

PRESS NOTE

#T-TeC Award 2021: Leonardo and Telespazio reward the Open Innovation projects on the stage of the Expo 2020 Dubai's Italy Pavilion

The contest is dedicated to students and researchers from around the world with the aim of promoting technological innovation in the space industry.

Over seventy students coming from 22 universities and research centres of nine countries entered the competition.

The Alma Mater Studiorum - University of Bologna team is the winner. Students coming from Argentina, Belgium, El Salvador, the UAE, France, Italy, the United Kingdom and Switzerland received awards.

Dubai, 16/12/2021 – The awards ceremony of #T-TeC 2021, the Open Innovation space contest promoted by Leonardo and Telespazio, was held today at the Italy Pavilion at Expo 2020 Dubai. Attending the event were the award-winning teams, with speeches by prominent representatives of the European and Emirati Space sector, and by Luigi Pasquali, Space Activities Coordinator of Leonardo and CEO of Telespazio; Pierpaolo Gambini, SVP of Innovation and IP of Leonardo; and Marco Brancati, SVP of Innovation and Technology Governance of Telespazio.

To emphasise Italy's commitment to supporting the international value of the sector, the awards were presented on the occasion of the first Italy National Space Day. The event was also a contribution to the Expo Knowledge & Learning Week.

This third edition of #T-TeC for the first time was open to young people around the world and over 70 students and researchers of STEM disciplines participated. They come from 22 universities and research centres in nine countries of three different continents: from the UAE to Argentina, from Turkey to El Salvador, including Italy, Belgium, France, the United Kingdom and Switzerland.

The participants presented their innovative solutions as they challenged each other on four different macro-themes – Space Exploration, In Orbit Servicing, GeoInformation Applications and Platforms, Space Situational Awareness & Space Traffic Management – considered of utmost importance for the present and future of the space sector. A committee made up of Leonardo and Telespazio representatives, members of the European (ESA), Italian (ASI) and Emirati (UAESA) Space Agencies, and industry experts coming from seven countries, analysed the 20 projects submitted assessing not only the innovative quality of the technological solutions presented, but also their sustainability.

The first prize of 10,000 euro was given to the **Alma Mater Studiorum – University of Bologna (Italy)** team, which presented the “**Multi- purpose modular satellite services**” project (macro-theme: “In Orbit Servicing”) dedicated to the development of a small modular satellite able to extend the lifetime of the space assets in orbit while also mitigating the problem of orbiting debris.

The second prize of 6,000 euro was given to a team made up of students coming from the Argentinian universities **Universidad Nacional de La Plata, Universidad de Palermo, Universidad Buenos Aires,** and **Universidad Argentina de la Empresa,** from the **Universidad Don Bosco** of El Salvador and from **ETH Zurich** (Switzerland). The project submitted was “**PULQUI XXI**” (macro-theme: “Space Exploration”), an innovative cubesat that aspires to become the smallest, lightest and most cost-effective lander to land on the Moon. It is a clear example of how the space exploration topic is of worldwide interest, as it fostered the collaboration of participants from different continents.

The third prize went to a team of the **CNRS** (Centre national de la recherche scientifique - France) and the **University of Siena** (Italy). Again in the macro-theme area “Space Exploration”, the team presented the

ESTATE (Elettromagnetic Skins in meTal By AddiTivE manufacturing) project. The solution is capable of increasing the payload of a satellite by replacing its chassis with an ultra-thin metal smart material (smart skin) leveraging metal additive manufacturing for fabrication.

Four special mentions, one for each macro-theme, also went to the worthiest projects, which were above all chosen based on the value of their possible impact in terms of sustainability. The Emirati “**Khalifa University**” of Abu Dhabi, with its innovative project to recharge remotely piloted aircraft (UAV) on remote celestial bodies using wireless energy transfer with Bessel beams was chosen for the Space Exploration macro-theme. In the Space Situational Awareness area, the special mention went to CASSANDRA (Computation Agent for Space Situational Awareness aNd Debris Remediation and Automation), a project submitted by the **University of Strathclyde of Glasgow** (UK); on the other hand, CUSAT-WD (Weed Discrimination based on satellite imagery and UAVs in a precision farming framework), the project of the **University of Namur** (Belgium) was selected for GeoInformation Applications and Platforms; and finally, for the In-Orbit Servicing macro-theme, the special mention went to PACLEAN (Solution for Space Debris problem) of the **University of Naples “Federico II”** (Italy).

“Never before like this year has #T-TeC had an international nature, with participants coming from universities of nine countries of the world. The fact that many teams are the result of international collaborations between universities of different countries is also particularly significant as it stands as proof that innovation – just like Space – has a strong spirit of cooperation. It is precisely due to this peculiarity that we decided to announce the winners here at the Italy Pavilion of Expo 2020 Dubai. This international event par excellence is the perfect setting to underscore Leonardo’s commitment to promoting innovation and cooperation”, said Luigi Pasquali, Space Activities Coordinator of Leonardo and Telespazio CEO.

With #T-TeC, Leonardo and Telespazio aim to promote technological innovation within the space sector among the young generations, enhancing the value of their ideas and insights and imagining with them the technologies that will make a mark on our future. The 2021 edition coincides with the sixtieth anniversary of the foundation of Telespazio, which – like Leonardo – has made innovation its hallmark and that has always striven to discover the pioneers of the future, an attitude that is as true today as on its inception in 1961.

This initiative is one of the activities promoted by Leonardo for Open Innovation: a sharing of innovation that has taken on a key role in promoting new ideas and opportunities, with a long-term vision set out in the Be Tomorrow – Leonardo 2030 strategic plan.

The #T-Tec 2021 closing ceremony was held on the stage of the Italy Pavilion at Expo 2020 Dubai, to which Leonardo contributed with its outstanding examples of space technology, such as the atomic clock and the robotic drill to be used in the ESA ExoMars 2022 mission to Mars, and of the future of aeronautics as represented by the AW609, the only tiltrotor set to receive civil certification, revolutionising vertical mobility.

Leonardo, a global high-technology company, is among the top world players in Aerospace, Defense and Security and Italy’s main industrial company. Organized into five business divisions, Leonardo has a significant industrial presence in Italy, the United Kingdom, Poland and the USA, where it also operates through subsidiaries that include Leonardo DRS (defense electronics), and joint ventures and partnerships: ATR, MBDA, Telespazio, Thales Alenia Space and Avio. Leonardo competes in the most important international markets by leveraging its areas of technological and product leadership (Helicopters, Aircraft, Aerostructures, Electronics, Cyber Security and Space). Listed on the Milan Stock Exchange (LDO), in 2020 Leonardo recorded consolidated revenues of €13.4 billion and invested €1.6 billion in Research and Development. The company has been part of the Dow Jones Sustainability Indices (DJSI) since 2010 and has been confirmed among the global sustainability leaders in 2021.

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