



# SPACERAISE

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# I. Overview of Gran Sasso Tech

# Gran Sasso Tech was born in 2022 under the auspices of the Italian Minister of University and Research



The stated goal was to create true synergy between research and industry in the space sector, as opposed to the standard approach in which different actors keep operating in separate silos, even while collaborating



# GST: a new model of public/private research organization

Partners



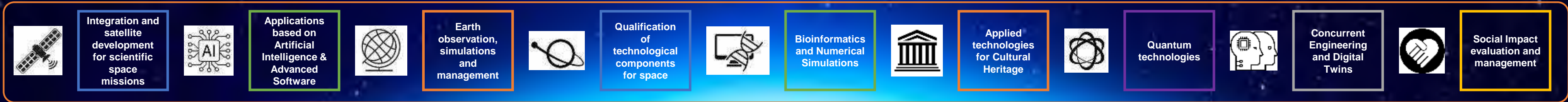
Impact

<u>Public Interest</u>	<u>Industrial Interest</u>
Technologies Development	Innovation
Education	Human Resources
National Development	Development of New Space

## Organi della Fondazione

Founders' Assembly	<ul style="list-style-type: none"><li>Massimo Claudio Comparini – Presidente</li><li>Eugenio Coccia - Vice Presidente</li><li>Oscar Cicchetti</li><li>Leonardo Mazzini</li></ul>
President	<ul style="list-style-type: none"><li>Fernando Ferroni</li></ul>
Board of Directors	<ul style="list-style-type: none"><li>Fernando Ferroni – Presidente</li><li>Leonardo Mazzini - Vice Presidente</li><li>Roberto Aloisio</li><li>Francesco Amicucci</li><li>David Della Morte Canosci <a href="#">MUR</a></li><li>Michelangelo L'Abbate</li><li>Speranza Falciano</li><li>Walter Pecorella</li><li>Alfredo Pigiani</li></ul>
C.E.O.	<ul style="list-style-type: none"><li>Alessandro Pajewski</li></ul>
Scientific Director	<ul style="list-style-type: none"><li>Giovanni Campolo</li></ul>
Scientific Committee	<ul style="list-style-type: none"><li>Simone Cabasino – Christian Greco – Paolo Lugli</li><li>Ezio Previtali - Nanda Rea - Paolo Teofilatto</li></ul>
College of Auditors	<ul style="list-style-type: none"><li>Giovanni Galoppi – Presidente</li><li>Nicodemo Vitetti – Antonio Di Donato <a href="#">MUR</a></li></ul>

## Technology Areas of Gran Sasso Tech





# Gran Sasso Tech has access to Thales Alenia Space Italia facilities for R&D, testing and training activities

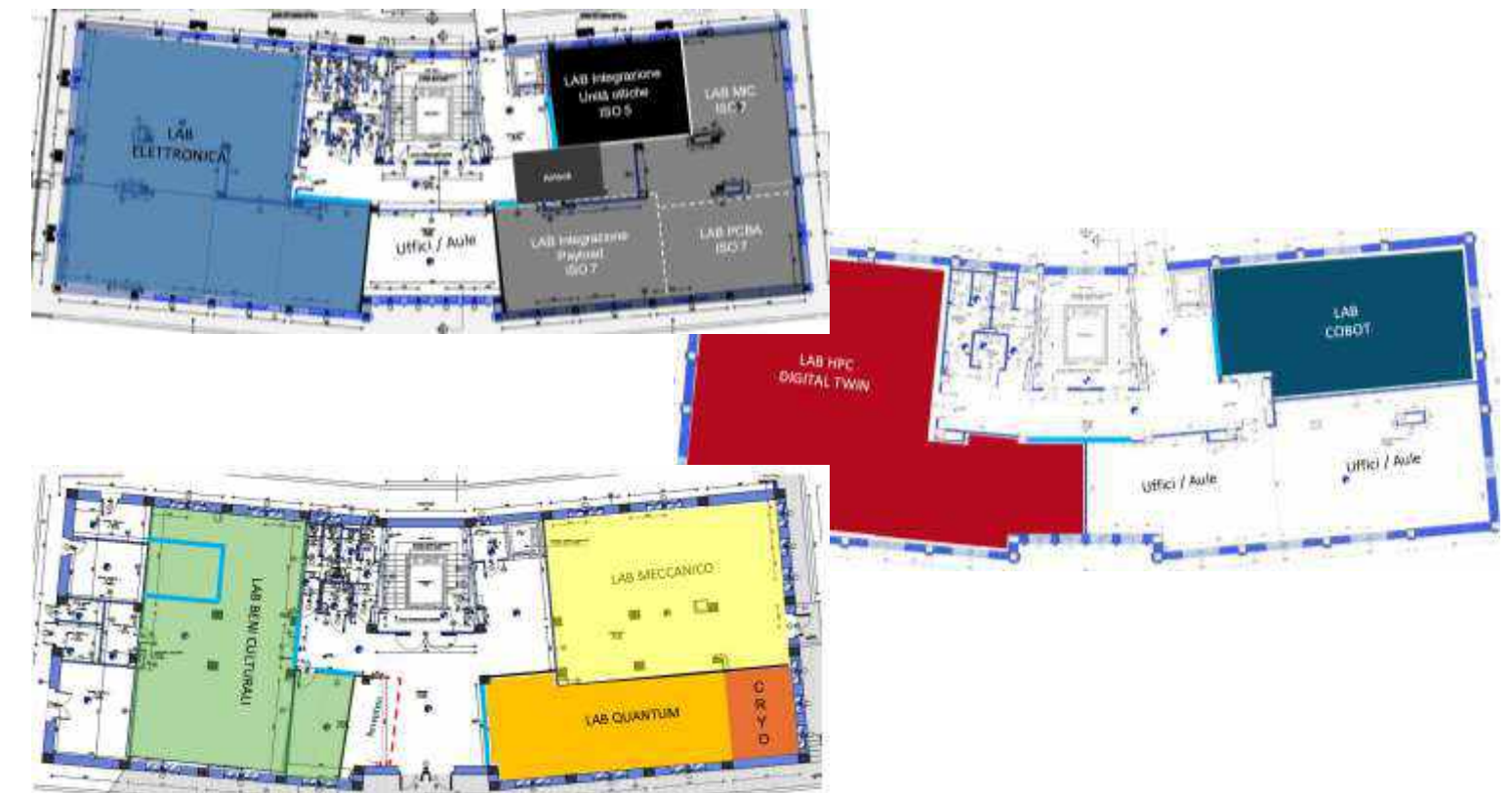
## Current facilities

- **Campus GSSI** (Administration + HW Group)
- **Palazzo Ciccozzi** L'Aquila (SW Group)
- **Labs Thales Alenia Space Italia** - L'Aquila
- **Labs Thales Alenia Space Italia** – Roma
- **Labs GSSI** - L'Aquila
- **External facilities** (Enea, INFN, PSA, etc..)



## Facilities from 2026

- **SEIC Labs** (Electronic Lab, Micro-electronic Lab, Lab payload Integration, Lab PCBA, Optical Lab, Clean Rooms ISO 7 & ISO 5, Lab quantum, Cryo Lab, Mechanical Lab, Robotics Lab, Lab Digital Twin, HPC)
- **Labs Thales Alenia Space Italia** L'Aquila
- **Labs Thales Alenia Space Italia** Roma
- **External Facilities** (Enea, INFN, PSA, Rome Technopole..)





# GST develops key hardware technologies for New Space and supports research centers in accessing space

Scientific space missions

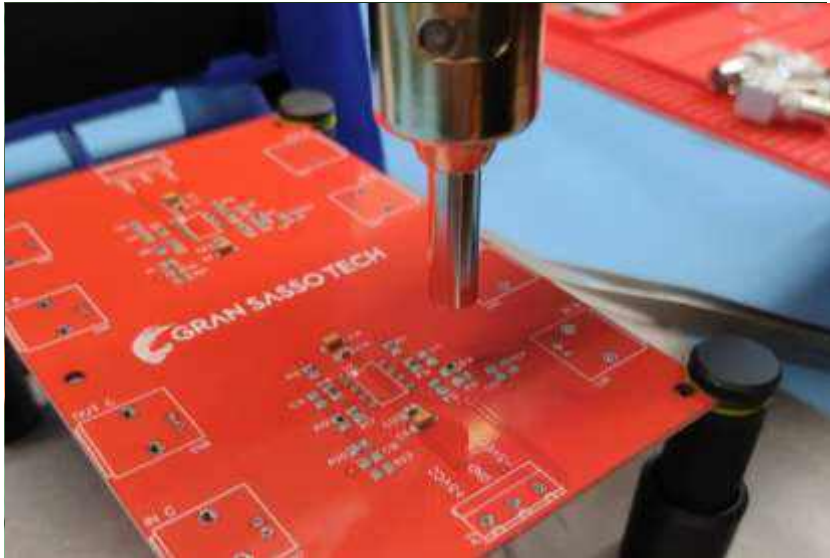
Qualifiction of Electronic components  
*New Space*

Digital Beamforming for SAR

Strategic Technology Studies



Space Qualification of two Scientific Payloads of the NUSES satellite  
2025



COTS Qualifications  
2023 / 2025



Project DB4RA  
2024 / 2025



Collaboration on space technologies with Italian SegreDifesa



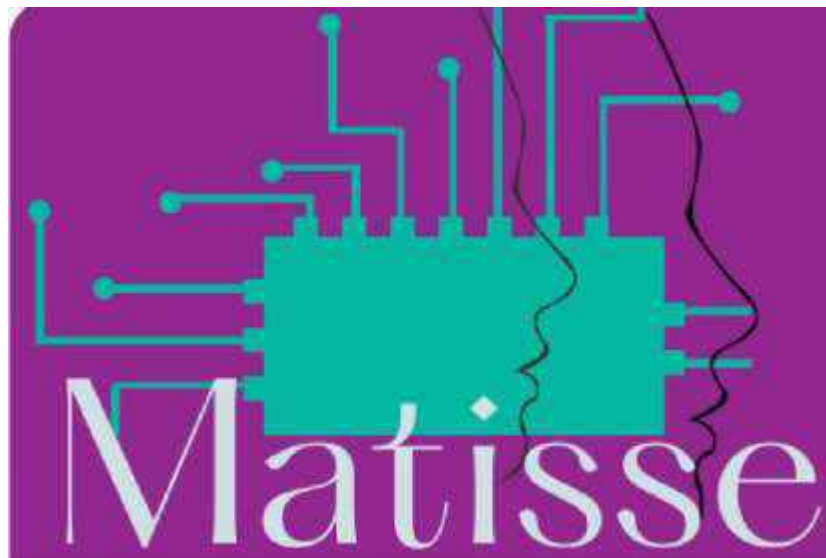
# GST's software group produces cutting-edge solutions for industrial supply chains and SMEs

Digital Twins

Robots for  
Space Manufacturing

Voice-interacting  
cobots  
for Automotive

Downstream / A.I.  
Applications



Model-Based Engineering of  
Digital Twins for early  
Verification and Validation of  
Industrial Systems



Democratization of Robot  
Engineering for Advanced  
Manufacturing



Project CORE  
2024 / 2025



Project WINESAT  
Abruzzo wine growing

- Integration of data from satellite, UAVs, IoT



# GST is an international best practice institution for training in space technologies

**Scientific  
Conferences**

**Doctoral Schools**

**Industrial Ph.D.**

**International capacity  
building programs**

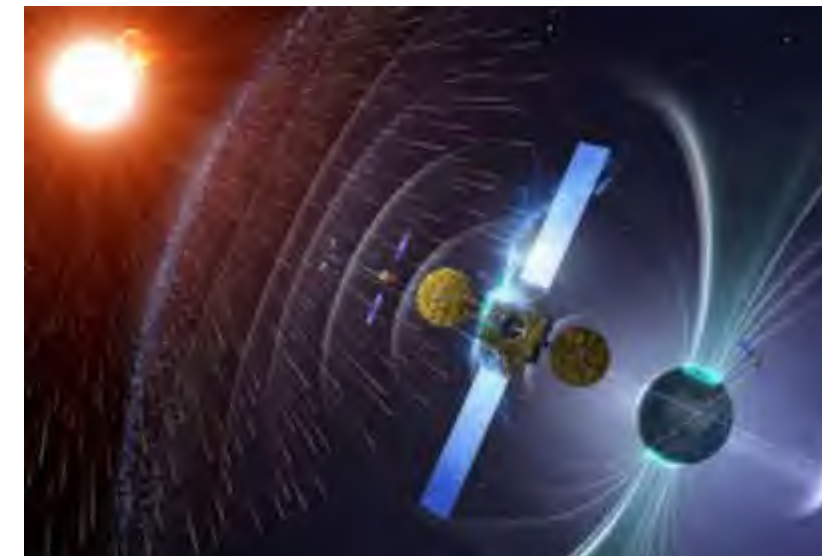


**Optimization Theory applied to  
Space Engineering**  
L'Aquila, December 2023



**A.I. – Robotics – Digital Twins  
for the space sector**  
L'Aquila, May 2025

- 36 countries attending (21 extra EU)



**Innovative Technologies for Space  
Missions and Radiation Detection**  
From A.Y. 2023/2024

- 3 years Innovative Ph.D. program



**Space Human Resources  
Program**  
2025

- With Italian MAECI's support



## II. SPACERAISE

“An intensive training program aimed at young talents who want to understand the major challenges of [software engineering](#) in the [aerospace](#) domain and acquire new skills in [Artificial Intelligence](#), [Robotics](#), and [Digital Twins](#) for aerospace applications.”

# SPACERAISE 2025 was organized by Gran Sasso Tech in collaboration Gran Sasso Science Institute

	
<ul style="list-style-type: none"><li>• Nonprofit research organization, focus on the Space Sector</li><li>• Thales Alenia Space Italia &amp; Gran Sasso Science Institute as founders</li><li>• Access to TAS-I facilities</li><li>• Mixed researched groups from academia and industry</li><li>• 2-MF/NIMBUS platform for scientific missions</li><li>• Scientific Partnership with Italian government</li><li>• Research contracts: electronic components, optical and radar systems, etc.</li><li>• Competitive international projects (Satellite radar, Space medicine, Digital twins, Robotics, etc...)</li><li>• Educational activities (international scientific conferences, PhD program, etc..)</li></ul>	<ul style="list-style-type: none"><li>• International university for advanced studies funded by Italian Government</li><li>• 150 researchers and professors – Nobel laureates collaborations</li><li>• <i>Top Computer Science and Mathematics department in Italy</i></li><li>• Large funding from international competitive grants, including several European Research Council grants</li><li>• Leader of international scientific space collaborations (NUSES, CRYSTAL EYE, LGWA, etc..)</li><li>• PhD program in Space Technologies</li><li>• 194 PhD students, 40% from abroad</li><li>• 100% graduates employment rate</li><li>• Strong interdisciplinary spirit</li><li>• Space and Earth Innovation Campus</li></ul>

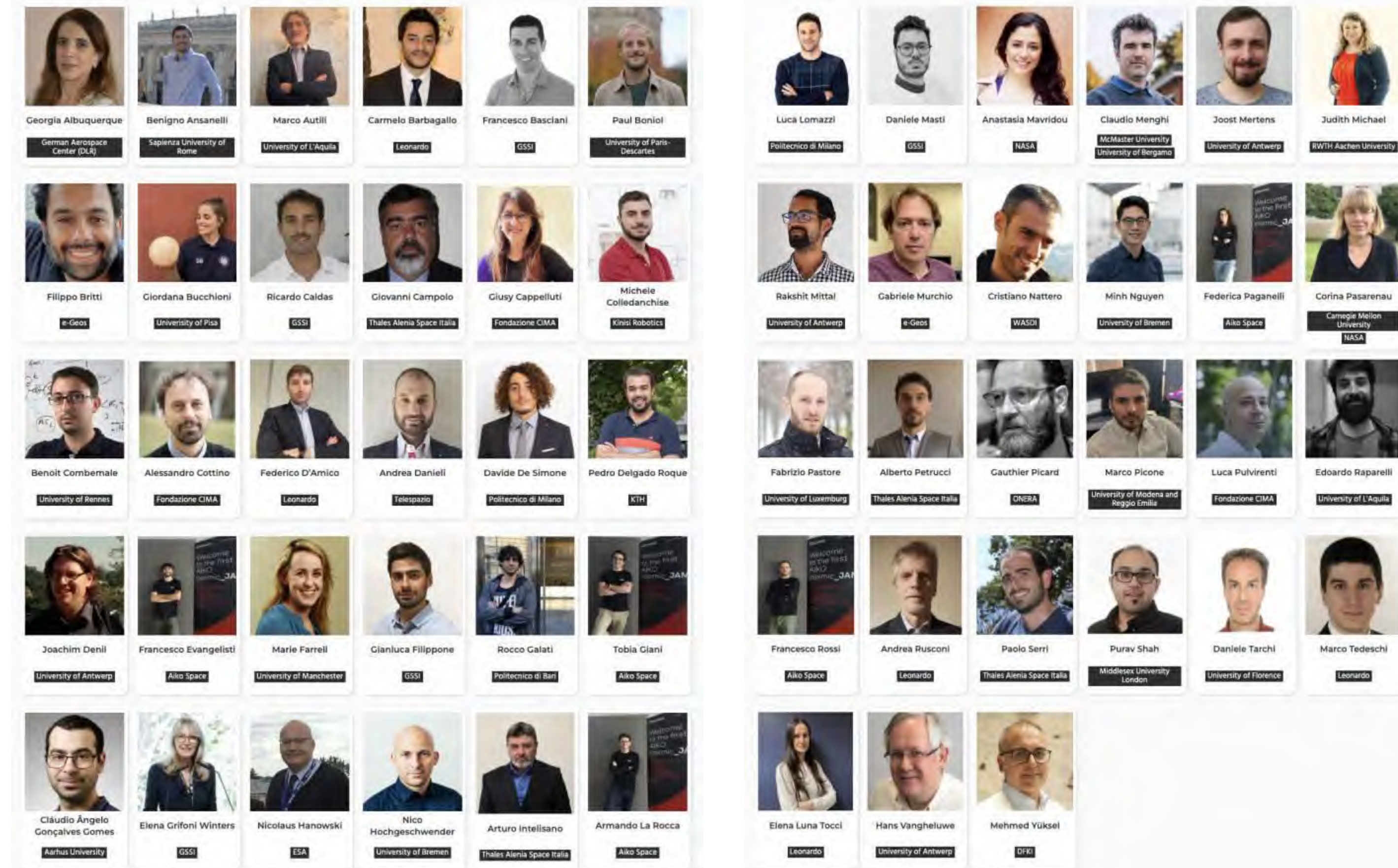


# SPACERAISE was inaugurated by Edmondo Cirielli, Deputy Minister of Foreign Affairs and International Cooperation





# SPACERAISE 2025: 58 international lecturers from academia, the aerospace industry, and space agencies

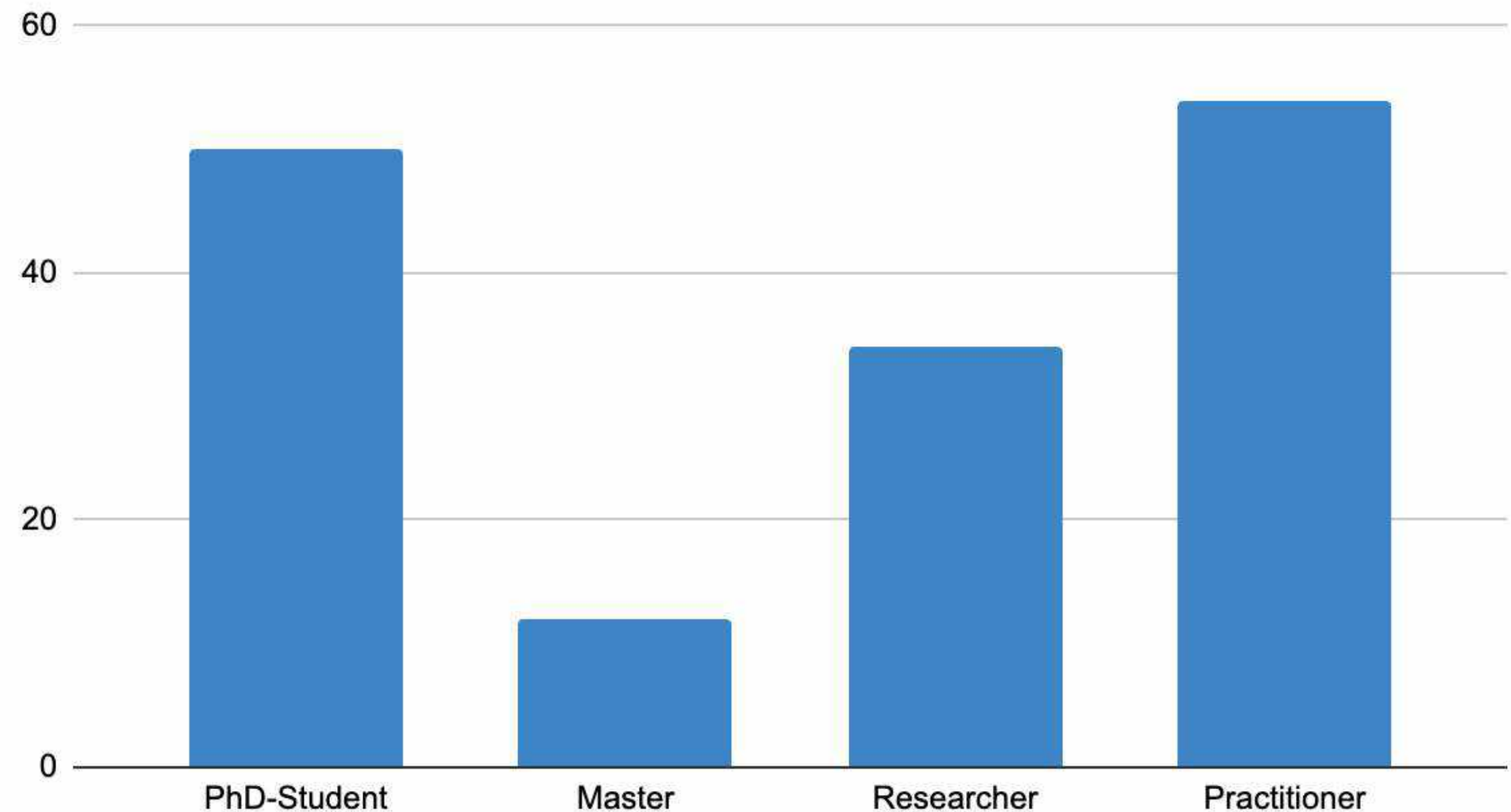




# SPACERAISE 2025: School Participants

- ❖ **150** admitted participants.
- ❖ **No registration fees** to pay.
- ❖ **60 scholarships** assigned.

Background Enrolled Participants



# SPACERAISE 2025: School Participants came from 32 different countries







Finanziato  
dall'Unione europea  
NextGenerationEU



Ministero  
dell'Università  
e della Ricerca



Italiadomani  
PIANO NAZIONALE  
DI RIPRESA E RESILIENZA



## Artificial Intelligence for Aerospace - Monday, May 26 Friday, May 30

	Monday, May 26	Tuesday, May 27	Wednesday, May 28	Thursday, May 29	Friday, May 30
8:30 - 10:00	Welcome + Keynote: AI and the infinite: the intersection of AI and Space ventures ( <i>Elena Grifoni Winters - GSSI</i> )	Introduction to AI in Space Safety and Sustainability ( <i>Federica Paganelli, Francesco Evangelisti, Tobia Giani - AIKOSPACE</i> )	Automated testing of deep neural networks for computer vision tasks in space ( <i>Fabrizio Pastore - University of Luxemburg</i> )	AI for Earth Observation (AI4EO) in action: Insights and Innovations ( <i>Cristiano Nattero - WASDI</i> )	Automating spaceborne Earth observation data exploitation through deep learning: current status and future perspectives. ( <i>Filippo Britti, e-GEOS</i> )
10:00 - 10:30	Coffee break	Coffee break	Coffee break	Coffee break	Coffee break
10:30 - 12:00	Trustworthiness and explainability in AI for Space application ( <i>Arturo Intelisano - TASI</i> )	Applying AI to Mission Design: Working Groups ( <i>Federica Paganelli, Francesco Evangelisti, Tobia Giani - AIKOSPACE</i> )	Supporting safety analysis of Deep Neural Networks through failure explanation ( <i>Fabrizio Pastore - University of Luxemburg</i> )	Building a Cloud-Based Downstream Earth Observation Application with WASDI ( <i>Cristiano Nattero - WASDI</i> )	ORBIT: Web application for research and planning of potential satellite acquisitions for detection ( <i>Giusy Cappelluti, Alessandro Cottino - Fondazione CIMA</i> )
12:00 - 14:00	Lunch break	Lunch break	Lunch break	Lunch break	Lunch break
14:00 - 15:30	Artificial Intelligence in Aerospace: From Evaluation Methods to Certification Challenges ( <i>Francesco Basciani, Alberto Petrucci - GSSI &amp; TASI</i> )	Introduction to Machine Learning for Onboard Data Analysis in Earth Observation ( <i>Francesco Rossi, Armando La Rocca - AIKOSPACE</i> )	Analysis of Perception Neural Networks via Vision-Language Models ( <i>Corina Pasareanu - Carnegie Mellon University (CMU)/NASA</i> )	An Overview of Anomaly Detection for Time Series ( <i>Paul Boniol - Paris Descartes</i> )	Use of high-resolution remote sensing data for mapping the extent of water reservoirs and flooded areas: basic principles and applications ( <i>Luca Pulvirenti - Fondazione CIMA</i> )
15:30 - 16:00	Coffee break	Coffee break	Coffee break	Coffee break	Coffee break
16:00 - 17:30	New Generation of Virtualization Infrastructures in Space ( <i>Andrea Danieli, Telespazio</i> )	Hands-On: Implementing a Neural Network-Based Classification Algorithm ( <i>Francesco Rossi, Armando La Rocca - AIKOSPACE</i> )	Social event Guided tour of L'Aquila	A deep dive into time series anomaly detection evaluation measures ( <i>Paul Boniol - Paris Descartes</i> )	Downscaling satellite precipitation fields using convolutional neural networks ( <i>Edoardo Raparelli - University of L'Aquila</i> )



# L'Aquila, Italian Capital of Culture 2026







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