PRESS RELEASE

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Open Innovation: Leonardo and Telespazio award space technology visionaries for #TeC 2024

- **29 teams from 26 universities in 10 countries participated in the sixth edition of the competition**

- **Projects submitted by Politecnico di Bari and the University of Southampton (UK) won awards in the Ideas category. The first prize in the Prototype category went to Politecnico di Torino**

- **Leonardo and Telespazio, with the assistance of cesah GmbH and Seraphim Space, will support the most interesting projects with pre-incubation and acceleration programmes with a contract or by financing a Proof of Concept**

The awards ceremony of the 2024 #T-TeC was held today in Brussels during the seventeenth European Space Conference. The Telespazio Technology Contest, now in its sixth edition, organised by Leonardo and Telespazio, is open to students, PhD candidates and young researchers from universities around the world who propose innovative projects addressing key challenges in the space industry.

The 2024 edition saw the participation of 29 teams from 26 universities in 10 countries: Italy, United Kingdom, France, Spain, Poland, Argentina, Peru, Colombia, China and India.

The ceremony was attended by: **Gabriele Pieralli**, CEO of Telespazio; **Massimo Claudio Comparini**, General Manager of the Leonardo's Space Business Unit; **Stefan Olsson**, Deputy Director General DG Employment, Social Affairs and Inclusion of the European Commission; **Massimo Salini**, Member of European Parliament and Co-Chairman of the 'Sky and Space' Intergroup; **Michelangelo Nerini**, Counsellor at the Permanent Representative of Italy to the EU; **Luca del Monte**, Head of the Commercialisation Department at ESA; **Marco Brancati**, SVP Space Business Unit of Leonardo and **Luca Petronzio**, CTO of Telespazio.

The competition was divided into two main categories: Ideas and Prototypes. The Ideas category was for visionary projects addressing crucial challenges for the future of space technologies, while teams competing in the Prototypes category presented more mature solutions, ready for implementation.

The **first place in the Ideas** category, with a prize of 5,000 euros, was awarded to the "**LiNbO3-based Photonic FFT Processor**" project presented by a team from **Optoelectronics Laboratory - Politecnico di Bari**. The idea is to revolutionise satellite data

processing through an innovative optical processor based on lithium niobate technology. The proposal will have an opportunity for **pre-incubation** with the support of **cesah GmbH**.

In addition, the "**GHOST**" project, an idea presented by a team from the **University of Southampton**, **United Kingdom**, proposing an innovative system for tracking objects in geostationary orbit, using a payload that allows optical sensors to detect and track objects with no need to manoeuvre the host satellite, will also benefit from a **pre-incubation programme with cesah GmbH**.

The first prize in the **Prototype category,** a cash prize of 10,000 euros, was awarded to the "**ASTRO**" project presented by a team from **Politecnico di Torino.** The project envisages a satellite training system for remote sensing optimised to permit use of synthetic aperture radar. The team will be offered an opportunity to participate in the **Seraphim Space Camp Accelerator** in order to further refine their solution and its positioning on the market.

The second prize was awarded to the "**P³ANDA**" project, developed by a team of students and researchers from three academic institutions in Italy: **Federico II University of Naples**; **Luigi Vanvitelli University of Campania** and **Politecnico di Milano**. The proposal, awarded a cash prize of 6,000 euros, focuses on the creation of an innovative compact tool for capturing panchromatic images, integrating artificial intelligence algorithms to optimise the acquisition and processing of satellite data in real time. The team will also be offered an opportunity to participate in a **pre-incubation process with cesah GmbH**, set up their own start-up and compete for one of ESA's Business Incubation Centres.

The third prize was awarded to the project "**ARDITO: A Modular and Sustainable Rover for the Future of Lunar and Planetary Exploration**", designed by a team from **Politecnico di Torino**. This modular and autonomous rover is designed for missions to the Moon and other celestial bodies, integrating a range of advanced technologies. The team was awarded a prize of 4,000 euros.

The **Test-It prize** was awarded to "**RAYSILIENCE**", a project presented by a team from **La Sapienza** and **LUISS Guido Carli Universities in Rome** for the creation of an autonomous navigation system for drones that is capable of operating in environments with no GNSS signal, thanks to a positioning method based on satellite images and advanced algorithms. The project won funding for a **Proof of Concept by Leonardo**, which is supporting its developing and testing.

Two special mentions were awarded: one went to "**eXplainable Artificial Intelligence (XAI) for Space Application Solutions**", presented by a team from the **University of Strathclyde**, United Kingdom; while the second went to "**Graphene-gold nanostructures for innovative optical propulsion systems**", presented by young researchers from **Federico II University of Naples** and the **Institute of Applied Sciences and Intelligent Systems of Italy's National Research Council**, the CNR.

Lastly, the contest also focused on **sustainability**, a factor taken into account in many of the proposals received this year. Here too, **two honourable mentions** were awarded for attention to this theme, both on Earth and in Space: "Making the future of Space Exploration sustainable with a circular economy system", a project presented by students from Uni**versidad de la Sabana in Colombia**, and "NO2ACID - The concept of a tropospheric balloon to reduce the

amount of NO_2", presented by students from the **University of Technology and the Fine Arts Academy of Krakow**, Poland, with **Alva's Institute of Engineering and Technology in India**.

Telespazio CEO **Gabriele Pieralli** stated: "*Every year the #T-TeC demonstrates how innovation in space is fuelled by the creativity and vision of young talent. The award-winning projects all share the same goal of bringing concrete solutions to a sector that changes every day, with a focus on sustainability.*"

Massimo Claudio Comparini, Managing Director of Leonardo's Space Business Unit, said: "*Space presents us with new challenges every day, we need to develop new solutions, systems, applications at an ever-faster pace. With #T-TeC Telespazio and Leonardo have been contributing for years to the best connection with young talents who will soon have to understand and grasp these new challenges. Investing in people and their ideas means investing in the future of space.*"

#T-TeC, an initiative under the patronage of several space agencies (ESA, ASI, UKSA and AEE) and aerospace associations such as AIDAA, SGAC and CEAS, is among the activities promoted by Leonardo for Open Innovation, a form of shared innovation that plays a key role in the promotion of new ideas and opportunities with a long-term vision.