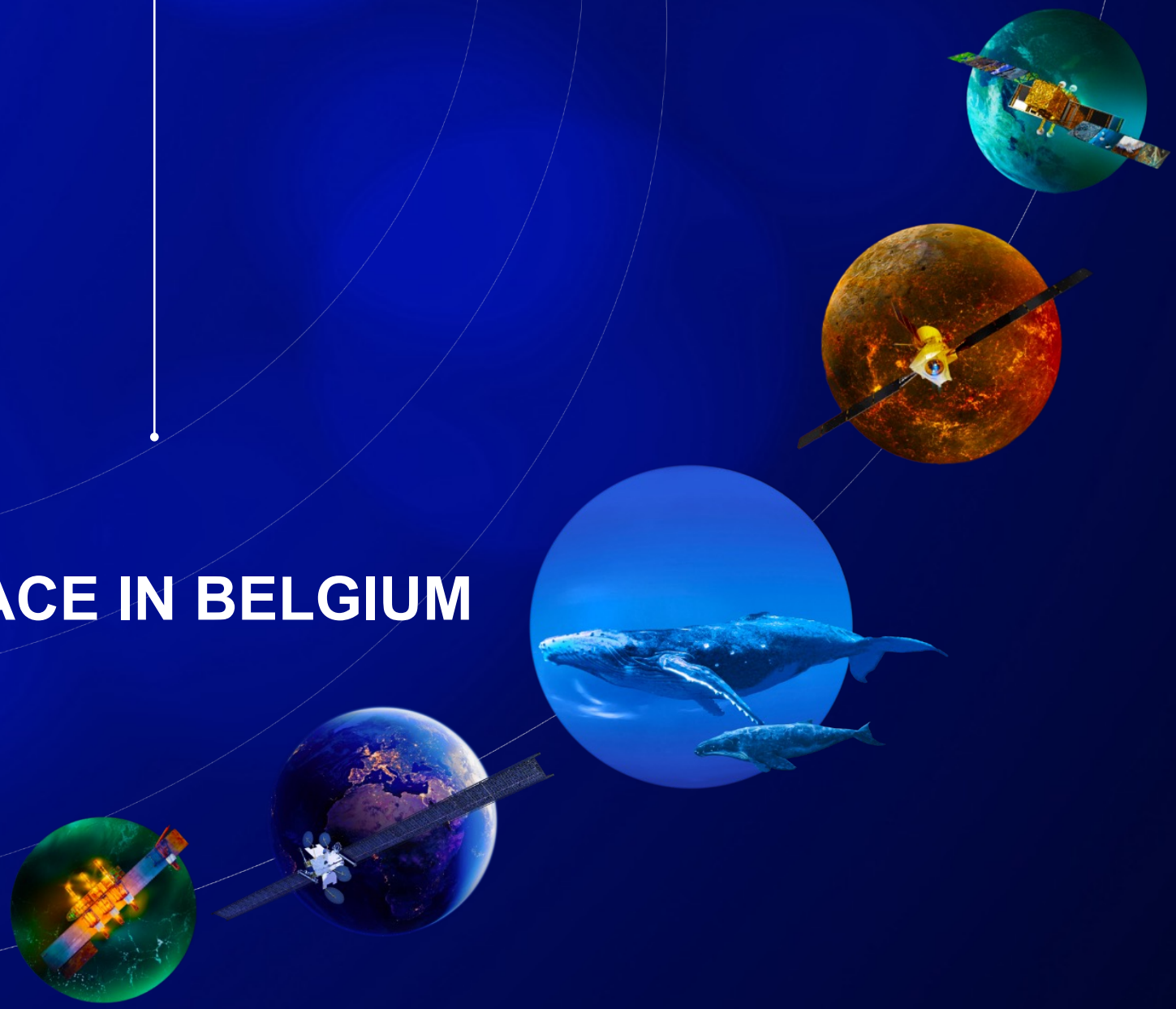
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PRESENTING

THALES ALENIA SPACE IN BELGIUM #spaceforlife

PIERRE DESMAELE, CEO

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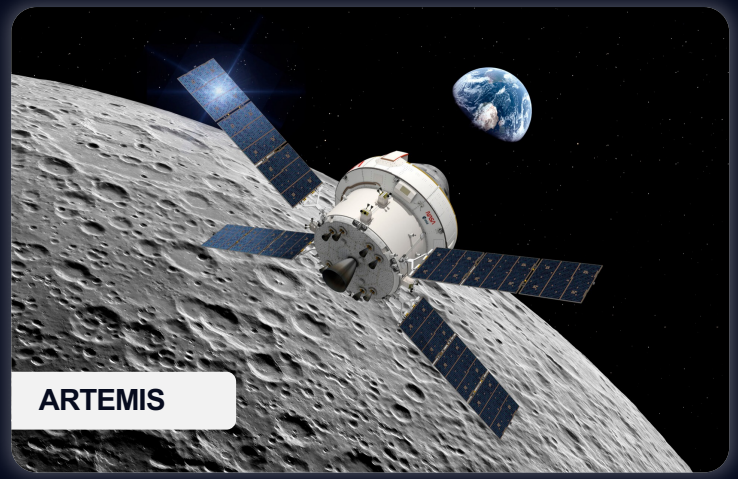
THALES ALENIA SPACE OPEN

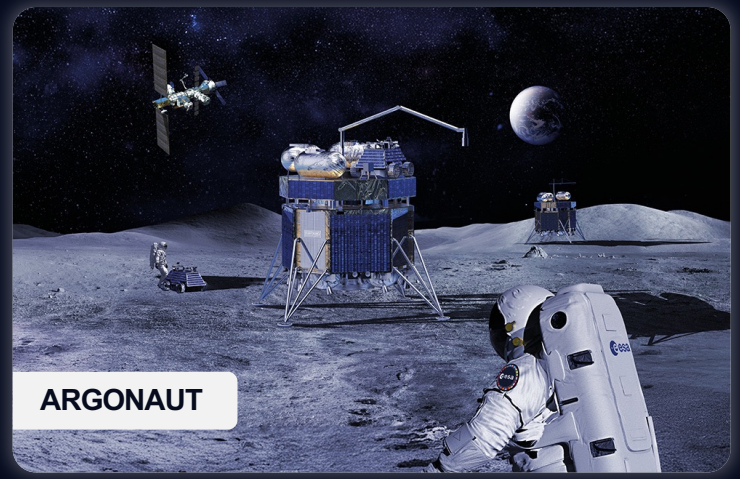
ThalesAlenia Space
a Thales / Leonardo company

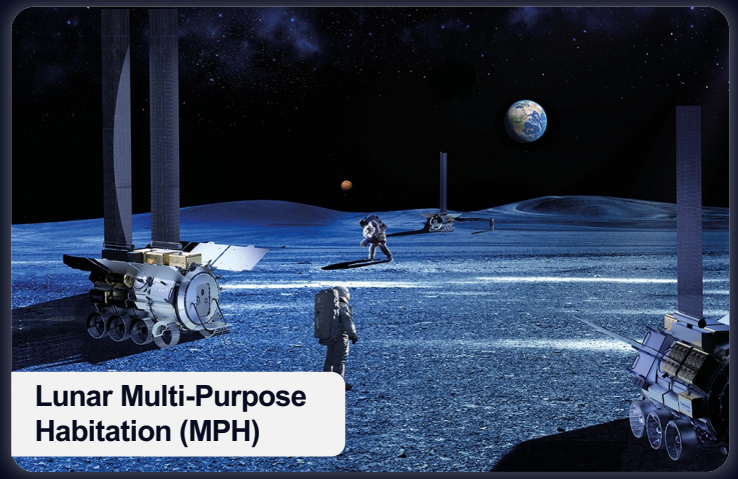
THALES ALENIA SPACE CONTRIBUTIONS TO LUNAR EXPLORATION

Thales Alenia Space contributes to a wide range of space exploration programs. Several of these support a common goal of enabling astronauts to reach the Moon and spend longer periods living and working on its surface.

Through its work on **Artemis**, **Argonaut**, the **lunar habitat (MPH)** and **Moonlight**, Thales Alenia Space is helping to develop spacecraft to transport crews and cargo, a habitat to support extended stays, and systems that will help astronauts navigate the lunar surface and stay in touch with Earth.









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THALES ALENIA SPACE CONTRIBUTIONS – ARTEMIS

Artemis - Returning astronauts to the Moon

Artemis is a NASA-led international program to return astronauts to the lunar surface. Its longer-term goal is to enable crews to live, work and conduct research on the Moon while gaining experience for future missions to Mars.

- **Artemis I (2022)** - Uncrewed Orion test flight around the Moon.
- **Artemis II (April 2026)** - First crewed Orion flight around the Moon.
- **Artemis III (planned for 2027)** - Orion docking tests with prototype lunar landers in Earth orbit.
- **Artemis IV (targeted for 2028)** - First crewed Artemis landing near the Moon's south pole.

CONTRIBUTION OF THALES ALENIA SPACE IN BELGIUM

For **Artemis I and II**, we supplied **two Pressure Regulation Units (PRUs)** for each mission. These units kept the propellant in Orion's European Service Module (ESM) at the right pressure so its engines could fire reliably when the spacecraft needed to adjust its course.



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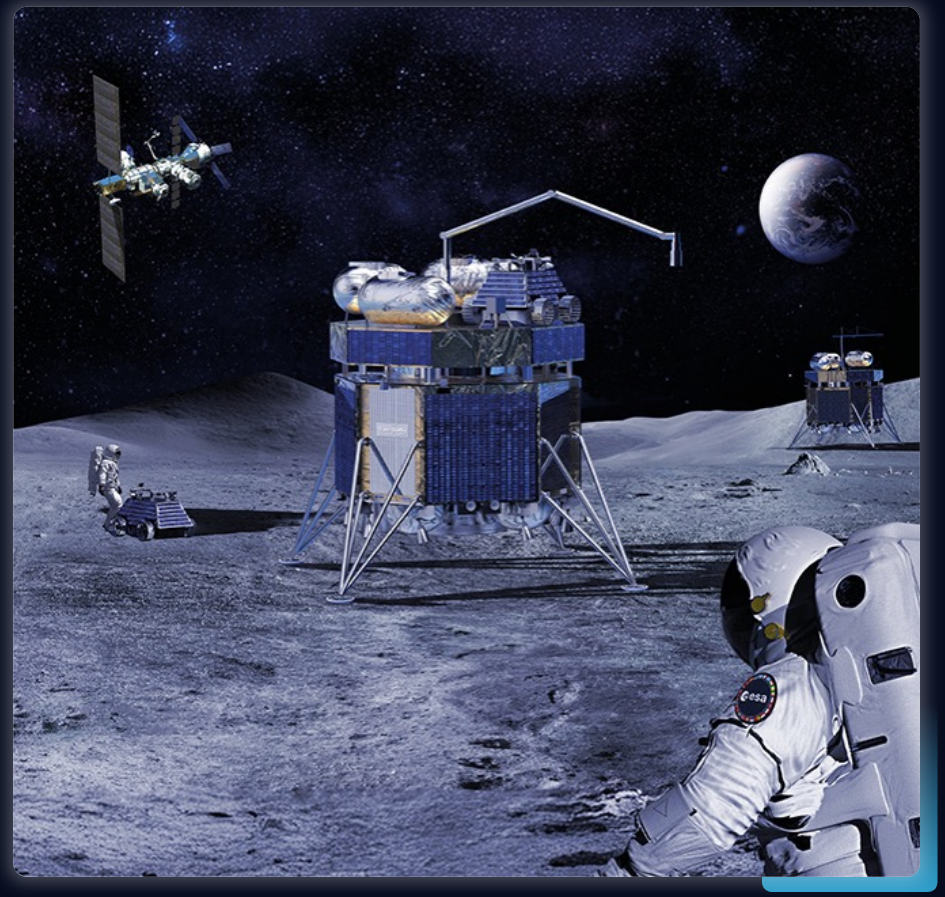
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THALES ALENIA SPACE CONTRIBUTIONS – ARGONAUT

Argonaut - Europe's lunar cargo lander

Argonaut is ESA's lunar lander program, designed to give Europe the ability to deliver up to 1,500 kg of cargo to the Moon, including rovers, scientific instruments and supplies for astronauts. Thales Alenia Space in Italy leads the European team developing the Lunar Descent Element, which will land the cargo on the lunar surface.

First launch: ESA aims to launch Argonaut Mission 1 on an Ariane 6 by the end of 2030, targeting a landing in the Moon's south polar region.



CONTRIBUTION OF THALES ALENIA SPACE IN BELGIUM

We will supply **three X-band amplifiers and a spare kit.** The amplifiers will strengthen the radio signals the lander sends back to Earth, helping ground teams receive mission data and monitor how the lander is performing on the lunar surface.

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THALES ALENIA SPACE CONTRIBUTIONS – MPH

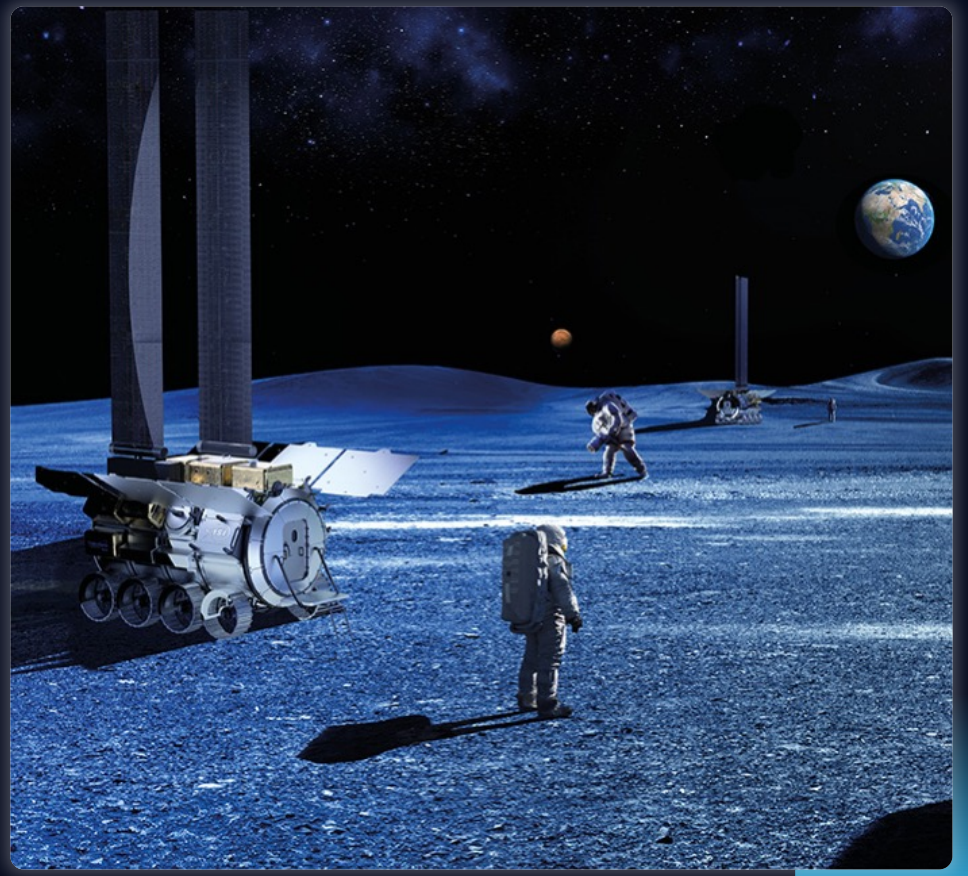
Lunar Multi-Purpose Habitation (MPH) - A place to live and work on the Moon

The MPH module is a pressurized habitat where Artemis astronauts will be able to live, work and conduct experiments on the lunar surface. It is also designed to support research between crew visits. Thales Alenia Space in Italy is developing the module's preliminary design for the Italian Space Agency (ASI), in cooperation with NASA.

First launch: ASI is targeting 2033 for launch from NASA's Kennedy Space Center in Florida.

CONTRIBUTION OF THALES ALENIA SPACE IN BELGIUM

Our contribution to the lunar habitat is within the **Power Conditioning and Distribution Unit (PCDU)**. This unit would convert power from the habitat's solar panels into the form its onboard systems need and distribute it throughout the module. It would also manage battery charging and discharging to keep those systems running when sunlight is unavailable.



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THALES ALENIA SPACE CONTRIBUTIONS – MOONLIGHT

Moonlight – Bringing connectivity and navigation to the Moon

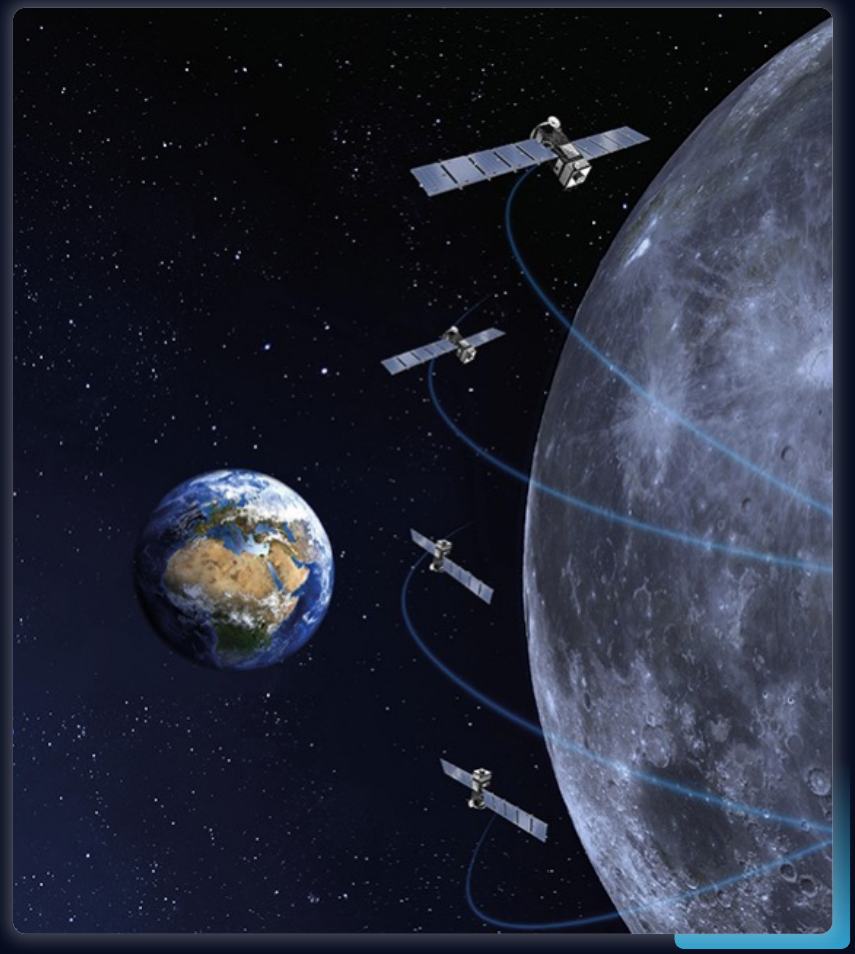
Moonlight is a European Space Agency (ESA) program to establish a constellation of five satellites around the Moon, providing navigation and communication services. The system will support precise lunar landings, astronaut and rover navigation, and communications between Earth and the Moon.

Led by Telespazio, the program relies on Thales Alenia Space to develop the navigation system, including four navigation satellites.

First services: Expected by the end of 2028, with full operations planned for 2030.

CONTRIBUTION OF THALES ALENIA SPACE IN BELGIUM

Our contribution to Moonlight includes Traveling Wave Tube Amplifiers (TWTA) and possibly an integrated Electrical Power System (I-EPS) regulating an distributing energy across all satellite platform and payload systems.



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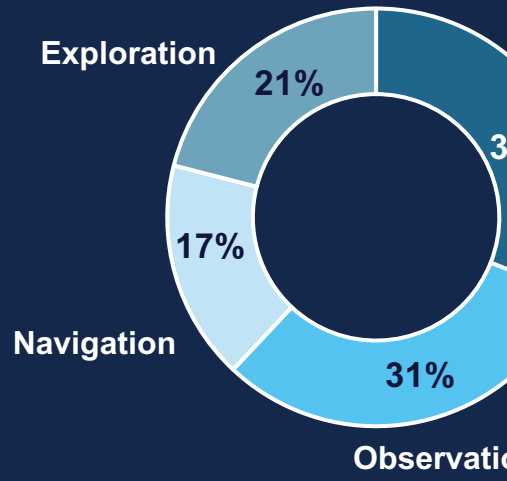
THALES ALENIA SPACE: KEY FIGURES

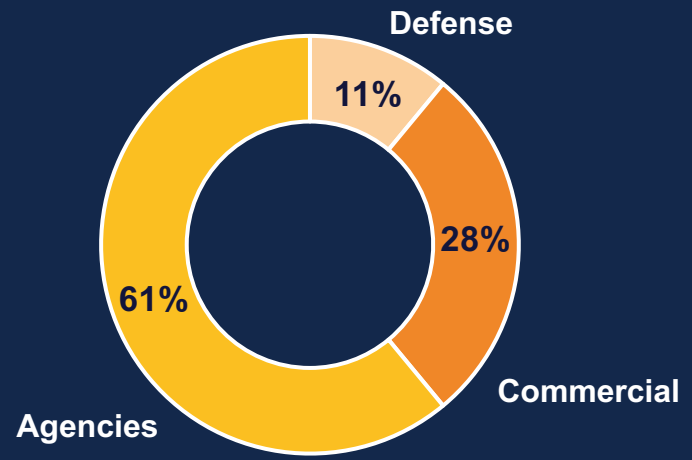
Thales Alenia space is a joint venture between Thales (67%) and Leonardo (33%)

14
Sites

> 8,000
Employees

2.2 €bn
Annual revenues







SERVING THE WORLD FROM EUROPE

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THALES ALENIA SPACE IN BELGIUM



A worldwide leader in power electronics for satellites



A Belgian leader in the space sector - More than 60 years of experience



Key supplier of electrical power management equipment for launchers

AI-generated illustrations
Image Ariane 6: © ESA–D. Ducros

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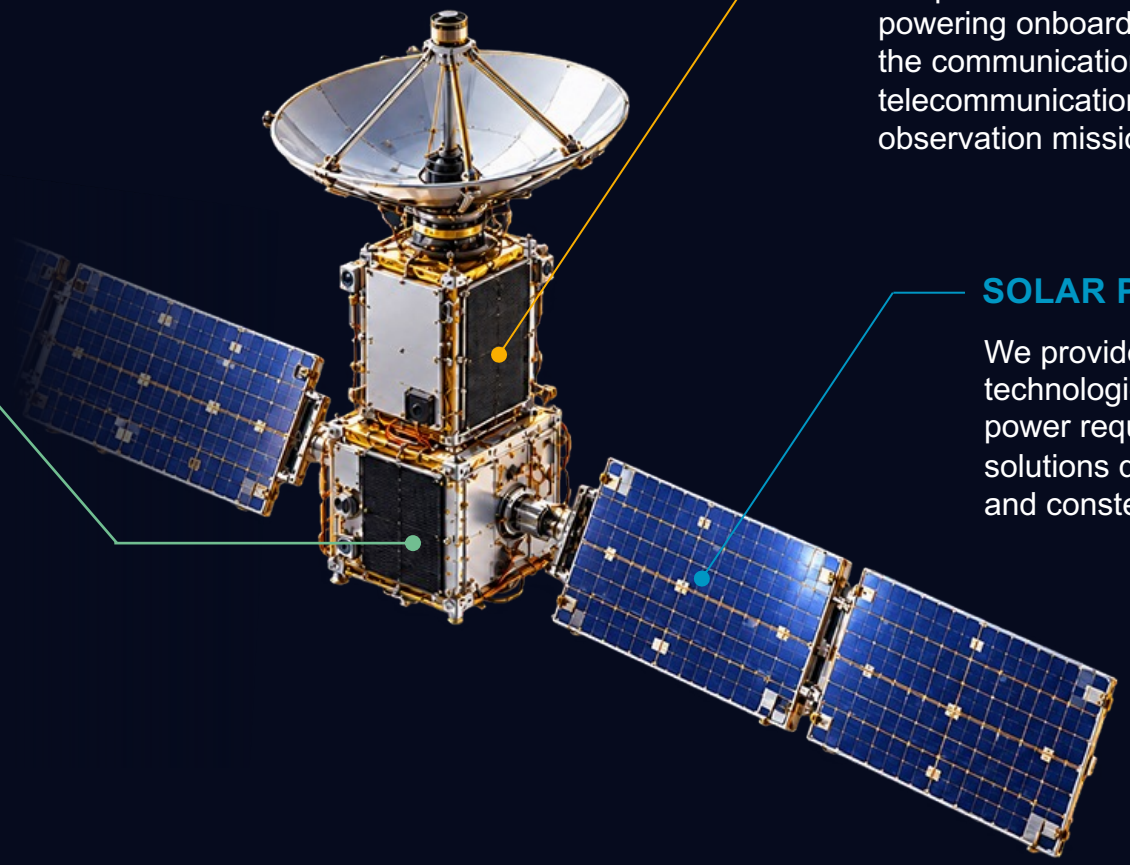
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BELGIAN TECHNOLOGIES AT THE HEART OF SATELLITES

Since the 1960s, Thales Alenia Space in Belgium has been developing and manufacturing essential equipment for satellites, both for their **platforms** and their **payloads**.



PAYLOAD

We provide satellite payload equipment, powering onboard instruments and amplifying the communication signals they transmit for telecommunications, scientific and Earth observation missions.

PLATFORM

We provide satellite platform equipment that manages, distributes and controls the electrical power required to operate the satellite, its onboard systems and mechanisms, as well as its electric propulsion system.

SOLAR PANELS

We provide photovoltaic assembly (PVA) technologies that generate the electrical power required to operate satellites, with solutions designed for both large satellites and constellations.

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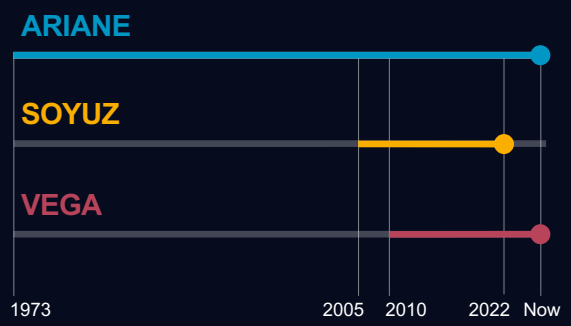
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THALES ALENIA SPACE LIMITED DISTRIBUTION

MORE THAN 50 YEARS AT THE HEART OF LAUNCHERS

Since the 1970s, Thales Alenia Space in Belgium has been providing key electronic equipment for launch vehicles, including **Ariane 1, 2, 3, 4, 5 and 6, Vega, Vega-C**, as well as **Soyuz** launchers operated from Kourou.

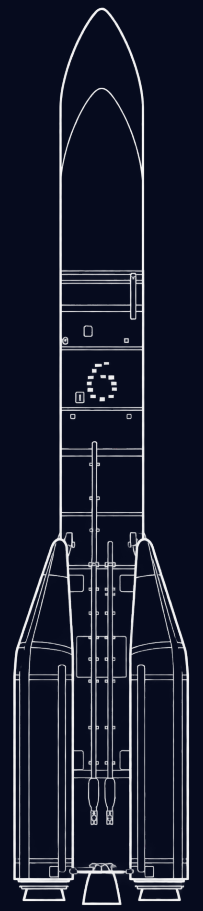
Long-standing expertise supporting Europe's autonomous access to space, generation after generation.



Our teams are also contributing to studies and developments for the next generation of launchers, including **Callisto**, **Themis**, **Kassav** and the **Maia** µ-launcher.



Vega



Ariane 6



Ariane 6 launch in Kourou

Photo Ariane 6: © 2026 ESA-CNES-ARIANESPACE ArianeGroup / Optique vidéo du CSG – P. PIRON

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ARIANE 6: ESSENTIAL EQUIPMENT FOR FLIGHT

Thales Alenia Space in Belgium provides key equipment for Ariane 6, helping to ensure flight safety and contributing to the launcher's steering system.



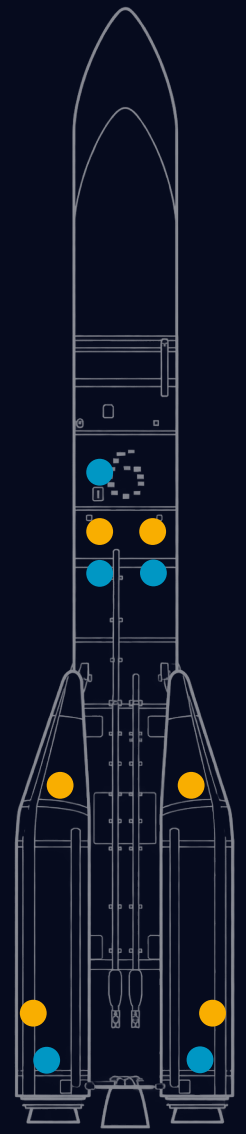
Thruster Steering



Launcher safety

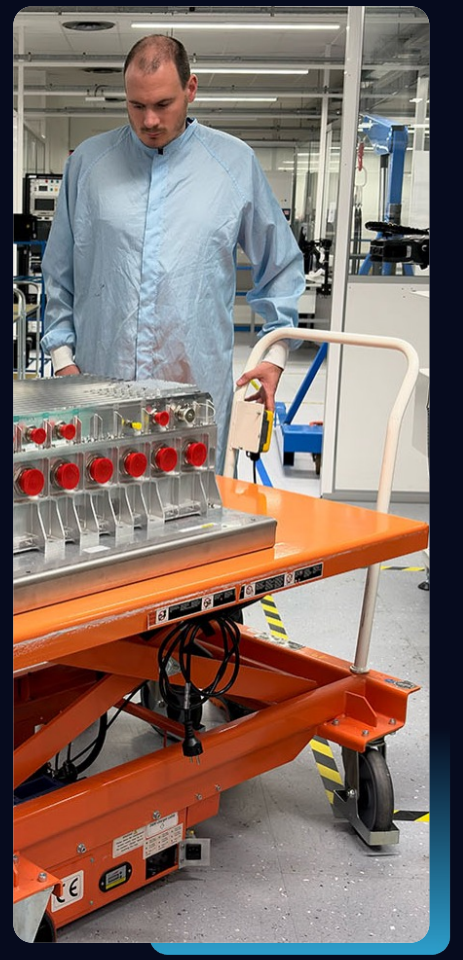
TAS-B supplies equipment for both Ariane 6 configurations:

- **Ariane 62:** 11 units | 220 kg of electronics per launcher
- **Ariane 64:** 17 units | 360 kg of electronics per launcher



ECPU
Electronic Control and Power Unit





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THALES ALENIA SPACE IN BELGIUM

Mastering the entire value chain:
Products and Services from A to Z, from design to deliveries



CHARLEROI

Total: 35,000 m² | Cleanrooms: 8,000 m²

Marketing, development, manufacturing and testing of electronic products and software for satellites and European launchers, including power management, propulsion, data transmission, control and safety equipment.



HASSELT

Total: 2,000 m² | Cleanrooms: 1,000 m²

Automated manufacturing of Photovoltaic Assemblies (PVA) - Industry 4.0



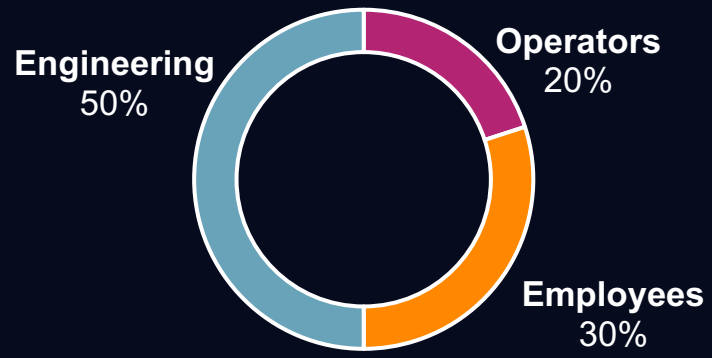
LEUVEN

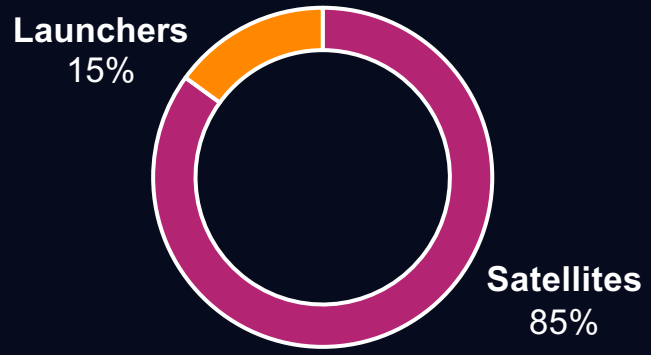
Total: 400 m²

Microelectronic solution, Avionic Electronics & Power Supply products and Software for Satellites and Launchers.

3 Sites	**> 460** Employees	**~ 90 M€** Annual revenue	**20%** of our revenue invested in R&D

BREAKDOWN
BY ACTIVITY





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OUR TECHNOLOGIES ACROSS ALL ORBITS, AND BEYOND

Thales Alenia Space in Belgium provides key electronic equipment for satellites operating in LEO, MEO, GEO and on interplanetary missions, covering a wide range of applications.

This presence across all major orbital regimes demonstrates the versatility and reliability of our technologies, reduces our dependence on any single market segment, and positions us to contribute to both current and next-generation space missions.

200+

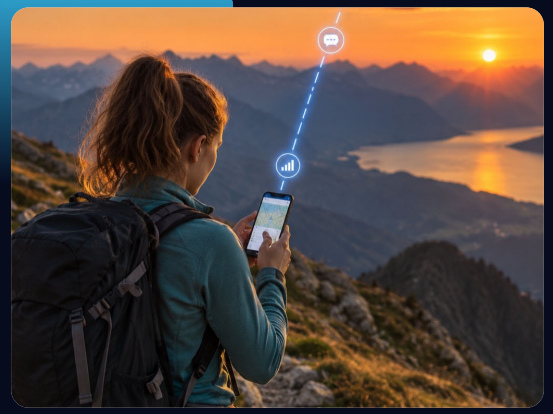
On-orbit satellites with our technology



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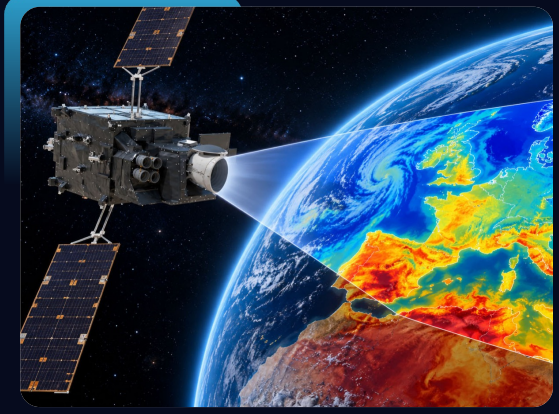
MULTIPLE APPLICATIONS, ONE PURPOSE



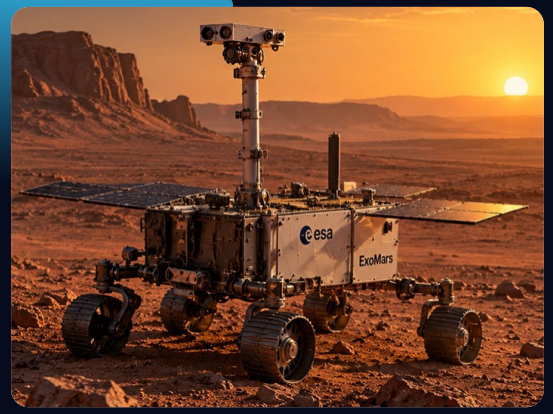
SPACE TO CONNECT



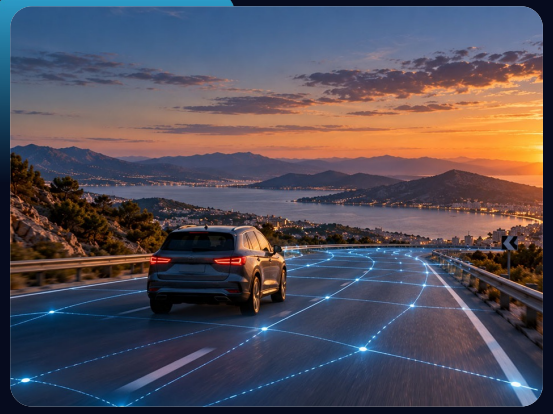
SPACE TO SECURE AND DEFEND



SPACE TO OBSERVE AND PROTECT



SPACE TO EXPLORE



SPACE TO TRAVEL AND NAVIGATE

SPACE FOR LIFE

AI-generated illustrations.

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READY TO GO DEEPER?

Don’t miss the presentation of our colleague this afternoon !

FIRST ROOM | 14:00 – 17:15

Powering the next generation of lunar exploration



Alice Nogueira Fey

Electronics Engineer and PC(D)U Product Line Manager at Thales Alenia Space Belgium

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OUR COMMITMENT TO A SUSTAINABLE SPACE



REDUCE OUR CARBON FOOTPRINT



DESIGN SUSTAINABLE PRODUCTS

STATEMENT FOR A RESPONSIBLE SPACE SECTOR

DRIVE OUR ECOSYSTEM



ENSURE DURABILITY IN ORBIT

Satellite visuals: AI-generated illustrations

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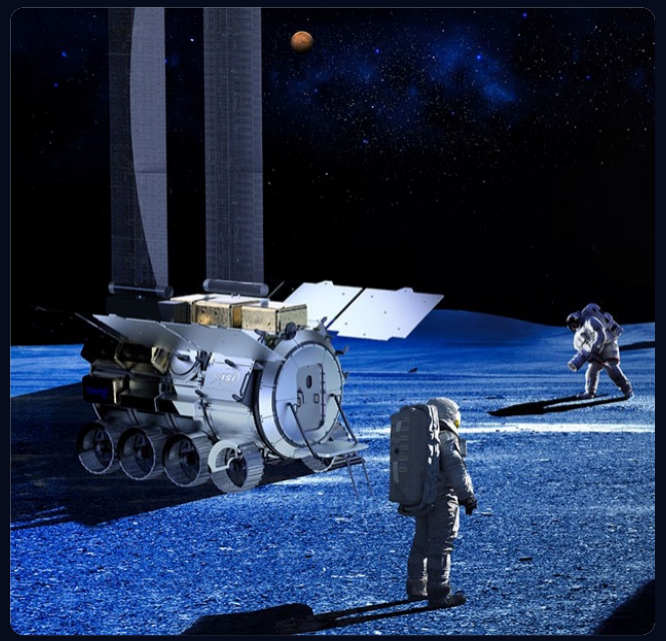
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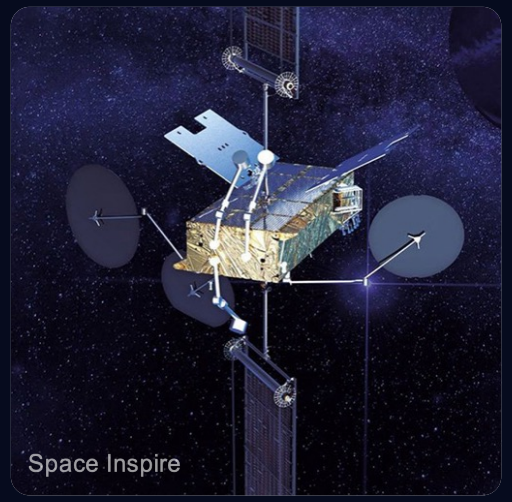
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BELGIAN TECHNOLOGIES AT THE HEART OF SATELLITES

MOVING INTO THE FUTURE





Space Inspire



MPH (Multi-Purpose Habitation module)

PLATFORM

Building on our expertise, we also develop innovative next-generation technologies that are more compact and flexible, designed for modern satellite architectures and a wide range of missions.

- On board all latest-generation Thales Alenia Space “Space Inspire” satellites, delivering mass reductions of 30% and more
- Development of the exploration and human spaceflight portfolio
- Development of more digitally driven solutions (e.g. internally developed DPC)
- Earlier involvement in the development of our customers’ satellite solutions and systems

PAYLOAD

Building on our long-standing expertise, we also develop next-generation technologies that are more powerful and more cost-effective.

- Payload capacity increased by up to 2×
- Qualification of industrial-grade components for space applications
- Introduction of digitalization
- Greater system-level integration with our customers

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