic daily production of Sentinel-3 (S3) satellite's Land products
- Massive reprocessing of S2 satellite data
- Provision & management of the IT services for the quality control of S2 and S3 data, and the maintenance of the related data processors
- Production and distribution of Global Mosaic of the Earth from S2 data
- AI and HPC applications of Earth Observations from satellites such as crop yield forecast

A

adwäisEO

INFORMATIONS

CEO/Head of department
François-Régis Martin-Lauzer

Creation date
2015

Organisation type
Small and Medium-Sized Enterprise

Number of employees
Total: 27
Space: 24

Turnover 2024
Total: 7,1M€
Space: 7,1M€

R&D internal investments
1.5M€

Qualifications, Approvals
ISO9001 under way

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AIRMO

Core business

AIRMO operates a B2B subscription-based business model, delivering high-precision methane and CO_2 emissions data to financial institutions, ESG platforms, and regulatory bodies. The core value proposition lies in providing independently verified, asset-level emissions intelligence that supports climate risk assessment, compliance, and investment decision-making. Revenue is generated through tiered annual contracts for emissions intelligence reports, API access to benchmarking tools, and tailored analytics services. As the product matures, additional monetization will come from licensing data to carbon accounting platforms, entering public tenders, and offering custom reports to asset managers and insurers.

Products & services

Global Insights is a data analytics platform that provides comprehensive datasets on GHG emissions performance of industries, regions, and assets. These datasets include historical data, capturing past emissions trends, sourced from several data streams. What will be unique about our service is the combination of satellite data with other data such as public emissions reports by companies or widely used data on industries, regions and companies' emissions. This enables us to benchmark and analyse the full value of utilizing real measurement data compared to emissions data calculated with input output models.

Technical means

ML Algorithm for Methane Retrieval – AIRMO is developing a neural network model trained on >100,000 synthetic SWIR spectra generated via a multimodal radiative transfer model. Synthetic & Real-World Training Data – Training data simulates diverse real-world conditions – including point-source plumes and diffuse methane enhancements – allowing the model to generalize beyond lab conditions. Real data from airborne campaigns will validate model robustness. Onboard Data Fusion & Preprocessing – Partner JMU will design the fusion layer for integrating hyperspectral data with additional sensor modalities on AIRMO's future satellite constellation.

Main customers

Direct Emitters such as TotalEnergies, Enercity, Uniper and Regulators like Deutsche Umwelthilfe, Changing Markets.

Major space projects

Satellite-powered data intelligence platform for carbon management. At its core, it's a system that ingests massive volumes of satellite data – both public and private – and processes it using proprietary machine learning algorithms purpose-built for high-precision methane and CO_2 quantification.

AIRMO A

INFORMATIONS

CEO/Head of department
Daria Stepanova

Creation date
2024

Organisation type
Small and Medium-Sized Enterprise

Number of employees
Total: 5
Space: 2

CONTACT

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AM 4 AM

Core business

AM 4 AM is an innovative start-up developing new metallic materials for additive manufacturing/3D printing. Additive manufacturing is an emerging technology allowing parts with an ever-seen complexity to be produced. However, the amount of materials available for this technology is strongly limited. Indeed, the processing of conventional alloys by additive manufacturing leads most of the time to poor quality parts which are not reaching the industry specifications.

AM 4 AM patented an atmospheric cold plasma process to modify metallic powders and enhance their compatibility with 3D printing process. Thanks to this process, AM 4 AM will create a new generation of metallic powders by making available conventional alloys and in the same time developing new functional materials.

Products & services

HiPerAl

AM 4 AM firstly applies its plasma technology to solve the cracks and porosity formation in aluminium parts produced by additive manufacturing. This phenomenon is encountered in most high mechanical strength aluminium avoiding these materials to be used for structural and lightweight applications.
AM 4 AM's solution is called HiPerAl and leads to the production of high mechanical strength parts processed by additive manufacturing. HiPerAl owns mechanical properties close to aluminium 7000 series processed by conventional techniques. This best in-class aluminium alloys is dedicated to lightweight application in domains such as automotive, aeronautic or space.
AM 4 AM also owns the capacity to develop new materials with tailor-made properties designed specifically for industrial applications.

Main customers

Industrial manufacturers mainly in automotive, aeronautics and space, 3D service providers, 3D equipment providers.

Major space projects

Development and production of satellite and thruster parts

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INFORMATIONS

CEO/Head of department
Maxime Delmée

Creation date
2019

Organisation type
Small and Medium-Sized Enterprise

Number of employees
Total: 2-5

CONTACT

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No update has been provided for 2025.

Amphinicy Technologies

Core business

Amphinicy Technologies (AT) is a valued provider of complex, tailor-made software solutions and all-round software support for the satellite industry. AT has been on the market for 20 years, with its Luxembourg office established in 2002. Amphinicy Luxembourg has high expertise in the fields of SatCom and Earth Observation. It provides enterprise solutions for big commercial and governmental projects, both in civilian and defense sectors.
The 5 pillars we're focusing at the moment are:

- Enabling SatCom in 5G/6G (by virtualization)
- Optical communication (M&C of Optical Ground Segment)
- Secure SatCom (including dual use)
- IV&V (Independent Validation and Verification)
- Software Engineering Services for customers in Space domain

Products & services

Products:

- **ViSAGE:** an ad-hoc SatCom-as-a Service solution that leverages available GSaaS infrastructure for signal reception and digitization, its own cloud-native software-based modem, and its 3GPP-based service management and orchestration platform. **ViSAGE enables itegration of SatCom solutions into 5G-NTN ecosystem.**
- **Monica:** a modern monitoring and control built on the latest industry standards. It comes in two versions – as M&C solution for local ground station (e.g. broadcasting teleport), or as ultra-scalable NMS solution for monitoring huge networks (e.g. VSAT networks, IoT, etc.)
- **Blink:** an innovative software solution for ultra-fast EO telemetry acquisition and processing, using today's top-of-the-line commercial CPUs and GPUs and radically reduces costs, improves flexibility and maintenance.

Services:
Tailor-made software engineering and consulting services and all-round software support for the customers in the Space industry.

Technical means

Amphinicy Technologies focuses on technical excellence and employs highly qualified ICT and SatCom engineers with expertise in the following ground segment domains:

SatCom solutions:

- Virtualization of DSP (5G-NR, DVB-S2(x), CCSDS)
- 5G: 5G-NR and SatCom orchestration
- Monitor and control for Ground segment (OGS and RF)
- Ground segment simulations (OGS and RF)
- Mission Operations
- Mobility – beam roaming and load balancing
- Embedded systems
- Secure optical communication (Quantum encryption key management)
- Pooling and sharing mechanisms

Space Technologies/standards:

- Following the ECSS process

Extensive and valuable experience working on demanding ESA projects as well as on solutions for industry leaders in fields of satellite operations, satellite services and satellite networks.

Main customers

- International space and humanitarian agencies (ESA, DLR, LSA, UNHCR),
- Leading satellite operators and global satellite service providers/integrators (SES, RSS, LuxSpace)
- Teleports and space mission operation centers (RSS) and
- SatCom and Optical equipment manufacturers (HITEC, iDirect, Officina Stellare)

Major space projects

Amphinicy Luxembourg provides software engineering services in following projects:

ViSAGE

- Enabling SatCom integration into 5G-NTN
  - By virtualizing SatCom modems
  - Implementing 5G Orchestration layer
  - Enabling 5G D2C (direct-to-cellular) service
- Moving SatCom modems implementation from traditional hardware (FPGA) into a software domain (CPU)
- Virtualizing DSP and making it cloud ready

SELF-SUFFICIENT OGS

- Partnership with HITEC (L) and PEPITe (B)
- Using Monica as a Monitor and Control solution for 6 ESA OGS
- Adding AI layer on top of Monica to make OGS autonomous and self-maintainable
- Strategically positioning Monica as M&C in OGS segment

P2PFSO

- Point-2-Point Free Space Optical
- An EDF project led by French MoD
- Amphinicy Technologies is in charge of Cybersecurity provisions
- Implementing secure communication protocols
- Making communication terminal "unhackable" during maintenance

ONEST

- Prime contractor for OGS Network Simulation testbed
- Partnership with SES, RSS and Officina Stellare
- aaS solution that will be hosted for ESA in Redu

COPERNICUS
AIV for Sentinel communications modules

EPW2
Part of consortium developing the European Protected Waveform

ST Engineering/iDirect Europe
Developing Dialog NMS and Standolone modem ecosystem

AMPHINICY TECHNOLOGIES

A

INFORMATIONS

CEO/Head of department
Frane Miloš

Creation date
2002

Organisation type
Small and Medium-Sized Enterprise

Number of employees
Total: 37
Space: 37

Turnover
Total: 2.8M€
Space: 2.8M€

R&D internal investments
±280K€

CONTACT

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Arspectra

Core business

Arspectra is specialized in the design and supply of Augmented Reality (AR) technology, with an initial focus on data visualization, teleassistance, and navigation in various applications. Arspectra's fully see-through AR data glasses and software project relevant data, instructions, and 3-dimensional images in the direct sight of the user. It allows to stay focused on the actual target and action while improving the performance of the professional user by the most natural and efficient integration of information and navigation data.

This in-sight guidance naturally improves the precision, time-efficiency, cost, and outcomes of the various procedures.
By merging digital data and images into the real sight of its users, Augmented Reality is set to bring important changes in current visualization, training, and navigation solutions. Yet to truly benefit of the advantages brought by merging digital data seamlessly into the reality, the platforms must also perfectly fit to the performance and physical parameters demanded by the applications and users.

Arspectra designs modular Augmented Reality hardware and software platforms, delivering the most performant and adapted solutions to its partners and customers.
From lightweight Augmented Reality glasses for visualization and communication, up to high-performance navigation platforms, Arspectra's partners can select from various available solutions, to fully customizable developments. Supporting software plugins enable them to flexibly integrate their own software and applications.

Products & services

Proprietary glasses are developed in close collaboration with end users and enable a very flexible integration of various sub-technologies. Arspectra offers adapted solutions leading to increased performances, lower costs, and better procedure outcomes to different applications and usage scenarios. Due to the technologic novelty, current procedure standards can be disrupted by unprecedented advantages and very competitive prices.

Arspectra's hardware developments:

- Design of medical AR glasses with adapted form factor and sensor technology
- Setup of intra-operative 3D tracking systems
- Design of mobile processing units for various AR-supported use cases

Arspectra's AR devices run a proprietary software platform that serves as base layer on which partners can develop their own AR software and algorithms. Next to the standard platform several functional plugins are available:

- Gesture tracking
- Voice control
- Cellular communication
- Up to military grade cybersecurity & encryption

Arspectra's team is highly experienced in the flexible co-development and integration of AR capabilities for visualization and navigation in existing or in-development technologies and operations.

Main customers

- Medical technology companies and distributors
- Medical specialists and institutions
- Industries with healthcare-related applications
- Research institutions
- Industries in need of AR-based remote assistance platforms
- Industries in need of AR-based visualization and navigation platforms

Major space projects

TeleAssist ESA project
Globally connected healthcare delivery for emergency and humanitarian needs.

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AR SPECTRA

INFORMATIONS

CEO/Head of department
Cédric Spaas

Creation date
2018

Organisation type
Small and Medium-Sized Enterprise

Number of employees
Total: 10-50

CONTACT

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No update has been provided for 2025.

ArViCom

Core business

ArViCom Sarl develops cellular and satellite-based communication technologies and services into mobile Augmented Reality (AR) platforms in order to enable global remote collaboration based on AR visuals and interaction.

Classic verbal and video-based communications are often difficult to interpret by the remote expert and can be obtrusive to the action of the mobile agent. ArViCom enables remote visual validation, communication, expert overview, and senior interdisciplinary assistance through a secure, reliable communication, and access to expertise. It hereby offers improved procedure outcomes, a higher time efficiency, and reduced cost to unnecessary displacements of multiple agents and experts.

A first focus is placed on enabling a global reach to medical expertise for remote and mobile agents in humanitarian and remote medical use cases. Further applications to other industries are being developed through various partnerships. Each design transforms the end-user requirements and the technical and economic parameters into highly performant and adapted collaboration solutions with global access.

Products & services

The ArViCom devices are a combination of AR glasses, its mobile communication and processing units, and tailored software integrating global connectivity management. As visual communication tool, it shares the same point-of-view observation as the mobile agent, but especially allows remote instructions and support to be delivered in the direct sight of the agent in action. It offers the user real-time visual interaction and support of remote experts, regardless of geographical location.
It offers a more natural interpretation of the discussion subject and case by the remote expert, and a hands-free visualization of the instructions by the user. It significantly improves the focus, comprehension, and success of active professionals.
These advantages are delivered on a high-performance technology with market-leading visualization, global and secure connectivity, designed to perfectly fit to the specific user actions and requirements.

Main customers

- Humanitarian and remote healthcare agencies
- Telemedicine companies and agencies
- Ambulance agencies and services
- Research institutions
- Industries in need of AR-based remote assistance and collaboration platforms
- Industries in need of outdoor AR-based visualization and navigation platforms

Major space projects

TeleAssist ESA project
Globally connected healthcare delivery for emergency and humanitarian needs.

ArViGuard ESA project
Space in response to the Covid-19 outbreak.

ARVICOM

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INFORMATIONS

CEO/Head of department
Cédric Spaas

Creation date
2020

Organisation type
Small and Medium-Sized Enterprise

Number of employees
Total: 1-10

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No update has been provided for 2025.

Astrobiome Space

Core business

Luxembourg's Astrobiome Space focuses on leveraging space technology to develop innovative microbiome-based solutions that optimize human health, longevity, and plant growth. The company applies space-enhanced postbiotic and biostimulant products to improve resilience, support sustainable agricultural practices, and enhance human health by using space-evolved microbiomes. Through partnerships with space agencies and research institutions, Astrobiome explores how space extreme environments, such as microgravity, radiation, can unlock the potential of probiotics and microbiomes for advanced space medicine, superior human health, and bio-agricultural innovations.

Products & services

Products and Services with the mission to enhance human health, sustainability, and resilience through space-driven innovations:
For humans: Astrobiome® Postbiotics comprising of more than 600 compounds of metabolite complex designed to support gut health, immunity, and longevity, formulated from microbiome strains exposed to space conditions for enhanced potency.
For Plants: BOB® is a space enhanced biofertilizers that improve soil health and crop resilience, developed through space research for soil remedy and increase micronutrient in food.

Astrobiome services: Perform microbiome research in space and customized agricultural solutions using the access to Low Earth Orbit.

Products:
- **Astrobiome® Postbiotics:** These are scientifically developed supplements that support gut health, immune system function, and overall resilience. The postbiotics are enhanced by exposure to the extreme conditions of space, improving their potency and effectiveness in supporting human health.
- **Space-Enhanced Biofertilizers:** These biofertilizers utilize microbiome technology to improve soil health, plant growth, and resilience, optimized through space research. They offer sustainable agricultural solutions by increasing micronutrient content in crops, helping to improve food production both on Earth and in space environments.
- **Longevity Health Solutions:** Designed for high-performance individuals, Astrobiome's longevity products are formulated to promote vitality and wellness through space-enhanced probiotics and bioactive compounds, which help combat the effects of stress, aging, and environmental factors.

Services:
- **Space-Enhanced Microbiome Research:** Astrobiome provides access to research involving space-exposed microbiomes, offering data and studies related to how space conditions influence microbial resilience and potential health benefits.
- **B2B Partnerships for Space and Agricultural Solutions:** Astrobiome partners with agricultural and space-related companies to provide customized biofertilizer solutions and health products. These partnerships aim to optimize sustainability, crop health, and food security in space missions and on Earth.
- **Consultation and Collaboration:** As part of its services, Astrobiome collaborates with research institutions and space agencies to explore the full potential of space-exposed microbiomes in medicine, agriculture, and sustainability.

Astrobiome Space integrates cutting-edge space technology and biotechnological advancements to improve health outcomes on Earth while supporting the sustainability of space missions. Through their products and services, they aim to enhance human resilience, optimize health, and contribute to the future of sustainable agriculture both on Earth and in outer space.

Main customers

Longevity Clinics, Health Institution, B2B Fertilizer Producers, High performing individuals (Astronauts, Military officers, Athletes, Mothers, Jet-setters, Executive Leaders, Pilots, Young people, those facing extreme stress environments).

Major space projects

Astrobiome®'s Champion Strains™, handpicked by microbiome experts from extreme Earth environments, are brought aboard the International Space Station (ISS) in collaboration with the Luxembourg Space Agency, the European Space Agency, and service providers. The outcome is to produce superior-quality of metabolites for human supplements and biofertilizer for plants, enhancing micronutrients and increasing endurance for food growing in space.

ASTROBIOME®

A

INFORMATIONS

CEO/Head of department
Vera Mulyani (CEO, Founder)

Creation date
2023

Organisation type
Small and Medium-Sized Enterprise

Number of employees
Total: 3 in Luxembourg,
4 in USA

R&D internal investments
1.2M

CONTACT

Address
Astrobiome Space Sàrl
9, Avenue des Hauts-Fourneaux
L-4362 Esch-sur-Alzette

Astroport Space Technologies

doing business as Astroport Europe

Core business

We are a deep tech company focused on space construction and materials manufacturing. Our initial technologies convert lunar regolith into durable feedstock for construction, featuring advanced engineering applications both in space and on Earth. We are developing various cutting-edge solutions to enable end-to-end, 3D printing-based construction of lunar structures. Our construction portfolio includes regolith refining and solidification technologies, autonomous robotic construction equipment, and civil engineering processes for site preparation and managing construction operations, with an initial focus on lunar landing pad emplacement. We commercialize our technologies for terrestrial applications across multiple markets, including defense, terrestrial rocket cargo logistics, mining, and environmental cleanup and remediation.

Products & services

At Astroport, we are committed to shaping the future of space exploration by designing, deploying, and operating interplanetary landing stations that ensure safe, dependable, and efficient spaceflights to the Moon, Mars, and beyond. Our vision is driven by advanced technological innovations that enable robotic construction of key lunar infrastructure.

Our expertise covers three key market segments, with a strong focus on our comprehensive consulting services.
We excel in transforming raw lunar regolith into high-quality construction materials, supporting sustainable development on the moon. Our integrated autonomous robotic systems utilize advanced 3D printing technology for brick formation and precise placement, ensuring efficient and accurate structural assembly.

Astroport provides comprehensive consulting services for lunar and interplanetary projects, including detailed planning and strategic frameworks for surface infrastructure development through our Concept of Operations (CONOPS). We deliver customized system architecture solutions tailored to the specific challenges of space environments, ensuring seamless integration of third-party hardware to enhance project capabilities. Our comprehensive project execution encompasses developing functional requirements, structural design, project planning, and site preparation. Additionally, we offer thorough analysis and consulting on lunar geotechnics to ensure stable and secure construction, as well as advanced methods for processing and refining lunar regolith to maximize its usefulness in construction and other applications.

Technical means

Our regolith melting, binding stabilization, and solidification technologies offer versatile solutions for processing regolith into feedstock for lunar construction and advanced additive manufacturing applications. Our molten regolith furnace technology can also be applied to extract and capture minerals (metals) and volatiles (oxygen and helium-3). Our Lunatron® 3D construction printer, a toolset for excavation and site preparation, and unique materials separation and conveyance technology for bulk regolith manipulation, enable advanced state-of-the-art geotechnical and civil engineering processes. These utilize autonomous swarm robotic construction techniques for fabricating surface infrastructure, including landing pads, roads and pathways, industrial yards, and foundations.

Main customers

Our primary target segment, Space Construction, will reach $14 billion within 20 years. The size of this market and the volume of operations will depend on the commercial demand for space transportation across various industries, including mining, tourism, and manufacturing, on the lunar surface. As the cislunar market evolves, Astroport participates in Government Catalyst research programs and explores commercial opportunities to advance our technology while fostering global partnerships with private companies and academic institutions.

A

INFORMATIONS

CEO/Head of department
Emilio de la Guardia,
Managing Director

Creation date
2023

Organisation type
Small and Medium-Sized Enterprise

Number of employees
Total: 2
Space: 2

Qualifications, Approvals
An ESA SME entity and an approved contractor for government agencies: NASA, the U.S. Department of Defense, the U.S. Army Corps of Engineers, and the U.S. Space Force.

CONTACT

Names
Emilio de la Guardia & Tomasz Adach

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tomasz@astroportspace.com

Website
www.astroportspace.com

Blue Horizon

Core business

Life science technologies and services in space, on planets and Earth

Product & services

- Revitalisation of deserted areas on Earth using Biological Soil Crusts (BSC)
- Bio Reactors
- Earth Observation
- Life Science support to manned missions to other planets
- Terraforming

Technical means

- Bioreactors for Earth and space applications
- Growth of bacteria and algae
- Qualification of material
- Earth Observation and GIS systems

Main customers

- Ministry of Foreign Affairs, Luxembourg (LUXDEV)
- ESA
- LSA
- EU
- Private industry

Major space projects

Green Earth

The program, led by Blue Horizon aims at developing, marketing and sale of products and services related to the fertilisation of soils in arid and semi-arid areas. Our biological soil crust (BSC) is capable to strongly reduce water and wind erosion and creates the basis for first pioneer plants. It also forms a CO_2 sink. After a laboratory phase, the BSC has been tested in our open field test sites in Burkina Faso. At the same time, a site selection and monitoring system is developed using Earth Observation data. After the field test, the next step is the implementation of a large-scale field test (1 ha and 1 km^2) in Morocco, which will be carried out between 2023 and 2025.

OW INK

The project aims at developing printable material out of algae. First tests have been successful, and the material is now qualified. A second project will now further qualify different materials and allow the production of various tools using 3D printing technologies.

BIORAT 2

Development of a nitrification process using algae and bacteria to convert urine into useful products in space.

B

INFORMATIONS

CEO/Head of department
Jochen Harms

Creation date
2018

Organisation type
Large Enterprise

Number of employees
Total: 8
Space: 5

Turnover 2022
Total: 700K€
Space: 400K€

R&D internal investments
100K€

CONTACT

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L-6832 Betzdorf

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Website
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Blue Origin

Core business

We are building a road to space for the benefit of Earth, humanity's blue origin. Our team is focused on radically reducing the cost of access to space and harnessing its vast resources while mobilizing future generations to realize this mission. Blue Origin builds and operates reusable rocket engines, launch vehicles, in-space systems, and lunar landers. Discover more at BlueOrigin.com.

Product & services

New Glenn is a heavy-lift orbital launch vehicle capable of carrying 13 metric tons to GTO and 45 metric tons to LEO. Its seven-meter fairing enables twice the payload volume of smaller, five-meter class commercial launch systems. The first stage is fully reusable and built for a minimum of 25 missions.

New Shepard is a reusable suborbital rocket system designed to take astronauts and research payloads past the Kármán line, the internationally recognized boundary of space. The 11-minute flight includes several minutes of weightlessness.

Blue Moon is our line of lunar landers, including Blue Moon Mark-1 (MK-1), capable of landing three metric tons on the lunar surface, and Mark-2 (MK-2), serving the Artemis Program, and capable of landing and supporting four crew.

Blue Ring is our space mobility platform, providing multi-mission deployment and end-to-end services that span hosting, transportation, refuelling, data relay, and logistics, including an in-space edge computing capability. It's capable of hosting up to 13 payloads totalling three metric tons in GEO and beyond.

Blue Alchemist is our in-space resources initiative to make long-term presence on the Moon viable, including prospecting initiatives and making power systems from materials on the Moon.

Blue Engines (BE) is our line of high-performance engines, including BE-3PM, BE-3U, BE-4, and BE-7, powering the next generation of rockets for commercial, civil, national security, and human spaceflight missions.

Orbital Reef is our commercial LEO destination, a vertically integrated solution for end-to-end destination services in Earth orbit. It takes advantage of New Glenn's large fairing and high payload mass performance to LEO to launch habitats that create much larger volumes than current ISS modules.

Main customers

Blue Origin supports all segments of the space industry, including commercial, civil, and national security customers in the United States, Europe, and globally.

Major space projects

Blue Origin is proud to support the United States-led Artemis Program to return humans to the surface of the Moon, through the Human Landing System contract. We seek ways to expand access to the lunar surface for other customers through our planned lunar architecture.

We are also proud to support the NASA Commercial LEO Destinations program and actively collaborate with governments and industry partners to develop the next generation LEO economy.

Finally, we are proud to serve the United States Space Force and other customers through the National Security Space Launch program, providing critical access to space for the nation's most important space assets.

B

INFORMATIONS

CEO/Head of department
Dave Limp, CEO, Blue Origin
Steve Harman, Vice President, Supply Chain & Logistics (Luxembourg)

Creation date
2000 (USA)
2025 (Luxembourg)

Organisation type
Small and Medium-Sized Enterprise

Number of employees
Total: 25 in Luxembourg
Space: 25 in Luxembourg

CONTACT

Name
Steven Harman

Address
Blue Origin
12, Avenue de la Liberté
L-1930 Luxembourg

E-mail
sharman@blueorigin.com

Website
https://www.blueorigin.com/

Bradford Space

Core business

Bradford Space develops technologies to export the NewSpace philosophy, and the increased value proposition it has already offered in LEO, to beyond LEO applications, such as GEO, lunar and interplanetary space. This accelerates the cadence of scientific exploration and enables new business uses in these frontiers.

We offer affordable and high-performance avionics whose robust and performing nature makes them well-suited for both deep space and demanding near Earth orbit applications.

We produce the Comet propulsion system which is a launch-safe and cost-effective electrothermal propulsion system offering the ideal balance of cost and performance. Comet uses water as propellant which allows it to be handled and fuelled at the factory with ease. Its highly flexible interface is easy to integrate into small satellites and to operate on orbit.

Products & services

An avionics solution – a modular system suitable for deep-space or high-performance small satellites in the 30-300kg (dry) mass range with a 5+ year lifetime, consisting of any combination of:

- robust & high performance flight & data processing platform (with full-scale OS)
- power control and distribution unit (that supports high-power loads such as electric propulsion, radar payload or drive motors)
- high-power radio transponder with navigational ranging for LEO and cislunar operation
- propulsion electrical control unit aimed at monopropellant thruster solutions

The Comet – a water-based propulsion system for small LEO spacecraft

- non-toxic, safe for humans and launch vehicles
- more thrust with less electrical power
- highly-flexible interface suitable for a wide range of spacecraft sizes
- zero failure in-orbit with an in-space heritage since 2018

Technical means

Design, test, qualification and integration of electronics, RF and non-toxic propulsion systems.

Main customers

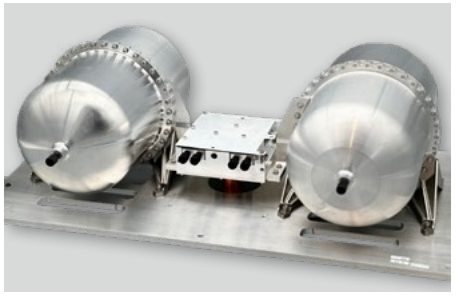
Commercial and institutional small satellite manufacturers from all over the world.

Major space projects

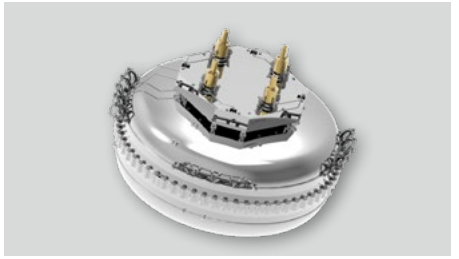
Design and developments of deep-space avionics & propulsion systems.

Avionics blades

Comet 1000 Water-based Propulsion System



Comet 8000



Comet 20000

B

INFORMATIONS

Director
Kateryna Aheieva

Creation date
2015

Organisation type
Small and Medium-Sized Enterprise

Number of employees
Total: 17
Space: 600 sq.m.
including clean room
and environmental testing facilities

Turnover 2024
Total: 8.9M€
Space: 8.9M€

R&D internal investments
1.7M€

CONTACT

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Kateryna Aheieva

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Website
www.bradford-space.com

Cebi Luxembourg

Core business

- Design, development and manufacturing of plastics and mechatronic components for automotive and household industries.
- Testing services

Products & services

- Thermostatic actuators temperature sensors, level sensors, plastic injection molded parts, liquid reservoirs
- Test & Validation services for thermo-mechanical, electromagnetic compatibility and materials

Technical means

- Fully equipped test and validation laboratory
- Multi-physics simulation
- Prototyping
- Automation & Industrialization
- High volume manufacturing & quality
- Logistics

Main customers

- All automotive vehicle manufacturers and Tier 1 suppliers
- All white good manufacturers

Major space projects

Testing services for space sector

cebi Driven by your needs.

INFORMATIONS

CEO/Head of department
Emilio Menicucci

Creation date
1976

Organisation type
Large Enterprise

Number of employees
Total: 600
Space: 3

Turnover 2024
Total: 80M€
Space: 50K€

R&D internal investments
3M€

Qualifications, Approvals
ISO17025, IATF16949, ISO9001, ISO14001

CONTACT

Names
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CGI

Core business

Founded in 1976, CGI is among the largest independent IT and business consulting services firms in the world. With 94,000 consultants and other professionals across the globe, CGI delivers an end-to-end portfolio of capabilities, from strategic IT and business consulting to systems integration, managed IT and business process services and intellectual property solutions.

CGI provides mission-critical space systems to meet rapidly changing demands, drawing on its expertise in satellite communications, navigation and operations, as well as Earth observation, cyber security and space applications.

CGI's desire remains more than ever to help space players in Luxembourg increase the value of their investments and, more specifically, to use space data to solve their business challenges and drive business opportunities.

Products & services

We are supported by a large group, with 50 years of experience, composed by more than 2500 experts in the space industry. We are able to capitalize on this global experience locally.

Our capabilities in Earth observation, communications, satellite navigation and operations, and space applications and cybersecurity encompass data processing and exploitation, robotics, command and control, on-board software, modelling and simulation, ground segment engineering and situational awareness.

Main customers

European institutions, financial sector, private & public sectors, space agencies, industries...

Major space projects

Earth observation

- Manage the maintenance and evolution of the European Space Research Institute's (ESRIN) Earth observation ground systems
- Our eSurge helped to predict the ferocity of UK coastal flooding
- Our EO4SD Lab supports global, sustainable development activities using cloud-based platforms

Satellite operations

- Delivered the Galileo satellite constellation control facility that will control all of Galileo's 30 satellites
- We have been developing the testing and configuration test bed for the second generation of the ESA's Galileo system
- CGI worked with the ESA's European Space Astronomy Centre to define a common software engineering environment

Satellite communications

- Supporting commercial flight trials of the Iris air traffic modernization program
- Supporting OneWeb to make Internet access available and affordable for all
- Bringing together fixed-network and satellite planning for 5G rollouts
- Helping the defense industry benefit from commercial solutions with tools like Skynet 5

Space cybersecurity

- CGI is part of a consortium that signed a cybersecurity contract with the ESA
- Designed and delivered the security solution for Europe's future space-enabled Air Traffic Control Network
- Delivered the Galileo Security Facility & Crypto Key Management Facilities

Space applications and services

- We deliver weather satellite images and data to over 3 billion people. Our space apps and services help improve:
  - Virtual tolling and rail crossing safety
  - Oil spills and leaks
  - Wildfire mapping
  - Emerging service communications
  - High-value crop growing

Satellite navigation

- Largest independent supplier of security systems for Europe's Galileo satnav program
- Help ensure navigation systems are secure, reliable and fit for purpose

CGI

INFORMATIONS

CEO/Head of department
Guillaume Schott

Creation date
1990

Organisation type
Large Enterprise

Number of employees
Luxembourg: 200
Global: 94000
Space: +2500

Qualifications, Approvals
ISO 9001, ISO 14001, ISO 27001, ISO 27701

CONTACT

Name
Guillaume Schott

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Website
www.cgi.com/luxembourg

ClearSpace

Core business

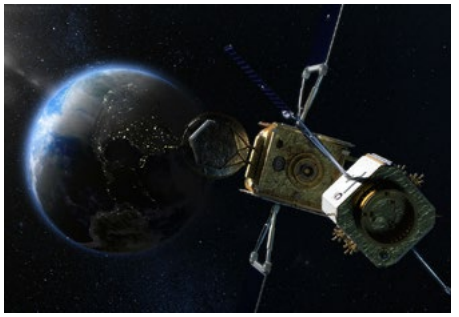
ClearSpace is a leading in-orbit servicing (IOS) company with a bold vision: to revolutionise the way space missions are conducted by bringing maintenance and services to orbit, thereby promoting a circular space economy. Luxembourg team plays a pivotal role in advancing ClearSpace's GEO servicing capabilities through mission design, strategic partnerships, and regulatory engagement. Its mission is to ensure continuity of satellite services, reduce the need for replacement assets, and support the economic and environmental sustainability of GEO infrastructure.

Products & services

ClearSpace builds services and products to provide the in-orbit capabilities critical to the successful future of sustainable space operations for GEO and beyond. Space activities are intensifying, the challenge of managing the lifecycle of the satellites in orbit becomes increasingly critical. ClearSpace Luxembourg is committed to addressing this challenge by providing commercial services to manage and extend the life of satellite in orbit by developing state-of-the-art solutions to ensure the long-term sustainability of space operations.

Major space projects

ClearSpace Luxembourg is preparing a first GEO In-Orbit Servicing mission to provide life extension service before 2030. It will be the first pathfinder mission to lead the GEO commercial services of ClearSpace.



Artistic impression of a ClearSpace servicer approaching a GEO satellite © ClearSpace

clearspace today

INFORMATIONS

CEO/Head of department
Sabrina Andiappane
(Managing Director)

Creation date
2023

Organisation type
Small and Medium-Sized Enterprise

Number of employees
Total: 10
Space: 3

CONTACT

Name
Sabrina Andiappane

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Website
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CONTEC Space

Core business

Established in January of 2015, CONTEC is a spin-off company from KARI (Korea Aerospace Research Institute) and is offering Space Ground Station Services and Satellite Image Processing & Application Services as well as a whole ground integration solution. At CONTEC, we strive for excellence and we think that it is only with talented people that this goal can be achieved. With professionals from a space background in ground stations and satellite operation, CONTEC aims to go public on the KOSDAQ market in October of 2023. In addition, CONTEC has expanded with two more subsidiaries, CONTEC Earth Service and CONTEC Space Optics, both preparing for seed funding in the latter half of 2023.

Technical means

Hardware

- Design and integration of ground station
- Small antenna manufacturing for ground station
- Whole MRO service for ground station

Software

- Monitoring and Control Software for ground station
- Multi-mission operation system for ground station
- Web-based platform and cloud technology for ground station service
- High-speed satellite image processing
- Calibration and validation (CAL/VAL) of satellite imagery
- Object detection on standard satellite image data

Products & services

At CONTEC, we are currently providing space ground station services through our own ground station and partners' ground stations all over the world. Our engineers also created CONTEC ONE, a platform where satellite communications become child's play.
In addition, we offer satellite imagery analysis and application services based on raw satellite image data by applying deep learning algorithms for object detection depending on the needs of our customers. We especially focus on applications for urban change detection of Smart Cities and provide the best service possible for local governments and urban development. CONTEC's subsidiaries, CONTEC Earth Service provides satellite imagery and value-added satellite image application and CONTEC Space Optics provides technologies in high-resolution imaging for space missions.

Main customers

As the number of satellite (especially small-sized satellites) launches has continued to increase, the space market is open to many new businesses and its scale is growing simultaneously. CONTEC is taking advantage of this opportunity and aims to provide services to satellite operators and satellite launchers who need to connect with their satellites. These customers are comprised of government agencies, research institutions, universities, and the private sector in the Americas, Europe, and Asia.

As for its satellite imagery application service, CONTEC is especially working with local governments but does not restraint to this category.

Major space project

CONTEC established its first ground station located on Jeju Island, South Korea and has expanded globally with a total of 12 ground stations across 10 different countries. In addition, CONTEC plans to launch the first CONTEC satellite, Oreum-Sat, in early 2024.

Jeju ground station

Deployment plan

CONTEC Ground Station Map

INFORMATIONS

CEO/Head of department

CEO: Dr. Sunghee Lee, CONTEC HQ in Rep. of Korea
General Director: Ms. Semi Park, CONTEC Space Sarl in Luxembourg
CEO: White JH Paek, CONTEC Earth Service in Rep. of Korea
CEO: Dr. Youngwan Choi, CONTEC Space Optics in Rep. of Korea

Creation date

Foundation of CONTEC HQ in Rep. of Korea: Jan 5th , 2015
Foundation of CONTEC Space Sarl in Luxembourg: December, 2019
Foundation of subsidiary, CONTEC Earth Service in Rep. of Korea: November, 2021
Foundation of subsidiary, CONTEC Space Optics in Rep. of Korea: April, 2023

Organisation type

Small and Medium-Sized Enterprise

Number of employees

Total: 2

Turnover 2022

Total: 12M€

CONTACT

Name

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Website

www.contec.kr

No update has been provided for 2025.

CREACTION INT.

Core business

CREACTION group is an engineering company dedicated to industrial innovation and particularly integrating space and other innovating technologies in non-space industrial sectors. The headquarter of the group have been based in the Grand Duchy of Luxembourg since 1993. CREACTION has developed its experience both in the Greater Region (B – F – L – D) and also in Europe-wide. The original approach of CREACTION is to consider in parallel four management sectors (marketing, technology, finance and IPR) during the new product/service development phases. Its activities as technology broker for the ESA/BASS programme focus on helping Luxembourgish companies identify and integrate space technologies which can add value to their business under the supervision of the Ministry of Economy.

Products & services

- SPACE CREATIVITY CENTRE: a 3 days immersion-type workshop to pre-incubate an innovation project with sector-specific experts, customers, marketing, legal and financial experts.
- ESA BASS: Creaction is mandated to assist Luxembourg-based start-ups and SMEs, with identifying and integrating space applications which can satisfy their innovation needs or solve a technological problem. Creaction supports the customers in the feasibility study and demonstration project.
- FOR COMPANIES: a holistic suite of services for new product and company development from ideation and the sourcing of new technologies through to commercialization.
- FOR RTD MANAGEMENT: a comprehensive approach to evaluating RTD departments and research centers to help them detect and validate their most promising assets with a view to their commercialization.

Technical means

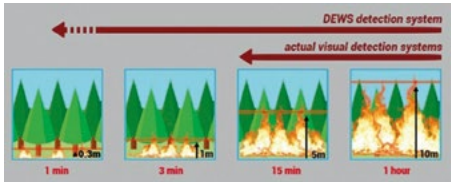
- Space Creativity Centre, validation and optimization tools for new applicative markets
- Rapid prototyping competencies

Main customers

- Private companies: Renault, Beckaert, John Zinck, Gradel, Orano, l'Oreal, Burgo Ardennes, Shell Luxembourg, Nimesis, Anywaves.../start up – scale up...
- ESA: ESEC – ESREC – ESRIN
- EU – INTERREG GR
- R&D centres

Major space projects

- ESA/TTPO since 2013
- As the ESA Technology Broker for Luxembourg
- An ESA-funded, highly secure crisis anticipation, supervision and management tool-platform, offering a complete toolbox of functionalities for chemical plants and SEVESO site managers ... EM-SAT ensures high and cyber security of chemical plants and their surrounding populations. The space technologies involve cyber security, satellite imagery and data quality control and four other crisis management tools
- NUCLEAR: improvement of new concepts of nuclear cask and security transport.
- FIT4GROW: project stock energy. Creativity session to identify, create and validate a new path of diversification in the utilities sector.
- ERASMUS Utop'Textile: space technologies selected and tested through international workshops.
- NTERREG/PUSH GR: SHAPE YOUR PRODUCT DESIGN



CREACTION INTERNATIONAL

INFORMATIONS

CEO/Head of department
Jean-Paul Henry

Creation date
1993

Organisation type
Small and Medium-Sized Enterprise

Number of employees
Total: 1+3 in-house consultants
Space: 1

Turnover 2021
Total: 205K€
Space: 96K€

Qualifications, Approvals
ESA BASS BROKER

CONTACT

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E-mail
jp.henry@creaction-int.eu

Website
www.creaction-int.eu

No update has been provided for 2025.

Cybercultus

Core business

Cybercultus focuses on providing the entertainment, cultural heritage and sustainable tourism sectors with innovative digital communication and content solutions by inventing the RAMO "Reactive and Adaptive Multimedia Objects" semantic layer that insulates content producers from the technical complexity of interactive communication and user immersive applications. The Cybercultus "eBusiness Solutions for the Art industry (eBSA)" aim at valorising entertainment, educational, cultural and tourism assets, as well as fostering human creativity through interactive, social and immersive technologies. Today, Cybercultus works with large industries and organisations in Europe and develops partnerships with public and private actors specialised in social/immersive applications (for TV programmes, cultural heritage, travel portals) and in GIS technologies (for spatial and temporal mapping of cultural, environmental and tourism geo-localised multimedia assets).

Products & services

Culture

- eBSA expo suite (editor & run-time): 2D/3D organisation & display of cultural assets in virtual spaces
- eBSA museum suite (editor & run-time): cultural assets and art collections management, valorisation and geolocalisation

Tourism

- eBSA travel suite (editor & run-time): customised travel offers, virtual visits and planning, onsite support and on the move LBS application

Entertainment

- eBSA iTV suite (editor & run-time): immersive TV quiz show, immersive travel TV magazine, community TV content making
- eBSA iTV libraries: advanced interactivity enactment based on the RAMO model

Technical means

RAMO (Reactive and Adaptive Multimedia Objects): based on the MPEG 7 open standard, development of platform independent software editors targeting "web, mobile and iTV" social & immersive applications.
Open standards and technologies
HbbTV, HTML5, MPEG 2, MPEG 7, XML, Java, PHP, Android, iOS 23

Main customers

Entertainment, culture and travel partners

SES, ARD/RBB (Germany), ORF/TW1 (Austria), RTBF (Belgium), ORT (France), Musée Albert Kahn (France), Instituto Latin America de Museos (Costa Rica), Agence culturelle luxembourgeoise (Luxembourg), European centre for eco agro tourism (The Netherlands), Siel Canada (Luxembourg), SAN Parks (South Africa), Peneda-Geres National Park (Portugal), Sense Inverse (Belgium)

Industrial partners

Thomson Multimedia (France), Philips (The Netherlands), GeoVille (Austria)

Public research partners

LIST (Luxembourg Institute of Science and Technology), ESA, INRIA Lorraine (France)

Major space projects

Entertainment & cultural applications

- Real Time Immersive TV Show (RTI-TVS): enables TV viewers to participate from their homes, via avatar representations, to an aired TV quiz show
- Immersive Satellite TV (IMSATV): allows TV viewers, via an avatar representation and using the remote control, to discover the rich content associated with an aired tourism TV documentary or magazine
- Community TV Content Making (COTV): enables TV viewers to partner with TV channels, co-producing TV content using smart phones for HD video capture & upload onto the TV programme and using networked TV facilities for team editing, publishing and rating of the co-produced TV content

Tourism application

- Online tourism à la carte: Trip à la Carte is an online tourism platform enabling travellers to build "à la carte" from a map their own trip, selecting in each locality the activities, the lodging and the local transport of interest. It also provides them with LBS (Localisation Based Services) while on the move.
- Sustainable, environmental and safe tourism in protected areas (SENSA): a range of facilities for trip planning in natural parks, for "on the move" itinerary processing with offline routing and geo-localised awareness information, for travellers' safety with interactive/geo-localised satellite SOS messages and alert news from the park, and for optimal distribution of travellers in protected areas with real-time field observation reporting by visitors acting as preservation agents. The SENSA facilities make extensive use of advanced satellite communication, navigation and Earth observation capabilities.
- Real-time interactions with parks authorities focus on nature preservation and travellers support using advanced satellite communication, navigation and earth observation.

cybercultus

INFORMATIONS

CEO/Head of department
Farid Meinköhn

Creation date
1999

Organisation type
Small and Medium-Sized Enterprise

Number of employees
Total: 4
Space: 1.5

Turnover 2024
Total: 280K€
Space: 90K€

R&D internal investments
50K€

Qualifications, Approvals
City of Esch prize for innovation 2006

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C

Databourg Systems

Core business

Databourg Systems is an environmental data analytics startup that emerged from innovative technology originating at the University of Luxembourg. We specialize in repurposing existing telecommunications infrastructures, particularly communication satellite networks, for environmental monitoring. Databourg's mission is to deliver top-tier rainfall intelligence to both businesses and institutional users, aiming to be recognized as "The Rain Company".

Products & services

Databourg's RainVision product offers precise, real-time, and geographically specific rainfall information through a cost-effective approach. By merging data from its extensive proprietary rainfall sensors with other data sources, it offers a comprehensive view of rainfall patterns. This invaluable rainfall intelligence assists governments and businesses with early warnings and decision support tools.

Databourg is dedicated to extending the reach of its rainfall monitoring system. Presently, it operates in Southeast Asia and South America, further solidifying its commitment to delivering vital environmental insights on a global scale.

Technical means

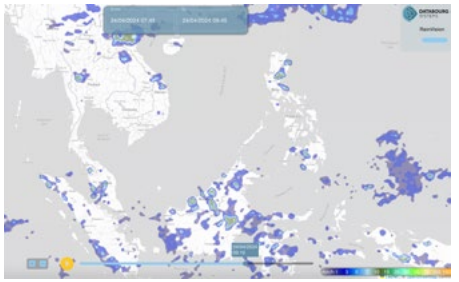
Patented and proprietary technologies.

Main customers

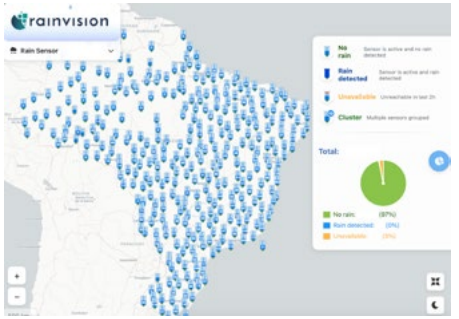
National Weather Agencies, Insurance Industry, Utility companies, Weather service providers

Major space projects

LuxIMPULSE



RainVision's Rainfall map in Southeast Asia captured by Databourg



RainVision's sensor network delivers real-time rainfall insights throughout Brazil.

DATABOURG SYSTEMS

INFORMATIONS

Manager/Head of department
Ahmad Gharanjik

Creation date
2017

Organisation type
Small and Medium-Sized Enterprise

Number of employees
Total: 4
Space: 3

CONTACT

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Data Design Engineering

Core business

Data Design Engineering (DDE) introduces On Edge Device Offline AI Technology, embedding AI models within robots and unmanned equipment for autonomous operations even offline and in GPS/GNSS-denied environments. Utilizing compressed Large Multi-Model (LMM) AI systems, it supports real-time decision-making, planning, and human interaction without cloud or network reliance. Core capabilities include SWARM AI, high AI model density integration, AI-driven sensor fusion, collision avoidance, offline SLAM, autonomous navigation, and domain-specific language models. Security features encompass code obfuscation, key distribution, hardware security modules, and physical tamper detection. Applications span drones, AGVs, satellites, ground systems, unmanned vessels, industrial mobile robots, and more. Benefits include true offline autonomy, ultra-high AI model density, versatility across industries, security-first architecture, and AI-driven sensor fusion. The All-in-One Customizable AI Chip delivers seamless integration of various AI models, maximizing AI model capacity per chip with minimized computational needs and minimized cost footprint.

Products & services

Customizable On Edge Device Offline AI Technology
Embedding high density AI models within robots and unmanned equipment for autonomous operations even offline and in GPS/GNSS-denied environments.

Autonomous Navigation
Edge-based offline SLAM technology enabling autonomous operation in contested environments with zero external dependencies and in GPS/GNSS-denied environments.

Collision Avoidance
Embedded visual and inertial sensor fusion allowing unmanned applications to detect and avoid obstacles, including other unmanned applications even in GPS/GNSS-denied environments.

Swarm Intelligence
Autonomous coordination of multiple unmanned applications enabling targeting, coordination, and path planning. Supports edge-to-edge pairing for fully autonomous operations in offline and in GPS/GNSS-denied environments.

AI Based Radar Sensor Technology
Processes raw radar frequency data in real-time, enabling multi-band, multi-polarization object detection and classification for maritime, aerial, and other applications.

Single Image 2D-to-3D Conversion Technology
Transforms any Single 2D image (RGB, SAR, others) into a 3D digital elevation model on the edge device, supporting real-time navigation, mapping, height calculation and change detection.

Vision-Language Models (VLMs)
Advanced multimodal detection systems that interpret and correlate visual data with textual information, providing deeper, context-aware situational awareness.

Technical means

All-in-One AI Chip
Cost effective AI chips powered by proprietary compressed models, delivering seamless integration of Domain-Specific SLMs, Text-to-Speech, Speech-to-Text, Various Detection Models, Offline SLAM, Collision Avoidance, Swarm Intelligence, and more – all tailored to meet your mission-critical requirements. Engineered to analyze and fuse data across multiple domains with high efficiency.

Maximized AI Model Density
Compression and optimization techniques that maximize AI model capacity per chip, providing superior intelligence with minimized computational needs and cost footprint.

Swarm Intelligence
Advanced swarm targeting algorithms, dynamic swarm path planning, and seamless swarm coordination embedded directly on edge hardware—enabling fully autonomous operation for both individual units and coordinated unmanned missions.

Security-First Hardware
Military-grade protection through integrated hardware security modules, advanced tamper detection, sophisticated code obfuscation, guaranteeing operational integrity at an accessible cost.

Main customers

Space Manufacturing, Earth Observation, Defence, Robotics, Aerospace, Manufacturing Industry, Healthcare, Agriculture, Logistics, Railway, Automobile, Cybersecurity Integrators and others

Major space projects

ESA: Robotic Additive Manufacturing AI driven digital process & active robotic compensation

DATA DESIGN ENGINEERING

INFORMATIONS

CEO/Head of department
CEO: James KIM
CTO: Daniel PARK
Head of Business Development: Ben KIM

Creation date
2022

Organisation type
Small and Medium-Sized Enterprise

Number of employees
Total: 14
Space: 14

Turnover 2024
Total: 420K
Space: 220K

R&D internal investments
500K

CONTACT

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EarthLab Luxembourg

Core business

EarthLab Luxembourg S.A., a member of the Telespazio group, is an innovative company strategically based in Luxembourg, EarthLab operating at the intersection of geoinformation and ICT.

As a leader in Earth observation data processing and AI, EarthLab is dedicated to advancing capabilities in various domains, including defense intelligence and smart farming. The company excels in automating Earth observation data processing and leverages Big Data, Artificial Intelligence, and cybersecurity to drive innovation. EarthLab develops and commercializes the Max-ICS platform, a secure and scalable Earth Observation Data Processing and AI-as-a-Service solution. Designed to facilitate the creation and deployment of sophisticated Deep Learning and Machine Learning models within complex processing chains, Max-ICS features a hybrid-cloud and big-data infrastructure. This enables seamless integration of diverse data sources, especially satellite Earth observation data

Products & services

We commercialize Max-ICS platform: a highly flexible and data-centric platform that allows dealing with the landscape of global risks. Our solutions are built on high-performance computing to support decision-makers in the event of risk manifestations, providing detailed, timely, and relevant information. A key advantage is that there is no ICT workload to set up, configure, and maintain with our platform. We provide a dynamic vulnerability scoring in terms of operations, the resilience of communities, supply chain, and environment. We use in-house simulations and A.I. models to anticipate the next landscape of significant risks. We enrich risk models by creating information thanks to automatic recognition into massive datasets to give context to risk assessment. We also aggregate thousands of datasets from social and economic indicators in real-time, allowing us to predict the consequences of extreme situations (natural disaster, endemic accident, political event, pandemics, etc.).

Technical means

EarthLab Luxembourg implements its products and services, relying on its private infrastructure. The implemented technologies follow the "Big Data" paradigms and fully subscribe to an elastic model ensuring future large-scale capacities.

Our approch relies on four different pillars: (1) strong data engineering and analytics, (2) data modeling and application of state-of-the-art A.I. algorithms, (3) optimization and automation with our Max-ICS platform and, finally, (4) an agile approach when building solution or project analytics.

Main customers

The current EarthLab Luxembourg's client base is insurance, financial services, industrial companies, and brokers about environmental risks and large industrial complexes concerning endemic hazards.

We are acting in the open-source and open data communities to share data science knowledge for communities.

Major space projects

DTE Highway

The project is part of the European Commission's Destination Earth (DestinE) initiative, which aims to develop detailed Digital Twins of the Earth (DTE) for advanced monitoring and simulation of natural and human activities. The ESA DTE component Highway will provide access to ESA Earth Explorer data for integration into these digital twins, with Maxi-ICS handling the OnDemand data processing.

DT4CMI

The project aims to transform cocoa farming by using the Max-ICS platform with satellite data and communication tailored to the terrain. It will enhance monitoring and improve crop yield, offering substantial economic benefits for farmers.

Maritime Surveillance

It is crucial to analyze the surface activities & the comportment in dark-fish or preservation of protected maritime areas. E.O., GNSS, & A.I.are very important: it offers the possibility of systematically analyzing all the area images. Max-ICS platform helps create or improve the A.I. models & supports the automatically scaled deployment within a public cloud

DroneAI

EarthLab has launched an innovative solution to push the use of space data and A.I. on disaster/humanitarian response: it combines E.O. open & commercial data to feed a data processing chain defined by the actors

D

INFORMATIONS

CEO/Head of department
Thomas Friederich

Creation date
2015

Organisation type
Small and Medium-Sized Enterprise

Number of employees
Total: 9
Space: 9

Turnover 2023
Total: 568K€
Space: 521K€

R&D internal investments
95K€ in 2019
85K€ in 2020

CONTACT

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No update has been provided for 2025.

EBRC

Core business

Located in the heart of Europe, Luxembourg is a unique gateway to European and international markets, limiting the risks in the financial sector and in the management of sensitive information thanks to its secured regulatory frameworks. Luxembourg's international environment is ideal to offer competitive advantages meeting the clients' requirements for clear warranties in terms of risk management, service levels and quality. EBRC (European Business Reliance Centre) manages the whole supply chain and is thus able to offer a unique one-stop-shop to its clients, ranging from Data Centre Services to integrated Cloud Computing, Containers and ICT managed services.
A wide range of services is accessible in a full or selective operational model to support advanced ICT operations in a 24/7 mode.
Through its presence in the financial market, EBRC has over the years developed a unique know-how in the design, implementation and operation of critical systems. These quality and security requirements are considered as best practices within EBRC and are compulsory for clients managing sensitive information (Finance, Health & Life Sciences, International Institutions, Online Services, Security-Defence-Space and Operators of Essential Services, etc.).

Product & services

Trusted Advisory Services
- Guidance and advisory in the management of operational risks, information security, business continuity, IT services and IT outsourcing.

Trusted Managed Services
- ICT agile services to boost your business
- End-to-end management of sensitive ICT infrastructures, from design and implementation to the daily operations.

Trusted Cloud Europe
- Technology as a Service, enabling fast and secure business deployment
- Flexible infrastructure management through Infrastructure as a Service (IaaS) or Platform as a Service (PaaS) and Hybrid solutions.
- KaaS (Containers using Kubernetes as a Service) to support DevOps environment

Trusted Security Europe
- ICT security services from advisory to risk management and operations.

Trusted Resilience Services
- Overcome increasing risks and uncertainty
- Design, implementation and management of business continuity solutions coupled with the management of ICT security based on resilient infrastructures.

Trusted Data Centre Services
- Advanced ICT environment to support your business
- Full Data Centre Services based on redundant Tier IV certified infrastructures for maximum security and availability.

Technical means

Trusted data store
- High performance store array for high density IOPS
- Large array for high data volume
- Long-term secured storage
- Highly secured data store mirrored within multitenant Tier IV certified Data Centre
- Specific expertise for regulated architecture: PCI DSS Level 1 (payment industry), National regulation (CSSF), ISO 27001 reference

Trusted data processing
- Efficient top Backup as a Service modality
- Dynamic processing resources for data manipulation
- Database services: MS SQL, Oracle, PostgreSQL, MySQL, Maria DB, NoSQL, Mango DB
- Strong partnership for big data development and high-performance computing resources on study

Trusted data access
- High internet connectivity for ground broadcast and Internet Exchange peer partner, large and various Telco PoP's, Tier 1 Telcos for intercontinental broadcast
- High data availability thanks to Multi-site access & Multi-site store

Trusted data privacy
- Advanced expertise of data privacy deployment
- Business impact assessment – Business Continuity
- Disaster recovery plan
- Privacy impact assessment
- Regulation compliance

Main customers

The main client synergies within the space sector and its players are created with POST Luxembourg, AdwäisEO, EarthLab Luxembourg to complete a space value chain integrating information capture, transfer, treatment and dissemination.
EBRC's Tier IV certified Data Centre is located next to SES Headquarters in Betzdorf. Its open and advanced facilities bring efficiency and flexibility to our continuous value chain making it possible to lead strong and deep-integrated projects. This Data Centre is ready to host space projects (including commercial, defence, restricted/secret, ESA projects).

Major space projects

EBRC, as a member of the Consortium managed by AdwaïsEO, is active within the Copernicus program.
In 2020, EBRC co-founded with RHEA Group, CS GROUP and 3DS Outscale a "Digital Alliance for Space" within GAIA-X.
In 2021, EBRC signed a Memorandum of Intent (MoI) with ESA, RHEA System Luxembourg, LuxSpace Sarl, Aurora Insight on the development and deployment of a European Spectrum Monitoring System.

ebrc

INFORMATIONS

CEO/Head of department
Sébastien Genesca

Creation date
2000

Organisation type
Small and Medium-Sized Enterprise

Number of employees
Total: 200

Qualifications, Approvals
ISO 9001, ISO 20000, ISO 27001, ISO 27018 (BP), ISO 22301, ISO 14001, ISO 50001, PCI DSS Level 1, PFS of support (CSSF), Gaia-X Day-One member, Space Data Space co-founding member
Data Centres 3x Tier IV Design Documents,
2x Tier IV Facility Constructed

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No update has been provided for 2025.

EmTDLab – Space Division

Core business

Space radiation is still the most limiting factor for satellite and spacecraft. Current radiation shielding solutions are either inefficient from an economic and technical point of view or completely absent from the newest ships for deep space travel. EmTDLab is the sole company that tackles the radiation shielding challenge at a fundamental level. The technology uses nature-inspired algorithms where the radiation-fittest materials are selected for reproduction and mutation in order to produce offspring's of the next generation. The fittest candidates are then scaled-up to their microstructure to predict their mechanical properties & manufacturing condition. The combination of radiation & mechanical properties optimisation is a novel and inventive technology that will revolutionize the way materials are designed in the New Space era.

Products & services

- Mass-producible multi-layer shielding for System-on-Module electronics components dedicated to in-space computing.
- Custom-produced radiation optimised structural materials for space vehicle.
- VLEO to deep space radiation environment simulation
- Radiation exposure modelling & shielding optimisation for existing materials
- Contract research aerospace engineering services for existing materials radiation shielding optimisation
- Contract Research/aerospace engineering services outsourcing for new materials discovery: Spacecraft Shielding Optimisation, On-board Electronics Shielding optimisation: IC's, MCU's, CPU's, GPU's, FPGA's, DRAM, AI Chips, and Power Systems.

Technical means

Radiation Optimised Materials Possible Scope:

- Metal alloys
- Crystalline polymers
- Technical ceramics

Physical & Chemical Properties Optimisation

- Radiation Shielding: Heavy Ions, High Energy Protons, High Energy Electrons, Secondary neutrons; secondary electrons; EMI shielding

Mechanical Properties Optimisation

- Young Modulus
- Instant Fracture
- Fatigue Crack, fatigue crack propagation

Main customers

- Private aerospace companies
- Spacecraft integrators
- Space agencies
- Radiation-hardened electronics manufacturers
- Commercial-off-the-shelf (COTS) electronics manufacturers

Major space projects

High Performamce Space Computing
Smart Radiation Shielding for EEE Components
European Space Agency (ESA) supplier
Member of Singapore Space Technology Limited

EmTDLab

INFORMATIONS

CEO/Head of department
Cedric R.G. Thiry

Creation date
2018

Organisation type
Small and Medium-Sized Enterprise

Number of employees
Total: 7

CONTACT

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EmTroniX

Core business

Since 2001, EmTroniX has been at the heart of Europe's most ambitious technological frontiers. It started with a simple goal: to create top-quality electronics that help industries grow. Over time, we found our true calling in space.
Today, EmTroniX is a global leader in spacecraft electronics. We help space missions communicate better and reach further.
Our motto, "Redefining Space Communication," shows our commitment to making space connections easier, faster, more secure, smarter and more reliable.
As we look ahead, our story is just beginning. EmTroniX will keep creating new products and solutions, making space more accessible and better connected for everyone.

Products & services

Products
- → **Software Defined Radio (SDR):** Flexible, high-performance FPGA-based SDR platforms for advanced space communication and processing, with reliable data storage capabilities, supporting a wide range of protocols and adaptable to mission needs.
- → **Multi-Band Downlink:** High-speed downlink solutions designed for large data transmissions, enabling efficient communication between satellites, payloads and ground stations.
- → **Low Frequency Radar:** Innovative radar payloads capable of probing the internal structure of celestial bodies, contributing to planetary science and asteroid missions.
- → **Radio Frequency Chains:** Precision-engineered LNAs, LNBs and SSPAs for optimal signal reception and transmission in demanding space environments.
- → **LCL (Latching Current Limiter):** Custom-designed modules for power management and distribution in spacecraft systems.

Services
- → Design and development of complex electronics
- → Develop RF transceivers, LNAs, converters, and power amplifiers.
- → Advanced Digital Signal Processing, real-time software, and rapid prototyping.
- → Custom FPGA system and IP design.
- → In-house automated SMT manufacturing and fast multilayer RF PCB prototyping.

Technical means

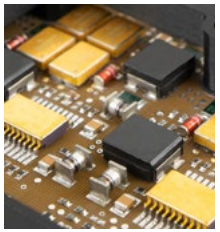
Semi-automated production line, including SMT stencil paste dispenser, pick & place machines, vacuum vapour phase ovens, automated 3D optical inspection, high-precision laser milling for PCB/filter prototyping, drying ovens, and dry storage cabinets.
Characterisation and testing equipment include vector network analysers (up to 24GHz), spectrum and signal analysers (up to 43GHz), RF arbitrary signal generators, high- and medium-speed digital storage oscilloscopes, noise sources, multi-channel electronic loads, battery simulators, thermal and climatic chambers, and TVAC.

Main customers

EmTroniX customers include a variety of European and global aerospace and satellite manufacturers and integrators, such as ESA, OHB, SES, Thales Alenia Space, CalTech, RedWire, Airbus, OIP, Anywaves, KLEOS, GOMspace, and defence and research institutions like NSPA, IPAG and TUD.

Major space projects

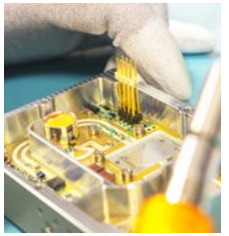
EmTroniX has played a pivotal role in several international space missions since 2008:
- → **RCS-1 (RAMSES CubeSat Radar):** Low Frequency Radar system to map asteroid Apophis' surface and internal structure.
- → **JuRa (HERA Juventas Radar):** Low Frequency Radar to map an asteroid's internal structure.
- → **Triton-X:** Provided high-speed downlink and onboard computing for next-gen micro-sats.
- → **Proximity 1 Autonomous Transceiver:** SDR for autonomous Mars orbiter communication.
- → **ALTIUS:** Full ECSS compliant electronics development of the optical mechanism motor drivers
- → **KLEOS:** Designed control electronics for in-space antenna deployment and RF data collection.
- → **Lunar Pathfinder 4M:** Supported the first commercial satellite to orbit the Moon with electronics integration.
- → **ScienceTaxi:** Supported microgravity research facility development beyond the ISS.
- → **VesselSat 1 & 2:** Enabled ship tracking with dual AIS receivers and advanced telemetry.
- → **Pathfinder 2:** Electronics for AIS vessel data collection, marking EmTroniX's entry into space.



Altius – Mechanism Driver

HERA/JuRa – Low Frequency Radar

Triton-X – X-Band Modulator



S-Band Solid State Power Amplifier

EmTroniX
REDEFINING SPACE COMMUNICATION

INFORMATIONS

CEO/Head of department
Cédric Lorant, CEO

Creation date
2001

Organisation type
Small and Medium-Sized Enterprise

Number of employees
Total: 50
Space: 50

Turnover 2024
Total: 5.1M€
Space: 5.0M€

R&D internal investments
850K€

Qualifications, Approvals
ECSS-ST-Q-70-08C
and ECSS-ST-Q-70-38C

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EnduroSat

Core business

EnduroSat S.a.r.l (Luxembourg) was established as a specialized branch of EnduroSat Group to serve the Luxembourg market and international clients by providing high expertise of mission management. It aims to develop and commercialize a streamlined mission management service for the future markets of earth observation (EO), remote sensing and satellite communications (SatCom) as well as for satellite constellations in low earth and very low earth orbits (LEO/VLEO), and beyond. EnduroSat S.a.r.l. services include project management for a satellite platforms development, integration and testing, mission analysus and design and mission management, and operation of high-performance satellites and customized satellite missions. As part of the EnduroSat Group, Endurosat S.a.r.l. benefits from considerable flight heritage as currently there are more than 3000 EnduroSat systems flying in orbit. The satellite platforms ranging from 8U CubeSats up to 300kg ESPA class microsatellites manufactured by EnduroSat Group are software-defined and in-flight configurable – the parameters of the satellite can be updated in orbit according to the customer's needs. The unique features of EnduroSat's platforms include:

- Easy accommodation of advanced payloads like SAR, Multispectral, and Hyperspectral Imagers, Communication payloads
- Plug & play on hardware and software level
- Designed for in-orbit serviceability
- Military-grade encryption

Products & services

EnduroSat S.a.r.l, leverages the existing expertise of the EnduroSat Group which has built a solid experience by providing solutions for many successful projects. It has designed and engineered class-leading satellite systems and platforms which have been featured by the Small Spacecraft Technology State of the Art report of NASA. Our products and services include Satellite platforms (including ESPA class satellites), Communication modules, Antennas, Onboard Computers, Power modules, Solar panels, Structures, Ground support equipment, Custom modules, Flatsats, Constellation service, Space Service, SpaceDev and SpaceOps software suites.

Technical means

EnduroSat S.a.r.l as part of the EnduroSat Group has access to additional infrastructure to carry out modern engineering activities: cutting-edge RF lab, spacecraft assembly and integration facility, clean rooms, etc. The RF Lab is equipped with Vector Network Analyser; Signal and Spectrum Analyser: Vector Signal Generator: Power meter; Digital oscilloscope; CW Signal Generator, and state-of-the-ard Anechoic Chamber, In terms of software, the engineers work with SOLIDWORKS 3D CAD. ANSYS HFSS, Altium, Matlab etc. The cutting-edge spacecraft assembly and spacecraft qualification lab at the EnduroSat Space Center include a clean room and environmental lab equipped with thermal chamber and thermal-vaccum chamber, vibration shaker, climatic chamber and mass properties measurement set, full ADCS simulator, anechoic chamber and antenna measurement system.

Main customers

EnduroSat is a space infrastructure provider that engineers, builds, and operates exceptional satellites. The company streamlines space missions in LEO and beyond, handling every step–from mission design to launch and operations. EnduroSat has launched over 69 satellites and serves more than 360 customers globally, employing more than 260 space professionals. Among our customers are IBM Spaces, Vyoma, OHB. European Space Agency. Intuitive Machines, Berkley University. DLR. CNES, Airbus, European Commission, Melbourne Space Program etc.

Major space projects

EnduroSat One, Platform-1, TOLIMAN. BALKAN – 01, FLMINGO – 1, PADRE, Space Data Gateway (SDG)

ENDUROSAT

INFORMATIONS

CEO/Head of department
Mustafa Elmoslhey

Creation date
2023

Organisation type
Small and Medium-Sized Enterprise

CONTACT

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Vanya Buchova (Head of projects)

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EURO-COMPOSITES

Core business

The EC-Group is a global player in the field of advanced and demanding composites products. We offer technical solutions based on advanced composites adapted to the needs of our customers: we are able to develop customized solutions to the required specification (build-to-spec), or we manufacture products according to the build-to-print approach. Just how it fits best for our customer and their needs.

Products & services

Advanced composite parts production of Sandwich panels (flat and curved structures)
Manufacturing and Implementation of drop-in parts (inserts, reinforcements, extruded profiles, primed, grinded, coated/painted)
High precision 5-axis CNC machining in a clean and climate controlled environment
Formed composite parts
Design and manufacturing of tools and moulds
Autoclave processing
Resin infusion and resin transfer moulding processes for interior and structural parts
Final assembly of complete units and assemblies
Kevlar®, Nomex®, Glassfibre, Carbon Fibre and Aluminium (5052, 5056, 3003)
Honeycomb cores (with or without perforation)
Product development including structural and thermal analysis

Technical means

- RI – resin infusion
- Autoclave
- FSW – friction stir welding
- Coating
- CAD/CAM software
- 5-axis CNC milling centres in climate controlled environment
- Sandwich panel production
- Honeycomb core production
- Quality control and measurement tools
- Laboratory for mechanical tests
- X-ray chamber
- Cleanrooms ISO 7 & ISO 8
- Ultrasonic inspection

Main customers

Airbus Defence & Space, ESA, QinetiQ Space, Boeing, Thales Alenia Space, MDA Corporation, Deutsches Zentrum für Luft- und Raumfahrt (DLR), SENER, IAI

Major space projects

Ongoing Projects

ALTIUS Mission: Design & Engineering, Aluminum structural panels, CFRP solar array substrates, Bracketry, S/C environmental testing, S/C transport container
SMILE MISSION: Payload Module Structure
ATHENA Mission: Low temperature radiator panel with embedded heat pipe (Design, Manufacturing & Tests)
Development of RF-transparent Glass Fiber Sandwich Panels for Space applications
Moon Rover Structural parts manufacturing
ARIEL: Propulsion Module Structure
SAR Satellite Structure for LEO
Several commercial missions similar to PROBA design
Macro-perforated non-metallic core development for launchers
COMET-Interceptor: Dust shield

Heritage

ESA PROJECTS
PROBA-3: Aluminum structural panels, CFRP solar array substrates, Solar Array substrates
PROBA-3: Optical benches
EUCLID: Aluminum External Panels manufacturing
PROBA Next (P200): Aluminum structural panels, CFRP solar array substrates, Solar Array substrates
Small Geo: CFRP and Aluminum Structural Panels, Transport boxes and Heat Pipe Test Panel for the Platform
PROBA-V: Aluminum structural panels, CFRP solar array substrates, Solar Array substrates
BepiColombo: High Temperature Aluminum Core (Flight Hardware)
Skyflox: Radome design & manufacturing, final assembly

Studies

- Light-weight, torsion-free structural panel with excellent surface properties
- Development of CFRP radiator panels with integrated fluid tubes
- Manufacturing of Honeycomb panel with embedded heat pipes for telecommunication satellites
- Study for structural CFRP thermal conditions
- Perforated Hoenycomb core: Qualification of perforated honeycomb types for Space application
- Quartz-Glass honeycomb core and sandwich panels: RF transparent glass fibre sandwich panels
- 3D Honeycomb for Curved Structure Manufacturing

Projects

- Abrixas: Support panel for solar arrays
- BIRD: Solar Array support panels
- Herschel & Planck: Sub-Platform Test Dummy and Solar Panel Test Dummies
- Astrosat100: Structural Panel, Aluminum face sheets
- TET: Solar array panels, Payload panel
- DLR: DESIS CFRP box for ISS
- BOEING: parts for CST 100
- Commercial Geostationary Telecommunication Satellite Bus Module Structure Manufacturing and Assembly
- SAR satellite structure manufacturing, incl. painting and heat-pipes
- Antenna Backing Structures with Diameter of 2,5m

INFORMATIONS

CEO/Head of department
Rolf Mathias Alter

Deputy CEO and Head of Defence & Space Technology
Dipl.-Ing. Christoph Herrmann

Creation date
1984

Organisation type
Large Enterprise

Number of employees
Total: 713
Space: 21

Turnover 2022
Total: 100M€
Space: 5.9M€

Qualifications, Approvals
AIRBUS Group, The BOEING Company, EASA Part 145, EASA Part 21 G, EASA Part 21 J, IRIS, DNV marine certification, DIN 6701 Class A1, EN 15085-2, ISO 14001, ISO 9001 & SAE AS 9100, NADCAP

CONTACT

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No update has been provided for 2025.

Exobiosphere

Core business

Exobiosphere is the world's first contract research organization dedicated to high-throughput testing and drug discovery in space. By combining space-grade lab automation, microgravity research, and advanced analytics, the company helps pharmaceutical, biotech, and healthcare partners enhance scientific discovery and accelerate product development. Its Orbital High-Throughput Screening platform (OHTS) is designed to uncover novel cellular and disease behaviors in a microgravity environment—insights that are difficult or impossible to replicate on Earth. Headquartered in Luxembourg at the House of BioHealth, Exobiosphere's mission is to shorten R&D timelines and bring safer, more effective treatments to market for patients worldwide.

Products & services

Our Orbital High-Throughput Screener (OHTS) enables 2,000+ automated experiments per mission in microgravity. We offer pre-clinical screening, disease modeling, and compound validation services through space-enabled platforms. Partners gain unique insights into drug behavior, improving R&D efficiency and success rates.

Exobiosphere provides end-to-end services to conduct autonomous biological experiments in space, managing all scientific, technical, and operational aspects. The company supports partners through assay development, miniaturization, and adaptation for microgravity; payload integration and biosafety compliance; mission planning and launch logistics; and fully autonomous in-orbit operations requiring no astronaut intervention. Post-mission, Exobiosphere offers sample recovery and advanced analysis, including multi-omics profiling and high-content imaging. These services allow clients to uncover insights into cellular aging, stem cell biology, neurodegeneration, and drug responses that are difficult or impossible to study on Earth.

Technical means

The OHTS is a fully automated, compact screening lab designed for use in microgravity. It features nanoliter dispensing, compatibility with 384-1536-well plates, real-time data transfer, and AI-integrated analysis. The system integrates seamlessly with orbital carriers and offers modular, pharma-standard infrastructure for repeatable R&D in space.

At the heart of Exobiosphere's operations is the Orbital High-Throughput Screener (OHTS), a fully autonomous, space-ready biolab designed for microgravity research. The OHTS integrates fluidics, environmental control, high-resolution imaging, and automated workflows in a compact format. It supports parallelized experiments using standard multiwell plates, enabling thousands of conditions to be tested simultaneously in a highly standardized, reproducible way. The system allows live monitoring, automated media handling, compound delivery, and sample preservation for post-flight analysis. Once returned to Earth, these samples can undergo multi-omics and high-content imaging (HCI), unlocking insights into cellular behavior and disease pathways under spaceflight conditions and advancing drug discovery and health research.

Main customers

Pharmaceutical and biotech companies, health tech AI companies, research institutes, and space-focused health agencies interested in high-throughput drug screening and disease modeling using microgravity platforms.

Major space projects

Exobiosphere is the first private biotech company from Luxembourg to successfully test high-throughput biotech hardware in a microgravity environment via parabolic flight. In 2026, we will launch our first orbital mission to deploy the Orbital High-Throughput Screener (OHTS), capable of running thousands of automated assays in space. We've signed a strategic MoU with Space Cargo Unlimited to integrate OHTS aboard BentoBox – a reentry-capable orbital lab. Additional partners include Formulatrix for nanoliter liquid handling, and support from the Luxembourg Space Agency. These projects lay the foundation for Europe's first sovereign, end-to-end space drug discovery pipeline.

INFORMATIONS

CEO/Head of department
Kyle Acierno

Creation date
2024

Organisation type
Small and Medium-Sized Enterprise

Number of employees
Total: 13
Space: 13

R&D internal investments
2M€

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FACTiven

Core business

FACTiven is a cybersecurity company providing data security solutions for space, government and defence organizations.

FACTiven specializes in safeguarding and enhancing the reliability of space system data. Our mission is to ensure that vital information from space, such as EO and SSA data and analytics, remains trustworthy and secure. We achieve this through innovative solutions that trace the journey of data, protecting it from manipulation and tampering, even in distributed and Zero-Trust environments. By fortifying the integrity of space data, we empower organizations to make informed decisions and drive progress in fields like CSR, climate change adaptation, disaster relief, security and defence.

Products & services

- SafeDataPath: digital solution for space data traceability and protection (on-board and on ground) for M2M and H2M contexts.
- Consultancy and engineering services

Technical means

FACTiven employs highly-qualified ICT engineers with expertise in the following domains:

- Cybersecurity
- Cryptography
- Data stewardship

Main customers

- Space data value chain actors
- Government & institutions
- Space and defence agencies

Major space projects

- Enhancement of EO data for use in regulated industries and critical missions.
- SSA data protection & traceability solution for a comprehensive EU-wide network of Space Situational Awareness sensors and a central control center, designed to deliver critical SSA data to EU military forces.

FACTiven
Building a space we can all trust

INFORMATIONS

CEO/Head of department
Frederic TOURRET

Creation date
2022

Organisation type
Small and Medium-Sized Enterprise

Number of employees
Total: 1-10

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F

Flawless Photonics

Core business

Manufacturing of optical glasses, fibers and components in microgravity. Flawless Photonics produces the industry-leading Space Fiber, which is an optical fiber from a fluoride glass called ZBLAN, produced in microgravity conditions in Low Earth Orbit (LEO). From this fiber, improved and novel applications are produced for the photonics industry such as lasers, amplifiers, sensors, as well as superior optical cables for the telecommunications industry.

Products & services

Flawless Photonics offers superior optical fibers of various geometries and performance capabilities, as well as components, products, and system-solutions such as lasers, amplifiers, LiDAR, and sensors.

Technical means

Flawless Photonics conducts extensive research and development in the field of ZBLAN glass, Mid Wave InfraRed, AI and robotic automation, and other areas critical to the success of producing large volumes of commercial grade Space Fiber for use across applications and across industries.

Main customers

Currently Flawless Photonics has two main customers, with approximately 50 potential customers at various stages of discussion to procure and utilize Space Fiber once sufficient quantities are available.

Major space projects

Flawless Photonics is in the business of manufacturing commercial-grade Space Fiber at scale. To this end, our primary space projects are to achieve this mission. Various facets of Flawless Photonics' business from R&D, to manufacturing, and supply chain are influenced by the unique requirements and demands of transportation to LEO, being successful in the special conditions of microgravity, and safely returning our products to Earth for sale and fulfilment with our customers.

FLAWLESS PHOTONICS

INFORMATIONS

CEO/Head of department
Robert Loughan

Creation date
2020

Organisation type
Small and Medium-Sized Enterprise

Number of employees
Total: 15

Turnover 2023
Total: 2M€
Space: 2M€

R&D internal investments
2M€

CONTACT

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F

No update has been provided for 2025.

Four Point Space

Core business

As a member of structure that holds Four Point, Remote Sensing Business Solutions, Haul Vision, Remote Sensing Environmental Solutions and Four Point Space, company leverages cutting-edge AI and SpaceTech to revolutionize transportation and environmental monitoring. Our two prime offerings, TerraEye and Autonomous Transportation Platform (ATP), redefine logistics and terrain mapping, with applications in mining, space exploration, and beyond. Our robust products boost safety, efficiency, and cost-effectiveness, shaping the future of industries and space exploration.

Products & services

Many industries struggle with inefficient logistics, hazardous working conditions, and environmental impact. We address these issues with TerraEye and ATP. TerraEye provides real-time, comprehensive geospatial data for precise environmental monitoring, while ATP optimizes material transport via autonomous haulage, enhancing safety and efficiency additionally expanding TerraEye capability with extra sensor data collected from in situ operations.

Technical means

TerraEye, our advanced geospatial intelligence platform, uses multi-source geospatial data, AI, and satellite imagery for real-time, precise ground condition information. It creates digital twins of environments, with reporting and notification features for efficient monitoring. This real-time data and analytics combo is industry novel. Our Autonomous Transportation Platform (ATP) boosts our unique value with autonomous haulage, improving safety, efficiency, and cost-effectiveness in material transport. The real magic happens when these two technologies synergize. They not only tackle immediate industry challenges but also show promise in space exploration, an underserved area. Our dual-tech, future-focused approach sets us apart.

Main customers

Industries like mining, transportation, and space exploration are constantly seeking innovative technologies to enhance efficiency, safety, and sustainability. Issues such as environmental monitoring, land cover segmentation, and autonomous transportation present constant challenges, and the demand for robust solutions is high. Customers are acutely aware of these problems and are keen on implementing cutting-edge technology that can alleviate them effectively.

Major space projects

TerraEYE:
application designed to analyse the productivity of a mine, its impact on the environment, plan new extraction, and track machine telematics.

ATP:
Autonomous Transport Platform to be used in Lunar environment, granted in Start-up Support Programme in ESRIC; part of ecosystem in 'Site Preparation for Landing/ Launch Pad and Blast Shield Construction' developed by Astroport Space Technologies, Inc. in STTR project funded by NASA.

Regolith Sorting Station:
concept study during 'Site Preparation for Landing/Launch Pad and Blast Shield Construction' project developed by Astroport Space Technologies Inc. Under patent registration and further development

FOUR POINT SPACE

INFORMATIONS

CEO/Head of department
Marek Wilgucki CEO of Remote Sensing Business Structure (Holding Structure)
Filip Janasz, Manager Four Point Space (Lux)
Oskar Fryckowski, Manager Four Point Space (Lux)

Creation date
Four Point
2018
Remote Sensing Business Solutions
2022
Four Point Space S.A R.L.
2023

Organisation type
Small and Medium-Sized Enterprise

Number of employees
Total: 1
Space: 1

Qualifications, Approvals
Microsoft Azure AI Specialization

CONTACT

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No update has been provided for 2025.

FTA Communication Technologies

Core business

Inverto is a leading supplier of broadcast reception equipment, remote monitoring and video streaming solutions serving major DTH operators across the world.
Leveraging on its strong R&D and software capabilities it has secured a leading position in a host of new breakthrough technologies including Ka/Ku Co-locate LNBs, dCSS, SAT>IP, cloud IoT, multiscreen video transcoding and mABR streaming.
Inverto has over 30 years of experience in the industry and is supplying millions of LNB, dishes, dCSS multiswitches and accessories every year to leading brands and tier-1 DTH operators. Inverto's broader expertise in digital video broadcast covering antenna, feed and microwave PCB design as well as mobile and real-time software in confined embedded environments allow for a truly holistic view on product design, sustaining innovation and guaranteeing world class quality.

Products & services

- LNBs: A supplier of choice for leading DTH operators across the world; the broadest product range in the industry covering Universal, band stacking or Unicable (dCSS) solutions for C band, Ku and Ka bands for single or multiple satellite reception (monoblock LNBs)
- Satellite Dish Antennas: A comprehensive range of satellite dish antenna and mounting accessories designed and engineered to meet the strictest performance and durability standards
- Satellite and DTT distribution solutions for residential and commercial installation over fiber or coax networks: Most optimized and field proven designs of Unicable (dCSS) cascadable switches and Unifiber product line – the smallest footprint optical transmit headend and a wide range of optical receivers
- Video transcoding and secure streaming solutions for IPTV/OTT services and mABR streaming gateways for 4G/LTE/5G-Satellite integration applications
- Flat panel Electronically Steering Antennas for mobile broadband services over Ka and Ku satellite links addressing communication on-the-go applications covering consumer broadband, maritime and other commercial enterprise services
- SatPal™ and SatWatch – Satellite installation and IoT remote monitoring solutions
- SAT>IP Server/Client devices: The first SES-certified SAT>IP Server in the world
- Accessories, Coax and Fiber cables; RF and optical splitters, combiners, power inserters, optical amplifiers for satellite TV distribution

Technical means

- RF measurement and test equipment – signal generators, spectrum analyzers, oscilloscopes, noise figure meters, logic analyzers, DVB-S2 modulators
- Satellite signal measurements
- High speed PCB design and simulation tools
- Mechanical and product design tools
- Software development (embedded firmware, Linux, Windows, iOS, Android, cloud and web applications)
- Systems engineering expertise
- Optical system design for satellite TV RF distribution over fiber or coax networks
- UI/UX and product industrial design tools

Main customers

- DTH operators worldwide eg TataPlay, Multichoice, Serbia Broadband (total TV), Airtel, Claro, Digiturk and Canal+ Luxembourg
- Distribution and OEM partners worldwide

Major space projects

ESA projects:
- MLNB
- SVC+VCM
- HTS-DBS
- 5G Emerge/European Broadcasting Union (EBU)

inverto

INFORMATIONS

CEO/Head of department
Christophe Perini

Creation date
1999

Organisation type
Small and Medium-Sized Enterprise

Number of employees
Total: 20 in Luxembourg,
10 consultants (Poland, UK, Israel, India; Kenya, Brazil)
Space: 20 in Luxembourg,
10 consultants (Poland, UK, Israel, India; Kenya, Brazil)

Turnover 2021
Total: 16M€
Space: 16M€

R&D internal investments
1M€

Qualifications, Approvals
CE, RoHS, SAT>IP

CONTACT

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No update has been provided for 2025.

GomSpace Luxembourg

Core business

GomSpace is a Space solutions provider with global presence and organised in three business units: Products for Space systems, Programs, and North America.

GomSpace Luxembourg is engaged in two business lines as follows:

- **Products:**
  the Hands-Off Operations Platform (HOOP) is a scalable, low-cost and fully automated Mission Control System enabling constellations mission control for our customers. HOOP is also used in our Satellite Operations Center in Luxembourg
- **Programs:**
  Our team is focusing on high performance and innovative missions; that includes Deep Space projects, like the HERA/Juventas mission aimed at exploring nearby asteroids and providing a wealth of new information facilitating future resource utilisation, and nano- and microsatellite missions for customers worldwide

Products & services

GomSpace Luxembourg provides products, like the Hands-Off Operations Platform (HOOP) for Mission Control Systems, and Engineering services, including Space missions project management, System Engineering and Software Engineering.
HOOP main features are:

- Designed from the ground up for constellations
- Cost effective for single satellite in-orbit demonstrations to full-blown constellations providing commercial services
- Management of the entire ground segment, from antennas to end-users, allowing to optimise your assets at multiple levels
- Holistic approach to security that covers both space and ground segments all the way to your customers

Technical means

GomSpace Luxembourg has highly qualified space talent covering Space Segment, Ground Segment, Systems Integration and Quality. GomSpace Luxembourg has technical knowledge and processes to provide support to a growing number of satellites in space, and is currently designing and developing some of the most advanced micro- and nanosatellite missions in the world ranging from Earth Observation to Asteroid Rendezvous.

We also have a system integration lab for subsystems checkout, integration, and testing, and a Satellite Operation Center.

Main customers

The European Space Agency is currently our largest customer, to which GomSpace Luxembourg is providing Operations as a Service to missions such as GOMX-5, Artic Weather Satellite, as well as Deep Space mission such as Juventas.

At the same time, GomSpace Luxembourg engages with a growing number of commercial customers for operational services, products and programs in the Institutional and Commercial markets.

Major space projects

Our HOOP project is a continuous development project where incremental updates are being released to the production environment adding new features and capabilities.

HERA/Juventas is a 6U cubesat that will be part of the HERA mission and attempt landing on the Dimorphos (Didymoon) asteroid system in order to exploit its secondary payloads a gravimeter and an Inertial Measurement Unit. The satellite carries a low-frequency radar payload that will probe the interior of the asteroid.
The mission will be managed through communications going through the HERA mother craft.

GOMSPACE LUXEMBOURG

INFORMATIONS

CEO/Head of department
Edgar Milic, Managing Director

Creation date
2017

Organisation type
Small and Medium-Sized Enterprise

Number of employees
Total: 25
Space: 25

Turnover 2023
Total: 5.5M€
Space: 5.5M€

CONTACT

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GovSat

Core business

GovSat is the Luxemburgish national satellite operator and service provider. It is a public-private venture between the Luxembourg government and SES, the world-leading satellite operator. Its mission is to provide secure, reliable and accessible satellite communication services for governments – addressing the demand for connectivity resulting from defence and civilian security applications.

Products & services

GovSat's portfolio of services covers key fields of expertise: satellite capacity and coverage, anchor and teleport services, secure hosting solution and end-to-end solution offerings.
On the capacity side, GovSat-1 is a secure satellite capability featuring high-powered fully-steerable spot beams in X and Mil Ka-Band, and a Global X-Band beam.
It is equipped with anti-jamming features, encrypted telemetry and control (TT&C), and is offered on a non-preemptible basis.
Due to its orbital position at 21.5° East, GovSat-1's coverage reaches from 50°W to 90°E and 70°N to 70°S. GovSat offers capacity for short and long-term lease from MHz, transponders through to beams with full steering rights in X and Mil Ka-Band.
The architecture of GovSat-1 allows flexibility on how to anchor the traffic. Customers can use their own anchor facilities or the GovSat's high resilience anchoring service, as prime or back-up. It is also possible to offer access to other partners' teleports within the footprint.
The segments GovSat covers within the Gov&Def are land, air and maritime.

Technical means

GovSat-1 is positioned at the 21.5 East Orbital position with coverage areas spreading over Europe, Middle East, Africa and South-west Asia with maritime coverage for the Atlantic, Baltic, Mediterranean and Indian Oceans.
The satellite has a so-called "global X-band beam" and fully steerable X- and mil Ka-band spot beams that will provide communication capabilities within the mission area as well as back to the associated headquarters. This means that the satellite coverage area can be fully adapted to the requirements of the user.
GovSat-1 features high-powered fully-steerable spot beams, an X-band Global beam and a total of sixty-eight transponder equivalent units. It is equipped with anti-jamming features, encrypted telemetry and control, and uses assured frequencies.

Main customers

GovSat is a governmental satellite communications capability dedicated serving governmental and institutional users. It addresses the demands for mission critical connectivity resulting from defence and civilian security applications.

Major space projects

GovSat-1 was launched in January 2018 and is operational since March 2018.
Expected lifetime: 20 years

GOV SAT

INFORMATIONS

CEO/Head of department
Patrick Biewer

Creation date
2015

Organisation type
Large Enterprise

Number of employees
Total: 21

Turnover 2024
Total: 46.1M€

R&D internal investments
250K€

Qualifications, Approvals
ISO 9001, ISO 27001, NATO FSC, EU FSC, LUX FSC, ISO 14001

CONTACT

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GRADEL

Core business

GRADEL is an engineering company and technology integrator specialized in the development of tailor-made special purpose machines for demanding applications in space and other high-tech sectors. Beyond its proven heritage in Mechanical Ground Support Equipment (MGSE), GRADEL delivers end-to-end systems designed from customer specifications, integrating advanced engineering, automation, and cleanroom-compatible materials. These machines address critical functions such as handling, assembly, testing, and transport of spacecraft components, always meeting strict constraints of cleanliness, magnetic neutrality, and thermal stability. Our agile structure and strong engineering base enable us to respond quickly and efficiently to new industrial challenges, transforming ideas into robust and qualified systems.

Products & services

SPECIAL PURPOSE MACHINES & MGSE:
Design and manufacturing of custom-engineered machines and mechanical systems developed from customer specifications. This includes a complete range of high-end Mechanical Ground Support Equipment (MGSE) for satellite and payload integration – from transport containers, multi-functional trolleys (manual or AGV-based), integration stands, hoisting and lifting devices, to equipment for Antenna Test Ranges and Thermal Vacuum Chambers. All systems are designed to operate under demanding space-grade standards and can be fully automated or semi-automated based on use case.

LIGHTWEIGHT STRUCTURES:
Advanced Lightweight Solutions with GRAM Technology:
Development and manufacturing of complex lightweight structures using our patented GRAM (Gradel Robotic Additive Manufacturing) process – a continuous filament wet-winding system optimized for strength, stiffness, and thermal resistance. This technology enables the creation of structural components with up to 70% weight reduction, suitable for both space and defense applications. Designs are simulation-driven, leveraging AI-based optimization algorithms to create bionic geometries and integrated functions. Our lightweight parts are qualified for space use (TRL6) and produced in a dedicated facility with robotic lines, curing ovens, and ISO 8 cleanroom capabilities.

Technical means

Engineering office for:
- MGSE and special purpose equipment
- GRAM ultra-lightweight structures
- with more than 60 engineers in total in multiple disciplines using the following Software:
  SOLIDWORKS, FEMAP, NASTRAN, MATLAB, SIMULINK, SEE ELECTRICAL, BECKHOFF, SIEMENS;
  GRAM-AI specific software for Lightweight (engineering& manufacturing)

2 Assembly and test workshops
- 1200 m² x 10 m height, crane capability: 2 times 10 t
- Production facility for composite lightweight structures 650 m²:
  - 5x robot equipped with GRAM applicator on a 10m long x-axis
  - curing oven of 1 and 12 m³
  - Grey room

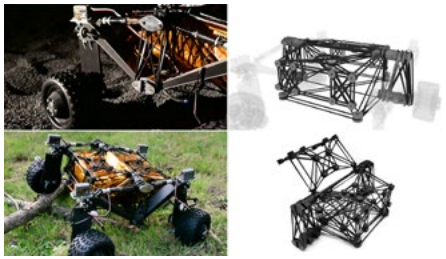
Main customers

Airbus Defense & Space, Ariane Group, ESA, OHB Systems, Thales Alenia Space, SAFRAN AEROBOOSTER

Major space projects

Gradel has 15 years heritage and has contributed to multiple space programs, scientific or Telecommunication for the LSI and test facilities. We have delivered space products in multiple programs:
- Transport Container for AIRBUS
- Compact Antenna Test Range for OHB Systems
- SMART Multipurpose Trolley TAS, AIRBUS, OHB Systems
- Portable Antenna Measurement for ESA Communication
- Alphabus, EDRS, Electra, Eurostar Neo, Neosat, SGEO, SES17, Heinrich Hertz, Space Inspire, OneSat

The qualification process of GRAM has been realised between 2020 and 2024 in collaboration with ESA, Airbus, Thales Alenia Space and OHB Systems.
For each LSI had been developed and fully tested (-150°C/+180°C, mechanical, vibration, TVAC and fatigue test included multiple use-case projects are under development for Space and Defense applications.



INFORMATIONS

CEO/Head of department
Claude Maack, CEO

Creation date
1965

Organisation type
Small and Medium-Sized Enterprise

Number of employees
Total: 85
Space: 41

Turnover 2024
Total: 11.2M€
Space: 6.4M€

R&D internal investments
3.1M€

Qualifications, Approvals
Certified ISO 9001, 14001 and 45001
EN 9100 in preparation

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Helix Space

Core business

Helix Space has two divisions:

1. Services:
Helix Space helps its customers in the realms of Aerospace, Defence and Cybersecurity obtain public & private funding, boost their sales through innovative products or services, and improve their cybersecurity stand against threat actors.

2. R&D:
We want to use existing and future research infrastructure on Earth's orbit to develop and commercialize biomolecules, biomaterials, and nutritional supplements for preventive and therapeutic management of human and veterinary diseases on Earth.

We also serve the Life Sciences value chain providing scientific review and grant evaluation services.

Products & services

Funding:
Helix Space helps you obtain national, intergovernmental, or private funding to develop your product.

Innovation
Helix Space uses standard industry frameworks to make sure your new product arrives on time to the market and generates the sales and profits you need to grow and scale-up your business.

Cybersecurity
Helix Space helps you perform State-of-the-Art Analysis for new cybersecurity technologies, and assess and improve your cybersecurity stand based on standard frameworks.

Life Sciences:
Helix Space provides scientific review and grant evaluation services to researchers, private and public research institutions, and private companies.

Technical means

Cybersecurity:
- Open-source tools for Open-Source Intelligence (OSINT), such as Shodan, theHarvester, and FOCA, and Vulnerability Analysis, such as OpenVAS.
- Commercial tools for Vulnerability Analysis such as Nessus.

Life Sciences:
Within the field of human metabolism and its role in health and disease, our expertise includes computational modelling for OMICs analysis using a variety of tools:
- MatLab and R, Python, with COBRA toolbox, Bioconductor for the analysis of diverse OMICS data types (e.g., genomic, transcriptomic, proteomics, metabolomics).
- Good Clinical Practice

Main customers

Publicly disclosed:
- Amphinicy
- European Space Resources Innovation Center (ESRIC)
- Luxinnovation
- Startup Division
- Verhaert Masters in Innovation

Under confidential agreement:
- Cybersecurity service providers
- Satellite Operators
- SpaceTech start-ups & SMEs
- Consulting firms
- Investment firms

Major space projects

CASSINI Business Accelerator
CASSINI Hackathons & Mentoring
D2D satellite communications
ESRIC Start-up Support Programme
Fit4Start – Space
Fit4Start – High Performance Computing & Data Analytics
Galileo
Quantum Key Distribution
Space Hubs Network
ViSAGE Feasibility Study
EUDIS Coaching Services
EU Space Academy Learning Platform

INFORMATIONS

CEO/Head of department
Manuel Cuba

Creation date
2021

Organisation type
Small and Medium-Sized Enterprise

Number of employees
Total: 1
Space: 1

Qualifications, Approvals
Private Research Institution accredited by the Ministry of Economy of Luxembourg.

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HITEC Luxembourg

Core business

HITEC Luxembourg S.A., a Luxembourg SME with more than 3 decades of experience, has developed its business activities in the field of innovative and quality products and services.

HITEC offers high technology solutions covering different business areas: satellite ground segment equipment & services; mission critical communication solutions; equipment for testing and measuring of physical properties; and traffic management.

HITEC serves private and public sectors at a national and international level.

Services

- RF & Optical Ground station system integration and turn-key supplies
- Ground station & antenna refurbishment, retrofit and relocation
- Ground station & antenna maintenance, training and ILS/ISS
- Ground station certification to MIL/WGS standards
- Customer specific design, simulation and manufacturing
- Emergency and crisis management
- End-to-end communication solutions, including rapid deployment, system setup, and ongoing operational support in remote or challenging environments

Products

- RF Ground station antennas for GEO/MEO/LEO applications, ranging from 3 to 14 meters in diameter and covering frequencies from L- to Q/V-band (HTS gateways, anchor stations, TT&C, IOT/LEOP, EO/data downlink)
- Optical grounds stations (OGS) and antennas for laser comms and QKD with LEO satellites
- High-performance positioning systems for antenna arrays and optical payloads
- Antenna components: HACU® Antenna Control Units (program, step- and monopulse track) and HASK Antenna Servo Kits.
- Deployable Field Communication Terminal: NoSaCo® Rapid and NoSaCo® Rack.
- Deployable Electrical Power Management Unit: Nomadic Power Box.
- Situational awareness platform for emergency and crisis management for for defence, public safety and humanitarian applications.

Technical means

HITEC Luxembourg's facilities comprise engineering offices, equipped with state-of-the-art design and analysis SW and HW. They also comprise a laboratory, used for testing, commissioning, and training purposes. In addition, a small workshop and assembly area allow for rapid prototyping and troubleshooting. We are connected to a proven network of suppliers, with whom all products are delivered to guaranteed quality standards.

Main customers

Public sector:
European Commission, European Space Agency (ESA), German Aerospace Center (DLR), Luxembourg Government, Administration of the Republic of Slovenia for Civil Protection and Disaster Relief (URSZR),

Private sector:
SES, LuxGovSat, POST Group, AIRBUS Defence & Space, Telespazio, Thales Alenia Space, OHB System AG, OHB Italy, C-Core, Luxembourg Armed Forces, Celestia TTI

Major space projects

Satellite Ground Station Antennas
- WGS-certified X- and Ka-band anchor stations
- Multi-band Earth Observation stations
- Full-motion antenna for the space debris tracking radar
- Optical Ground Station for hybrid space-terrestrial QKD network

Satellite-based ICT solutions
- emergency.lu: a SATCOM based rapid response solution to re-establish communications following man-made or natural disasters to support the coordination efforts of humanitarian organisation
- ALPDIRIS: Assist search and rescue teams in the Alps by providing satellite-based connectivity and research coordination
- DronAI: an integrated approach to provide close to real time assessment solutions for disaster relief and humanitarian interventions using EO and in situ data

INFORMATIONS

CEO/Head of department
Yves Elsen – Chairman of the Board
Philippe Osch – Chief Executive Officer
Yves Leiner – Chief Systems Engineer
Tom Mathes – Manager Engineering

Creation date
1986

Organisation type
Small and Medium-Sized Enterprise

Number of employees
Total: 54
Space: 17

Qualifications, Approvals
ISO 9001
ISO 14001
ISO 45001
AQAP 2110
Responsibility Europe – CSR label
Made in Luxembourg
SGS USTC
SuperDrecksKëscht fir Betriber (in accordance with ISO 14024)
Charte de la diversité Lëtzebuerg
Signataire du Pacte national Entreprises et droits de l'Homme

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Hydrosat

Core business

Hydrosat is a deep tech company that leverages thermal satellite data and AI to address critical global challenges in food production, national security, and water management.

By combining daily surface temperature data with proprietary analytics, Hydrosat helps customers make more informed decisions about irrigation, crop health, and resource allocation. The company serves agribusinesses, governments, insurers, and defence agencies that rely on accurate, scalable insights to boost yields, conserve water, and build resilience.

Hydrosat operates a growing constellation of thermal satellites designed specifically for wide-area, high-frequency monitoring. Our first two satellites are already in orbit, collecting over 10 million square kilometers of imagery every day.

Products & services

Hydrosat offers two core product lines.

The first is Water and Crop Management Solution, delivered through the IrriWatch platform and API, which provide daily analytics on irrigation needs, soil moisture, and crop health across more than 120 crop types.

The second is our Thermal Infrared Satellite Data, which delivers high-resolution thermal and visible imagery to commercial, government, and defence customers for detecting water stress, drought, and supporting national security applications.

Technical means

Hydrosat applies data analytics and data fusion techniques to thermal infrared and multi-spectral satellite imagery and turns it into actionable insights. Our scientists measure leaf temperature, solar radiation, and photosynthesis to provide reliable recommendations to farmers, regardless of crop type. They have also developed proprietary tools for terrain analysis that supports military operations and analysis. Our multidisciplinary team has expertise in the areas of big data analytics and distributed computing, remote sensing, image processing, image segmentation and classification, machine learning, and agronomy.

Main customers

- Large Agribusinesses
- Food processors, packagers and distributors
- Irrigation Equipment Manufacturers
- Insurance and Financial Institutions
- Government Agencies and Civil Authorities
- Humanitarian Organizations
- Defence and Intelligence Organizations
- Development Banks and Climate NGOs

Major space projects

Thermal Infrared Remote Sensing Constellation

Hydrosat's satellite constellation, featuring thermal, visible, and near-infrared sensors all collocated on the same platform, delivers unprecedented information and accuracy for assessing crop health. Its high temporal and spatial resolution thermal imagery provides early indicators of water stress in crops, helping to prevent food crises before they occur.

Hydrosat

INFORMATIONS

CEO/Head of department
Royce Dalby

Creation date
2018

Organisation type
Small and Medium-Sized Enterprise

Number of employees
Total: 65
Space: 65

Turnover 2024
Total: 4.6M€
Space: 4.6M€

R&D internal investments
1.5M€

Qualifications, Approvals
ESA Contract
Partnerships with Universities
Collaborations with Commercial Customers

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IBISA

Core business

IBISA is a Climate InsurTech offering turn-key solutions in the field of satellite-based parametric insurance. We harness the power of satellite data to design index-based insurance products to provide coverage against climate change and weather-related risks. Our primary focus is to bring transparent, understandable, and affordable insurance solutions that protect businesses and communities against extreme climatic events.

IBISA is headquartered in Luxembourg and has a fully owned subsidiary in India established in 2022. Apart from these two locations, we have teams in Ghana, Kenya and the Philippines. The team comprises of 20 professionals divided into technical profiles, operations, and sales across different countries.

IBISA currently operates in the Philippines, India, Ghana, Nigeria, Senegal and Kenya designing and operating weather insurance products in partnership with local insurers and global reinsurers. Along with these countries, we have also worked on anticipatory actions forecast index insurance design for Guatemala, and conducted feasibility studies for New Zealand, Niger and Madagascar.

At IBISA, we strive to make a difference through our specialized technology platform, designed explicitly for parametric insurance

IBISA is aware of the financial challenges and climate vulnerabilities faced by low-income populations in developing economies. We're committed to enhancing the resilience of these communities against weather-related risks through our tailored insurance products. Most of the countries we have worked in are emerging economies where we learnt the importance of affordability in product design.

Products & services

Our platform utilizes satellite data to assess weather risks, enabling us to create tailor-made insurance products and manage claims efficiently. Its processing capabilities allow for swift large-scale computations, which leads to quick underwriting and settlements. Additionally, its flexibility enables us to adapt our products to local conditions, catering to our customers' specific needs across various regions. Importantly, our technology approach offers cost-efficiency, allowing us to handle significant volumes without compromising on service quality.
We offer satellite-powered parametric insurance against climate risks, primarily to climate-exposed communities and businesses. Using our in-house earth observation experience and proprietary risk models, we design insurance products based on weather data analysis, covering against factors such as excess rainfall, drought, heat stress, and more. We also offer clients an intuitive policy management platform that monitors insured events, sends alerts, and facilitates swift claim responses. IBISA has five core products viz,

- Rain index based coverage
- Typhoon coverage
- Heat Stress coverage
- Loan protection coverage
- Multi-risk coverage

With our inclusive and adaptive model, we can cater to diverse geographical locations and climate vulnerabilities. Beyond insurance services, we consult, guiding our clients in designing insurance products and pricing them. Harnessing the power of Earth observation satellites, we're committed to making climate risk insurance affordable, accessible, and effective for those most in need.

Technical means

IBISA Earth Engine:
This powerful module handles various essential tasks, including downloading, controlling, processing, and analysing weather and climatic data.
IBISA Risk Modelling software:
This component enables the swift and scalable design and pricing of insurance coverages.
IBISA Platform:
This module serves as a centralized platform for policy distribution, monitoring, and operations. By utilizing this module, our customers gain comprehensive control and oversight over their policies, streamlining the administrative processes involved.

Main customers

- Leading insurance companies in the Philippines, India, Bangladesh, Sri Lanka Senegal, Ghana, Kenya and Nigeria
- Micro Finance Institutions in India, Bangladesh, Ghana and Kenya
- Agriculture input providers
- Renewable Energies companies
- MSMEs
- National and state level government in Asia and Africa

Major space projects

ESA Business Applications

INFORMATIONS

CEO/Head of department
Maria Mateo Iborra

Creation date
2019

Organisation type
Small and Medium-Sized Enterprise

Number of employees
Total: 20
Space: 2

CONTACT

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No update has been provided for 2025.

Imagination Factory

Core business

A holding company operating at the cutting edge of technology is an entity that invests in and manages a diverse portfolio of companies specializing in new technologies such as satellite telecommunication and AI. This forward-thinking organization identifies promising ventures in these domains and provides them with the necessary resources, expertise, and support to thrive and drive innovation.

One area of focus for this holding company is satellite telecommunication.

By harnessing the power of satellites orbiting the Earth, it aims to revolutionize global connectivity. Through strategic partnerships and investments, the company seeks to enhance satellite communication capabilities, enabling faster and more reliable data transfer, internet access, and communication networks across remote and underserved regions. This technology has the potential to bridge the digital divide and transform the way people connect, communicate, and access information worldwide.

We are headquartered in Luxembourg and operate worldwide through dedicated regional teams or qualified Business Partner.

Products & services

U Learning, a new generation software/hardware platform that enables an enhanced, participative learning experience combining together physical and digital presence.

U Learning enables active participation versus a passive presence taking remote learning to a new degree and enabling a rich learning experience for all those students that, for logistic reasons, have no direct access to the physical facilities.

The main components of the product are:
- touch interfaces, interactive walls, tables and tablets devices;
- blended context and adaptability;
- content creation and distribution.

Among these fields of application, here are some examples:
- school, primary and secondary
- university
- corporate training

3WayComm, an innovative triple-band VSAT maritime terminal for dual-use applications. The most innovative feature of the proposed satellite antenna is the ability to operate on X-band, Ku-band and Ka-band with automatic switching and no manual intervention, thus allowing unlimited operation and coverage areas in every possible operational scenario. While X-band is used mainly for encrypted military and civil operations, Ka and Ku bands are mainly used to enable broadband services aimed to ensure the on-board personnel's welfare. People on-board access the open Internet for information and entertainment purpose, to communicate with their families trough e-mail, social networks and voice/video over IP.

Technical means

- Strong technical background in telecommunications: satellite communication X/C/Ku/Ka-bands, Wi-Fi and global 4G
- Operating through first class worldwide cloud infrastructures
- Specialized in the design and deployment of complex projects
- Specific competence in high level software design and implementation (Oracle, Java, XML, Web Services)

Main customers

- European Space Agency (ESA)
- Sat@Sea Information Technology Network Services
- Seaboats S.r.l.
- Sas Centrallease

Major space projects

3WayComm
A satellite maritime user terminal was designed and realized having the ability to operate X-band, Ku-band and Ka-band (X and Ka band simultaneously) with automatic switching and no manual intervention, thus allowing unlimited operation and coverage areas in every possible operational scenario for dual-use applications.

Product benefits:
- **flexibility:** one single antenna does it all with the ability to automatically switch between satellites and bands according to the needs while moving across coverage areas;
- **safety:** improved personnel safety: ability to switch from one satellite to the other and from a band to the other without any human intervention while the vessel is at sea;
- **space:** less occupied space in the ship mast: one antenna system instead of three or two antenna systems instead of six;
- **costs:** overall system cost mitigation in terms installation costs, CAPEX and OPEX;
- **reliability:** improved system availability and reliability, in a dual configuration it ensures full redundancy with less spare parts, uninterrupted operations during beam/band switch or failover.

if.lux
Global communication technology

INFORMATIONS

CEO/Head of department
Federico Masier

Creation date
2016

Organisation type
Small and Medium-Sized Enterprise

Number of employees
Total: 5
Space: 5

Turnover 2024
Total: 1,353K€
Space: 905K€

R&D internal investments
160K€

CONTACT

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Infinite Orbits

Core business

Infinite Orbits is a NewSpace company that is revolutionizing In-Orbit Services with innovative spacecrafts powered by its rendezvous solution, an advanced autonomous vision-based navigation software. We design, own and operate 'Servicers' to provide innovative in-orbit services to satellite operators in geostationary orbit.

Our mission is to provide geostationary operators with all the in-orbit services they need, from the inspection of their assets to the extension of their lifespan and the management of the end of life phase.

Products & services

Life extension services, with "Endurance" – Infinite Orbits' first life-extension vehicle for geostationary assets. Powered by our cutting-edge Autonomous Vision-Based Navigation Solution , we deliver competitive and safe life-extension services for up to 5 years, empowering our clients to optimize their fleet management and renewal strategies.

Orbit Guard™, the forefront of commercial European SmallSats for In-Situ Surveillance sensors designed exclusively for GEO (Geostationary Earth Orbit) provides unparalleled services such as in orbit inspection and Space Situational Awareness. Orbit Guard™ Satellites excel in close-up inspections and autonomous maneuvers, setting a new standard in safeguarding our orbital assets.

Rendezvous (RPO kit)

Technical means

Integrating rendezvous Far-Range (FR), Near-Range (NR), and docking capabilities, our patented rendezvous solution ensures precise and secure navigation in space through our autonomous vision-based technology. Our embedded AI software and vision-based sensors empower our Servicers with real-time autonomous decision-making capabilities.

Driven by a self-learning neural network, this software continually refines itself across multiple missions, promoting a sustainable space ecosystem by minimizing the demand for expensive human intervention. In essence, its technology that not only simplifies and enhances space operations but also contributes to a more environmentally responsible and economically efficient future of in orbit servicing.

Main customers

All geostationary orbit operators.

Major space projects

Orbit Guard™#2, Orbit Guard™#3, Endurance #1

Endurance

Orbit Guard

INFINITE ORBITS

INFORMATIONS

CEO/Head of department
Adel Haddoud

Creation date
2025 in Luxembourg

Organisation type
Small and Medium-Sized Enterprise

Number of employees
Total: 46

R&D internal investments
75K in Luxembourg

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INTEGRASYS

Core business

Established in 1990 by former Hewlett-Packard engineers, INTEGRASYS is a software development and engineering company with 35 years of experience. Initially founded to develop automated signal monitoring systems for government use, INTEGRASYS has focused on streamlining communications over the years, particularly in satellite network environments and remote areas, aiming to bridge the digital divide.

The company specializes in network design, deployment, maintenance, and interference mitigation tools. Their innovative products are sold globally to major SATCOM network manufacturers, operators, and service providers, serving both commercial and defense sectors.

Products & services

INTEGRASYS' product portfolio is adapted to the current needs of satellite and network operators, covering all stages – from design, deployment, to maintenance of the ground segment.

- **Anti-jamming Capabilities:** Providing interference cancellation for defense, attack, or protection, with both ground and onboard solutions.
- **Link Budget:** Tools for satellite network design and multi-orbit analysis.
- **Automated & Fast Terminal Installation:** Including zero-touch installation for plug-and-play deployment of automated antennas.
- **Capacity Management & Monitoring:** Efficiently sharing a spectrum pool among diverse users.
- **Interference Geolocation:** Pinpointing the source of interferences.
- **Automated Network Maintenance:** Performing automated checks to effectively manage global networks from a centralized, redundant, and secure location.
- **Firmware Securitization:** Preventing and mitigating hacking in terminals.

Technical means

INTEGRASYS offers RF signal processing components for automated radio spectrum monitoring. These modular designs reuse basic components across various systems, extending and integrating them to create specialized tools for both lab and field use. Examples include:

- Ultra-fast wideband signal acquisition.
- Automated signal detection.
- Vector-based characterization.
- Signal geolocation.
- Antenna arrays.
- Carrier processing techniques.

Additionally, INTEGRASYS operates a satellite communication lab, featuring fully-fledged manufacturer satellite hubs – such as iDirect, Newtec, Comtech, and SpaceBridge, and user terminals.

An embedded computing lab is also available, equipped with professional embedded software development tools.

A satellite LEO TT&C laboratory is supported by LEO RF simulators and the CCSDS TT&C software modem.

Main customers

- Service providers: KT SAT, Speedcast, Marlink, Optus, DataComm, Axesat
- Hub manufacturers: ST Engineering iDirect, Hughes, Comtech, SpaceBridge, UHP
- Integrators: Waldo, Aicox, Lumina, Nelco, Airbus, L3Harris
- Satellite operators: Intelsat, Sky Perfect JSAT, APSAT, MEASAT, SES, Telespazio, Arsat
- Telcos: Telefónica, Entel, Vodafone, AT&T, Orange
- Government: EU Commission, Italy MoD, Singapore MoD, US DoD

Major space projects

- **VIRSAT:** Development of a virtualized satellite ground segment enabling dynamic, flexible, and scalable resource allocation. VirSat leverages cloud technologies to optimize satellite operations, reduce costs, and enhance service agility for modern satellite networks.
- **EDF DAEDALUS:** Design and development of an advanced antenna system for satellite communications, featuring electronic beam steering and high-gain performance. DAEDALUS enables reliable, high-capacity links for mobile and fixed users across diverse environments.
- **ORBISAT:** Award-winning product, focused on real-time satellite link monitoring and interference detection. Orbisat enhances signal integrity and network reliability through advanced spectrum analysis and geolocation capabilities for satellite communication systems.
- **ESA CLEANRF:** Award-winning signal processing solution placed in the reception chain of a satellite RF link. It allows the detection, separation, and cancellation of RFI sources.
- **SEC RESISTO:** INTEGRASYS specializes in protecting critical communication infrastructure at the RF level. This project specializes in protecting critical telecommunication infrastructure, offering advanced interference detection, and safeguarding network devices through innovative blockchain-based solutions.
- **H2020 GSA AIOSAT:** Advanced tracking and mission-critical communications solution for firefighters, combining Galileo GNSS, inertial sensors, in-situ infrastructure, and satellite communications. INTEGRASYS delivers a hybrid, self-deployable communication network integrating both terrestrial and satellite technologies.
- **ESA KA-METROCAL:** Development, manufacturing, and testing of a high-precision metrology and calibration system for Ka-band satellite services, with ±0.5 dB uncertainty. The system enables fast, accurate, and cost-effective receive (Rx) carrier power measurements in the Ka-band.

INTEGRASYS

INFORMATIONS

CEO/Head of department
Alvaro Sanchez

Creation date
1990 (Spain)
2022 (Luxembourg)

Organisation type
Small and Medium-Sized Enterprise

Number of employees
Total: 52 (7 in Luxembourg)
Space: 46

Turnover 2024
Total: 5M€
Space: 5M€

R&D internal investments
1.2M€

Qualifications, Approvals
Level 2 CMM Evaluation Report, equivalent to ISO 9001.
Certified to work with the European Space Agency.
NATO clearance for Luxembourg employees, in addition to the Spanish CIS.

CONTACT

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ispace-EUROPE

Core business

ispace, a global lunar exploration company with the vision, "Expand our planet. Expand our future.", specializes in designing and building lunar landers and rovers. ispace aims to extend the sphere of human life into space and create a sustainable world by providing high-frequency, low-cost transportation services to the Moon. The company has business entities in Japan, Luxembourg, and the United States with over 300 employees worldwide. The Luxembourg office includes an engineering design centre, a manufacturing lab, a lunar analog facility, and a mission control room to operate rover missions on the lunar surface. For more information, visit: www. ispace-inc.com and follow us on X: @ispace_inc.

Products & services

Payload Delivery
We deliver payloads (cargo) to the Moon using our small and lightweight lunar landers and rovers.

Data Analytics
Using our lunar rovers, we will collect critical information about the lunar environment and its resources, and process them into valuable data products for space and non-space customers.

Partnerships
We offer opportunities for companies to join the lunar adventure through partnerships based on joint technology development, space business entry and corporate branding.

Resource Exploration Services
We provide services and expertise in fields such as mission planning, space resources and reserves evaluation, autonomous navigation systems and space resources prospection and exploration.

Technical means

ispace's robotic lunar landers and lunar rovers are designed to provide low-cost, high-frequency transportation of customer payloads to the surface of the Moon or lunar orbit (scientific equipment, technology development experiments for example):

- Apex 1.0 lander: 300kg design payload capacity to the surface (2mT in orbit)
- Series 3 lander: up to 500kg design payload capacity to the surface (2mT in orbit).

Our range of lunar rovers, developed and built by ispace-EUROPE in Luxembourg, offer payload capacity for customer applications requiring mobility on the lunar surface and carry ispace's own cameras and other instruments to catalogue the lunar environment and the dynamic interaction of the rover with the lunar surface.

Main customers

- Space agencies, research institutes, private space companies, cultural or non-profit organisations interested in participating in the new era of lunar exploration.
- Non-space commercial companies interested in expanding their business in outer space or to use space-based technologies for terrestrial applications

Major space projects

ispace-EUROPE activities in Luxembourg include:

- Development of commercial lunar rovers
- Development of lunar data analytics solutions
- Development of methods to prospect, explore, extract and process lunar resources

Key project:

- MAGPIE: a lunar rover mission to confirm the presence of water ice in lunar polar regions.

ispace leads a European consortium developing this ground-breaking ESA mission. Awarded Phase 1 development contract by ESA in June 2025, targeting launch before 2030.

ispace - EUROPE

INFORMATIONS

CEO/Head of department
Julien-Alexandre Lamamy

Creation date
2017

Organisation type
Small and Medium-Sized Enterprise

Number of employees
Total: 45

CONTACT

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itrust consulting

Core business

itrust consulting s.à r.l., a 18-year-old, recognized actor in Luxembourg's and Europe's Information Security field, certified according to ISO/IEC 27001, consults its customers coming from public, financial, and private sector to protect their information against divulgation, manipulation and unavailability. The company acquires know-how in engineering and sciences, enabling it to find the economically appropriate solution for specific security requirements. It applies and develops research projects, norms, security controls and information processing techniques, covering topics such as information security management systems, risk management, business continuity management, incident management, digital signature, cryptology, network security, internet security, critical infrastructure protection, space ICT, computer forensics, etc.

Products & services

Consulting services, sourcing and innovation studies
Management and guidance of security projects. Critical Infrastructure protection. Technology integration and assistance (PKI, VoIP, virtualisation, etc.). Risk analysis (TRICK Service™). Forensic and malware analysis. Personal data protection, Data Privacy Impact Assessment (DPIA) following GDPR. Assistance to CISO and DPO. Managerial monitoring of security issues. Incident response team.

Hacking
CERT services (e.g., SIEM, penetration testing and vulnerability assessment of hardware (network, server mobile devices, smart cards, firmware), software, web applications, and access security).

Whistleblowing as a Service (WBaas)
https://wbaas.itrust.lu, allows employees to report violations of laws and regulations within an organisation without fear of negative consequences.

Organizational audit
ISO 2700x. ISO 20000. ISO 27799. IEC 62443. Business referential (PSF, PSDC). Legal referential (EU directives, grand-ducal regulations, CSSF). Protection of personal data (CNPD).

Technical audit
Code review (OWASP, SANS, etc.). Equipment configuration review. Critical Infrastructure, SCADA. Wireless infrastructure. Data Protection. PCI-DSS. ISO 15408 (Common Criteria). CSSF Compliance. EuroPriSe. CNPD compliance.

Elaboration of security tools & services
TRICK Service™ (risk assessment); TRICK Cockpit (real-time risk monitoring); ESA ECSS compatible requirements engineering and software validation tool. LASP: provide assurance to location services that locations indicated are trustworthy.

Training services
Introduction and practical advice to comply with GDPR – Data Privacy; GDPR foundation certification – principles, legal framework and compliance; Data Protection Officer (DPO) – certified; ISO/IEC 270xx workshop; Risk Manager certified for DPIA (guided by ISO/IEC 27005); Lead Implementer ISO/IEC 27001 – certified; ISMS Lead Auditor ISO/IEC 27001 – certified; PSDC – eArchiving training session; Security awareness 4 your employees; etc.

Technical means

TRICK Tester (penetration testing platform); Galileo receiver; GPS repeater; Requirements engineering and software validation tool designed to include support for ESA ECSS: based on open standards and architectures, it provides advanced traceability features and enables dynamic linking of artefacts produced in heterogeneous environments (e.g. diagrams, source code, test cases); Expertise in design and development of simulation tools for modelling classical/quantum systems and communication channel properties, e.g. in ground and space setups for quantum key distribution.

Main customers

EU institutions, national public administrations, private service providers, critical infrastructure providers, e.g. energy distributors, ESA, etc.

Major space projects

itrust consulting has a strong track record in managing nationally funded projects such as CELTIC Bugyo Beyond on Security Assurance, ITEA2 Diamonds on Security testing, SGL-Cockpit on risk monitoring of critical infrastructures, and CELTIC CRITISEC. Moreover, itrust has experience in multiple EU projects, e.g., iGOing, LiveLine, CockpitCI, ATENA, TReSPASS, bioTope (H2020), and ESA projects, e.g., LASP, QUARTZ, LuxQCI, Lux4QCI and EAGLE-1.
Within the framework of IPCEI-CIS[1], the call for projects of the Luxembourg Ministry of the Economy, and as part of the CLAUSEN[2] consortium to create an open cybersecurity data economy, itrust consulting, together with itrust Abstractions Lab, contribute with their joint CyFORT[3] project by designing and developing several tools, such as IDPS-ESCAPE[4] (open-source cloud-oriented SIEM and IDS, powered by state-of-the-art machine learning), SATRAP-DL[5] (threat-intelligence-related activities) and C5-DEC[6] (involving Common Criteria, cryptography and security analysis of cyber-physical system).

1 Important Project of Common European Interest – Cloud Infrastructures and Services
2 Cloud & data security resource centre
3 Cloud Cybersecurity Fortress of Open Resources and Tools for Resilience
4 Intrusion Detection and Prevention Systems for Evading Supply Chain Attacks and Post-compromise Effects
5 Semi-Automated Threat Reconnaissance and Analysis Powered by Description Logics
6 Common Criteria for Cybersecurity, Crypto, Clouds – Design Evaluation and Certification

itrust consulting

INFORMATIONS

CEO/Head of department
Dr Carlo Harpes

Creation date
2007

Organisation type
Small and Medium-Sized Enterprise

Number of employees
Total: 14
Space: 2

Turnover 2022
Total: 2M€
Space: 45M€

R&D internal investments
11K€

Qualifications, Approvals
The Information Security Management System (ISMS) at itrust consulting is certified according to ISO/IEC 27001.

CONTACT

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Lightigo Space

Core business

Create leading company in elemental analysis by fostering the extraterrestrial research and planetary survey. Accelerate laser spectroscopy transfer for advanced elemental analysis of celestial bodies. Elemental analysis in space conditions is one of the fundamental prerequisites for understanding how the universe works and how it might be inhabited.

Lightigo Space is specialized in rapid elemental analysis by using Optical Emission Spectroscopy methods, namely Laser-Induced Breakdown Spectroscopy (LIBS).

Products & services

Laser-Induced Breakdown Spectroscopy (LIBS) meets the challenge of in-situ geological survey of celestial bodies providing detailed analysis on the level of the element composition. The LIBS method represents an ideal technique for remote in-situ elemental analysis with low demands for sample preparation prior to the analysis. Such a versatile nature of LIBS has resulted in a remarkable diversity of applications ranging from online material classification on an industrial scale, to direct terrain analysis to LIBS-based payloads used for space exploration.

Lightigo Space is benefiting from its ground LIBS expertise to bring the technology available for small robotic exploration missions. The ISRA (In-Situ Resource Analyzer) instrument which is under incubation of ESRIC Start-Up Support Programme.

Technical means

Primarily Lightigo Space expertise is in LIBS technology for terrestrial and space applications.
Since the LIBS technology combine the expertise in laser, optical and spectrometry domains, our expertise can broaden into the following:

- Laser electronics
- Laser optics
- Optical design
- Spectroscopy
- Post processing and characterisation of the spectral data.

Main customers

Our main customers are the companies, institutes and agencies working on space robotic exploration and in-situ data acquisition on the Moon, Mars and asteroids. Targeted use cases vary from the commercial rovers and mining equipment for the moon resources utilization up to scientific missions to the asteroids.

Research organisations and groups working on elemental analysis

Major space projects

IN-SITU RESOURCE ANALYZER (ISRA)

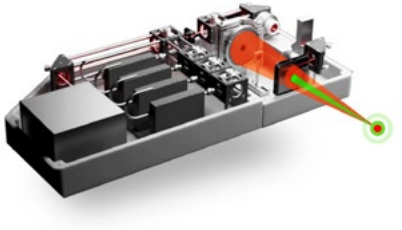
The In-Situ Resource Analyzer (ISRA) uses Laser-Induced Breakdown Spectroscopy (LIBS) technique for prospecting of lunar regolith. Multi-elemental analyzer mounted on an autonomous rover enables an accelerated geological survey prior to mining and lunar settlement.

SLAVIA

Space Laboratory for Advanced Variable Instruments and Applications is a mission of two 12U CubeSats with three scientific payloads designed to fulfill a simple goal: to prove a concept of a low-cost satellite able to provide spectral analysis of NEO composition.

Transfer learning

Establishment the proof of concept for the transfer of data libraries for all LIBS systems between distinct atmospheric conditions (e.g., Earth, Mars).



LIGHTIGO SPACE

INFORMATIONS

CEO/Head of department
Inna Uwarowa

Creation date
2024

Organisation type
Small and Medium-Sized Enterprise

Number of employees
Total: 2
Space: 2

CONTACT

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No update has been provided for 2025.

LMO

Core business

LMO is a dual-use Space company developing capabilities to detect, identify, track and characterise other objects in space from space. By combining sensors and on-edge artificial intelligence, LMO allows satellites to do surveillance, rendezvous and inspection of the space environment around them enabling:

- In-Orbit Services like Active Debris Removal, Refuelling and Life-Extension
- Space Domain Awareness with Autonomous & Combined C2 Response

LMO offers software, payloads and full mission solutions to the civil & defence industry.

Products & services

- In-Orbit Servicing Payloads for Rendezvous & Proximity Operations
- Space Domain Awareness Payload for Protect & Defend
- Patroller & Bodyguard Satellite Capabilities

Main customers

LMO main customers are civil and defence companies providing Space Surveillance, In-Orbit servicing and Manufacturing Services to the space community.

Major space projects

ESA RISE Mission
Life-Extension Mission

ESA Proof of Concept Mission

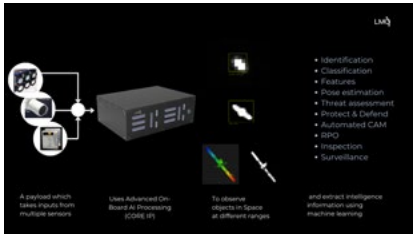
EDF STAALION
Space Threats Analysis based on Automated reaL-time In-situ capabilities and Onboard processing decentralized Network

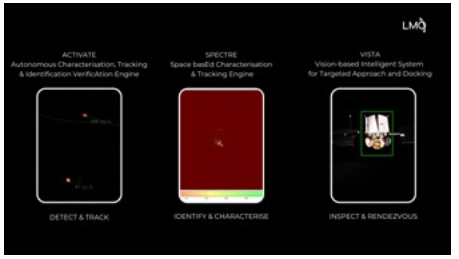
DIOSSA
ESA/LuxImpulse Development of an In-Orbit SSA Payload for In-Orbit Servicing Space Surveillance and Tracking using Artificial Intelligence

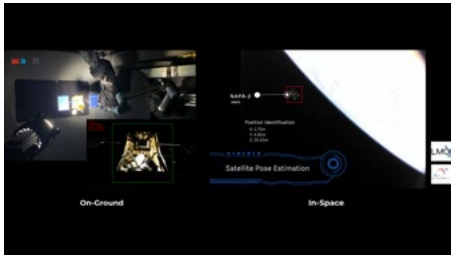
EDF SPRING
Space Based Bodyguard Satellite Definition

MECO/DOD AUREA
Autonomous Recognitions of Foreign Assets

AUDACITY Mission
Autonomous Detection & Characterisation of Objects During Deployment







INFORMATIONS

CEO/Head of department
Michel Poucet

Creation date
2020

Organisation type
Small and Medium-Sized Enterprise

Number of employees
Total: 21
Space: 21

CONTACT

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No update has been provided for 2025.

LSC360

Core business

LSC360 S.A. with its department Geodata, whose objective it is, to use innovative techniques from earth observation in research projects and to render services for the acquisition of reliable geodata. Further, the development of high-level products for environmental studies, precision agriculture and engineering projects is as well one of the major goals of the company.

The use of UAVs (Unmanned Aerial Vehicles or drones) allows for a rapid intervention and the acquisition of extremely high resolution geodata. These characteristics of UAVs – combined with a multitude of different sensors – make these systems very powerful in the case of natural disasters or precision agriculture, where satellite data lacks the spatial or temporal resolution.

Products & services

Geodata acquisition
- → UAV operation for data acquisition
- → Data processing for RGB-, thermal and multi- and hyperspectral data

Product development
- → Development of customized data products
- → Precision agriculture/viticulture: disease and weed detection, biomass, and photosynthesis.
- → Forestry: Remote sensing-based inventories, health status and biomass development
- → Construction site monitoring: volume estimation, 3D reconstruction, BIM and pipe detection
- → Instant-As-Built: Handheld device for high accuracy and high-resolution data acquisition

Technical means

- → Heavy lift UAVs: In many research projects, multiple camera systems need to be flown simultaneously and combined with sensors for side parameters.
- → LiDAR: A LiDAR scanner enables to collect 300pts/m² and allows to collect high precision digital elevation models, even below vegetation
- → Multi- and hyperspectral sensors and high-resolution RGB-cameras: the acquisition of the complete electromagnetic spectrum is required for the analysis of vegetation. The available sensor systems cover the spectral domain from 350 – 950nm.
- → A thermal camera captures long wave thermal infrared from 8-14µm and provides information about land surface temperature and emissivity.
- → Field spectrometer: the field spectrometer captures light in the spectral range from 350nm to 950nm. This data is used for research in vegetation studies and for cal/val of UAV data.

Main customers

Luxembourg municipalities

Governmental administrations
- → Administration de la nature et des forêts
- → Administration des ponts et chaussées
- → Administration de la gestion de l'eau

Research institutions
- → LIST
- → IBLA
- → University of Trier

Major space projects

ESAME
Secure and Safe Multi-Robot Systems

MonESCA
Disease detection in grape vines

COMMECT
Smart XG in remote farming, forestry and rural areas

LuxVita2
Monitoring Luxembourg forest vitality using Sentinel2 time series

ForMoLux
Forest inventories and monitoring using airborne and drone based LiDAR

INFORMATIONS

CEO/Head of department
Myriam Hengesch,
Administrateur Délégué
Alain Wagner, Administrateur Délégué
Carl Kleefisch, Administrateur Délégué
Gilles Rock,
Directeur de Division Geodata

Creation date
2024

Organisation type
Large Enterprise

Number of employees
Total: 258
Space: 5

Turnover 2024
Total: 30M€
Space: 2%

R&D internal investments
- → UAV operation for data acquisition
- → Data processing for RGB-, thermal and multi- and hyperspectral data

CONTACT

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Lunar Outpost EU

Core business

In order to enable long term operations in space and therefore increase the value gained from each mission, it is critical to maximize mission longevity. On the Moon, this means being able to survive the daunting temperature changes between lunar day and night. Lunar Outpost EU creates thermal technologies to enable enhanced survivability on the Moon, cis-lunar space, and extreme conditions on Earth.

Products& services

Lunar Outpost EU offers thermal control and thermal energy storage subsystems for satellites, planetary vehicles, payloads and other hardware operating in extreme conditions. These products are offered in custom, as well as COTS packages to support rapid development. This includes an active thermal switch that controls the transfer of heat between locations in a system, leading to enhanced survivability and ConOp flexibility.

Lunar Outpost EU offers Thermal Engineering and Testing services for customers throughout their system's lifecycle, including Thermal Vacuum (TVAC) testing at Lunar Outpost's LU facility available for 3rd party testing.

Finally, Lunar Outpost EU also offers the Canary, an IoT environmental monitoring device. This low cost, modular, constant monitoring solution was originally built by Lunar Outpost in the US and now also sold in LU.

Main customers

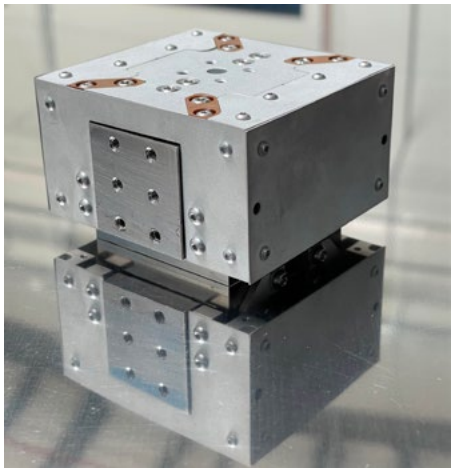
Lunar Outpost customers include governmental space agencies, as well as international space companies, focusing on orbital and lunar operations.

Major space projects

LuxIMPULSE contract with LSA and ESA for the development of specialized technologies, contributing to the commercial thermal and energy component and system offerings. This includes thermal switch hardware for the MAPP lunar rover missions, in partnership with Lunar Outpost Inc in the US.

Active Thermal Switch: The Active Thermal Switch controls the flow of thermal energy from one point to another, allowing systems to better control their temperature in an active, rather than passive manner. It is available as a COTS component and is designed and manufactured in Luxembourg.

Thermal Vacuum Testing Facility: Lunar Outpost EU offers Thermal Engineering and Testing Services, including testing in its two TVAC chambers. The Lunar Outpost TVAC is designed to perform thermal balance and cycling tests for spacecraft subsystems and components, reaching levels of <5×10^(-6) mbar



Lunar Outpost™

INFORMATIONS

CEO/Head of department
Julian Cyrus – President

Creation date
2022

Organisation type
Small and Medium-Sized Enterprise

Number of employees
Total: 16
Space: 16

CONTACT

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No update has been provided for 2025.

LuxProvide

Core business

LuxProvide is at the forefront of digital intelligence, combining data science expertise with supercomputing capabilities. Centered around MeluXina, Luxembourg's advanced supercomputer, LuxProvide focuses on accuracy, security, and sustainability in the digital realm. The company transcends traditional technological boundaries, fostering innovative solutions that elevate the human experience and drive positive change. LuxProvide is dedicated to pioneering a future where technology not only evolves but enhances every aspect of life.

Products & services

LuxProvide offers a unique platform that combines data science and supercomputing resources delivering insights for better decision-making.

Our team of data scientists, AI engineers, Machine Learning architects, privacy and cybersecurity experts focuses on the needs of our customers including research and business players, both large and small, in Luxembourg and the Greater Region. We believe that the key to effective innovation is a design thinking and co-creation approach involving our customers throughout the entire development process. By adding data-driven insights to their decisioning processes, LuxProvide's customers endow themselves with a powerful and differentiating way of creating tangible value.

LuxProvide is a 100% publicly owned company located in Luxembourg, a leading digital center in the heart of Europe. MeluXina, the cloud-enabled world-class supercomputer operated by LuxProvide, is a key element of Luxembourg's data-driven innovation strategy.

Technical means

Luxembourg's national supercomputer MeluXina was built to serve a large variety of complex, data-driven computational workloads. Its design is forward-looking, responding to the convergence of simulation, modeling, data analytics and artificial intelligence, and enabling simulation-driven by predictive analytics. As the most powerful of the Petascale systems in the EuroHPC network and one of the fastest supercomputers in Europe, it provides a robust platform for science and industry.

MeluXina is based on the EVIDEN BullSequana XH2000 platform with a computing capacity of 18 PetaFlops per second, and counts on 20 PetaBytes of DDN storage. MeluXina is fully scalable due to its open and modular architecture, and delivers high sustained performance through its GPU AI accelerators.

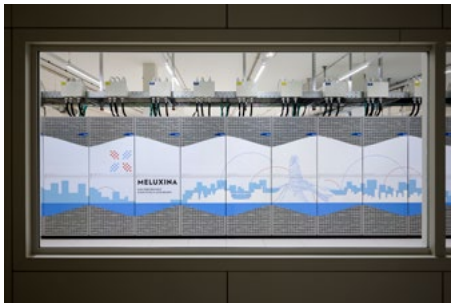
Main customers

Private enterprises
SES, RHEA, Spire, adwäisEO, RSS-Hydro, Hydrosat, WEO, iSpace, Space Shift, Whiffle, LMO

Public research partners
Luxembourg Institute of Science and Technology (LIST), University of Luxembourg (Uni.lu), Interdisciplinary Center for Security, Reliability and Trust (SnT), Luxembourg Institute of Health (LIH), Luxembourg Institute of Socio-Economic Research (LISER)

Major space projects

LuxProvide offers tailor-made high-performance computing (HPC), high-performance data analytics (HPDA) and artificial intelligence (AI) projects with the easiest onboarding and highest quality assistance, in a confidential, trusted and cyber-secure environment. High-Performance Computing (HPC) enhances space projects by leveraging advanced data processing, simulations, and Artificial Intelligence (AI). It enables the rapid analysis of vast satellite datasets, crucial for real-time decision-making and monitoring. HPC drives complex simulations for climate science, environmental assessment, disaster management, space missions, trajectory planning, and risk analysis, ensuring accuracy and reliability in predictions. Additionally, HPC improves satellite communication through efficient signal processing, network optimization, and cybersecurity. Key applications and projects among our customer base include climate modeling, disaster management, agricultural management, urban planning, water resource management, renewable energy, infrastructure monitoring, geospatial intelligence, planetary science, and real-time data analytics.



LUX PROVIDE
NEXT-LEVEL INSIGHTS WITH SUPERCOMPUTING

INFORMATIONS

CEO/Head of department
Filipe PAIS (CCSO)

Creation date
2019

Organisation type
Large Enterprise

Number of employees
Total: 29
Space: 6

Qualifications, Approvals
ISO 27001

CONTACT

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Chief Customer Success Officer

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LuxSpace

Core business

LuxSpace is the first Provider of **Small Satellites** and **Space Applications & Services** in Luxembourg. The company, with its latest Triton-X Platforms for LEO and, the ESAIL smallsat having now reached TRL 9, can look back on eight space systems successfully qualified and readied for launch. LuxSpace also gathered over 18 years of experience in data applications with a particular focus on the maritime sector and Earth observation. For its Customers, LuxSpace optimally combines expert development processes with innovative techniques to provide its products and services with *Performance and Trust*.

Products & services

LuxSpace develops and delivers complete smallsat space systems and subsystems with own design, specification, procurement, manufacturing, integration and testing.
This includes:
- Triton-X Platforms product line for LEO Smallsats in the 50-250 kg class for applications in the field of Earth Observation (EO), telecommunications, science, and technology demonstration
- OnBoard computers and Integrated Avionics Units for Space systems requiring high performance on-board processing
- Telemetry, Telecommand & Ranging (TT&R) subsystems for geostationary (GEO) and Low Earth Orbit (LEO) satellites
- Space-related software (Embedded/ Application/Simulator)
- Mission and Feasibility studies for Space systems

Additionally, LuxSpace provides space applications & services in the AIS/Maritime and Earth Observation domain and it is expanding into further data areas.

Technical means

LuxSpace has equipped itself across the years with new state-of-the-art systems to efficiently deliver smallsat based solutions. Among them, LuxSpace owns and operates:
- an Electronic Laboratory covering digital, analogue and Radio Frequency developments and testing
- a Thermal vacuum chamber (TVAC) and a Thermal test chamber for spaceborne equipment
- a Cleanroom for satellite integration
- dedicated Satellite simulation & design software laboratories
- dedicated Satellite data applications servers

Main customers

European Space Agency, University of the German Army (UniBw) and other European Institutions (e.g. EMSA, DG MARE, DG ENTERPRISE, EUROSTAT, European Defense Agency), players inside European and global space sector like OHB, Orbcomm Inc., Thales Alenia Space, players inside maritime sector

Triton-X Heavy in-orbit – Artistic impression by ESA (European Space Agency)

Major space projects

Smallsats (micro- and mini-satellites):
- Triton-X SeRANIS mission with the University of the German Army (UniBw): 15 different technological experiments on board a Triton-X Heavy satellite
- Triton-X development project with ESA: Scalable and powerful smallsat platform
- Triton-2/ESAIL: Prime contractor under ESA's ARTES SAT-AIS program (launched in 2020, reached TRL 9 with 4 successful years of operations)
- 4M commemorative mission: Manfred Memorial Moon Mission (launched in 2014)
- Triton-1/Vesselsat 1 & 2: First satellites "Made in Luxembourg" (launched in 2011/12, reached TRL 9 with 3 successful years of operations)
- Pathfinder 1a: Company funded first AIS satellite (launched in 2007)

Space applications & services:
- LUXEOSYS programme with the Luxembourg Ministry of Defence: service provision for the ground operations of the Luxembourg national earth observation satellite LUXEOSYS
- AIS data services and AIS added value service development for the maritime industry (e.g. fishery enforcement and safety and security)
- GIS and EO services:
  - LUCAS: Field survey data management and quality control
  - Copernicus Global Land Service: quality control for high resolution hot spot monitoring activities
- Space-based maritime reconnaissance & surveillance – vessel detection using NAVRAD radar

(GEO) Telecommunication satellites:
- Core team member for OHB's developed Small GEOstationary (SGEO) Satellite Platform: LuxSpace being responsible for the TT&R subsystem and the satellite simulator
- Two launched SGEO TT&R subsystems: Hispasat AG1 (2017) and European Data Relay System EDRS (2019) Relay System EDRS (2019)

OHB LUXSPACE

INFORMATIONS

CEO/Head of department
Didier Schnitzler

Creation date
2004

Organisation type
Large Enterprise
(OHB Group Subsidiary)

Number of employees
Total: 70+
Space: 70+

Turnover 2023
Total: 12.6M€
Space: 12.6M€

R&D internal investments
7% of Total (Space) Turnover 2023

Qualifications, Approvals
ISO 9001:2015

CONTACT

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No update has been provided for 2025.

LuxTrust

Core business

LuxTrust is a Qualified Trust Services Provider and a Certification Authority. Since our inception in 2005, we have been a pioneer in trusted services. We develop innovative and multi-applicative solutions to secure applications, online transactions, digital identities and electronic signatures for space and defence companies, public institutions, businesses, and private individuals.

We guarantee the security of digital space assets, making your applications more robust and reliable for the present and post-quantum world. Thanks to our digital solutions, you can authenticate data, identify your users, secure open architectures, simplify processes and increase business efficiency. Conveniently located in Luxembourg, Belgium (Brussels), France (Paris), and Monaco, our teams help you secure your digital future.

Products & services

LuxTrust provides global trust services, APIs and solutions that:

- **ensure data authenticity and integrity.** From satellite images, to code, AI analytics or even C4ISR information, we make your applications more secure, reliable and trustworthy.
- **digitise your paper processes.** COSI, our trust services hub, enables you to address your specific business needs whilst being easily integrated in your legacy IT infrastructure.
- **better prepare your systems for the post-quantum world.**
- **enrich your cyber forensics capabilities.** Our solutions secure and track each step of the processing chain, building evidence support in case of investigation.
- **securely identify your users.** Using electronic certificates, our strong authentication service allows you to identify your users and thus prevent any unauthorised access to your online services.

Main customers

LuxTrust supports international customers from highly regulated sectors such as space and defence, banking, insurance, financial services, public institutions, and health.

Major space projects

- Ground segment – Operators authentication
- Ground segment – Operations traceability
- Quantum Key Distribution
- Authentication and data encryption for EM-SAT, a comprehensive Secure Operation Centre for emergency situations in chemical plants
- Authentication and protection of earth observation satellite data
- Digitalisation of paper processes

LUXTRUST

Enabling a digital world

INFORMATIONS

CEO/Head of department
Fabrice Aresu

Creation date
2005

Organisation type
Small and Medium-Sized Enterprise

Number of employees
Total: 120-130

Qualifications, Approvals
Qualified Trust Services Provider on the EU Trusted List

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No update has been provided for 2025.

Maana Electric

Core business

The core business of Maana Electric is the development of dual use applications integrating In-Situ Resource Utilization (ISRU) concepts and sustainability/power systems technologies, with the aim to be the utility company of the Solar System. We use our proprietary ISRU technologies – originally thought for the space industry – to revolutionize solar supply chain (silicon, cells and panels), on Earth and in space. The introduction of the ISRU paradigm into the manufacturing processes allows substantial cost saving and at same time tackle the issues of the PV industry reducing CO_2 emissions, water consumption and waste generation.

Products & services

The ISRU technologies at Maana Electric enable manufacturing from raw materials in low-value feedstocks like desert sand (silicon, aluminum, iron, precious metals) and regolith (silicon, aluminum, iron, titanium). Maana's terrestrial strategy focuses on:

- Green Silicon: Producing high-grade silicon without carbothermal reduction, eliminating emissions.
- Green Cells: Manufacturing eco-friendly heterojunction (HTJ) cells to reduce CO_2 footprint and eliminate hazardous chemicals, cutting energy consumption on an industrial scale.
- TerraBox: A deployable mini-factory for solar panels, requiring less space, electricity, and manpower, adaptable to various environments.

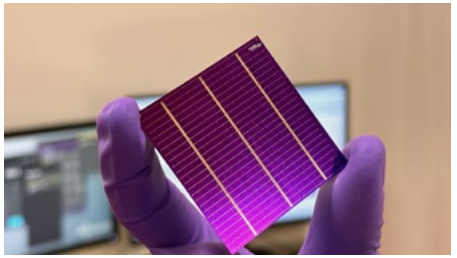
Maana also develops ISRU products for planetary exploration, such as metal and oxygen extraction from regolith and energy for Lunar Night Survival, and specializes in infrastructures for simulating lunar conditions, like ESRIC's Dirty Thermal Vacuum Chamber project.

Technical means

Maana Electric focused from the very beginning on a rapid prototyping approach with the development of inhouse capabilities oriented to independent manufacturing, testing and analysis/characterization. This allowed Maana Electric to fast progress and develop a wide range and multisectoral expertise. Our facilities currently host

- A laboratory dedicated to sand and regolith processing,
- An area equipped to testing metallurgical and high temperature applications
- An ISO-8 clean room and an ISO-7 clean room for clean operations (such as semiconductor testing).
- A state of the art and self-sufficient workshop.

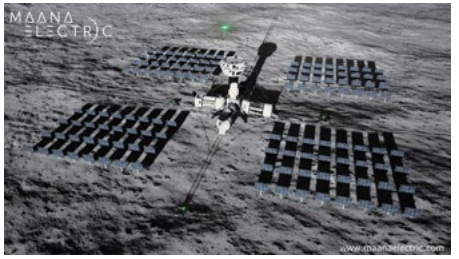
In addition, Maana Electric is equipped with many testing devices for fundamental material science and semiconductor physics and tools for analysis and materials characterization (XRF, Raman spectroscopy, FTIR, metallography, profilometer, sun simulator and several other developed inhouse).



Major space projects

Maana Electric's major projects with the European Space Agency focus on the development of ISRU capabilities to support incoming lunar exploration. The main developments refer to:

- TERRABOX, a terrestrial testbench of Maana's ISRU technologies for solar panel manufacturing.
- SOURCE, a lunar technology demonstrator to validate the extraction of silicon and oxygen from lunar regolith and enable the development of the LUNABOX infrastructure to produce solar panels on the Moon.
- ACME, a reactor for producing thermal energy to enable survivability of mobility units, landers and habitats during the Lunar Nights.
- DTVC, a space simulator Maana is developing in collaboration with Spartan Space, Haux Life Support and ESRIC in strategic partnership with ESA.



MAANA ELECTRIC

INFORMATIONS

CEO/Head of department
Joost van Oorschot

Creation date
2018

Organisation type
Small and Medium-Sized Enterprise

Number of employees
Total: 25

CONTACT

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No update has been provided for 2025.

METRICSAT

Core business

METRICSAT Sarl specializes in delivering physical environmental metrics to financial institutions at asset and portfolio level to assess environmental risk and impact. METRICSAT leverages satellite data as a primary source, integrating it with other data sources and advanced AI. This combination allows METRICSAT to develop sophisticated data analytics, automation, and environmental KPIs tailored to the needs of the finance industry. METRICSAT is committed to advancing the accessibility of environmental data to enhance risk and impact assessment, regulatory disclosures, reporting and informed decision-making.

Products & services

Our flagship product, NamSaf, is an Environmental Intelligence Platform (EIP) specifically designed to elevate environmental risk assessment capabilities. NamSaf automates the consolidation and analysis of environmental data, generating metrics tailored to the needs of financial institutions. Recognizing the complexity of environmental data, the NamSaf platform is built to allow financial institutions to effortlessly explore, interpret, and produce relevant metrics and KPIs. This ultimately reduces the time and resources needed for conducting environmental due diligence on new investments, supporting both the decisionmaking process and regulatory disclosure requirements.

Technical means

METRICSAT employs a proprietary methodology to deliver its product, NamSaf.

We understand that financial institutions need to assess the environmental risk of their assets at portfolio level. This is a key innovation that NamSaf offers. The platform is calibrated with industry-standard metrics and academically validated algorithms, enabling aggregated assessments of the environmental risk of an investment portfolio, regardless of its sector or geographic location.

Main customers

Financial industry market participants (Banking institutions, asset management, multilaterals, financial regulators, fund managers and insurance companies)

Major space projects

ESA-funded feasibility study on the use of satellite-based ESG metrics for financial institutions to meet regulatory disclosure and reporting requirements.

METRICSAT

INFORMATIONS

CTO/Founder
Loise Wandera

Creation date
2022

Organisation type
Small and Medium-Sized Enterprise

Number of employees
Total: 1-10

CONTACT

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Mission Space

Core business

Our core business at Mission Space is focused on revolutionizing space weather forecasting to protect both space and Earth-based assets. We provide real-time forecasts that are 230% more accurate than existing models, giving our customers up to 96 hours of advanced warning. This level of precision helps safeguard satellites, astronauts, and operations in space. Starting in Q1 2025, we'll be launching our own fleet of 24 nanosatellites, each equipped with our proprietary space weather sensor, Zohar. These sensors allow us to generate 1,000 times more data than current systems, which feeds directly into our AI and scientific models. This means we can offer highly localized and tailored forecasts within a 500 km square radius, ensuring our clients receive the insights they need to make informed decisions.
We're addressing the critical need for accurate space weather forecasting, especially given the increasing number of satellites in low Earth orbit (LEO). Space traffic management is a growing concern, and our forecasts enable operators to mitigate risks like geomagnetic storms, orbital decay, and potential satellite collisions. Our mission is to provide the most accurate, actionable, and timely space weather insights to protect our clients' assets and support the growth of the space economy.

Product & services

At Mission Space, our products and services are designed to deliver unparalleled space weather forecasting capabilities. We've developed a proprietary space weather sensor called Zohar, which will be deployed on our fleet of 24 nanosatellites starting in February 2025. These sensors allow us to collect 1,000 times more data than current systems, providing real-time, highly localized forecasts with up to 96 hours of advance warning.
Our forecasting service integrates data from both public sources and our proprietary satellite data, powered by advanced AI and scientific models. This enables us to offer our clients tailored insights and mitigation strategies, addressing space weather events such as geomagnetic storms, solar activity, and radiation threats. Our forecasts help satellite operators, defense organizations, and other space-dependent industries safeguard their assets and operations from potential damage or disruptions.
In addition to forecasting, we provide real-time data granularity within a 500 km square radius, allowing our clients to make proactive decisions based on the most accurate and localized information available. Our services are crucial for industries such as space traffic management, where precise and timely information is essential for preventing satellite collisions and managing orbital decay during space weather events. Ultimately, our products and services aim to enhance the safety, efficiency, and longevity of space operations for our customers.

Technical means

At Mission Space, our technical means are centered around cutting-edge technology and innovation to deliver the most accurate space weather forecasts. One of our key technical achievements is the development of our proprietary space weather sensor, Zohar. This sensor is equipped with advanced capabilities, including a spectrometer and Cherenkov detector, which measure charged particles, assess ionospheric disturbances, and analyze the geomagnetic environment. These sensors will be deployed on our fleet of 24 nanosatellites, starting in Q 2025.
Zohar is designed to capture 1,000 times more data than current systems, generating 1,000 measurements per second while monitoring 15 scientific and 100 technical parameters. Despite its advanced capabilities, it consumes less than 1 watt of energy, making it highly efficient and suitable for smaller, more affordable satellite buses. This scalable design allows for cost-effective mass production, ensuring we can deploy and maintain our fleet efficiently.

Our nanosatellites feed real-time data into our proprietary AI and scientific models, which enhance the accuracy of our forecasts by 230% compared to existing solutions. This combination of advanced hardware and software allows us to provide highly localized, real-time forecasts with a 500 km resolution, giving our clients the ability to prepare for space weather events with greater confidence and precision.

We also leverage high-performance computing to process the massive volume of data we collect, combining public data with our proprietary sources. This integration allows us to provide the most comprehensive and tailored space weather insights available, enabling industries to mitigate risks and protect their space-based assets. Our technical means set a new standard for space weather forecasting, ensuring the safety and resilience of space operations.

Major space projects

- Satellite operators and manufacturers
- Space Agencies
- Insurance
- Space Traffic Management platforms
- Government structures
- Research and Institutional organizations
- Defense and Military
- Space tourism and space exploration missions
- Aviation Industry
- GNSS operators

Main customers

- First launch of Zohar space weather sensors – Q1 2025
- 2024 Tech Crunch Disrupt 200 winners
- Mission Space is the part of Starburst accelerator.
- Beta version of SWOS – Space Weather Operation System

MISSION SPACE

INFORMATIONS

CEO/Head of department
Alex Pospekhov

Creation date
2021

Organisation type
Small and Medium-Sized Enterprise

Number of employees
Total: 10
Space: 4

R&D internal investments
350K€

Qualifications, Approvals
Luxembourg Fit4Start
Seraphim Space Camp
Space Founders Acceleration program
Amazon AWS Space Acceleration program
Singapore SSTL acceleration program
Creative Destruction Lab Canada
Starburst

CONTACT

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No update has been provided for 2025.

Molecular Plasma Group

Core business

We develop customized solutions using our
- → MolecularGRIP™ technology for improved adhesion between difficult-to-bond materials with custom-designed primer layers
- → Leaf™ technology for nano-structured, water-repellent and non-stick coatings
- → Virucidal & bactericidal coatings
- → UV filter coatings

Our Molecular Plasma Technology enables single-step grafting of a wide range of one or more functional precursor molecules (organic, inorganic, nanoparticles, biomolecules,...) onto any surface using a scalable, dry, ambient, atmospheric process. The solutions we develop are easily scalable and we ensure a robust industrially implementation.

Products & services

Development and implementation of solutions for
- → Priming for improved bonding of inert materials (e.g. PTFE, Titanium, CFRP's, Polyolefins) in multi-material structures
- → improvement of adhesion between any fibre and a polymer matrix
- → non-stick, water-repellent and anti-corrosion solutions
- → REACH-compliant, wet chemical primer replacement

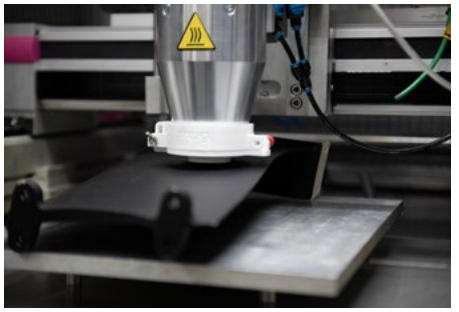
R&D equipment for RTO's, Universities and companies
Pilot lines
Small scale production
Custom-designed industrial systems
After-sales service and remote diagnostics.

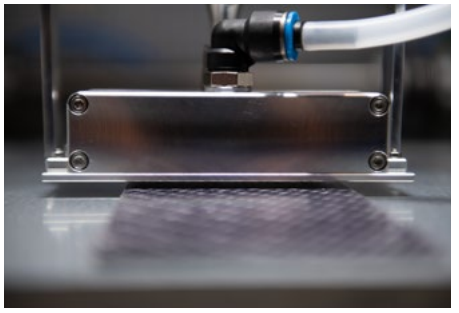
Technical means

Lab facilities for application development with PlasmaspotTM and PlasmalineTM equipment
PlasmaFIBER equipment for functionalisation of fibers and tows
PlasmaPOWDER equipment for particle engineering
Small production runs & scale-up support
Characterisation (cooperation with LIST)
3D printing for rapid prototyping
Engineering of customised solutions

Main customers

ArianeGroup, Samsonite, Freudenberg, Valeo
Research Institutes and Universities such as LIST, KU Leuven (B), Centexbel (B), University of La Rioja, VTT (Fi), PICC (CH), FILK (D)





mpg. molecular plasma group

INFORMATIONS

CEO/Head of department
Stijn Vansant, CEO

Creation date
2016

Organisation type
Small and Medium-Sized Enterprise

Number of employees
Total: 20
Space: 0

Turnover 2022
Total: 2.4M€
Space: 35k€

R&D internal investments
1.8M€

CONTACT

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Neuraspace

Core business

The core business of Neuraspace is providing advanced Space Situational Awareness (SSA) and Space Traffic Management (STM) solutions to ensure a safe operational environment in space. Neuraspace leverages AI, machine learning, and proprietary sensor technologies to offer services such as collision risk assessment, conjunction analysis, automated collision avoidance, and real-time space traffic management. Our offerings include products like LEOP Tracking & Support, STM and operations in real-time, data and tracking services, mission analysis, and launch trajectory screening.
Neuraspace aims to lead in space safety by enabling autonomous spacecraft operations, optimizing resources, and mitigating collision risks.

Products & services

- **Mission Analysis Service:** Risk analysis for mission phases and constellation operations.
- **Launch Trajectory Screening:** Pre-launch trajectory safety checks.
- **STM and Operations in Real-Time:** Space Traffic Management service with conjunction screening, collision avoidance, and routine operations support (SYNC and PRO tiers).
- **LEOP Tracking & Support:** Tracking and anomaly investigation during the Launch and Early Operations Phase.
- **Data and Tracking as a Service:** Tracking data and orbit determination (Standard and Priority tiers).

Upcoming Products:

- **Defence Intel:** Monitoring and reporting on resident space objects of interest.
- **Orbital Intel:** Space weather prediction, launch tracking, re-entry monitoring, and fragmentation analysis.

Technical means

Neuraspace leverages the following key technologies:

- **AI and Machine Learning (ML):** Proprietary models for data mining, collision prediction, and decision automation.
- **Data and Sensors:** Multi-source data strategy integrating optical, radar, laser, and GNSS data, including proprietary sensors.
- **Automation:** Automated processes for orbit determination, collision avoidance, and operational decision-making.
- **Software Architecture:** Scalable and modular platform enabling rapid product development and customization.

These technologies enable Neuraspace to provide advanced space situational awareness, traffic management, and operational support.

Main customers

Neuraspace supports close to 500 satellites operated by commercial operators and defence actors.
Among Neuraspace's customers are Spire, German Orbital Systems, Kongsberg NanoAvionics, GomSpace and Open Cosmos.

Major space projects

Neuraspace is involved in several major space projects, including:

- **EMISSARY (European Military Integrated Space Situational Awareness and Recognition Capability):** Developing an independent sensor network for tracking space objects and creating a shared Recognized Space Picture (RSP) across EU members.
- **ESA Contract "NEXTGen STM":** Integrating Neuraspace's STM platform at ESA's Space Debris Office (SDO) for managing over 20 ESA satellites, including future missions like JUICE.
- **AI Fight Space Debris:** Developing a Smart Traffic Management Solution for Satellite Constellations and sensor infrastructure with €25M funding from the Recovery and Resilience Plan and NextGeneration EU Funds.
- **ESA Contract "External Conjunction Assessment Support Service":** Providing a processing chain for conjunction assessment and manoeuvring suggestions using multi-source data.
- **ESA Contract "Multi-Sources Data Correlator for Commercial Services":** Developing a prototype multi-source data correlator for collision avoidance and space traffic management.

These projects highlight Neuraspace's focus on space safety and advanced space traffic management solutions.

neuraspace

INFORMATIONS

CEO/Head of department
Thomas Eggenweiler
Chiara Manfletti

Creation date
2020

Organisation type
Small and Medium-Sized Enterprise

Number of employees
Total: 29
Space: 29

CONTACT

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NorthStar Earth & Space

Core business

NorthStar Earth & Space S.à r.l. – headquartered in Luxembourg – launched operations in 2023 with the support of a commercial product development contract funded by the Government of Luxembourg. The team is comprised of 20 experts in astrodynamics, software development, data science, and IT platforms. NorthStar Europe has already launched its commercial Space Domain Awareness (SDA) and Space Traffic Management (STM) offering in Q1 2025. The initial service offering includes Collision Avoidance services; Space Domain Awareness services and Subject Matter Experts support through the NorthStar Platform to a wide range of customers.

Products & services

NorthStar provides a suite of high-speed, comprehensive Space Information and Intelligence (Si2) services.

The initial service offerings for satellite operators include Collision Avoidance, Conjunction Analysis, Orbit Improvement, and Flight Plan Validation – critical capabilities for safeguarding satellite constellations across all orbital regimes.

In addition, NorthStar's powerful data fusion and processing capabilities enable the integration of multi-source data and the continuous tracking of high-interest space objects. This allows for the near real-time detection of anomalous behavior in space, supporting enhanced space domain awareness and operational decision-making. Critical technology for space safety, security, and sustainability.

Technical means

NorthStar is the only commercial enterprise that provides the service of high-quality tracking of the movements of objects in space using data from multiple and varied data sources. NorthStar delivers this service in the form of state vector representations (location, direction, velocity, and corresponding error covariance matrix) for any controlled or uncontrolled RSO, satellite or debris. NorthStar's unique service fuses and integrates multiple sources (e.g., RF, Optical, Radar, etc.) of third party "raw" observation data to generate precise, near-real time orbit determination and tracking information of any satellite of interest that could threaten any high valued allied or commercial space assets.

NorthStar also offers tailored SSA services using its space-based constellation. Following the launch of its first four satellites in January 2025, the constellation will scale to 12 by 2026, enhancing tracking and supporting global SDA missions.

Main customers

NorthStar Europe has already secured commercial contracts with leading international satellite operators for its STM services. It also provides subject matter expertise and data fusion and processing capabilities to the U.S. Department of Defense's Joint Commercial Operations (JCO) Space Operations cell. Under these unclassified operations, NorthStar is responsible for the continuous detection, monitoring, and reporting of anomolous orbital activity using proprietary toolchains. By continuing to grow its commercial and defence-related operations, while maintaining excellence in product development, NorthStar Europe plays a key role in Space Domain Awareness, Space Traffic Management, and overall space security and sustainability.

Major space projects

NorthStar is developing a suite of Space Traffic Management services for a broad range of customers. Building on this foundation, the company is onboarding satellite operators to its Space Safety Services platform. From Luxembourg, NorthStar supports the U.S. Space Force's JCO cell by fusing commercial data and delivering real-time space intelligence–an approach gaining traction with allies. Through an EIC-backed project, NorthStar is adapting its SSA and astrodynamics capabilities to support on-orbit servicing and debris removal. It also delivers space-based SSA data through its Data-as-a-Service Product Offering (DaaSPO) to European defence organizations.

NORTHSTAR EARTH & SPACE

INFORMATIONS

CEO/Head of department
Brendan Thorn/Ignacio Cires
Interim General Manager NorthStar S.à r.l.

Creation date
2023 (Luxembourg)

Organisation type
Small and Medium-Sized Enterprise

Number of employees
Total: 20

R&D internal investments
4M€/year

CONTACT

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Odysseus Space

Core business

Our vision is to provide light speed connectivity everywhere in the Solar system by enabling fast and secure communications between all human assets in space and on Earth.

As satellites continue to generate an ever-expanding volume of data, surpassing their current data transfer capabilities, Odysseus Space's unique solution Cyclops™ addresses the data bottleneck and security challenges faced by satellite operators. It is fast, secure, and cost-efficient.

Satellite operators can now effortlessly download their space data to Earth at remarkable data rates, free from radio frequency licensing concerns, and with utmost security, thanks to our comprehensive laser communication solution.

Products & services

Odysseus Space provides Cyclops™ as an end-to-end solution through a subscription-based model, with no upfront cost.

We supply our space laser communication terminal, Cyclops-DTE, designed for seamless integration into your satellite system to integrate in your satellite.

Cyclops™ gives you access to our network of optical ground stations, enabling data retrieval at up to 10 Gbps, and 1 TB per day. These stations, named Cyclops-OGS, are fully compatible with Cyclops-DTE and other designated space terminals.

With Cyclops™, satellite operators can effortlessly transmit their valuable space data, ensuring rapid, secure, high-capacity data transfer. This ground-breaking solution is particularly ideal for microsatellite constellations in Low Earth Orbit seeking efficient and rapid space-to-ground data communication.

Major space projects

Odysseus Space's flagship solution, Cyclops™, will be demonstrated in a Low Earth Orbit (LEO) to ground link in 2026.

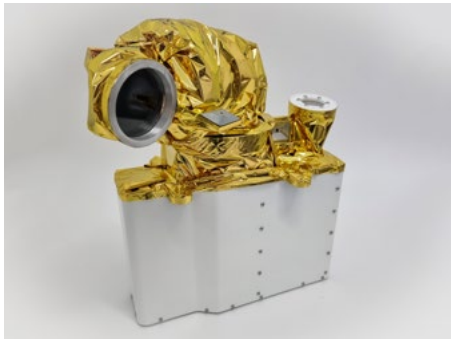
In a strategic partnership with a leading Ground Stations Network operator, we are enhancing their infrastructure with laser communication capabilities.

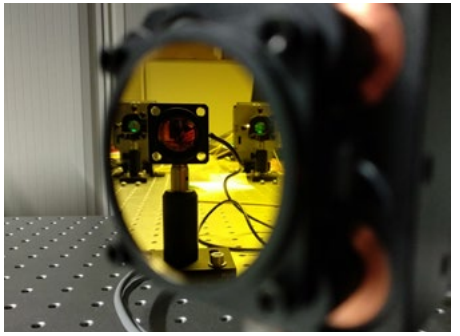
While our focus is on developing a laser communication solution for LEO to ground, we envision extending our reach to enable intersatellite links in LEO and beyond by 2027.

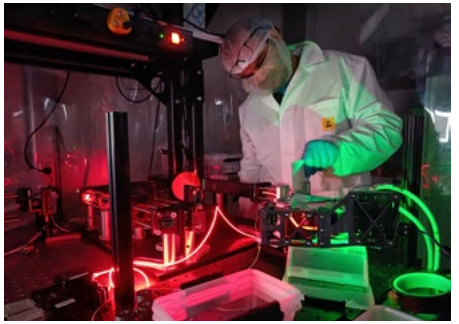
Odysseus Space is also actively engaged in defence-focused innovation through projects supported by the European Defence Agency, where the company leads the laser communication work in:

- AVALON – Underwater wireless laser communication
- LUCID – Laser communication for a cislunar surveillance satellite
- OPTIMAS – Bi-directional laser communication between satellites and drones

Stay tuned for ground-breaking advancements in space communication with Odysseus Space and Cyclops™, and join us on this exciting journey towards faster, more efficient, and secure space communication.







ODYSSEUS SPACE

INFORMATIONS

CEO/Head of department
Jordan Vannitsen

Creation date
2019

Organisation type
Small and Medium-Sized Enterprise

Number of employees
Total: >30
Space: >30

CONTACT

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OQ TECHNOLOGY

Core business

OQ Technology is a global 5G Non-Terrestrial Network (NTN) connectivity provider providing Narrowband IoT (NB-IoT) services globally using its constellation of LEO satellites in remote and rural areas for enterprise customers (oil & gas, mining, offshore and maritime businesses, logistics, agritech, etc) and Mobile Network Operators (MNOs/ MVNOs). Whether this is digital oilfield applications, offshore monitoring, SCADA applications, asset tracking, fleet management, smart metering or predictive maintenance, we provide you with an innovative low-cost connectivity solution.
We also help mobile operators extend their cellular IoT coverage to remote and rural areas where their cellular tower coverage cannot reach.
Our patented technology allows standardized cellular modules to directly communicate with satellites without any hardware changes thereby reducing the costs for customers and improving operational efficiency while delivering industry standard data security.
OQ Technology is also the first European company working towards providing Direct to Smartphone 5G SMS and SOS services with its future batch of satellites.

Products & services

Connectivity Service: We offer highly secure managed 5G IoT connectivity service with large data plans and low cost compared to traditional solutions.
5G Sat M2M Modules: Hybrid cellular terrestrial and satellite NB-IoT modules that can roam and switch between the mobile and satellite network anywhere in the world.
5G IoT Sat Terminals: It is a universal NB-IoT data aggregator that is designed to provide a gateway for IoT and M2M data and connects to any satellite, regardless of the platform used. Typical applications include SCADA, maritime, and remote industrial connectivity. It implements edge-computing, high security standard, and low power communication. IT can connect to any VSAT or other satellite terminal.
D2D SMS and SOS Services: In the near future, we will offer SMS and SOS services over satellites which would enable mobile connectivity accessible for 50% of the global population that are unconnected today due to lack of terrestrial infrastructure and operations in different geographies of the world.
Data Analytics: Our secure data analytics platform gives you access to a wide range of meta data that together with highly targeted analytics algorithms offer you the necessary information needed for your critical business decision-making processes and for optimising your operations.
DSP House: Strong experience and skills in cellular transceiver and software stack development for mobile and satellite operators, NB-IoT over satellite IP own development product and patented under OQ.
Consultancy: We support customers' hi-tech and telecommunication projects at all stages, from the definition of requirements, initial studies, engineering processes, procurement and management tasks as well as operations through to the end of the project with archiving and lessons learnt. OQ TECHNOLOGY can also provide monitoring of industrial contracts for clients.

Technical means

OQ TECHNOLOGY hosts a team of multi-talented engineers with cross-functional domain experience ranging from space systems, telecom R&D, Software development for space and telecom, Space electronics hardware design and development and Digital Signal Processing. OQ TECHNOLOGY also has built an end-end state of the art 5G satellite IoT lab comprising of a functional flatsat, ground segment and a 5G payload and prototype user terminals and the necessary measurement and instrumentation EGSE to aid development and testing.

Main customers

Our main customers include Organizations from the oil and gas, MNOs and MVNOs, maritime, Industry 4.0 and transport segments particularly for the management and tracking of assets in remote areas for digital oilfield applications, offshore monitoring, SCADA applications, asset tracking, fleet management, smart metering or predictive maintenance etc. Today we boast some of the leading names in the world including Saudi ARAMCO, Deutsche Telekom, Telefonica-O2, Emnify, NTT Transatel, STC who have signed up for OQ's connectivity services.

Major space projects

Smart Automatic Model Based Architecture: The project aims to create a set of agile AI software tools to support in automation of test plans and routines with minimal human intervention for the automotive and aerospace industry saving the customer upto 70% cost and time.
MACSAT In-Orbit Demonstration Mission: The MACSAT IOD mission was developed to demonstrate NB-IoT connectivity from space. This technology was successfully validated through the TIGER-1 mission in 2019 and demonstrated through the MACSAT IOD mission in 2024 making OQ Technology the first company in the world to deliver NB-IoT connectivity from LEO satellites.
ANCORSAT: As a part of ESA ARTES 4.0 Programme OQ TECHNOLOGY is the prime contractor for this Activity which aims at technical design & development of an end-to-end test bed to demonstrate and verify Satellite IoT use cases for Agile 5G Network Configurations.
MACSAT 2.0: Kicked off in 2025 and Co-funded by the LuxImpulse Programme, this is the most advanced IOD mission from OQ Technology yet to deliver direct-to-smartphone (D2D) 5G connectivity for SMS and SOS services.

OQ TECHNOLOGY

INFORMATIONS

CEO/Head of department
Omar Qaise

Creation date
2016

Organisation type
Small and Medium-Sized Enterprise

Number of employees
Total: 40
Space: 8

R&D internal investments
700K€

Qualifications, Approvals
ETSI Member (Since March 2020),
3GPP Member (Since March 2020)

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Orbitare

Core business

The core business of Orbitare is addressing the needs of people from space. We work in identifying projects of large social impact which can only be made possible with the use of space assets and make them happen by working on the three business pillars of market, funding, and development.

Spaceloop is the first of such projects, aiming at changing the market of personal satellite communications by providing universal access to IP messaging connectivity to keep people always safe and connected to those who matter to them.

Products & services

- IP messaging services over the Spaceloop satellite network.
- Integration of third-party applications over the Spaceloop network.
- Network as a Product (NaaP) – turn-key satellite networks designed to meet the needs of specific customers.
- Multi-channel satellite channel emulator
- LEO Satellite network emulator
- Circular polarized antennas in L, S, C and X bands
- Transfer of space experience – we are happy to share our long-time experience in space with the vibrant community of new space.

Technical means

- Electronics assembly line for prototypes and short production runs
- 6-channel satellite channel emulator
- LEO Satellite network emulator test bench
- Standard RF laboratory equipment up to 6GHz
- In-house developed RF signal generator and VNA up to 12 GHz
- Flight representative Software Defined Radios
- Diverse SDR transceiver and FPGA evaluation boards
- Antennas in L, S, C and X bands

Main customers

The main customers of Spaceloop in the B2C approach will be adventure travellers, professional and recreational mariners, NGO personnel and journalists working in the field, the communities in the Earth Polar regions and any other location across the World. The main customer of Spaceloop NaaP are the Swiss Armed Forces, who have selected Spaceloop as the candidate for their LEO satcom systems in their space defence strategy.

Major space projects

The Spaceloop personal satellite communication system is the main project of Orbitare. It reached TRL7 in March 2024 under ESA ARTES contract. Development continues, with TRL8 planned for Q4 2025. Orbitare's core activity is in the user, mission and system level engineering, the development of the end-to-end communication and network stack, the payload and the user terminal hardware. Non-core activities are performed in cooperation with our international partners.

Orbitare

INFORMATIONS

CEO/Head of department
Luis Muñoz

Creation date
2017 (Switzerland)
2020 (Luxembourg)

Organisation type
Small and Medium-Sized Enterprise

Number of employees
Total: 8
Space: 8

Turnover 2022
Total: 475K€
Space: 475K€

R&D internal investments
370K€

CONTACT

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No update has been provided for 2025.

POST Luxembourg

Core business

POST Luxembourg is Luxembourg's leading telecommunications and information services company. It offers a large range of ICT services for business customers: high-speed secure connectivity solutions as well as cybersecurity, voice and data management services for individuals and professional customers.

POST Luxembourg is also the country's largest provider of postal services and offers financial services.

Products & services

POST Luxembourg Group offers a broad portfolio of ICT services and tailor-made solutions to business customers. The offering comes in six layers completing one another:

Datacentre
Tier III & tier IV datacentres; on-premise, public & hybrid & private cloud solutions;

Infrastructure
Virtualization, compute, storage, network, connectivity (fixed, mobile, satellite), backup;

Service
Monitoring, automation, deployment, management;

Application
E-Mail, document management, collaboration, sync & share;

End-User
Workplace, printing, applications, mobile device management, support:

Security
Internet and network protection, device protection, data protection (including GDPR compliance), vulnerability and threat management including a Security Operations Centre.

Main customers

POST Luxembourg serves all customer segments from residential customers to large corporate and public customers.

POST Luxembourg Group has the privilege of counting amongst its customers almost all major corporates from the financial, insurance, health, industry, commerce, space and transport sectors, as well as the national public sector and the institutions of the European Union.

Major space projects

POST Luxembourg provides bespoke ground station, hosting, satellite broadband and communications services to major corporate and public customers.

POST Groups also participates in space research projects, e.g. quantum key distribution, digital asset authenticity validation or Smart Agriculture.

Furthermore, POST Luxembourg supports the space ecosystem development through the Luxembourgish space fund 'Orbital Ventures', which focuses on early-stage companies engaged in space activities.

INFORMATIONS

CEO/Head of department
Claude Strasser

Creation date
1842

Organisation type
Large Enterprise

Number of employees
Total: 4689

Turnover 2022
Total: 892M€

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No update has been provided for 2025.

Rafinex

Core business

Rafinex is a company focused on the development of next-gen computational design and optimization algorithms for safety-critical engineering applications, ranging from structural over fluid-structure and beyond in sectors such as space, aerospace, and defence. A particular focus is on the use of stochastic methods to account for real-life variability in digital design & optimization, making the digital design considerably more realistic and applicable in in-service conditions. Finally, Rafinex has in-house know-how on latest algorithmic mathematics and numerical HPC expertise.

Products & services

Rafinex distributes its world-class algorithms for robust safety-critical design optimizations through it SaaS platform entitled Möbius. With the latter, customers can achieve weight saving and performance improvements of real-life designs at scale. Additionally, Rafinex provides application engineering support as well as custom mathematical algorithms developments for high-value challenging problem statements.

Technical means

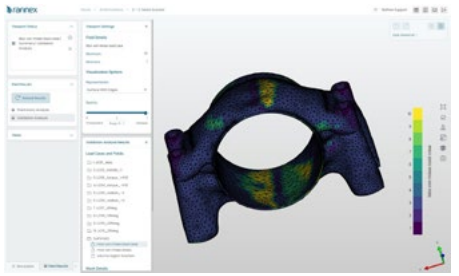
Rafinex' groundbreaking innovation is our AI-assisted topology optimization for safe, lightweight designs. This technology actively manages uncertainty and risks of real-life variability to create uniquely robust designs that remain safe even in off-design load conditions. Rafinex offers a suite of next-generation algorithms to solve your product design and manufacturing challenges. We ensure structurally optimized designs for various manufacturing strategies like casting, moulding, AM as well as fibre directions in composites. Using Rafinex' technology end-users can systematically optimize reliable product designs fit for reality and thereby achieving profitable sustainability at scale.

Main customers

European OEMs & Tier 1s in the areas of aerospace, automotive, racing, aerospace, defence, tooling & consumer products.

Major space projects

Rafinex is a member of the European Defence Agency's Land, Air and Space CapTech communities with activities in land and aerial vehicle design optimization. Similarly, activities in space & satellite component optimization. In the UK, Rafinex is the primary algorithm developed for the 40m GBP ASCEND consortium, lead by GKN Aerospace and McLaren Automotive, for the development of high-rate composite manufacturing and its associated supply-chain.



INFORMATIONS

CEO/Head of department
André A.R. Wilmes

Creation date
2019

Organisation type
Small and Medium-Sized Enterprise

Number of employees
Total: 8

R&D internal investments
>5M€

Qualifications, Approvals
Hannover Messe 2019 – Best Young Tech Enterprise
Luxembourg Young Innovative Enterprise 2020
Accredited as Research Institute in Private Industry for computational mathematics & algorithms
Active member of EDA CapTech Land, Air and Space.

CONTACT

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No update has been provided for 2025.

Redwire Space

Core business

Formerly known as Made In Space, Redwire Space's facility in Luxembourg City designs and develops robotic solutions for orbital and free-flying missions, to support and enable activities such as satellite servicing and refuelling, in-space manufacturing, debris capture, payload management, and more.

In addition, Redwire Space also participates in collaborative R&D projects related to robotic applications in space by lowering barriers to sophisticated in-space robotics. We support the introduction of the next generation of space industrialization.

Products & services

- STAARK Robotic Manipulator System: an affordable, modular and easily customizable robotic system designed for in-orbit robotic applications, among those are in orbit servicing and active debris removal, payload manipulation. The manipulator's standardized tool flange allows accommodation of various end-effectors produced by third parties or the use of Redwire-made grippers
- Redwire Space in Luxembourg develops a cross-application software stack for scalable sensing and intelligence in space. The stack is built from the ground-up to unify traditional sensor processing and modern artificial intelligence models while complying with reliability requirements for in-space operation.
- MANUS is a lunar robotic manipulation system designed to support lunar surface logistic operations. While the manipulator aims to be general in use aboard the ESA Argonaut Lander, three reference scenarios for cargo delivery, instrument deployment and regolith acquisition have been defined as sizing use cases.
- MGAP (Multiaxial Gimbal for Antenna Pointing): providing precision Azimuth and Elevation positioning for LEO applications. The architecture uses two identical rotary joints mounted at a right angle through a stiff yet lightweight interface flange.
- SMCU (Stepper Motor Controller Unit) – excels at stepper motor control in precision applications for LEO. Using a compact multi-board architecture for control/ telemetry and power distribution, it can be integrated near the motor to reduce latency and noise.
- SADM (Solar Array Driving mechanisms): offers precise and reliable azimuth and elevation positioning tailored for LEO applications. Its architecture features two identical rotary joints arranged at a right angle, connected by a robust yet lightweight interface flange for enhanced structural integrity.
- SADE (Solar Array Driving Electronics): an advanced electronic system responsible for the driving and controlling the SADM, ensuring efficient orientation and positioning of satellite solar panels.

Technical means

Our facility features an ISO 7 cleanroom, and a thermal vacuum chamber, among other industrial equipment for on-site manufacturing. This setup enables us to conduct comprehensive product testing in-house.

Our facility is home to specialized teams in Electronics, Mechanics, Assembly, Integration and Testing (AIT), Systems, and Software, each equipped with their own dedicated laboratories. These expert teams are proficient in design, manufacturing, and testing, ensuring that every aspect of our projects and products are handled with precision and expertise.

Main customers

The main customers of Redwire Space are companies, entities and agencies that seek affordable solutions for industrial space applications and missions. These solutions developed are used for orbital activities, such as satellite servicing and in-space assembly, active debris removal, as well as for surface activities, such as planetary exploration and ISRU. In addition to industrial space companies, Redwire Space also works with R&D consortiums which are interested in refining robotic technologies for far-future missions (10+ years).

Major space projects

Redwire Space is supporting major technological efforts, striving for debris removal and other space applications in LEO as well as on lunar surface, utilizing our testing facilities in Gasperich, Luxembourg.

STAARK© robotic arm

REDWIRE

INFORMATIONS

CEO/Head of department
Bruno Raposo (Managing Director)

Creation date
2019

Organisation type
Large Enterprise

Number of employees
Total: 23
Space: 23

CONTACT

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RespectUs

Core business

RespectUs: Compliance Solution for Sensitive Exports
RespectUs offers a SaaS platform for exporters of sensitive goods, their suppliers, and banks, with particular relevance to the space industry. Our cloud-based solution streamlines the complex process of determining export license requirements for controlled goods, software, and technology.

Key features:
- Efficient product classification against control lists
- Streamlined customer and end-use due diligence
- Internal compliance program documentation
- Legal protection against fines and business suspension
- Significant productivity gains
- Accurate license requirement determination
- Compliance demonstration with export control regulations
- Global export control legislation knowledge base (for up to 50 countries)

By automating checks and screenings (customer, end-use, product, and transaction), RespectUs replaces manual processes and Excel sheets. Our platform ensures exporters meet their responsibilities, avoid sanctions, and maintain proper documentation.
For space industry players dealing with sensitive exports, RespectUs provides a comprehensive tool to navigate regulatory complexities, foster supplier-integrator collaboration, and maintain full compliance in a high-stakes environment.

Products & services

RespectUs: Modular Compliance Platform for Space Industry Exports
RespectUs offers a comprehensive SaaS platform with individually subscribable modules:
- License Determination: Analyzes transactions, products, customers, and end-uses to determine license requirements across various types and activities.
- Product Classification: Compares item characteristics against EU and national control lists for dual-use, military, and torture goods.
- Customer Screening: Manages customer profiles, due diligence reports, and end-use statements.
- Sanctions & Embargoes: Checks involved parties and products against up-to-date sanctions lists.
- End-Use Checks: Documents diversion risk assessments and suspicious order indicators.
- Risk Assessment: Develops company-specific risk profiles for dual-use and military trade.
- Knowledge Base: Provides searchable legal framework and compliance information.

Additional services include:
- Training
- Compliance Audits
- License Management
- Internal Compliance Programs (ICP)
- Transaction Structuring
- Violations Management

Ideal for space industry exporters, RespectUs streamlines complex compliance processes, ensuring adherence to international trade regulations and minimizing risks associated with sensitive exports.

Technical means

RespectUs digital platform-as-a-service for export control compliance, with dedicated digital compliance tools and related services.

Main customers

SMEs and large enterprises from Space sector. Exporting companies and suppliers from other industries.

Major space projects

Export Control compliance for Space companies, and their suppliers.

RespectUs
Export Control Compliance Daily

INFORMATIONS

CEO/Head of department
Patrick Goergen

Creation date
2019

Organisation type
Small and Medium-Sized Enterprise

Number of employees
Total: 5
Space: 4

Turnover 2023
Total: 250K€
Space: 218K€

Qualifications, Approvals
Graduate Fit4Start, 9th ed., Space vertical (2020)
Platform Software validated by ESA in August 2023

CONTACT

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RSS-Hydro

Core business

R&D in remote sensing applications and computer simulations of water risks. RSS-Hydro employs traditional methods and advanced machine learning models to extract actionable information from geospatial datasets and to simulate water risks at impact level scales. Our innovative remote sensing technology services, including drones and satellites as well as computer models are developed in-house to respond to the needs of our customer.

Products & services

- Remote sensing and computer simulations of water risks at local to global scales;
- Flood & Fire disaster response assistance with Earth Observation (EO) products and services;
- Flood event re-analysis using EO data and computer models;
- Expert consulting services in remote sensing and modelling of water risks and environmental applications;
- Drone services and products for the natural and the built environments.

Technical means

- Almost 20 years of expertise in academia and R&D in the field of remote sensing and computer simulations of water risks;
- Our team members have many years of expertise in hydrology, geospatial data analytics, and machine learning applications;
- Experience in IoT, in particular using open geospatial web services;
- Expertise in drone technologies and services.

Main customers

Applied research funding sources:

- Government departments;
- Space agencies;
- Private sector companies;
- Public institutions (including universities):
- NGOs and international organisations;
- European Commission.

R&D services provision to:

- Government departments and other public sector entities City Councils
- Development aid organisations;
  - Humanitarian response organisations;
  - Private sector, including the (re)insurance sector.

Major space projects

ESA BASS project "HeManEO": https://business.esa.int/projects/hemaneo
Active R&D projects focus mainly on flood & fire disaster response assistance using EO products and services;
Participation and mentoring in NASA/Europe Frontiers Development Lab (FDL);
Acquisition of high-resolution drone data and provision of services to a variety of sectors.

RSS-Hydro

INFORMATIONS

CEO/Head of department
Dr. Guy Schumann

Creation date
2017

Organisation type
Small and Medium-Sized Enterprise

Number of employees
Total: 7
Space: 4

Turnover 2024
Total: <750K€ (Space 60%)

Qualifications, Approvals
Government-accredited private research institute

CONTACT

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R

SATURNE TECHNOLOGY

Core business

SATURNE TECHNOLOGY serves its clients and partners through experience and skills. The main objective of our commercial and technical departments is to meet the expectations and needs of customers, while respecting the three most essential points for effective partnership:

- Quality
- Price
- Deadline

The permanent challenge for all our customers is to quickly introduce new products on a changing market. Project managers, developers and designers use our services to validate a concept or the functionality of their parts or a prototype, detect possible design problems, present team marketing and convince their clients. They need to test different solutions, compare and confront them, validate industrial processes and optimise their knowledge to reduce manufacturing costs and, finally, confirm the launch of production in small, medium and large series. Our reactivity and our mastery of different laser technologies are real assets to carry out your projects.

Products & services

Additive manufacturing

Our selective laser process is the ideal solution for realising your functional parts. There is no loss of time between conception and getting your metal parts as parts are not obtained by removing but by adding material and additive manufacturing. We can make complex shapes and produce what was until recently inaccessible for the state of the art:

- geometric forms without limit.
- conduits and internal canals, in any forms and geometries.
- more efficient cooling systems.
- optimised lightening.
- moving mechanical parts (e.g. ball joints, etc.).

Laser welding

SATURNE TECHNOLOGY's laser welding machines allow the realisation of welding, point by point, as well as cords with high quality and perfect precision:

- with or without contribution of material.
- speed and precision.
- absence of mechanical constraints.
- complex forms; Laser drilling We can make small circulars holes diameters, without moving the beam. Materials which can be drilled include steel, plastic, copper, ceramics, etc.

Laser cladding

With our reloading laser technology, we can deposit different types of alloys or materials on mechanical parts to increase their durability, hardness and profitability. Our deposits are realised with a "coaxial" head, allowing fine and/or important deposits, having a connection with the basic material, completed and without constraint.

Laser cutting

Our cut laser applies to different types of materials with complex contours which require a specific treatment, fast and without resistance. This method presents a number of advantages, the main one being the manufacturing without deformation in parts up to 3 mm in thickness. Our laser machines allow obtaining a precision lower than 1/100 mm on very diverse materials such as steels, aluminium, precious metals, ceramic, copper, brass, silicon, etc.

Precision engineering

To enable us to finalize the manufacture of parts in additive manufacturing or other parts made internally we have invested in a set of precision mechanics such as milling, EDM cutting, EDM drilling and grinding.

Technical means

AM Machines

2 x SLM 500 HL, 2 x EOS M400, 1 x EOS M300

Machining

Machining 3 & 5 Axis, Manual Milling, CNC Lathe Turning, Manual Lathe Turning

Non Destructive Testing

CT Scanning, Radiographic Scanning, Blue Light Scanning, Laser Scanning, CMM

Post Build Processes

Wire EDM, Blasting (wet/dry), Support Removal, Chemical etch (FOD removal), ULTRASONIC/Other, Powder removal, Behringer Band Saw/Giant Tumbeler

Vacuum Heat Treat

Mechanical Testing

Ambient Temperature Fatigue Testing, High Temperature Fatigue Testing, LCF, HCF, Crack Propagation Growth, Fracture Toughness, Ambient and High Temperature Tensile Testing, Impact Testing, Tensile Testing

Hardness Testing

Rockwell Testing, Superficial Testing, Micro hardness Testing, Vickers Testing

Chemistry Lab Services

ICP-OES, Interstitial Element N, O, H, C, S, Sub-ppm Elemental Analysis, Flow Test, Tap Density Test, True Density Test, Morphology Evaluation, Failure Analysis, Metallographic Evaluation, Preparation, Grain Size, Microstructure, Macro Etch/Micro Etch, Porosity/Density Evaluation, Particle Size Distribution, SEM w/EDS

Main customers

Civil and military aeronautics, space, industry, armament, medical, automotive, nuclear, food-processing industry, art and jewellery, research and development

Major space projects

Development and additive metal fabrication as well as laser welding of waveguides and satellite support.
Development and additive metal manufacturing of engine components for rocket propulsion.

SATURNE Technology

INFORMATIONS

CEO/Head of department
Walter Grzymlas

Creation date
2001

Organisation type
Small and Medium-Sized Enterprise

Number of employees
Total: 22

Qualifications, Approvals
Certificat ISO 9001: 2015
FR13/018059
Valid until 04/08/2025

Certificat ISO 9100: 2016 FR12/01276
Valid until 04/08/2025

CONTACT

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No update has been provided for 2025.

SES

Core business

SES's vision to deliver amazing experiences everywhere on Earth by distributing top-quality video content and seamless global data connectivity services. As a provider of global content and connectivity solutions, SES owns and operates a geosynchronous orbit fleet and medium earth orbit (GEO-MEO) constellation of satellites, offering global coverage and high performance services. By using its intelligent, cloud-enabled network, SES delivers high-quality connectivity solutions anywhere on land, at sea or in the air, and is a trusted partner to telecommunications companies, mobile network operators, governments, connectivity and cloud service providers, broadcasters, video platform operators and content owners globally. Headquartered in Luxembourg, SES is listed on the Paris and Luxembourg stock exchanges (Ticker: SESG).

Products & services

SES leverages a vast and intelligent multi-orbit network integrating satellite and ground infrastructure to deliver video and data solutions and services.
SES Networks business offers market-tailored solutions for telco, cloud, maritime, aero, energy, and government customers. SES also offers secure high-performance connectivity services to governments via its affiliates including Luxembourg-based GovSat (public-private venture with the Luxembourg Government) and SES Space and Defense, an entity purely focused on serving the most advanced satellite network solutions for the US Government.
Through its Video business and wholly-owned affiliate in Germany HD Plus, SES delivers high-quality video anywhere, anytime, on any screen, via a comprehensive suite of distribution solutions using satellite, terrestrial, and IP networks.

Technical means

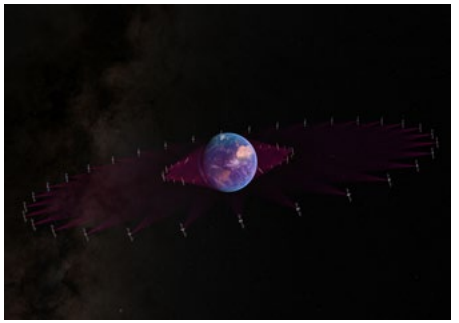
Satellite operation and services leveraging a multi-orbit fleet of GEO and MEO satellites, as well as extensive ground infrastructure.

Main customers

SES is trusted by public and private broadcasters, content owners, telcos, MNOs, enterprises, governments and institutions across the world.

Major space projects

SES's MEO network was augmented with its second-generation MEO system, O3b mPOWER, that became operational in 2024, joining its fleet of first-generation MEO system (O3b). With eight new MEO satellites having thousands of fully-shapeable, steerable beams, SES's MEO network is redefining what connection means to remote communities and enterprises with the digital capabilities of 5G and cloud, and how real-time missions of governments can be conducted securely in any location. By 2027, the O3b mPOWER fleet will consist of 13 satellites, more than tripling its current capacity. The EAGLE-1 programme, backed by the European Space Agency (ESA), the European Commission, and seven ESA member states (with significant involvement from LSA), aims to demonstrate a complete Quantum Key Distribution (QKD) system, once in orbit. This fosters public-private collaboration to gain insights and advance quantum technology development, paving the way for future steps such as a global commercialised QKD system.
Since December 2024, SES leads the SpaceRISE consortium, in charge of the design, delivery, and operation of the European multi-orbit sovereign connectivity system IRIS2. Furthermore, SES will develop, procure, and operate 18 new MEO satellites as part of IRIS2, providing 100% pole-to-pole coverage with carrier-grade connectivity solutions.



SES

INFORMATIONS

CEO/Head of department
Adel Al-Saleh

Creation date
1985

Organisation type
Large Enterprise

Number of employees
Total: >2000

Turnover 2022
Total: 2B€

CONTACT

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SkyfloX

Core business

SkyfloX develops the ESA patented concept of ORCA: **O**ptical and **R**F **C**onstellations on **A**ircraft. ORCA proposes to use civil passenger aircraft to provide services such as those offered by satellites. ORCA lends itself specifically well to Earth observation applications that require high resolution data, in combination with high revisit.

Products & services

Earth observation is the initial application of ORCA, where ORCA can provide multiple daily, metric GSD Multitemporal Orthos, medium-high GSD Thermal Orthos, and high GSD Digital Surface Models (HiResDSM). The multitude of flights furthermore allow the production of True Orthos, along with fused products related to RGB, Thermal, and DSM data.

Technical means

Payload design, aviation certification management, proprietary software for coverage simulations and statistics, ground segment development

Main customers

Currently confidential, though SkyfloX is actively working with the largest EO analytics companies in the world for its upcoming pilot project.

Major space projects

SkyfloX cooperates with a team of international aerospace partners and users, including major airlines, to equip and fly the first ORCA Earth Observation payload on a Boeing 737-800 in 2022. It aims to raise its series A to equip a first constellation of 40 aircraft by the end of 2024.

INFORMATIONS

CEO/Head of department
Emmanuel Rammos

Creation date
2018

Organisation type
Small and Medium-Sized Enterprise

Number of employees
Total: 4
Space: 4

CONTACT

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No update has been provided for 2025.

SolarCleano

Core business

SolarCleano is a forward-thinking leader in robotic solutions for solar panel maintenance. The company pioneers autonomous, efficient, and sustainable cleaning solutions for large-scale solar installations worldwide, enhancing energy yield and reducing operational costs.

Technical means

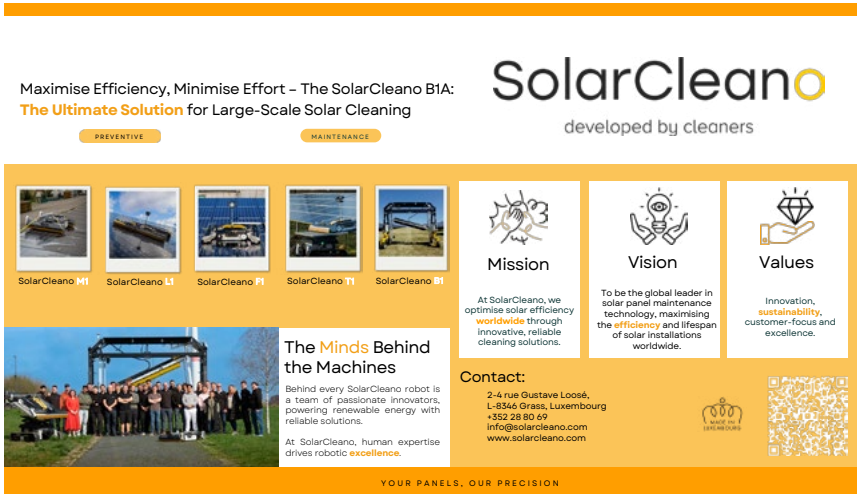
- Advanced robotics with vision and LiDAR-based navigation
- GNSS-RTK and AI-enhanced autonomous systems
- Space-enabled technology integration for improved efficiency
- In-house engineering and testing facilities

Products & services

- Robotic solutions for solar panel cleaning
- Autonomous and semi-autonomous cleaning robots
- GNSS-RTK and satellite-enabled navigation systems
- R&D for automation and AI-driven maintenance technologies
- Customisation for diverse solar environments, including floating solar farms

Main customers

- Utility-scale solar farm operators
- Independent power producers (IPPs)
- Operation & Maintenance (O&M) service providers
- Solar panel manufacturers
- Research institutions collaborating on automation



Major space projects

- ESA ARTES 4.0 (BASS Programme) for GNSS-RTK integration in solar maintenance robotics
- Innovative brush solutions for solar panel cleaning
- AI-driven predictive maintenance for solar farms

SolarCleano
developed by cleaners

INFORMATIONS

CEO/Head of department
Christophe Timmermans (CEO)/
Pol Duthoit (CTO)

Creation date
2017

Organisation type
Small and Medium-Sized Enterprise

Number of employees
Total: 45
Space: 5

Turnover 2023
Total: 8,125M€
Space: 200K€

R&D internal investments
SolarCleano consistently invests in R&D, focusing on automation, autonomous navigation, and AI-powered robotics for solar panel maintenance.

Qualifications, Approvals
Compliant with 2006/42/EC Machine directive
TUV and Fraunhofer

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Space Cargo Unlimited

Core business

Space Cargo Unlimited (SCU) is building Europe's first fully autonomous orbital infrastructure dedicated to commercial microgravity research and in-space manufacturing.
At the heart of this vision is REV1, a reusable, pressurized orbital factory designed to support industrial-scale production in low Earth orbit. REV1 will serve as a backbone for scalable, autonomous missions in pharmaceuticals, biotechnology, advanced materials, agriculture, and more.
To bridge today's needs with tomorrow's infrastructure, Space Cargo Unlimited has developed BentoBox: a modular, multi-user microgravity platform engineered as a "factory in a box." This self-contained unit integrates high-performance power, thermal, environmental, and autonomous operations subsystems, enabling a wide range of research and manufacturing applications. BentoBox will fly as a standalone system aboard reentry-capable missions beginning in late 2025, supporting real commercial customers and laying the groundwork for future operations inside REV1.

Products & services

SCU offers end-to-end microgravity mission services through its BentoBox platform, enabling simplified and scalable access to in-orbit R&D.
Capabilities include:
- Standardized autonomous hosting for biotech, materials, and industrial research
- Payload design, testing, and qualification
- Mission planning, integration, and launch coordination
- In-orbit operations, telemetry, and environmental control
- Recovery of materials and comprehensive post-mission analytics

BentoBox supports both single-customer and multi-user missions, with durations ranging from 2 to 12 weeks in LEO. Each capsule operates without the need for crew intervention, reducing cost and complexity.

Technical means

Space Cargo Unlimited is developing the core technologies required to enable industrial-scale, autonomous microgravity operations. Our engineering approach focuses on delivering the reliability, control, and flexibility that commercial users demand, across biotech, materials, and advanced manufacturing in-orbit.
Key Systems include:
- **BentoBox:** A modular, recoverable microgravity platform designed for multi-user operation. BentoBox integrates onboard autonomy, environmental control, power, and thermal regulation, allowing diverse payloads to operate simultaneously and independently in orbit.
- **SpaceOS:** A proprietary onboard control architecture. SpaceOS manages experiment execution, power allocation, telemetry, and real-time adjustments across complex, multi-payload missions, enabling autonomous operations without crewed intervention.
- **High-Density Power & Thermal Control:** Engineered for next-generation payloads with demanding energy and stability requirements, our electrical and thermal systems ensure optimal conditions for sensitive biological, chemical, and materials processes.

Main customers

Space Cargo Unlimited supports a diverse and expanding global customer base, including:
- **Pharmaceutical and biotech companies** conducting drug development, biologics manufacturing, and disease modeling
- **Advanced materials and electronics developers** testing semiconductors, alloys, and composites
- **Agricultural and life sciences researchers** studying plant resilience, genetic expression, and biological adaptation
- **Academic and institutional science teams** executing autonomous orbital experiments
- **Government and space agencies**, including ESA, CNES and DLR
- **Space technology firms** using BentoBox for in-orbit demonstration (IOD) and in-orbit validation (IOV) missions, including the return and recovery of critical flight hardware

Major space projects

BentoBox Missions (2025–2028)
Seven confirmed commercial missions deploying BentoBox aboard reentry-capable flights. These missions will support high-fidelity microgravity experimentation across biopharma, materials science, and agriculture, while validating core technologies for REV1.

REV1 (2028–)
Europe's first dedicated orbital factory. REV1 combines a pressurized payload module with a reusable service segment, modeled after commercial aviation operations. Developed in partnership with Thales Alenia Space, Space Cargo Unlimited leads commercial operations, customer integration, and end-to-end delivery. REV1 is reusable and compatible with multiple launch providers, ensuring scalable and reliable access to microgravity for a broad range of industries.

WISE Program (2019–)
WISE (Wine in Space Experiment) investigates how spaceflight can unlock novel traits such as improved disease resistance or environmental resilience without genetic modification. By sending grapevine material and wine to the International Space Station, the mission pioneered a new approach to agricultural innovation, aiming to develop sustainable, non-GMO crop varieties suited for the challenges of climate change and future off-Earth cultivation.

SPACE CARGO UNLIMITED

INFORMATIONS

CEO/Head of department
Nicolas Gaume

Creation date
2014

Organisation type
Small and Medium-Sized Enterprise

Number of employees
Total: 52+

Turnover 2024
Total: 1M€

CONTACT

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space4environment

Core business

space4environment is an independently owned SME focusing on adding the environmental dimension to Earth Observation in the land domain, respectively "using space data to provide space for the environment", as expressed in the company's motto.

At space4environment we are building our GIS and Earth Observation activities on three pillars of expertise:

- Sound knowledge of the data (at national and European level),
- Expertise in data handling, processing, smart visualization and scientific analysis,
- Policy related thematic assessments (European Green Deal, Greenhouse Gas reporting)

space4environment is applying this expertise on the one hand for the provision of quality control and quality assurance of Copernicus products, as well as in support of environmental reporting obligations and dataflows, and on the other hand to assess issues like land cover/use changes, the condition of ecosystems and their services or the state of environment in general.

Products & services

GIS and EO data processing
Satellite data processing & analysis – Land use/land cover mapping, change mapping – Database design, management & interactive query tools – Data harmonization, analytics and visualization – Big Data processing and data cubes management – Spatial modelling and software development – Digital cartography – Web mapping tools

Environmental assessments
Mapping and assessment of ecosystems and their services – Green Infrastructure – Land systems and land resource efficiency – Urban sustainability – LULUCF reporting and data analysis

Geodata provision and distribution
Official distributor of Eurogeographics data

Management and consultancy
Requirements analysis – Geographic information consultancy – Project definition and supervision

Main customers

International organisations

- European Commission (DG Environment, Eurostat, JRC, ESPON)
- European Environment Agency (EEA)
- European Space Agency (ESA – ESRIN)
- Convention on Biological Diversity (CBD)
- Horizon Europe

Luxembourg organisations

- Ministère de l'Energie et de l'Aménagement du territoire
- Ministère du l'Environnement, du Climat et du Développement durable
- Administration de l'environnement
- Administration de la nature et des forêts
- Administration de la gestion de l'eau
- STATEC – Institut National de la Statistique et des Etudes Economiques

Major space projects

Copernicus:

- EU Grassland Watch: Development of an operational online information system for assessing land use changes in 16.430 protected grassland sites (Natura 2000) in EU-27 between 1994 and today
- Quality control of High Resolution Layers and Local Component products
- Quality control of the LUCAS 2021 in-situ survey
- Development of a new European land monitoring concept (i.e. CLC+)

Land cover mapping:

- Land Cover and Land Use mapping of Luxembourg for 2015, 2018,2021 and 2024
- Development of a methodology to calculate LULUCF related land use changes for the reference years 1989, 1999, 2007, 2012, 2015, 2018 and 2021
- Development of ecosystem extent, ecosystem condition and ecosystem service accounts for Luxembourg
- GPS-based monitoring of water buffalo grazing behaviour as part of environmental management of protected areas in Luxembourg
- Mapping of CORINE Land Cover (CLC) Luxembourg: 2006, 2012, 2018 and 2024
- Coordination and implementation of CLC2018 and CLC2024 in 11 countries

space 4 environment

INFORMATIONS

CEO/Head of department
Christopher Philipsen, Manuel Löhnertz

Creation date
2007

Organisation type
Small and Medium-Sized Enterprise

Number of employees
Total: 7
Space: 7

Turnover 2024
Total: 1649K€
Space: 750K€

R&D internal investments
25K€

Qualifications, Approvals
Organisme agréé pour l'environnement naturel

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Spacebackend LU

Core business

Spacebackend is a product-oriented company revolutionizing system integration in the aerospace industry through AI-driven interoperability. Our innovative software solution enables software-defined interoperability between satellites and diverse hardware systems. By automating the entire integration, testing, and validation cycle, we facilitate plug-and-play compatibility across satellite platforms, components, and subsystems. Whether on private or public clouds. For satellite integrators, this reduces time-to-orbit and integration timelines from years to days, while for hardware suppliers, it enhances interoperability across multiple platforms, enabling faster, more seamless integrations.

Products & services

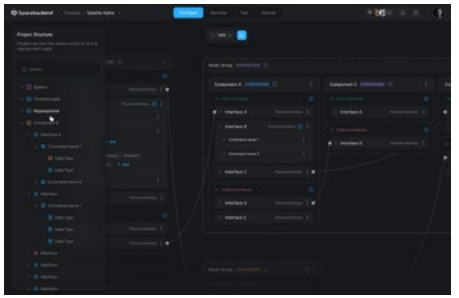
Lynapse:
A no-code platform that converts ICD documents into digital twins, then automatically generates and tests a cross-platform middleware software to enable plug-and-play integration – reducing complexity, increasing speed, and improving reliability.
At least 50% faster integration, up to 75% cost savings
Plug-and-Play Compatibility – simplifies component-to-bus integrations.
Tested & Reliable – reduces human-error through automation.

- **ICD Automation** – Converts ICDs into digital twin.
- **AI-Driven Inspection** – Detects missing information and issues in ICD.
- **No-Code Configuration** – Drag-and-drop tools to build interface logic.
- **Auto-Code Generation** – Compiles target-specific component drivers.
- **Automated Testing** – Runs validation benches for TM/TC drivers.
- **Web-Based Access** – Accessible via browser, deployable on a private cloud.

Major space projects

We support our customers in Luxembourg and in Europe with automating their software integration processes and accelerating their time to orbit.

We offer Lynapse to spacecraft integrators to significantly enhance their productivity and reliability, and to hardware manufacturers to produce products with increased compatibility to other systems and platforms.



Spacebackend

INFORMATIONS

CEO/Head of department
Dmitry Goldenberg, co-founder and CEO
Yoav Landsman, co-founder and managing director

Creation date
2024

Organisation type
Small and Medium-Sized Enterprise

Number of employees
Total: 2
Space: 2

CONTACT

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SPARC Industries

Core business

SPARC Industries has two core business areas. Number one is de-risking EP development at all TRL levels, related research activities, EP product commercialization, and satellite design iteration. In case of EP development this is achieved by

- reducing number of experimental test campaigns,
- reducing total CAPEX and OPEX,
- reducing material supply chains risks,
- reducing test campaign scheduling risks,
- reducing long-term personnel availability risks,
- increasing the clients' competitivity by enabling EP developers to enrich their products' plume data to strengthen their product offers.

SPARC Industries also develops stealth technologies for the protection of high value space assets.

Products & services

Products:
Our ESA-rated computational plasma engineering software VSTRAP is designed for industrial use (and student education) where the users should not be(come) experts in software development, applied mathematics, plasma physics and HPC to operate such tools. It comes in two versions with pre-configured EP technologies: VSTRAP-HET (2D), and VSTRAP-GIE (3D).

All product requirements were (and are) derived from intense discussions with EU and US space industry members (propulsion developers and satellite manufacturers mainly), plasma simulation experts, and ESA.

More details are available on the website and LinkedIn.

Services:
Engineering support with a broad spectrum of elements, e.g., consultancy, simulation services, participation in consortia-based projects (ESA, Horizon Europe, etc.) etc., including creation and licencing of IP.

Main customers

Developers of electric satellite thrusters. Added value: reduced time & cost to market & reduced investment risks.

Satellite manufacturers who use EP engines on their sat's. Added value: Slim satellite design work by using extensive and trustworthy plume information to assess the plume's impact on the satellite during design phase without wasting uncertainty driven design margins.

Universities with Aerospace Eng. or Space Studies programs. Added value: Students are better prepared for job market.

INFORMATIONS

CEO/Head of department
Dejan Petkow

Creation date
2017

Organisation type
Small and Medium-Sized Enterprise

Number of employees
Total: 7
Space: 6

Qualifications, Approvals
RDI Certificate

CONTACT

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No update has been provided for 2025.

Space Products and Innovation

Core business

SPiN – Space Products and Innovation spins technology into the space industry to simplify space manufacturing.
SPiN offers modularity as a service, providing design expertise and software and hardware integration, enabling manufacturers to integrate components efficiently and cost-effectively.
SPiN's solutions combine system engineering with MA61C, the Multipurpose Adapter Generic Interface Connector, a plug-and-play intelligent data node that allows rapid and flexible design.
Thanks to its MA61C adapter, SPiN also offers an all-inclusive modular CubeSat design and integration service, using COTS components to reduce the price and time-to-orbit.
SPiN's innovative approach earned multiple awards, including Best Business Solution at Startup Weekend Space (2015), the Space2Business competition (2022), and Space2Connect (2023). In 2022, SPiN launched SPiN-1, a CubeSat for orbit demonstration, with a planned follow-up mission, SPiN-2, in October 2025. SPiN closed a €1.63M seed round at the end of 2023, to scale MA61C production and hire more engineering staff.
With 5 offices in Europe and the USA, SPiN democratizes access to space, empowering manufacturers to unlock new ventures.

Products & services

The Multipurpose Adapter Generic Interface Connector (MA61C) is a universal adapter that transforms incompatible off-the-shelf components into plug-and-play for satellite manufacturers.
MA61C facilitates seamless integration of off-the-shelf components, reducing design costs by 50%, production costs by 30%, and integration time by a year. It accommodates satellites of various sizes, from CubeSats to larger spacecraft.
MA61C is a solution to facilitate and reduce the costs of satellite integration. It is used in space as a Command and Data Handling (CDH) device, which can also host the onboard software for small satellite missions, and can therefore be used as On-Board Computer or Payload Control Unit, as much as avionics computer.
It connects to most off-the-shelf components thanks to its ability to support 9 different interfaces, corresponding to 80% of the supplier's market.

Technical means

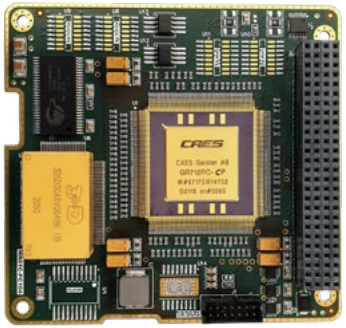
The MA61C adapter offers a single connector that matches 80% of suppliers. The core of MA61C is the GR712RC LEON3-FT SPARC V8 processor.
It supports nine interface standards for command and control subsystems: SpaceWire, UART, RS232, RS422, RS485, SPI, CANBUS, I2C, GPIOs, GPIs, and JTAG lines for debugging.
All interfaces besides SPI and I2C can be used as inputs and outputs. The processor also comes with a built-in timer based on an onboard oscillator.
MA61C holds a database of drivers, enabling plug-and-play functionalities such as device recognition, self-configuration and driver installation.
In addition, it is equipped with an internal memory of 32Mbit of SRAM, 3Gbit of SDRAM, and 64Mbit of FLASH for storing onboard software, drivers and data.
The embedded API is an intelligent system that can scan connections, detect incoming data, route, and convert data between the subsystem and the onboard software.

Main customers

MA61C, with its different form factors, accommodates satellites of various sizes, from CubeSats to larger spacecraft, making it a versatile solution.
Prime satellite manufacturers are planning to produce large constellations, and new space companies are looking to integrate and test new technologies while saving satellite assembly and integration costs and time. SPiN, thanks to its compatibility with multiple suppliers, offers the opportunity to expand entrepreneurs' market potential and produce units at a higher rate while saving costs and time.

Major space projects

The company launched its first satellite, SPiN-1, on 25 May 2022. SPiN fully designed and integrated the 1U CubeSat.
SPiN-1 in-orbit demonstration mission is a project that was born to demonstrate in-orbit reconfiguration and the benefits of modular satellite assembly with off-the-shelf components through MA61C, SPiN's universal adapter. In April 2025, MA61C achieved TRL9 and full commercialization potential: two MA61C CubeSat boards flew as main avionics computer for Atmos Space Cargo's return capsule, Phoenix, delivering data during re-entry up until 90km of altitude.
SPiN has also contributed to multiple ESA R&D and commercial calls, with its next flagship mission, SPiN-2, developed in the framework of ESA's ScaleUp, set to launch in October 2025.



SPiN
Simplify Space Manufacturing

INFORMATIONS

CEO/Head of department
Ran Qedar

Creation date
2021

Organisation type
Small and Medium-Sized Enterprise

Number of employees
Total: 6
Space: 6

CONTACT

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Spire Global

Core business

Spire is a global provider of space-based data, analytics and space services, offering unique datasets and insights about Earth so organizations can make decisions with confidence. Spire builds, owns, and operates a fully deployed satellite constellation that observes the Earth in real time using radio frequency technology. The data acquired by Spire's satellites provides global weather intelligence, ship and plane movements, and spoofing and jamming detection to better predict how their patterns impact economies, global security, business operations, and the environment. Spire also offers Space as a Service solutions that empower customers to leverage its established infrastructure to put their business in space. Spire has nine offices across the U.S., Canada, UK, Luxembourg, Germany and Singapore. Learn more at spire.com.

Products & services

Spire Aviation:
Captures global aircraft movements via ADS-B, providing gate-to-gate flight coverage, even in remote areas, with real-time weather data.

Spire Federal:
Supports government missions with radio frequency signals detection, jamming/spoofing solutions, and custom satellite services.

Spire Maritime:
Offers intelligent maritime tracking, AIS position validation, real-time and historical AIS vessel tracking, and maritime weather forecasts.

Spire Weather and Climate:
Delivers global weather insights, including remote regions and oceans, plus data on soil moisture, sea ice, and more.

Spire Space Services:
Helping customers deploy and scale their own constellation at maximum speed with minimum risk with access to a global ground station network, end-to-end manufacturing facility, and an extensive launch partnership network

Spire Radio Frequency Intelligence and Geolocation:
Enables signal detection and geolocation for government and commercial clients.

Technical means

Spire has over 600 years of space flight heritage. It operates the largest multipurpose satellite constellation, covering every spot on Earth 100+ times daily, including remote regions like oceans and poles. It has launched and operated more than 175 satellites, all of which were built in its state-of-the-art manufacturing facility for designing, building and testing satellites. Our multi-payload satellites are equipped with a variety of sensors including Automatic Identification System (AIS), Automatic Dependent Surveillance-Broadcast (ADS-B), Global Navigation Satellite System (GNSS) Radio Occultation (RO), and Reflectometry ®. We have 30+ ground stations with 70+ antennas in 16+ countries. We continually launch and upgrade sensors in-orbit, turning ideas into live space feeds in 6-12 months.

Main customers

Spire has ~745 solution customers from 65 countries. Its customers range from small logistics analytics companies to large enterprises and government agencies (both civil and defence). Spire's unique datasets and powerful insights about Earth arm organizations to make decisions with confidence in a rapidly changing world.

Major space projects

We are scaling our team in Luxembourg in order to carry out and maintain a wide portfolio of scientific and engineering projects, including:

- The development of edge computing capacities, leveraging state-of-the-art machine learning techniques for on-board and near-real-time data processing.
- Leveraging unique dataset collected through Spire Constellation for the provision of value-added products on the Earth's Surface.
- Development of dedicated payload and algorithms for RF spectrum Monitoring and Signal Intelligence applications
- Leveraging external datasets and data fusion techniques to improve the value of the data collected by Spire's satellites.

spire

INFORMATIONS

CEO/Head of department
Peter Platzer

Creation date
2012 (San Francisco, California, USA)
2018 (Luxembourg)

Organisation type
Small and Medium-Sized Enterprise

Number of employees
(Spire Global including. Lux)
Space: 300-500

Turnover 2023
(Spire Global including. Lux)
Total: ~95.1M€
Space: ~95.1M€

R&D internal investments
25K€

Qualifications, Approvals
Organisme agréé pour l'environnement naturel

CONTACT

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No update has been provided for 2025.

Stargate

Core business

Stargate SARL is a Luxembourg "virtual roaming operator" for centimetre-accurate GNSS corrections.

Through its flagship cloud service Stargate RTK, we aggregate more than 7000 public and commercial reference-station networks worldwide and stream harmonised correction data in industry-standard formats to any GNSS RTK receiver. Robots, drones, autonomous vehicles and high-volume IoT fleets get instant, redundant coverage as they cross borders – no need to juggle multiple local providers. The platform runs at TRL 5 with pilots in Europe and the US, scales by simply adding stations, and can push data via industry-standard channels for specialised deployments. Beyond the core SaaS, we offer integration consulting so customers can deploy and grow precise positioning fast.

Technical means

- Cloud micro-services ingest raw GNSS data from > 7 000 stations worldwide and normalise it at scale.
- Multi-network redundancy automatically fails over between independent feeds, providing high availability during pilot roll-outs.
- Universal interoperability: data are delivered in industry-standard formats and can be filtered or re-packed on the fly for any receiver.
- Bring-your-own station or subscription: plug local feeds into Stargate's caster and gain an automatic insurance layer if they drop.
- Visual control-center overlays coverage hex-grid with live rover positions, enabling operators to spot gaps and request expansion.
- Self-serve onboarding issues credentials in minutes, while pay-as-you-grow pricing keeps per-device costs predictable.

Products & services

Stargate RTK delivers real-time GNSS correction streams that unlock centimetre-level positioning for autonomous driving, drones, mapping, outdoor robotics and large IoT fleets. By unifying fragmented CORS networks under one API, Stargate removes the sign-up delays, protocol mismatches and regional coverage gaps that slow mass-market roll-outs. The service auto-switches between overlapping networks for reliability, supports multi-constellation data (GPS, Galileo, BeiDou, GLONASS) and can output standard and lightweight formats to fit legacy receivers or edge devices.

Main customers

Our main customers are engineering and operations teams building autonomous or robotic products:
delivery-robot & self-driving vehicle developers; drone OEMs (mapping, inspection, security);
outdoor-robotics startups (ag-tech, service robots); surveying/HD-mapping firms; IoT fleet operators needing sub-dm tracking.

Major space projects

Stargate Pioneers (2025):
A three-month, invite-only beta that gives selected robotics, drone, AV and mapping teams unlimited GNSS corrections plus engineering support and shared publicity. The first cohort counts five European scale-ups spanning agriculture robotics, autonomous driving, automotive AR, and BIM-based AR construction. Participants validate and scale their products while co-designing Stargate RTK's next release.

STARGATE

INFORMATIONS

CEO/Head of department
Simon Litvinov

Creation date
2023

Organisation type
Small and Medium-Sized Enterprise

Number of employees
Total: 2
Space: 0

Turnover 2024
Total: ~200K€

CONTACT

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Starion Luxembourg

Core business

Starion provides engineering expertise and solutions for space and other critical infrastructures across Europe, pushing the boundaries of innovation. Our teams work on world-leading space projects that deliver our company's vision of 'shaping the future of what is possible'.
Through our heritage, Starion offers over three decades of expertise and investment in the space sector. We provide professional engineering services, developing and operating systems and solutions tailored to our clients' requirements. Our experts work across the complete space mission lifecycle, from spacecraft design, mission operations and data collection to decommissioning at the end of a satellite's life, and data archiving and utilisation. By combining space and system engineering with established and emerging technologies, such as AI and Quantum, we also produce innovative solutions that make a fundamental difference for our clients and for society.

Products & services

Starion Luxembourg provides full lifecycle end-to-end engineering solutions, including design, integration and operation, for complex programmes.
We supply operations and ground system engineering services for missions including Earth observation, communications, scientific, navigation and space exploration helping both New Space and established organisations set up their operations infrastructure or introduce new ground segment technologies.
In partnership with key Luxembourg players, and the European Space Agency (ESA), we develop a next-generation cybersecurity operational and international solution based on the distribution of quantum encryption keys, complementing current national space segment quantum communication infrastructure programmes.

We develop complete cyber-resilient programmes for the space sector to protect clients against cyberattacks, and deliver cyber-range capabilities to test and train teams.

Our concurrent design methodology significantly reduces both the cost and overall risk early in a project's lifecycle.
Cybersecurity managed services and satellite end-to-end services are the focus of Starion Luxembourg, in the sectors identified as priority for the Luxembourg Space Agency (LSA) strategy and the key institutional and national players.

Technical means

Starion's Concurrent Design product CDP4-COMET enables multidisciplinary teams to work together efficiently on complex systems by analysing requirements, carrying out calculations and validating models in real time.

Our ASTRAL component-based ground segment offering, allows a high degree of flexibility for customer to integrate their own third-party components and interface with other systems. Our Manufacturing and Operations Information System (MOIS) is a suite of tools tool suite has been used by spacecraft manufacturers and operators on over 120 satellite missions to optimise the processes of spacecraft validation, mission operations and preparation.

Main customers

Our customers and partners include Luxembourg Space Agency (LSA), Luxembourg Ministries, Luxembourg Directorate of Defence (LUXDoD), POST, LuxTrust, InTech, HITEC, the European Space Agency (ESA), the European Commission (EU), the European Defense Agency (EDA), NATO/NCIA, SnT Uni.lu, National space and defence agencies, other national institutes and commercial clients.

Major space projects

- **SCCOE:** the establishment of the Security Cyber Centre of Excellence, located in the European Space Security and Education Centre (ESEC), in Redu, Belgium
- **TRALEO 2** (Threat Risk Assessment on LEO Satellite Constellation project): cyber testbeds for small satellite/microsats to ground communications
- **LUXEOSys:** the lifetime day-to-day operations and maintenance of Ground System of the Luxembourg DoD Earth Observation System (with National Advance Observation System satellite, NAOS)
- **INT-UKQD:** International Use cases for Operational QKD Applications and Service
- **Rapid and Resilient Crisis Response System Study** (ESA)
- **HeManEO** (Health Management Earth Orbit): Turn Earth Observation data/sources into a trusted product/data stream with end-to-end validation for business customers.

STARION

INFORMATIONS

CEO/Head of department
Bruno Perrot,
Managing Director, Luxembourg

Creation date
2020
for Starion Luxembourg SA
(Starion Group created in 1992)

Organisation type
Large Enterprise

Number of employees
Total: 572 at Group Level –
21 employees Luxembourg
Space: 486 at Group Level –
22 space employees Luxembourg

Turnover 2023
Total: 5M€
Space: 3M€

R&D internal investments
200-300K€

Qualifications, Approvals
2020: 3rd fastest growing company in Trends Gazelle Wallon Brabant/
ISO 9001-2015/ISO 27001 – 2013

CONTACT

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Stellar Telecommunications

Core business

Stellar offers perfect internet for mobility application, through a combination of all cellular, Wi-Fi, and satellite networks into a single connectivity solution, for enterprise customers.

Whether in the form of a software, or IoT devices and cards, or as all-inclusive retrofit devices, Stellar is capable of offering the World's most reliable and ubiquitous broadband connectivity, and at the World's best price.

Major space projects

World's first passenger car simultaneously connected to 4 cellular networks, 2 Wi-Fi hotspots, and 2 satellite constellations.

Orchestration of multi-orbit and multi-operator satellite solutions, for gate-to-gate experience for aviation, as well as for connected vehicles.

Upcoming launch of the AI Center of Excellence for predictive network selection, accounting for multi-orbit satellite availability and radio access optimization.

Products & services

- **STEER:** Software-only solution allowing your internet-capable devices to connect to any and all wireless networks.
- **IoT-M2M:** The World's fastest-switching multi-country and multi-network SIM cards, leveraging the economy of scale of the combined fleet of multiple car manufacturers and offering its advantages to all customers.
- **IoT-eSIM Management:** The World's only SGP.32 solution with IPA software embedded directly on the chipset.
- **GLOBBLE:** All-inclusive, plug-and-play combination of multi-modem hardware, connectivity data packages, and software, for instant deployment of wireless access.
- **SURVEY:** Internet Quality of Service mapping service on roads and rails, for decision-makers to know how and where to improve the connectivity networks for residents, tourists, and businesses on the move

stellar

INFORMATIONS

CEO/Head of department

Managing Director: Simone La Torre
Group CEO: Damien Garot

Creation date

2024

Organisation type

Small and Medium-Sized Enterprise

Number of employees

Total: 20 (group level)
Space: 3

R&D internal investments

Multi-orbit telecommunications; Predictive network selection algorithms; Seamless switching and aggregation between wireless technologies.

CONTACT

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Telindus

Core business

Proximus Luxembourg: a leading actor in convergent ICT and Telecom services for companies
Our team provides ICT and telecom solutions to all companies and public administrations. Our areas of expertise include fixed and mobile telecommunications, ICT infrastructures, cloud and cybersecurity and Fintech Solutions and Managed services.

In the continuing effort to support our customers in their digital transformation we develop a large set of innovative and managed services, responding to their specific needs for a sustainable development of their activities.

Proximus Luxembourg SA, as ICT Integrator since 40 years has become a reference player in the supply of a complete services solution (Fixed and Mobile Telecommunications, ICT Infrastructures, Multi-Cloud, Fintech solutions, Cybersecurity and Managed Services).

Products & services

In a world where changes are accelerating, companies must constantly adapt in order to thrive:

Fixed, mobile and connectivity:
Innovative and competitive products coupled with long experience in the BtoB market so as to meet your voice and connectivity needs.

Cloud:
Benefit from a flexible IT environment that can enhance your performance and reduce costs and simplified procedures and IT management.

Cybersecurity:
Securing your most valuable information gives you the serenity you need for the development of your business.

ICT solutions:
A mixture of innovative technologies combined with an expertise of 40 years.

Managed services:
A full range of outsourcing operations, through a combined cloud and management services offer.

Digital Trust Solutions:
Increase productivity and quality while ensuring compliance with regulatory frameworks.

Technical means

Proximus Luxembourg Infrastructures
- The networks:
  Proximus pursues a sustained investment policy in its networks, to offer increasing quality to each customer.
- The Datacentres
  Telindus is present in 4 LuxConnect datacenters of Tier II to Tier IV levels, giving us the ability to host all of our customers' data and IT solutions with a high security level.

International capacity
- BICS
  BICS offers the best international wholesale solutions to mobile voice and data service providers worldwide.
- Vodafone
  The partnership with the British operator allows an international opening to customers in Luxembourg.
- Telindus Netherlands
  Present since many years in the Netherlands, Telindus is one of the ICT leaders for companies and public organisations.
- IT & Economic Partners
  We have partnerships with the world's largest IT players that allow us to offer increasingly innovative solutions.

Main customers

Our Customer-centric structure is organised:

Depending on their profession:
- Finance: banking, insurance and financial services companies
- Industries and services (iron and steel, distribution, transport, press,...)
- Government and health: European Institutions, national and international public administrations, hospitals,...

According to their size:
- Startups
- SMEs
- Key Accounts

Major space projects

Proximus Luxembourg S.A. was, and is still, actively participating in the efforts of ESA to improve and ensure the overall security of their missions and infrastructures. In this context, they have successfully completed projects like GASF (Generic Application Security Framework), GASF Evolution and PenBox and are currently working on projects like AACT (Advanced Automated Cybersecurity Testing) and SSE4Space (Secure Systems Engineering for Space).

GASF focused on the augmentation of ECSS standards to include information security aspects in ESA. Additionally, a tool was developed define and iterate security requirements for a mission. GASF has been successfully used in the context of ESA's Mission. PenBox/AACT, aim to automate penetration testing (ethical hacking) to enable repeatable security for space mission ground segment systems.

telindus

INFORMATIONS

CEO/Head of department
Gérard Hoffmann

Creation date
1978

Organisation type
Large Enterprise

Number of employees
Total: 786

Turnover 2023
Total: 350M€

Qualifications, Approvals
ESA Qualified Partner under GFC8 – Ground System Software related activities Cybersecurity

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No update has been provided for 2025.

Thales Alenia Space Luxembourg

Core business

Thales Alenia Space is a global space manufacturer delivering, for more than 40 years, high-tech solutions for telecommunications, navigation, earth observation, environmental management, exploration, science and orbital infrastructures.
Thales Alenia Space Luxembourg specifically focuses on digital competencies, leveraging creative expert teams to design, experiment, develop and industrialize cutting-edge digital solutions for space systems (On-Ground and In-Orbit).
Thales Alenia Space sees space as a new horizon, helping to build a better, more sustainable life on Earth. #SPACEFORLIFE

Products & services

Building on the legacy inspired by Thales Digital Factory, Thales Alenia Space Luxembourg develops state-of-the-art digital solutions for all space domains. We leverage big data, artificial intelligence, and cybersecurity technologies to address complex end-to-end systems' challenges, while fostering UI/UX excellence.
Our activities include end-user driven design and co-engineering with customers, experimentation of technologies and concepts, minimum viable products development, design and industrial development of key digital building blocks of space systems, rollout and operations of as-a service solutions. We also act as a trusted partner to assemble and industrialize complex digital systems involving multiple contributors (Start-ups, SMEs, academics, research centres).

Our technical expertise covers cloud-native solutions, complex distributed data architectures, data science (including complex algorithms, AI, machine learning), cybersecurity, and advanced visualisation engines.
Our product portfolio encompasses secured Digital Platforms (EO Platforms, SaaS Platforms), Digital Twin of the Earth Components (for flooding, agriculture, regional climate change impacts, etc), a 3D Data Visualization globe (Orthoglobe), data fusion engines for multiple EO sensor (hyperspectral, optical, radar) analytics, an Edge Computing PaaS proof of concept. Solutions are designed for and applicable to Defense and civil use cases.

Technical means

Our development environment is cloud-native.
We are developing in Luxembourg a digital environment and facilities compatible with sovereign Defense projects.
A joint venture between Thales (67%) and Leonardo (33%), Thales Alenia Space is a global space manufacturer delivering, for more than 40 years, high-tech solutions for telecommunications, navigation, Earth observation, environmental management, exploration, science, and orbital infrastructures. Thanks to the unique diversity of our talents and know-how, our customers – governments, institutions, space agencies, telecom operators – use space to connect, secure and defend, observe and protect, explore, travel, and navigate. Thales Alenia Space and Telespazio team up to form the Space Alliance, which offers a complete range of solutions, including services.

Main customers

Thales Alenia Space Luxembourg serves a broad customer base, including governments, Defense, institutions, and private industries in Luxembourg, Europe, and worldwide through Thales Alenia Space's global business lines export offers. Our solutions address all types of space market segments, providing digital differentiators to satellite-based systems that enable connectivity, planetary monitoring, resource management, and space exploration. We look forward to collaborating on projects involving innovative actors from the digital and space ecosystem.

Major space projects

Some of the programs in which our company is deeply involved:

Thales Alenia Space:

- Space to connect: Iridium Next, Konnect VHTS, Amazonas Nexus, Satria, Bangabandhu Satellite-1, SGDC in Brazil
- Space to secure & defend: Govsatcom and Milsatcom (Syracuse, Sicral)
- Space to travel & navigate: leading Low Earth Orbit Navigation (LEO PNT) in Europe, built 6 Galileo 2nd Generation satellites
- Space to observe & protect: onboard 11 out of 12 Copernicus missions. All Meteosat geostationary satellites, SWOT, numerous EO Satellites, COSMO-Skymed, Iride, Destination Earth, CSO
- Space to explore: EROSS IOD, Axiom commercial space station, Space Cargo Unlimited, Space Rider, pressurized modules for human habitation, Exomars, Mars Sample return, Euclid, Envision, Plato, Bepi Columbo, Solar Orbiter

Thales Alenia Space Luxembourg:

- Space for Sustainable Finance/GeoPulse (LSA)
- Regional Digital Twin for Climate Change, Digital Twin Component Agriculture "SaveCrops4EU" (ESA)
- Orthoglobe (LSA)
- EDA HySpec (EDA)
- Novacom2 – Space Inspire Digital Components (ESA)
- INDSS Ground Segment (Export)
- Space Perfect JSAT31 Ground Segment Component (Export)

ThalesAlenia Space

INFORMATIONS

CEO/Head of department
Hervé Derrey,
Thales Alenia Space CEO
Etienne Barritault,
Thales Alenia Space Luxembourg CEO
Isabelle Bachelier-Journel,
Thales Alenia Space Luxembourg
Commercial Director

Creation date
2020

Organisation type
Large Enterprise, present in
8 countries and 14 sites in Europe

Number of employees
Total: 8,100
(Thales Alenia Space Luxembourg: 24)

Turnover 2024
Total: 2.2B€
(Thales Alenia Space in Luxembourg: 5.1M€)

CONTACT

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The Exploration Company

Core business

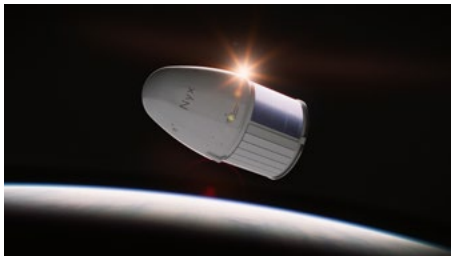
The Exploration Company builds and operates reusable space capsules that fly to space stations round the Earth and the Moon, and to lunar surface. During the first few years, activities in Luxembourg will centre on cryogenic refuelling.

Products & services

→ Nyx Earth
→ Nyx Moon

Major space projects

The Exploration Company develops modular, reusable space capsules for LEO orbital and lunar missions. The flagship capsule for low Earth orbit is Nyx Earth, offering cargo delivery and return capabilities with high reusability. Nyx Moon extends this design for lunar exploration, supporting cargo and future crewed missions beyond LEO. Both are built on open architecture, enabling collaboration and adaptability. With a focus on sustainability, flexibility, and cost-efficiency, the Nyx family aims to democratize space access for commercial, institutional, and international partners. A key objective of cryogenic refuelling is to extend the operational lifespan of our lunar vehicles, allowing them to be reused across multiple missions.



The Exploration Company

INFORMATIONS

CEO/Head of department
Hélène Huby

Creation date
2025

Organisation type
Small and Medium-Sized Enterprise

Number of employees
Total: 0-3
Space: 0-3

CONTACT

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WASDI

Core business

WASDI is a Luxembourgish startup that aims to democratize Earth Observation (EO).
The company runs the WASDI cloud platform, designed to assist remote sensing experts in developing algorithms and transforming them into cloud-based applications.
It empowers them to scale their experiments and deliver services efficiently, without the hassle of IT troubleshooting.
Additionally, the platform enables them to reach end-users by publishing their applications in a dedicated marketplace.

On top of this enabling horizontal technology, the WASDI team develops vertical applications. In collaboration with world-class partners, the team has developed several applications used in international initiatives in different areas, such as natural hazards, environmental monitoring, and urban areas. These applications have enabled innovative services such as parametric insurance.

Products & services

WASDI offers access to a growing number of observations (public and commercial VHR imagery), derived products (e.g., European ECOSTRESS hub, Copernicus services, VIIRS, IMERG), simulated products (ERA5), and more (bathymetry and DEM). WASDI automatically handles multiple data providers, offering reliability and speed.
WASDI supports several programming languages (Python, L3 Harris IDL, Javascript, C#, Java, Octave) and technologies (e.g., ENVI and ESA SNAP) to let the users define their processing blocks, which can in turn be triggered programmatically.
Compliant with multiple standards, WASDI is fully interoperable.
Vertical applications built with WASDI include the monitoring and mapping of floods, water bodies, urban areas, fires & burned areas, impact assessment, oil spills, and air quality. Large time series analysis is supported.

The company is also releasing a new EO web application named RISE, designed to help organizations monitor natural hazards worldwide in near real-time.
With a focus on vulnerable areas, RISE enables users to provide assistance to significantly more people while optimizing resources and time

Technical means

WASDI offers:
- A scalable multi-cloud federated platform for Earth Observation connected to a growing body of data providers
- The ability to develop new Earth Observation-based applications and cloud services, thanks to the internationally acclaimed research capabilities of the Luxembourg Institute of Science and Technology and the 20-year experience in complex software projects development of FadeOut Software
- The capability of leading and joining tenders

Main customers

- ESA
- World Bank
- SEADRIF
- Joint Research Center (JRC)
- CIMA Foundation
- Luxembourg Institute of Science and Technology (LIST)
- ENEL
- Telespazio

Indirect:
- Asian Development Bank (ADB)
- Luxembourg National Research Fund (FNR)
- United Nations Environment Programme (UNEP)

Major space projects

ESA – European Ecostress Hub:
Bringing ECOSTRESS data acquired over Europe and Africa into the cloud

ESA – Telespazio, RSS Hydro – WaSCIA:
Delivering Water Stress and Climate Indices through a web interface for drought and water stress management in Africa

EU – PROMPT
Preparedness for Operational Monitoring and Prediction of Contaminant Transport in the sea

ESA, eDRIFT – Expand Demand
Disaster RIsk Financing and Transfer against floods

World Bank, SEADRIF
Daily EO flood maps over Laos and Myanmar for National Sovereign Risk against flood

Asian Development Bank
EO Services to support water and food security planning & investments in Indonesia

JRC, EC – GHSL Landcover Service POC
Assessing Copernicus Data and DIAS to generate GHSL on demand

UNEP, CIMA Foundation – EIS Iraq & Haiti:
Development of Environmental Information Systems (EIS)

WFP Innovation Accelerator (HIA) – RISE
Web application designed to monitor Humanitarian Camps and other vulnerable areas of interest

INFORMATIONS

CEO/Head of department
Paolo Campanella

Creation date
2020

Organisation type
Small and Medium-Sized Enterprise

Number of employees
Total: 6

Turnover 2023
Total: 976K€

R&D internal investments
109K€

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WEO

Core business

WEO SAS, founded and registered in Luxembourg in 2020, was formed with an aim to improve global environmental sustainability, to enable a more sustainable society. WEO employs deep learning and satellite data to enhance urban sustainability and resilience, offering environmental analytics to cities and facilitating the deployment of green infrastructure. By transforming satellite imagery insights from their native, lower-resolution state to high-resolution, we leverage openly accessible satellite data, enabling our clients to receive vital, scalable information regularly and affordably. For instance, WEO monitors green roofs, land surface temperature, surface sealing, and vegetation management to address urban heat, flood, and wildfire risks while promoting biodiversity.

Products & services

Our main products are maps and services related to vegetation and risk management for sustainable cities and agriculture using open access data from space (sentinel missions mainly). A list of our products and services include:

- Tree management (Tree extent, tree height, tree location, tree growth and tree health)
- Mapping of potential for green roofs in urban areas
- Mapping of potential to convert permeable surfaces (i.e. parking spaces) to impermeable areas for water infiltration
- Land surface temperature mapping (urban heat of different surfaces)
- Flood risk mapping
- Vegetation Risk to Assets
- Wildfire risk mapping

Technical means

Both cofounders, Charlotte Wirion, CTO and Imeshi Weerasinghe, CEO have PhD topics focused around water resource management in the urban or agricultural fields using remote sensing (space) data. Charlotte Wirion was also Guest Professor in Urban Hydrology and Remote Sensing at the Vrije Universiteit Brussels.

Main customers

- Ville de Luxembourg
- Luxembourg Water Agency (AGE)
- European Space Agency (ESA)
- ProSud
- Brussels Environment
- Luxembourg Ministry of Environment
- Schroeder&Associates
- SIAS
- Australian Red Cross

Major space projects

- Smart Urban Tree Feasibility Project with ESA, LSA and Ville de Luxembourg
- Sustainable Water Resource Management (SWARM) with ESA, LSA and Luxembourg Water Agency.
- TreeMonitor – ESA, VDD, VDL and CFL
- UrbanGreen – Madrid and Schroeder&Associaates
- Wildfire risk project with ESA; Prosolia and Jogosa

WEO
Water Information from Earth Observation

INFORMATIONS

CEO/Head of department
Imeshi Weerasinghe CEO
(Charlotte Wirion CTO)

Creation date
2020

Organisation type
Small and Medium-Sized Enterprise

Number of employees
Total: 7
Space: 7

Turnover 2024
Total: 720K€
Space: 720K€

CONTACT

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yuri LUX

Core business

Yuri is a space biotech company that enables life science research & fabrication in microgravity, to advance human health on Earth and beyond. Through our Lab-as-a-Service & Science-as-a-Service (CRO) business model, we provide comprehensive solutions, from experiment design to launch, using modular, automated bioreactors that can be deployed on the ISS, commercial space stations, free-flyers, on suborbital rockets and on parabolic flights. Our interdisciplinary team develops cutting-edge hardware for drug discovery, biomaterials and sustainable food production, serving commercial clients and space agencies alike. As a partner in future commercial space stations such as VAST's Haven-1, Yuri is building the foundation for the in-space biotech infrastructure of today & tomorrow. 156 labs have been launched to the ISS already. So, join our mission!

Products & services

Through our Lab-as-a-Service & Science-as-a-Service (CRO) business model, we provide the global scientific community with access to efficient microgravity research, offering technical expertise and logistical support. Our range of products enables us to implement the service:
ScienceTaxi BioSpin is a versatile platform that can host up to 38 modular bioreactors, known as ScienceShells. Although it is specifically designed for orbital platforms, it is also compatible with suborbital and parabolic flights. Fully independent of the ISS and vehicle-agnostic, the BioSpin features temperature control ranging from +4°C to +40°C, seamless power transmission to the experiment units and complete automation, requiring no crew interaction. BioSpin includes a centrifuge capable of simulating the gravity levels of Earth, the Moon and Mars, as well as real-time monitoring and commanding housekeeping data. ScienceTaxi BioSpin is the European opportunity to continue life-science research in low earth orbit today!
ScienceShells are modular, customisable bioreactors with advanced capabilities. They support the adaptation of experiment timelines in flight and include sensors for real-time measurements such as O_2, temperature, and pressure. For cellular and microbial applications, ScienceShells can also be equipped with the YuriScope – a high-resolution, lensless microscope with sub-5 µm resolution that allows for continuous, in-situ monitoring of biological processes. With over 156 ScienceShells successfully flown to and returned from the ISS, this platform has reached TRL9 and is fully ready for operational deployment. Beyond single missions, ScienceShells provide the technological foundation for scalable, automated, and standardized research workflows in orbit – paving the way for Yuri's long-term vision of a space-based CRO infrastructure, with use cases ranging from drug discovery to regenerative medicine.

ScienceTaxi BioForge is a fully autonomous, vehicle-agnostic bioprinting platform designed for space applications. It features a dual-bioink dispenser and a customisable well plate with integrated fluidics. It also has independently controlled temperature zones (4–40 °C) for the cultivation chamber and bioinks. It provides nutrients and fixatives to each well individually and maintains a sealed, humidity-controlled environment to ensure optimal printing conditions. Developed to SSP standards, the BioForge project is expected to be completed in late 2026, with the first mission scheduled for 2027.

Technical means

Yuri drives technology development by providing end-to-end support tailored to mission needs – including LEO mission integration, systems engineering, mechanical and electrical design, software development, structural analysis (FEM), fracture control, and technical and safety documentation – ensuring every aspect of the payload is flight-ready and compliant with spaceflight requirements.

Main customers

Our customers and partners include Luxembourg Space Agency (LSA), European Space Agency (ESA), German Aerospace Center (DLR), NASA, VAST, Starlab, Astrobiome, University of Luxembourg as well as private companies and organizations.

Major space projects

Projects
- ScienceTaxi BioSpin
- ScienceTaxi BioForge

Future Missions
- Cellbox-4
- Cellbox-5
- VAST Haven-1
- LuxBox

ScienceTaxi BioForge

ScienceTaxi BioSpin

Yuri modular ScienceShells

MADE IN LUXEMBOURG

YURI

INFORMATIONS

CEO/Head of department
Stefan Lübcke, Managing Director

Creation date
2020

Organisation type
Small and Medium-Sized Enterprise

Number of employees
Total: 12
Space: 12

Turnover 2022
Total: 2.7M€
Space: 2.7M€

R&D internal investments
1.3M€

CONTACT

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03

Public research organisations

ESRIC
European Space Resources Innovation Centre

Core business

ESRIC is the first research, business and innovation centre exclusively focused on the use of space resources in support of human and robotic space exploration and the creation of an in-space economy. ESRIC is a joint initiative of the Luxembourg Space Agency (LSA) and the Luxembourg Institute of Science and Technology (LIST), working with the European Space Agency (ESA) as strategic partners.
ESRIC's activities are based on three main pillars: Research and innovation, support for economic activities, and community management. ESRIC connects leading academic, industrial, and entrepreneurial talents in the field, and contributes to economic growth by supporting commercial initiatives and start-ups. The ESRIC Start-up Support Programme brings a business incubation component and enables technology transfer between space and non-space players.

Products & services

Research and innovation
Ambitious, mission-driven research and applications, best-in-class talent and state-of-the-art facilities unique in Europe are key to success. ESRIC is working closely with leading players in the space resources ecosystem from around the world to develop these capabilities.
ESRIC is undertaking research in the following areas:

- **Excavation, Beneficiation and Extraction of oxygen and metals**
  Process space resources produce, store and deliver feedstock and consumables
- **Resource Identification and Characterisation**
  Identify, excavate, transport and handle space resources
- **Construction and Manufacturing**
  Manufacture components, repair parts and build infrastructure using space resources
- **Sustainability and responsibility**

Future in-space economy
ESRIC supports commercial initiatives in space resources. The Start-up Support Programme is the first worldwide incubation programme, entirely dedicated to space resources utilization. It aims to support early-stage ventures and start-ups designing novel technologies for space resources applications in refining their business plan, attracting customers, and securing their first investments.
Moreover, ESRIC aims to enable technology transfer between space and non-space industries and encourage public-private partnerships and new initiatives

Community management
ESRIC connects people and businesses, ambitions, and challenges, as well as facilitates knowledge sharing, by creating an open and collaborative environment in which the space resources community can enjoy the free exchange of ideas as they grow together. Space Resources Week is ESRIC's biggest community-focused activity. During this flagship event, ESRIC brings together the space resources community and facilitate exchanges and opportunities for collaboration.

Technical means

ESRIC's laboratories and testing facilities are located at Luxembourg Institute of Science and Technology's (LIST) premises in Belvaux Luxembourg. Office space for staff, contractors and external users associated to the projects are also part of the campus. The centre's activities are supported by the establishment of ISRU dedicated laboratories that provide both standard and bespoke equipment.
In line with current research activities, the facilities have the following capabilities:

- Simulant handling, beneficiation and analysis suite: Including physical and chemical analysis of granular materials.
- Microwave and thermal heating systems for construction using regolith simulants.
- Water and oxygen purification suite, including bespoke mixing of gases.
- Large end-to-end demonstrators for the extraction of oxygen from regolith simulants.
- Advanced materials characterisation facilities.
- Extensive suite of bench scale laboratory equipment, including furnaces, vacuum chambers, humidity controlled environment and fume hoods.

ESRIC will host and operate Europe's largest Dusty Thermal Vacuum Chamber from 2026, and a ground-based oxygen production pilot plant is currently under design.

Main customers

ESRIC partners with public and private international players to create a hub of excellence for space resources in Europe.

Major space projects

- Lunar regolith processing for the production of water, oxygen and metals (in partnership with ESA)
- Extraction of oxygen and metals from lunar minerals, aiming to produce alloys for additive manufacturing (partnership with Airbus)
- Purification of water and oxygen for lunar resource production (partnership with Air Liquide)
- ESRIC Start-up Support Programme, offering business and technical support, incubation, and access to non-dilutive funding.
- ESA-ESRIC Space Resources Challenge, an innovation-driven initiative
- Space Resources Week, an annual event in Luxembourg covering general, scientific, technical, business, legal and economic topics

esric
powered by LSA, ESA & LIST

INFORMATIONS

CEO/Head of department
Dr. Kathryn Hadler, Director

Creation date
2020

Organisation type
Public Research Organisation

Number of employees
Total: 25
Space: 25

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Luxembourg Institute of Science and Technology (LIST)

LIST-ENVIRONMENT

Core business

LIST-ENVIRONMENT is capitalizing on a blend of remote sensing data obtained from space- and air-borne platforms for producing information on the status of natural resources for public and private stakeholders. It relies on competences in remote sensing and environmental sciences to improve the capacity to monitor variations of Earth's biotic and abiotic resources at unprecedented temporal and spatial resolution. Moreover, it aims to integrate remote sensing data with in situ measured data, land surface models and leverages on satellite communication and IoT LPWAN technology in order to provide evidence-based decision support in near real time in a variety of thematic domains (i.e. disaster risk reduction, precision agriculture, viticulture and forestry, finance & insurance, preservation and management of natural resources, marine & maritime).

Products & services

Algorithms to enable the automated production of environmental variables:

- Evaporation and transpiration from thermal remote sensing data (STIC)
- Leaf area index, canopy chlorophyll, nitrogen content, plant disease detection from multi- and hyperspectral field, drone, and satellite data
- Time series analysis toolbox as web interface with automated processing
- Water bodies and floodwater variations from SAR data
- Flood hazard from multi-temporal remote sensing data
- Urban flood mapping from InSAR data Vessel detection and coastal delineation from SAR data
- Building areas from SAR and optical data Land surface changes from SAR and optical data
- Geospatial software technologies and platforms for web based data integration
- Training in multi source EO data acquisition and processing

Software enabling the effective integration of remote sensing data with in-situ data and process-based environmental models.

Software enabling IoT-based collection of environmental data.

Technical means

- In-situ sensors: field spectrometers ASD Field Spec-3 and Spectral Evolution RS-3500 and sensors for crop state parameters Li-COR 2200 and Minolta SPAD, IoT sensors
- Ground-based and airborne hyperspectral thermal sensor
- UAV platforms equipped with thermal (Teax ThermalCapture Fusion Zoom), hyperspectral VNIR/SWIR (Headwall Nano and Headwall M384 and LIDAR sensors
- IoT-satellite integrated testbeds

Main customers

ESA, LSA, CNES, Ministry of Environment, Ministry of Agriculture, Luxspace, HITEC Luxembourg, , VITO, TELOPS-Canada, KU Leuven, TU Vienna, University of Bristol, adwaïsEO, SES, EarthLab, Cybercultus, , Hydrosat, World Bank, Asian Development Bank, CIMA Research Foundation, Earth Observation Data Centre, Wageningen University, Agroptimize, WASDI, RSS-Hydro, Fadeout Software, Service des médias et des communications, Luxsense Geodata, POST, Frontier Connect, Thales Alenia Space, PWC, Ministry of Foreign Affairs, Directorate of Defence, INDRA, CESBIO, Friendship Luxembourg, Red Cross, Terradue, Spuerkeess, Geoville, DLR

Major space projects

GFMS – Global flood monitoring service
OVERSEAS – Multi-source EO-based maritime traffic monitoring
COMMECT – Addressing the need of rural communities in terms of connectivity solutions
EURANUS – LST and ET products for Europe and Africa
HERITAGE – Crop yield forecasts based on EO, machine learning and crop modelling
CHAMELEON – Detection of changes using heterogeneous EO data powered by AI
CITYWATCH – Mapping urban settlements using EO data
HIDRATE – Integrating EO data and land surface models for transpiration and evaporation mapping
EDRIFT – EO-based solutions to support disaster risk financing
GRASS – Gravimetry and radar data assimilation into a hydrological models for improving drought prediction
DestinE – Digital twin supporting the management of natural disasters
LUXSCAT – Field experiments supporting the development of geostationary C-Band SAR systems

LUXEMBOURG INSTITUTE OF SCIENCE AND TECHNOLOGY | LIST

INFORMATIONS

CEO/Head of department
Prof. Dr. Lucien Hoffmann

Creation date
2015

Organisation type
Public Research Organisation

Number of employees
Total: 600
Space: 55

CONTACT

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No update has been provided for 2025.

Luxembourg Institute of Science and Technology (LIST)

LIST-DIGITAL

Core business

LIST-DIGITAL is dedicated to accelerating the digital transformation of private and public organizations through impactful digital technology innovations. Our work enables these organizations to:

- Manage their operations more efficiently,
- Make informed, data-driven decisions,
- Comply with a rapidly evolving regulatory environment.

To achieve these goals, it develops advanced methodologies, architectures, models, algorithms, software tools, and integrated IT-based systems. We create solutions that are not only efficient, optimized, robust, scalable, secure, and trustworthy but also user-friendly, whether for fully automated systems or those involving human interaction. **AI & Digitalisation are central to our research**, driving innovations such as autonomous decision-making, predictive maintenance through digital twins, and optimized satellite communications. We also focus on developing secure and resilient software systems that defend against cyber threats, ensuring that digital solutions remain robust and reliable across industries. Our team's expertise in AI-powered software development allows organizations to tap into the latest in automation and intelligent systems, all while maintaining the highest standards of cybersecurity. This is especially important in industries like space, where the reliability and security of software and communications are absolutely critical.

Products & services

LIST-DIGITAL focuses on the 6 following "innovation lines" which are coordinating a number of core technology building blocks and associated services to build functional prototypes meeting the exacting requirements of a specific market:

- 5G, 6G networks,
- Automated Process-Based Systems,
- Digital Twin Technologies,
- Digital Upskilling for Industry 5.0 and Services,
- Explainable AI Regulatory Sandbox,
- Interactive Technologies for Critical Incidents

Main customers

ESA, SES, LuxGovSat, Cybercultus, Ministry of Foreign and European Affairs (Directorate of Defence), PWC, OQ Technology

Major space projects

- **DG-Trac (ESA)Dangerous Goods Tracking & Tracing**
  Feasibility study on a tracking and tracing system for dangerous goods transport in the medical sector

- **SENSA (ESA) (participating) – Sustainable, Environmental and Safe Tourism in Protected Areas**
  Safety services and real-time touristic information for travelers in protected parks in South Africa. SENSA uses satellite trackers with other networks and dedicated mobile applications to help the tourists connect in all situations with the parks authorities. SENSAWILD.COM

- **MILAN (FNR Bridges) – MachIne Learning for AstroNomy**

- **KM4SR – Knowledge Management for Space Resources**

- **ECOSTRESS (ESA) – ECOsystem Spaceborne Thermal Radiometer Experiment on Space Station**
  (to investigate vegetation water stress through the measurement of plant temperatures)

- **CRISTAL (DoD)**
  Earth observation combined with Social Media Mining for crisis management

- **PUBLIMAPE (FNR CORE)**
  Public information mapped to environmental events

LUXEMBOURG INSTITUTE OF SCIENCE AND TECHNOLOGY | LIST

INFORMATIONS

Science Director
Prof. Dr. Lucien Hoffmann

Creation date
2015

Organisation type
Public Research Organisation

Number of employees
Total: 600
Space: 55

Qualifications, Approvals
ECSS-E-40 (European Cooperation for Space Standardisation – Software Engineering Guidelines for the Telecom Applications Projects)

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No update has been provided for 2025.

Luxembourg Institute of Science and Technology (LIST)

LIST-MATERIALS

Core business

LIST-MATERIALS pools its skills and technologies to improve materials technologies for the industry, including the space sector.
Our research and technology activities rely on the following fields of expertise:

- Nanomaterials and nanotechnology
- Composite materials
- Manufacturing technologies
- Scientific instrumentation

Products & services

Specific to the space sector, the materials related activities target five priority technologies:

- **Advanced manufacturing for space applications**, aiming at manufacturing new (multi-)functional, lightweight or durable composite materials, by a combined approach of instrumented and robotized processes, adequate numerical modelling and testing.
- **Thin Film technologies.** Based on a large panel of industry-scalable deposition technologies, LIST develops thin film technologies for a wide range of surface functionalities.
- **Technologies for energy,** targeting more powerful, lightweight and safer energy storage, generators and innovative energy harvestors.
- **Autonomous Sensors.** LIST develops miniaturized temperature, mechanical & chemical sensors based on innovative sensing technologies and printing technologies.
- **Scientific Instrumentation for space,** focusing on miniaturized instruments and sensors platforms, for space exploration, autonomous in-space manufacturing and in-habitat monitoring.

Technical means

Up-scalable processing technologies

- (bio-based) Raw materials refining and modification
- Synthesis of nano-structures, nano-particles and organic chemistry
- Powder engineering
- Thin-film processing, engineering and devices
- Polymer Processing
- Composite manufacturing

Advanced characterisation & Functional measurements

- Molecular analysis
- Elemental and isotopic analyses
- Structure, morphology and topography
- Non-destructive Inspection
- Mechanical testing
- Accelerated ageing
- Thermal analysis
- Characterization of optical & electrical properties

Numerical simulation

- Commercial codes (finite element, molecular dynamics, crystal plasticity)
- In-house codes (finite element, composite, boundary element method, e-Xtended finite element, XEFG)

Main customers

Airbus DS, Axon' Cable, CNES, CSL, ESA, Euro-Composites, Gradel, ispace, KLEOS, LuxSpace, Molecular Plasma Group SA, NASA, SouthWest Research Institute, Thales Alenia Space.

Major space projects

- Super-black coating technology for complex opto-mechanical systems
- Miniaturized mass spectrometers for space exploration
- Miniaturised chemical sensors for the monitoring of molecular contamination on payload surfaces.
- Anti-static ETFE based nanocomposite
- Improved thermal conductivity of epoxy resin
- Carbon-based solutions for super-capacitors, Li-ion batteries and fuel cells
- Software tool enabling numerical analyses of composite space structures
- Fully integrated stress-temperature sensors for structural health monitoring
- Antibacterials-antifungal coatings for in-orbit habitat
- In-space pultrusion manufacturing

LUXEMBOURG INSTITUTE OF SCIENCE AND TECHNOLOGY | LIST

INFORMATIONS

Science Director
Prof. Dr. Lucien Hoffmann

Creation date
2015

Organisation type
Public Research Organisation

Number of employees
Total: 600
Space: 55

Qualifications, Approvals
Space qualification: Super-black technology

CONTACT

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L

No update has been provided for 2025.

UNI.LU Geodesy and Geospatial Engineering

Core business

The Team Geodesy and Geospatial Engineering specializes in geodetic high-precision measurements and Earth Observations (EO) within various multi-scale geophysical, environmental and engineering applications. We also investigate improvements in the involved measurement techniques, e.g. GNSS, SAR remote sensing, photogrammetry and LiDAR, and their data analyses (machine learning/deep learning). Our applications include GNSS-derived crustal deformations for studies of sea-level rise, glacial isostatic adjustment and plate tectonics, GNSS-derived atmospheric parameters for applications in meteorology and climatology, multi-platform digital photogrammetry and LiDAR for the computation of high resolution digital terrain/elevation models for flood hazard modelling and city modelling, high-precision multi-sensor geodetic monitoring for infrastructure applications, multi-sensor 3D reality capture for Building Information Models (BIM) and digital twins.

Products & services

We are GNSS specialists and can provide a variety of related products (station coordinates, atmospheric parameters and satellite orbit and clock products as well as Earth Rotation Parameters). In the past we have provided coordinate solutions for reference GNSS networks on national to global scales. Our background in remote sensing and geospatial engineering allows also for classic topographic survey products, the generation of digital terrain and elevation models, building information models (BIM), city models, as well as deformation maps of geophysical features/infrastructure and subsidence/uplift maps of cities and regions. We are an International GNSS Service (IGS) Tide Gauge Benchmark Monitoring (TIGA) working group analysis and combination centre. We provide near real-time hourly GNSS tropospheric products to EUMETNET eGVAP for assimilation into numerical weather prediction models.

Technical means

We operate permanent GNSS stations at Findel Airport and Campus Kirchberg (G.D. Luxembourg), Walvis Bay and Lüderitz (Republic of Namibia) and the South Atlantic Ocean islands of South Georgia (South Georgia and the South Sandwich Islands), St. Helena and Tristan da Cunha (Ascension, St Helena and Tristan Da Cunha).
We maintain a variety of scientific GNSS software (Gamit/Globk, Bernese GNSS Software, PRIDE, Napeos, RTKLib), as well as various geospatial software suits (e.g. Leica GeoOffice, Trimble Business Centre, Hexagon Geospatial Suite, PCI Geomatica, ESRI ArcGIS, nFrames SURE, PointCap Pro 3D), which we run on our in-house workstations or on the UL High Performance Computing Facility (ULHPC). For projects also available are our GNSS RTK kits, reference GNSS kits, terrestrial laser scanners, a drone and state-of-the-art surveying equipment.

Main customers

Administration du cadastre et de la topographie (ACT), Administration de la navigation aérienne (ANA) – MétéoLux, RSS-Hydro S.a.r.l., National Oceanography Centre (NOC), British Antarctic Survey (BAS), GeoForschungsZentrum Potsdam (GFZ), International Oceanographic Commission (IOC), Hartebeesthoek Radio Astronomy Observatory (HartRAO), Astronomical Institute University of Bern (AIUB), University College London (UCL), Luxembourg Institute of Science and Technology (LIST), Maxar/DigitalGlobe, PCI Geomatics, Hexagon Geospatial.

Major space projects

Almost all of our data is space based. However, we have also participated in the NASA Frontiers Development Lab (FDL) in 2017, 2018 and 2019:

- Lunar Resources (Water & Volatiles)
- Space Weather Challenge 02, Improve ionospheric models using GNSS/GPS data
- Disaster Prevention, Progress and Response, final topic: Flood detection in orbit (onboard a cubesat)

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UNIVERSITÉ DU LUXEMBOURG

INFORMATIONS

CEO/Head of department
Prof. Felix Norman Teferle

Creation date
2017

Organisation type
Public Research Organisation
University

Number of employees
Total: 8
Space: 5

CONTACT

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No update has been provided for 2025.

UNI.LU Geophysics & Remote Sensing

(GRS) Laboratory

Core business

Geophysics & Remote Sensing (GRS) is a research group devoted to the study of environmental changes and their impact on Earth's systems, encompassing both human and natural factors. Our interdisciplinary team is actively engaged in the development of advanced technologies for detecting, monitoring, and mitigating the risks posed by natural disasters, as well as identifying and evaluating space resources for future exploration and utilization. GRS harnesses expertise in geophysics, remote sensing, planetary science, and engineering, enabling us to contribute significantly to the sustainable development of our planet and beyond. Our overarching mission is to advance the realm of environmental science and champion sustainable practices, thereby forging a brighter future for our world. Through the synergy of cutting-edge technology and our field expertise, GRS occupies a unique position in comprehending environmental changes and addressing the pressing challenges of our era.

Products & services

Our gravity instrumentation plays a pivotal role in metrology, enabling us to measure gravity acceleration with unmatched precision, achieving accuracy levels as fine as 1-2 microgal (1 microgal = 10-8 m/s²). Furthermore, our expertise extends to harnessing Global Navigation Satellite Systems (GNSS) for the high-precision monitoring of both stationary and mobile objects on a global scale. We provide a diverse range of GNSS processing strategies tailored to meet specific client requirements, ensuring precision and accuracy at the millimeter to centimeter level in positioning and modeling. Moreover, our capabilities extend to utilizing GNSS signals of opportunity for a wide array of environmental data retrieval. This includes measurements of sea levels, ice sheets in polar regions, inundation maps, and global soil moisture levels.

Technical means

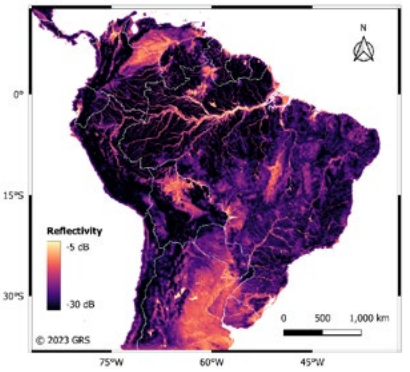
Our technical arsenal comprises a variety of cutting-edge instruments meticulously designed to precisely measure and monitor gravity-related phenomena. At the core of our capabilities lies the Absolute Gravimeter, a portable device renowned for its exceptional accuracy, capable of measuring gravity acceleration with a precision as fine as 1-2 microgal. In addition to the Absolute Gravimeter, we employ Relative Gravimeters, including the portable Scintrex Relative gravimeter, which delivers remarkable precision, typically achieving measurements within approximately 3 microgal and a sensitivity to height changes as small as 20 mm. For specialized monitoring of short-period changes in gravity, we rely on the Superconducting Gravimeter, a non-portable relative instrument. Furthermore, our toolkit boasts an extensive range of state-of-the-art geodetic grade GNSS and GNSS-R equipment. These instruments empower us to observe all current GNSS signals, furnishing us with a comprehensive and adaptable suite of tools suited for an extensive array of ground-based and spaceborne applications.

Main customers

NASA, ESA, LSA, Spire Global, ILNAS

Major space projects

Our portfolio of major space projects encompasses a wide spectrum of cutting-edge research initiatives. Drawing upon satellite gravity measurements, GNSS observations, and altimetry, we engage in extensive research endeavors at the GRS. Within our group, we have been at the forefront of pioneering ground-based GNSS-R techniques. These innovations enable us to detect crucial changes in soil moisture, snow depth, and sea-level, yielding valuable insights for scientific applications. Furthermore, GRS has played a pivotal role in the development of advanced algorithms tailored for spaceborne GNSS-R, with a specific focus on soil moisture assessments and inundation extent mapping. Additionally, we harness the capabilities of grazing angle GNSS-R for in-depth studies related to sea-ice and ice sheets. In parallel, we are actively engaged in precise orbit determination of swarms of CubeSats for gravity applications, further expanding our research horizons.



UNIVERSITÉ DU LUXEMBOURG

INFORMATIONS

CEO/Head of department
Prof. Olivier Francis

Creation date
2005

Organisation type
Public Research Organisation

Number of employees
Total: 9
Space: 8

CONTACT

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No update has been provided for 2025.

UNI.LU RUES

Core business

Within the University of Luxembourg, a leading institution of advanced research and higher education, the Research Unit in Engineering Science (RUES) – covering civil, mechanical and electrical engineering, as well as geophysics – recognises the socio-economic needs and challenges of both society and industry. To address these, the research unit has committed itself to becoming the Greater Region's education and research leader as well as a global player in its core research areas. A special focus will be placed on energy, environment and sustainable growth, contributing to, among other things, the European Strategic Technology Plan and the European Union's emphasis on creating an Innovation Union in Europe. The aim is to provide an innovation-driven research environment and to seamlessly integrate research and education to form future leaders and critical thinkers.
Our research activities can be organised in three main areas:

- Construction and Design: research into civil and mechanical engineering structures, fatigue behaviour, dynamic testing methods and development processes
- Energy and Environment: research into energy efficiency of buildings, energy consumption and renewable energies
- Automation and Mechatronics: research into mechatronic systems, dynamics of electromechanical systems

The majority of projects have an applied as well as a fundamental character and are executed in close collaboration with industry. The focus can be on the technology, or on the process of its development, simulation and validation.
All research activities are integrated into a network of national, regional and international public and private research institutions.

Products & services

- Satellite control
- Space robotics
- Improvement of development processes
- Dynamics of mechanical structures
- Energy consumption
- Communication

Main customers

EURO-COMPOSITES, HITEC Luxembourg, DKE Aerospace, Goodyear, ISS, Husky, IEE, Delphi

Major space projects

- **Galileo:** DMGA (Dynamic Modeling of Ground Antennas) The goal of the DMGA project is to obtain a very accurate and optimised static and dynamic model of large satellite ground antennas including the closed loop full motion control by integrating modern computation tools like CAD, FEM analysis, Multi-body systems and regulation simulation software. The simulation models are validated by measurements on the real antenna on site

- **Satellite Control:** research is carried out in the area of modelling and advanced control of satellites, especially attitude and orbit control systems, with a special focus on micro satellites

- **Space Robotics:** modelling, simulation and control of robotic manipulators for spacecraft and satellites. Applications are in the area of space debris removal and on orbit servicing

Further research is carried out in the area of systems engineering and the improvement of development processes for micro satellites.

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INFORMATIONS

CEO/Head of department
Prof. Stephan Leyer

Creation date
2003

Organisation type
University

Number of employees
Total: 120
Space: 10

CONTACT

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No update has been provided for 2025.

SnT

Interdisciplinary Centre for Security, Reliability and Trust

Core business

The Interdisciplinary Centre for Security, Reliability and Trust (SnT) at the University of Luxembourg conducts internationally competitive research and PhD education in information and communication technology (ICT) with an emphasis on creating socio-economic impact.

Space research is a key priority at SnT. Projects focus on satellite communications, space resources, and space vehicles. In its dedicated space labs, researchers develop new technologies with industry partners. SnT teams work on both long-term studies and demand-driven projects.

SnT scientists conduct both long-term research and engage in demand-driven projects.

Through SnT's Partnership Programme, researchers currently work in collaboration with over 70 private and public organisations, addressing their key challenges.

Since its launch in 2009, the Centre has grown rapidly. It has recruited top scientists, launched over 160 EU and ESA projects, and created seven spin-offs. It also protects and licenses IP, and now hosts a dynamic, interdisciplinary team of over 550 people.

Products & services

Our expertise spans satellite communications, autonomous systems, orbital and planetary robotics, small satellites, space systems design, and verification of mission-critical software - positioning us to support Luxembourg's commitment to space sustainability.

We collaborate with public and private partners through an established model: our Partnership Programme. Every project is different, but usually the outcome is a prototype working in the partner's real environment. Companies work alongside specialised staff ready to be hired at the end of the project, if needed. Our partners also receive access to the latest research methodologies and state-of-the art laboratories. SnT supports projects with co-financing, as well as support for third-party research grant applications.

The Master in Space Technologies and Business offers a starting point for professionals wishing to contribute to the emerging global space industry by creating, shaping, and sustaining space enterprises.

The courses of the Master in Space Technologies and Business are based on an innovative combination of business and technology. The programme provides solid knowledge in all aspects of the space value chain, along with space engineering expertise.

Business and management tools are also covered. Graduates represent a pool of talents to start new space companies or contribute to existing companies, in non-technical areas.

Technical means

We have 7 space labs: Concurrent Design Facility, CubeSat Lab, LunaLab, Zero-G Lab, 6GSPACE Lab, QCI Lab and the Radar Lab. Our technical expertise covers a wide range of capabilities:

- Radars
- Operations
- Manufacturing of satellites
- Robotic payloads
- In-space manufacturing
- Telecommunication services
- Risk Management services
- Data Analytics
- Software Verification and Validation
- Environmental applications and services

Main customers

Around 70% of SnT's income stems from competitive research funding and over 300 MEUR external funding has been secured since SnT's creation. Through the SnT Partnership Programme, large numbers of partners have proved willing to invest in joint research activities, ultimately improving their competitiveness through new and improved services and systems. The programme currently counts over 70 partners.

Major space projects

SES Partnership: Research Program
COSMIC: Direct-to-Device Communications in Mobile Satellite Systems Using C-band, FNR
INSTRUCT: Integrated Satellite-Terrestrial Systems for Ubiquitous Beyond 5G, FNR
ETHER: sElf-evolving terrestrial/non-Terrestrial Hybrid nEtwoRks, Horizon Europe
TRANTOR: 5G+ evoluTion to mutioRbitAl multibaNd neTwORks, Horizon Euope
Lux4QCI: Luxembourg Experimental Network for Quantum Communication Infrastructure, Digital Europe
Varray-5G: Vehicular Phase Array Antennas for 5G, FNR
CREST-5G: Assessment of 5G Non-Terrestrial Networks (NTN) with Sub-6GHz Time Division Duplexing (TDD) communications, ESA
TIA: Test, Improve, Assure – Providing safety guarantees for ML-based components through automated debugging and input generation, ESA
FAQAS2: Improve mutation testing in space software systems, ESA

INFORMATIONS

CEO/Head of department
Prof. Yves Le Traon

Creation date
2009

Organisation type
Public Research Organisation

Number of employees
Total: 550
Space: 150

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Useful Contacts

About the Luxembourg Space Agency

The objective of the Luxembourg Space Agency is to develop the space sector in Luxembourg by fostering new and existing companies, developing human resources, facilitating access to funding and supporting academic research.
The agency implements the national space economic development strategy, manages national space research and development programs, and leads the SpaceResources.lu initiative. Furthermore, the LSA represents Luxembourg within the European Space Agency and space-related programs of the European Union and the United Nations.

Luxembourg Space Agency – Economic development team

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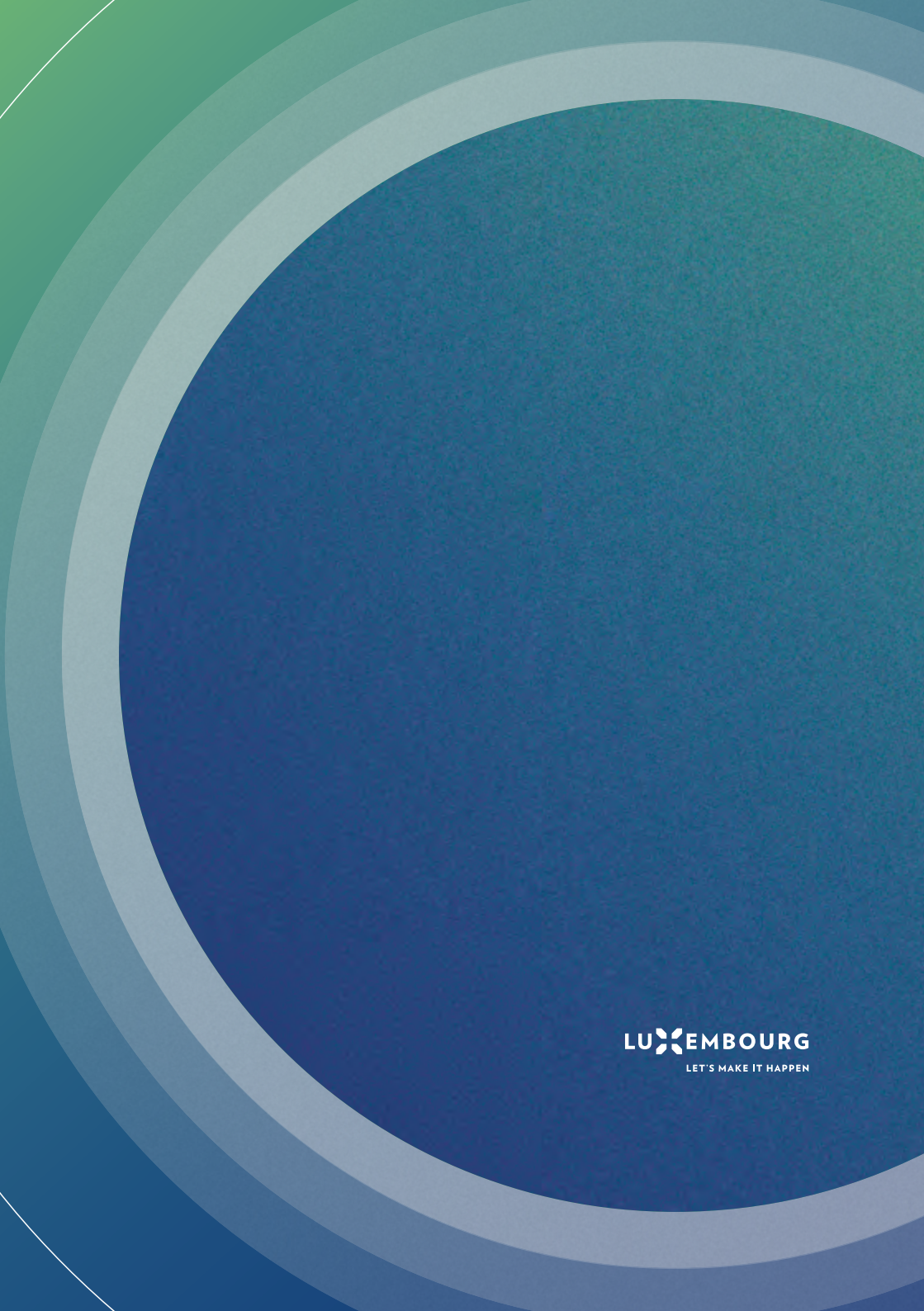
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