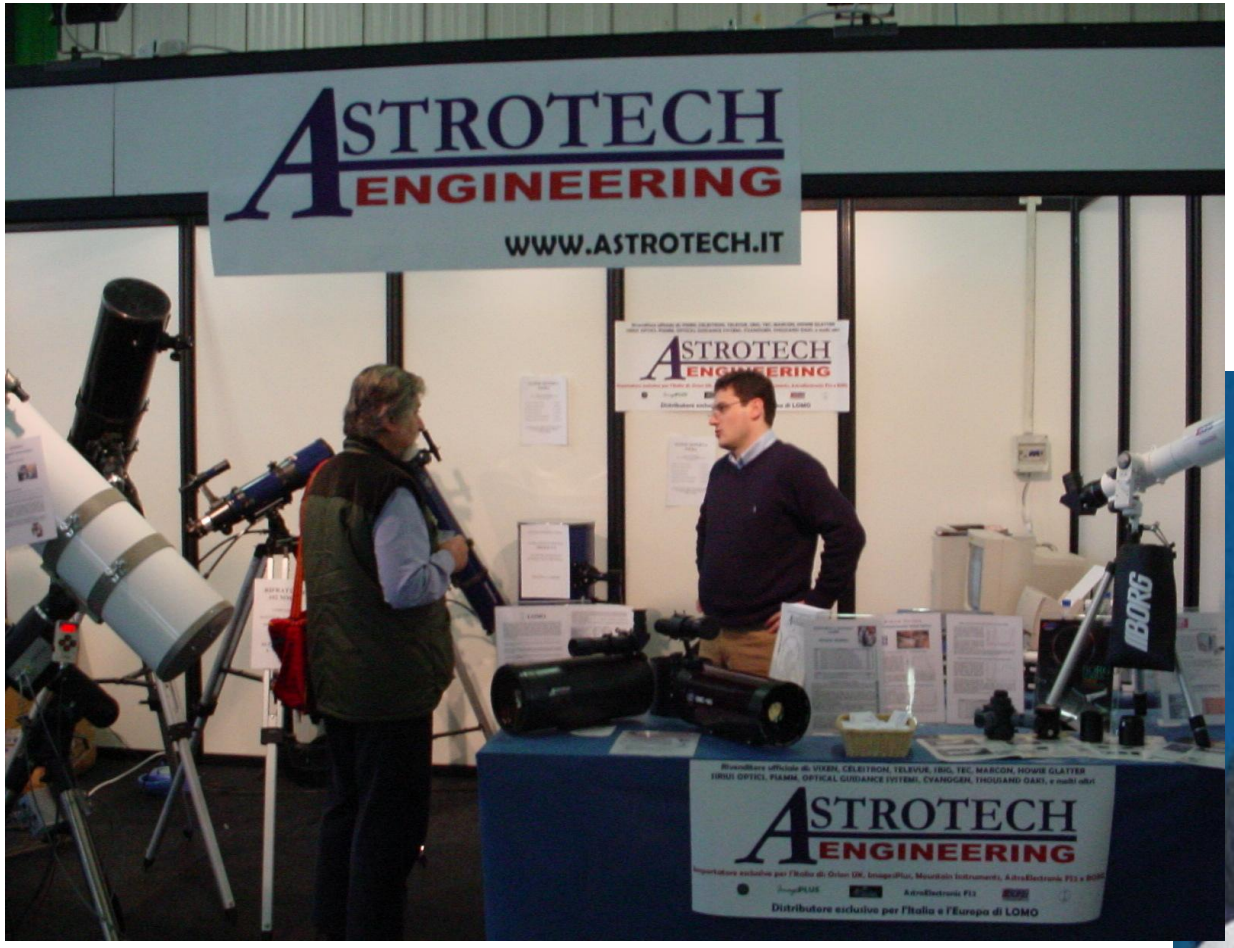
OFFICINA STELLARE SpA

Gran Sasso National Laboratory (LNGS)

Technology, society, industry.

February, 21 2025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Company Timeline

OUR SPACE
YOUR WORLD

"Officina Stellare" means "stellar workshop"

Key milestones

2009 OS is founded by Giovanni Dal Lago, Gino Bucciol and Riccardo Gianni

2012 Contract with NASA (SOFIA project)

2015 First launch of OS-manufactured telescopes into orbit
Achievement of TRL-9 standards in high-resolution EO

2019 OS goes public on the AIM Market (now EGM) of Borsa Italiana

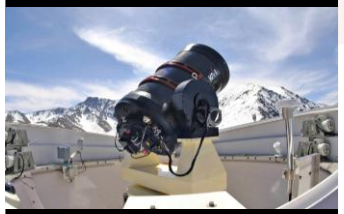
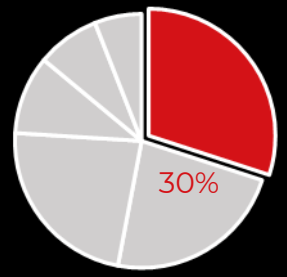
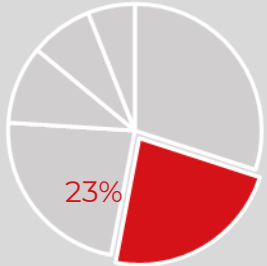
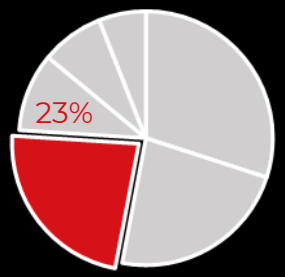
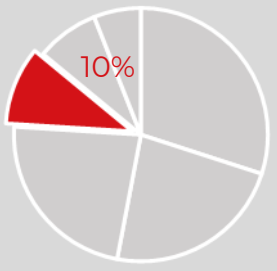
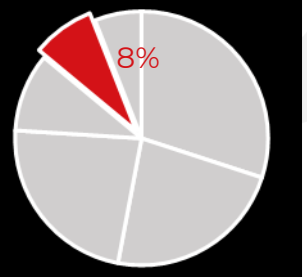
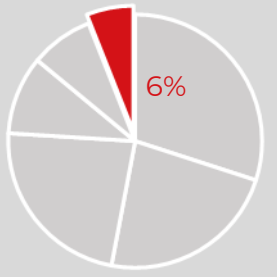
2020 Acquisition of Dynamic Optics (CNR spinoff)
Start of the OS HQ expansion plan (first Italian Space Factory)
OS Corp is established in Washington DC

2021 Foundation of ThinkQuantum (UniPD spin-off)

2022 OS and Satellogic sign investment agreement

2023 Space Factory is completed

Market segments

	Earth Observation	Laser Communication	Scientific Research	Quantum Technologies	Space Traffic Management	Defence
						
Flagship customers	LEONARDO, SATELLOGIC, SAFRAN, AIRBUS, ASI, argotec, AXELSPACE	esa, DiGOS, ThalesAlenia Space, ASI, IDOM, TNO innovation for life	NASA, esa, AURA, BROWN, ESO, INAF, TNO innovation for life	SES, ThalesAlenia Space, CONCESSIONI AUTOSTRADALI VENETE, LEONARDO, UNIVERSITAS STUDII PADUANI	esa, TELESPAZIO a LEONARDO and THALES company, OHB, AIRBUS, U.S. AIR FORCE	Raytheon, TELESPAZIO a LEONARDO and THALES company, UNITED STATES ARMY
FY23Act revenue						
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The first Italian Space Factory

*A new and unique project to **continue investing** in the **growing aerospace market**.*

***Full control** over the opto-mechanical equipment **value chain** allows OS to maintain full supervision of the quality of its products and satisfy specific clients requests, remaining cost competitive without affecting operating margins.*

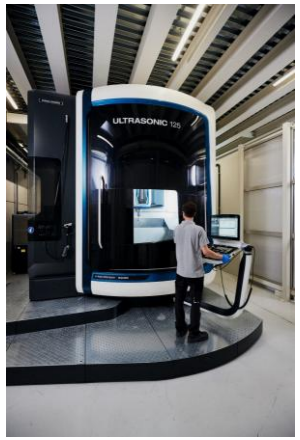
Headquarters located in Sarcedo, Vicenza, Italy

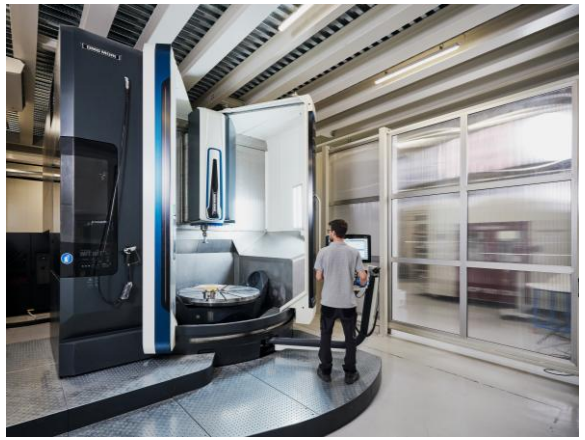
In-house Optical Manufacturing, Assembly, Integration and Verification Capabilities

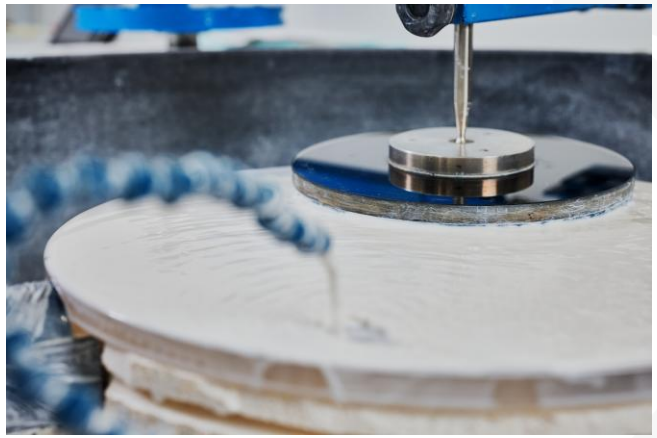
Custom Design of Complex Opto-Mechanical Systems

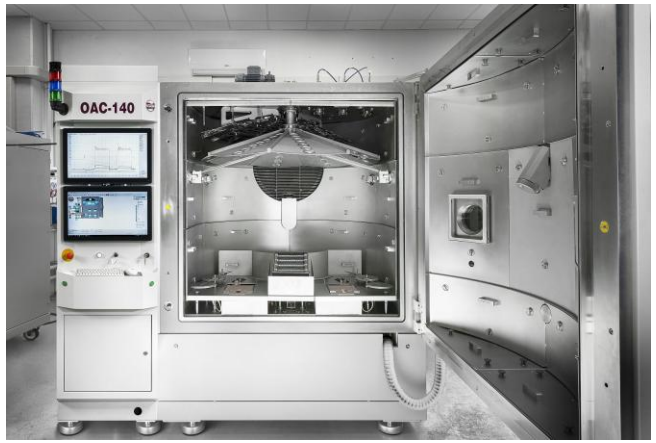
In-house Metrological, Testing and Qualification Capabilities

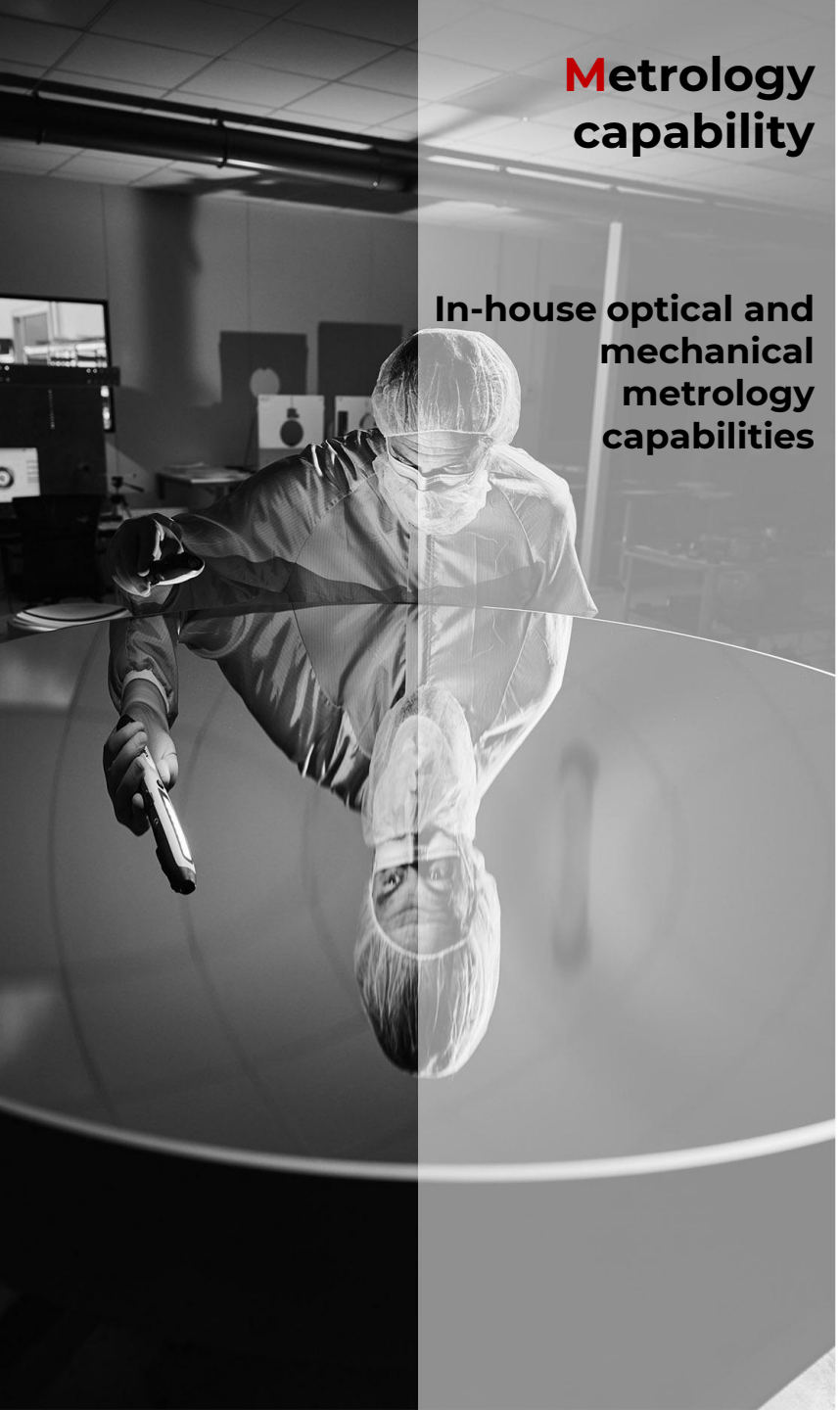
Production capabilities







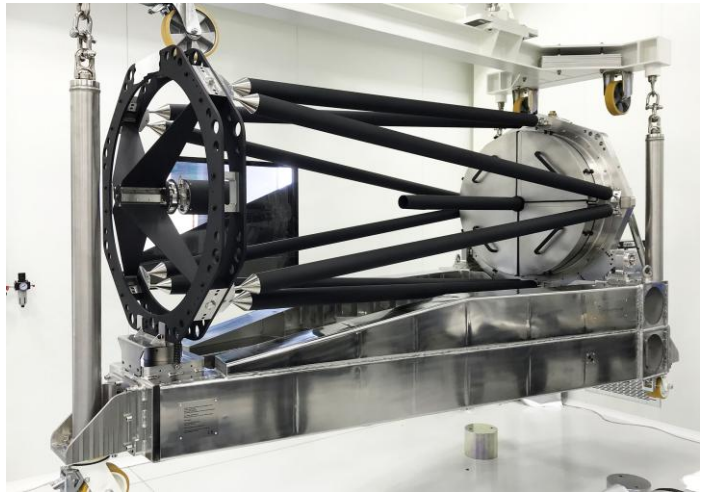


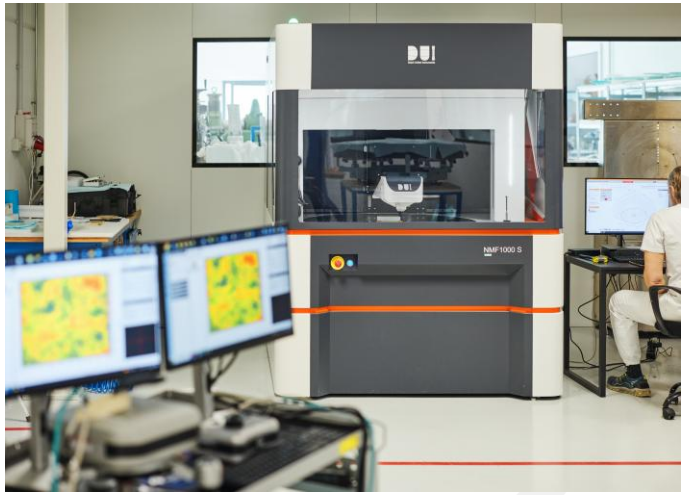


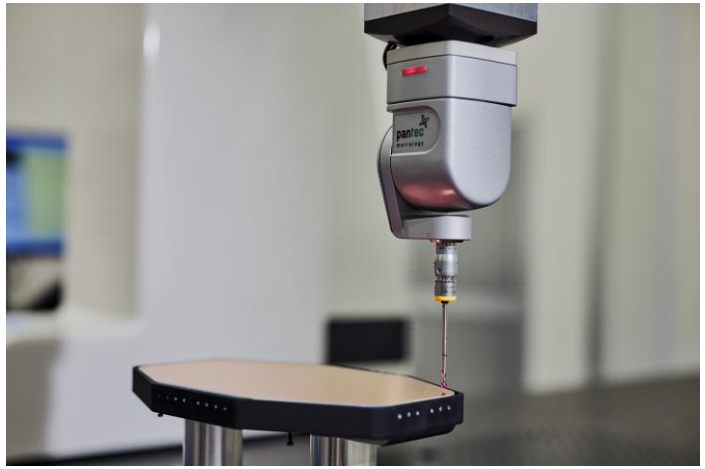
Metrology capability

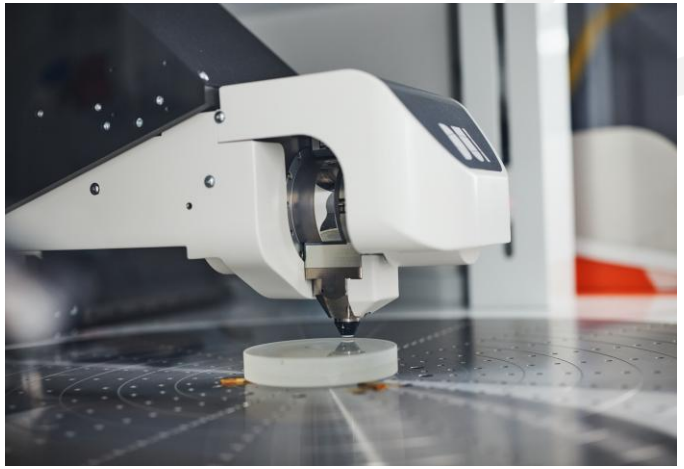
In-house optical and mechanical metrology capabilities

Interferometric and Shack-Hartmann test based meausuments (PhaseCam, DynaFiz, TriOptics, PuntinoPro, ecc.), Nanomefos 1000.
High precision null lenses, CGH, reference spheres and flat mirrors, alignment telescopes, CMM machine.
Spectrophotometers (190-3200 nm).





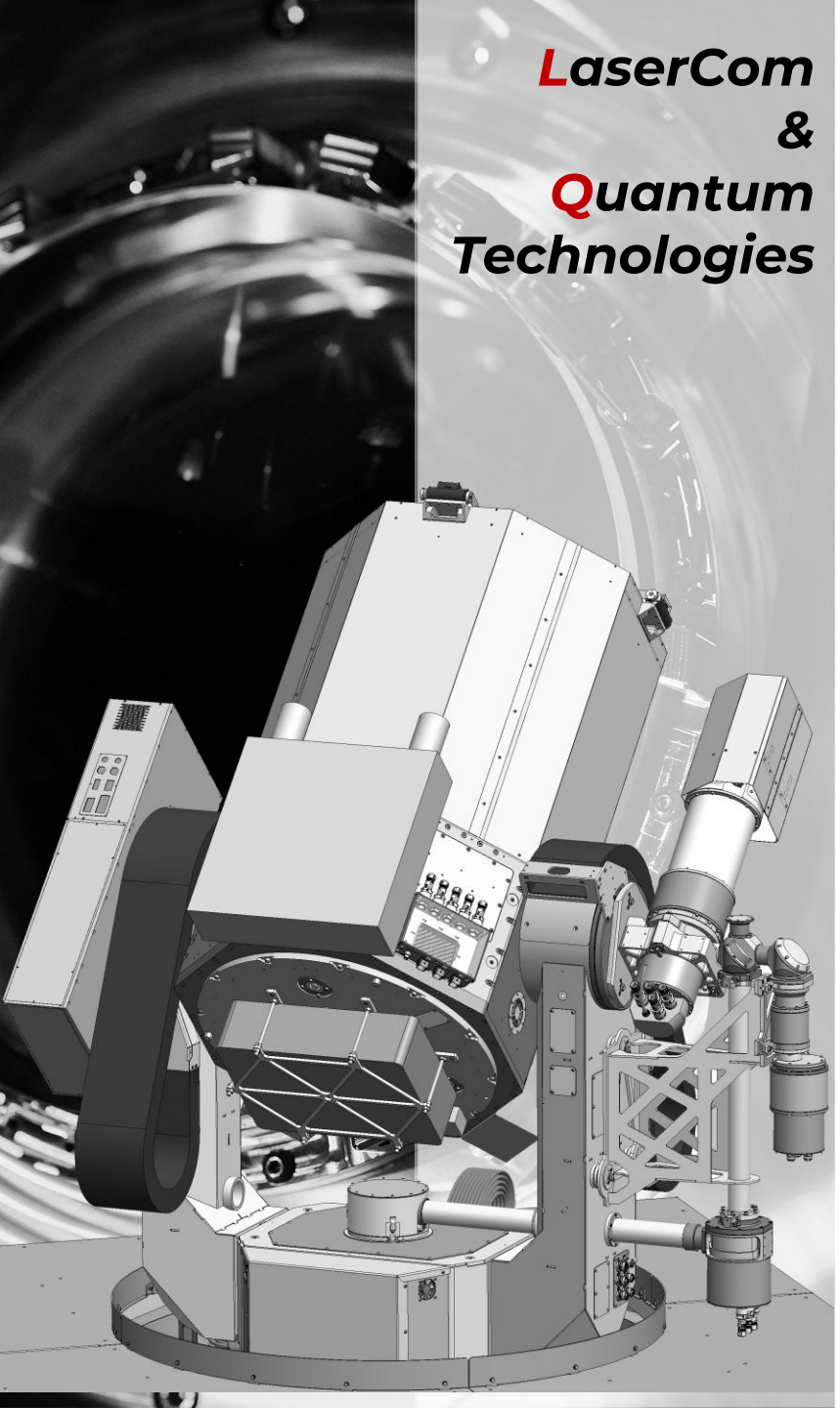


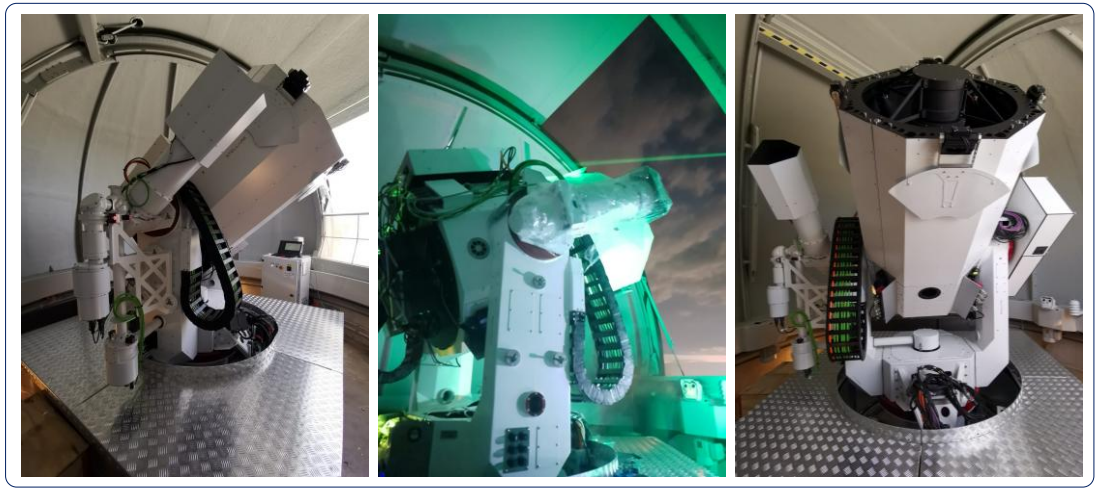


Integration capability

Stabilized optical benches with alignment towers.
Vibration Shaker (400 kg max payload, 30 kN peak sine, 30 kN rms random, 90 G).
*TVAC chamber (700 mm dia x 1000 mm, -75/+150 °C, 1*10e-6 mbar).*
Large, fully equipped, clean rooms (down to ISO5).
OptoCentric 3D.

LaserCom & Quantum Technologies





Relevant projects

GAOM – Generic Adaptive Optics Module

Generic adaptive optics system prototype, modular in design for quantum and optical laser communication signals.

C3PO – Commercial Multipurpose Optical Ground Station Prototype

Complete Optical Ground Station for Lasercom applications designed to be easily relocated and able to operate in difficult environmental conditions, such as the roofs of maximum-security buildings.

EAGLE-1 – Secure Communication Via Quantum Cryptography

The Eagle-1 satellite will be the first space-based quantum key distribution system to be developed under a partnership between ESA, the European Commission and space companies in Europe.

SAGA – Security And cryptoGrAphic mission

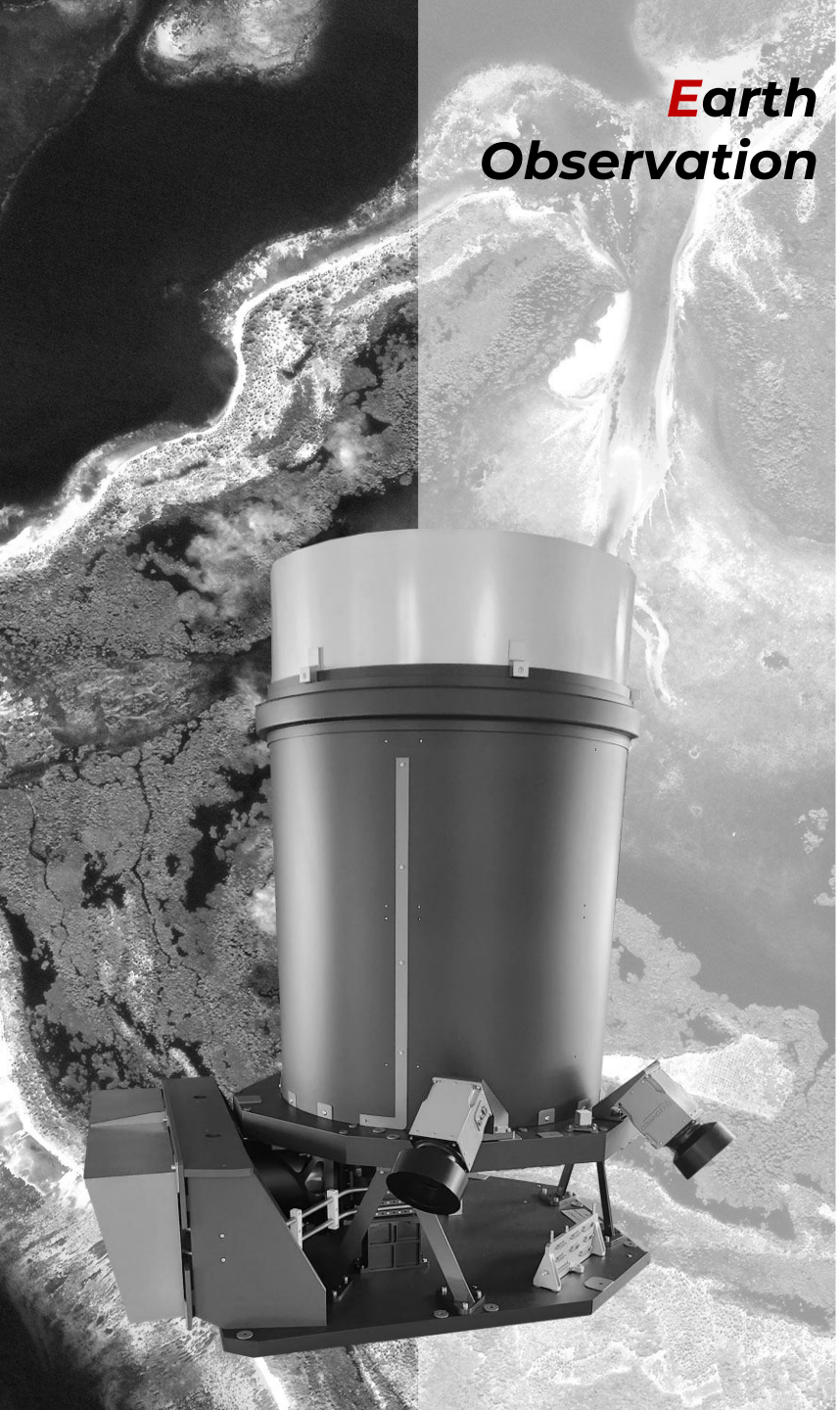
Program aimed at developing satellite quantum communication systems with pan-European reach, as part of a highly secure, pan-European quantum communication infrastructure.

HYDRON – High Throughput Optical Network

The world's first optical multi-orbit transport network at terabit/sec capacity in space, extending terrestrial fiber-based networks seamlessly into space ("Fiber in the sky" and "Internet beyond clouds").

EUROQCI – *European Quantum Communication*

An initiative led by the European Union and supported by ESA aiming at building a robust and secure quantum communication infrastructure across Europe.



Earth Observation

Relevant projects

IRIDE – Italian Satellite Constellation for Earth Observation

Design, manufacturing and integration of the High Resolution telescopes (25 units). Funded by Italy's National Recovery and Resilience Plan (PNRR) and managed by ESA, with the support of ASI, IRIDE mission focused on developing an advanced Earth observation satellite constellation with a range of applications aimed at boosting Italy's resilience and technological capabilities.

PLATINO 3 – VHR multispectral payload

Manufacturing and integration of the space telescope for the Very High Resolution multispectral optical subsystem of the Platino3 Earth Observation mission.

PLATINO 4 – Hyperspectral payload

Design, manufacturing and integration of the space telescope for the Hyperspectral payload of the Platino4 Earth Observation mission.

EO COMMERCIAL CONSTELLATION AND SATELLITES – VHR telescopes

Very High Resolution telescopes (100 units) for Earth Observation infrastructure constellation developed by a commercial customer.

EARTHNEXT – VLEO satellite for Earth Observation

EarthNext ASI project proposes to demonstrate the viability and reveal the advantages of operating CubeSats and other small satellites in Very Low Earth Orbits (VLEOs), integrating a spectral imaging payload with high spatial resolution.

Scientific Research and Space Traffic Management

Relevant projects

GNAO – Gemini North Adaptive Optics system

Design, manufacturing and integration of the laser launch telescopes for the Gemini North Adaptive Optics system (GNAO), developed as part of the National Science Foundation-funded Gemini. The observatory is managed by the Association of Universities for Research in Astronomy, Inc. (AURA).

TERZINA – Space Telescope for Neutrinos and Seismic Electromagnetic Signals (NUSES) mission

Design, engineering, and construction of mechanical and optical infrastructure of the next-generation scientific instrument TERZINA, as part of the project promoted and led by Gran Sasso Science Institute. The telescope aims at developing and validating new technologies for observing elementary particles from space.

SUPERBIT – Super-pressure Balloon-borne Imaging Telescope (SuperBIT)

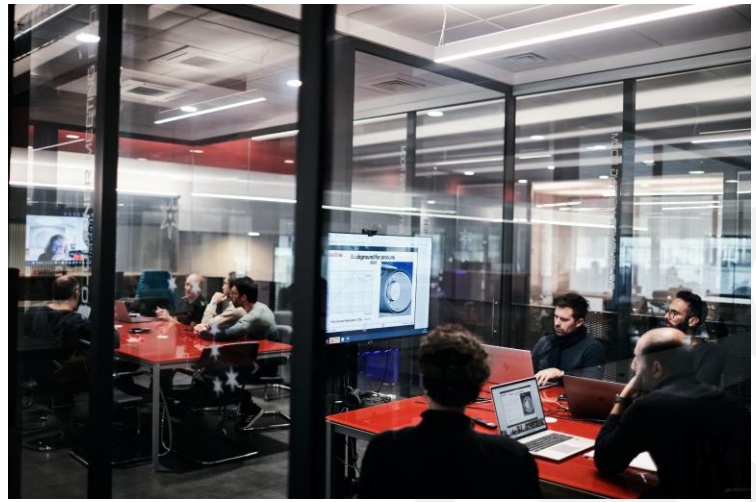
A highly-stabilized, high-resolution telescope that operates in the stratosphere via NASA's super-pressure balloon (SPB) system and carries SuperBIT to a suborbital environment in order to obtain space-quality imaging. As a research instrument, SuperBIT's primary science goal is to provide insight into the distribution of dark matter in galaxy clusters and throughout the large-scale structure of the universe.

OWL-NET SSA – Korean's Space Situational Awareness Telescopes Network

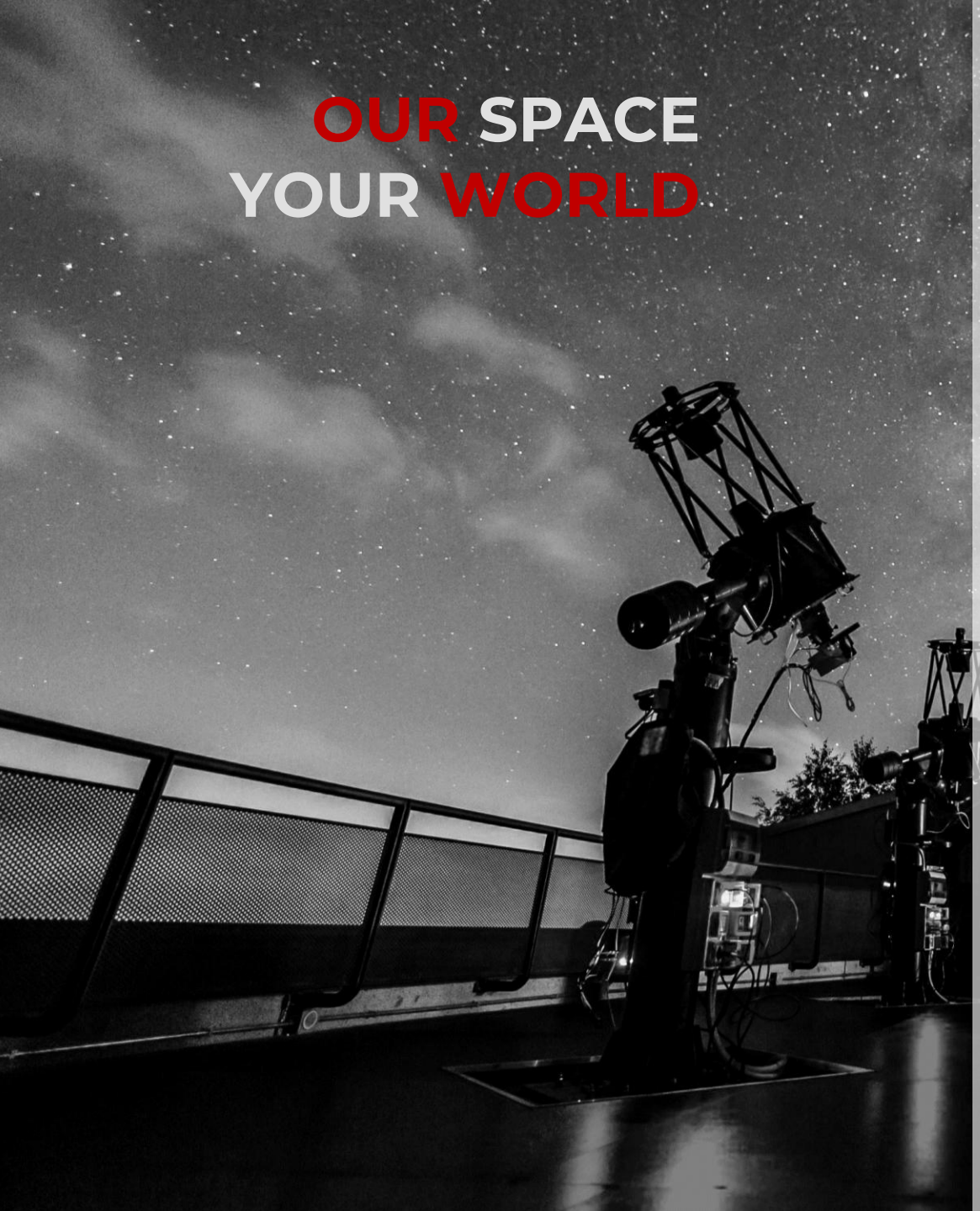
The Optical Wide-field patroL Network (OWL-Net) system developed by South Korean Space Agency aims to acquire and maintain orbital information of LEO satellites.

ESA BIC Padua

ESA-BIC Padua aspires to contribute to economic growth and value creation through a unique incubation model, offering start-ups with high technological content: management, technical, financial and legal support with a strong entrepreneurial, can-do mindset as well as visibility and access to a unique international network of partners, key actors, potential customers, investors and academia in the framework of the European Space Agency.



esa BUSINESS INCUBATION CENTRE | Padua



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YOUR WORLD

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