

Regulation of #T-TeC 2024

(Telespazio Technology Contest - 6th edition)

INTRODUCTION

#T-TeC (Telespazio Technology Contest) is an initiative promoted by **Telespazio¹ and Leonardo** to enhance university research activities within a well-established “*Open Innovation*” process. This process is part of the “*Solvers Wanted*” of Leonardo. The contest addresses all students, PhD students and researchers from university departments of all Countries who are willing to collaborate with Telespazio and Leonardo on innovative technological themes in the Space sector.

The contest supports multidisciplinary ideas, proposals and projects concerning technological themes of strategic importance for Telespazio and Leonardo activities relative to space domain.

#T-TeC is a unique opportunity to present some of proponents’ cutting-edge research to Telespazio and Leonardo innovation managers, contributing to enhance their high scientific-technological content. It is also an opportunity for students, graduates and non-graduates, to acquire professional growth and visibility for future collaborations.

HOW TO PARTICIPATE

The #T-TeC 2024 is open to STEM (Science, Technology, Engineering, and Mathematics) persons, such as

- Students/ PhD’s (graduated and non-graduated)
- Researchers (research fellows are also allowed to participate)

from all Universities in the World.

¹ Telespazio is a joint venture between Leonardo (67%) and Thales (33%) and one of the world’s biggest suppliers of satellite solutions and services. Telespazio works to bring Space closer to Earth, benefitting citizens, institutions and companies in a variety of sectors ranging from design and development of space systems to management of launch services and in orbit satellite control; from Earth observation to integrated satellite communication, navigation and localisation services, and through to scientific programmes. For more info, see <https://www.telespazio.com/>.

It will be possible to participate individually or in groups or through team composed by researchers belonging to departments of different universities and Countries and with different skills.

The Proposal template can be downloaded from the Telespazio website at the [#T-TeC 2024 home page](#). The **Proposal** (in Adobe® PDF format) and a **Presentation** (in Microsoft® PowerPoint format) shall be provided in English.

In the Proposal, the candidates must briefly describe the project, highlighting its strengths and innovation. For what concerns the Presentation, it must contain a **maximum of 10 slides**. In the Presentation, the candidates must describe the project in detail, making also use of pictures and graphics to better explain the proposal content. Candidates are free to use their preferred template for the Presentation.

The deadline for submitting the Proposal, the relevant Presentation and this Regulation signed by all team members is December 8th, 2024, 23:59 CET. They must be sent to the e-mail address proposals.ttec@telespazio.com.

TECHNOLOGICAL THEMES AND CATEGORIES

The #T-TeC 2024 Technological Themes are the following:

- **Space Exploration and Extra-terrestrial Exploitation** (Systems - including Space Robotics-, Services)
 - Sustainable and innovative technologies and solutions for new space services to support the operations of Scientific/Commercial Space Exploration and related logistics for orbiting platforms and human space flights and operations (e.g. Commercial Low Earth Orbit Platforms, Lunar Gateways, habitats, rovers, landing/ascending vehicles, cis-lunar transport vehicles)
- **In Orbit Servicing towards a Circular Economy in Space** (Systems - including Space Robotics -, Services)
 - Innovative solutions, hardware and software, for enabling In Orbit Services, ranging from deorbiting and satellite life extension to the in-orbit replacement of damaged subsystems, capable to support the role of an In-Orbit Service Provider and End-to-End Large Mission Integrator, as well as In Orbit Operations Responsible

- **Sustainable solutions towards Solar System through Digital Twins** (Data, Algorithms, Services)
 - New platforms and services exploiting technologies and new computational architectures such as AI, Digital Twins, Cloud, HPC targeting digital applications and operations for Earth, Moon, Mars and the whole Solar System
- **Space Domain Awareness for the Protection of Space and Ground Infrastructures** (Data, Algorithms, Services, Hardware)
 - Innovative value-added services and solutions based on Service and Data Provision Platforms to provide data and solutions related to space situational awareness, including space weather, space traffic management, and space intelligence. Solution could be both space and ground based.
- **Emerging Space-based Connectivity Solutions** (Technology, Services)
 - New concepts, systems, and services exploiting emerging technologies such as Optical, Quantum, and Direct-to-Device for Space-to-Earth (and vice versa), Space-to-Space, Space-to-Moon (and v.v.) and Earth-to-Moon (and v.v.) secure and reliable communications
- **Positioning, Navigation and Timing (PNT) Solutions for Earth and other celestial bodies** (Systems, Algorithms, Services)
 - Technologies and solutions to drive innovation in the field of PNT-enabling or PNT-enabled services, where their applications can be on the Earth, on the Moon or in the Space at large, including the exploitation of the concept of “Navigation-as-a-Service” and related infrastructures to seamlessly provide services also in case of denied Satellite-based (GNSS) Navigation.
- **Innovative Electro-Optical technologies solutions for remote sensing** (Hardware, Software)
 - Hardware and Software innovations, e.g. new generation detectors, filters and optical solutions; algorithms and software to process the acquired data on board. The aim is to enable more compact Electro-Optical payloads with higher achievable performances.

There will also be two different Categories, according to the Technology Readiness Level (TRL)² of the proposed innovation:

- **Idea**, for TRLs lower than 4;
- **Prototype**, for TRLs 4 or above.

Both Technological Theme and Category will be reported in the Proposal, together with the relevant TRL.

Universities will have the opportunity to present one or more projects (each project must have a different team leader) each applying to one or more of the above Themes (cross-Themes projects are welcome) and to only one Category. In case of cross-Themes projects, the main Theme shall be identified.

It is not allowed to submit projects already presented in the #T-TeC past editions or related to initiatives/studies that are part of collaborations/contracts already in place with Telespazio Group or Leonardo.

The proposed innovation may concern:

- Enabling software technologies which can be integrated at a higher level, and which allow their use in different solutions, environments and scenarios;
- Implementation of physical/mathematical models in tools and algorithms for modelling and simulation of complex operating scenarios;
- high-level architecture view, performance and interfaces among the various system components;
- innovative services based on traditional or innovative architectures and systems

also providing an analysis of economic-technological feasibility together with the related usage scenarios.

EVALUATION CRITERIA

The presented proposals will be evaluated based on the criteria presented in the following tables; for each evaluation criterion a score of 1 to 5 points will be assigned and different weights are associated.

² For a definition of Technology Readiness Level, please consult <https://www.twi-global.com/technical-knowledge/faqs/technology-readiness-levels> and <https://www.nasa.gov/directorates/somd/space-communications-navigation-program/technology-readiness-levels/> for space-related projects.

Category Idea

Evaluation Criterion	Weight (%)
Originality and Innovation of the proposal with respect to the state of the art of the specific domain/technology in the frame of selected technological theme	25%
Sustainability intended as the ability to make solutions more efficient, convenient, and compliant with environmental, economic and social needs	20%
Potential contribution to the Company mid-term business, meant as the ability to bring a competitive advantage over competitors	20%
Technical and scientific content of the idea / innovation, including the possibility to apply the proposed solution in non-space application areas	20%
Architectural, system and economic feasibility of the proposed solution	15%

Category Prototype

Evaluation Criterion	Weight (%)
Originality and Innovation of the proposal with respect to the state of the art of the specific domain/technology in the frame of selected technological theme	20%
Sustainability intended as the ability to make solutions more efficient, convenient, and compliant with environmental, economic and social needs	20%
Potential contribution to the Company mid-term business, meant as the ability to bring a competitive advantage over competitors	25%
Technical and scientific content of the idea / innovation, including the possibility to apply the proposed solution in non-space application areas	15%
Architectural, system and economic feasibility of the proposed solution	20%

The Evaluation Committee will include representatives of:

- Telespazio Group
- Leonardo
- Italian Space Agency (ASI)
- European Space Agency (ESA)
- Seraphim Space Accelerator
- cesah

Telespazio and Leonardo will have the right to invite other members to the evaluation committee belonging to other institutions and companies.

PROCESS AND AWARDS

#T-TeC 2024 is launched on **October 17th, 2024**, during **IAC 2024** in Milan and will close on **December 8th, 2024**.

During this period, the Organizing Committee will be available to answer questions from potential candidates: questions can be sent to the e-mail address proposals.ttec@telespazio.com. All questions and their answers will also be published on Telespazio website at the [#T-TeC 2024 home page](#).

The week after the deadline (**December 9th - 13th, 2024**) will be dedicated to a preliminary screening to short-list received proposals and to select those that will participate to the Pitch Contest³: Team Leaders of short-listed proposals will receive communication via e-mail in due time.

During the week of **December 16th – 20th, 2024**, the short-listed proposals will be presented (from remote, using web conferencing tools) to the Evaluation Committee during the Pitch Contest. The Evaluation Committee will evaluate the proposals presented in accordance with the above-mentioned evaluation parameters. The Evaluation Committee will select the Winners and reserves the right to also identify proposals deserving Special Mentions.

On **January 28th – 29th, 2025**, during the **17th edition of European Space Conference** in Brussels, there will be the Awards Ceremony where Winners and Special Mentions will be unveiled. The Winners will be invited to participate in person and Telespazio will pay for travel, hotel accommodation and registration fees to the Conference for one representative for each of the winning teams. Travel and official ceremony details will be explained to Winners at due time. To allow travel organization, the Winners will be contacted in advance: for these reasons, ***the Winners and in general all the candidates are bound by confidentiality obligation on the contest outcome until the results will be published by Telespazio and Leonardo.***

There will be Winners for the two Categories:

- Idea Category:
 - For the First Place award, the amount will be € 5,000 (before taxes), to be divided in equal parts among the members if the proposal is presented in a team

- Prototype Category:
 - For the First Place award, the amount will be € 10,000 (before taxes), to be divided in equal parts among the members if the proposal is presented in a team
 - For the Second Place award, the amount will be € 6,000 (before taxes), to be divided in equal parts among the members if the proposal is presented in a team
 - For the Third Place award, the amount will be € 4,000 (before taxes), to be divided in equal parts among the members if the proposal is presented in a team

³ The Pitch Contest for Proposals in Idea Category will consist in the presentation of the slides submitted with the Proposal, while for the Proposals in Prototype Category this will be followed by a short Demonstration or more detailed data related to project results.

In case there will be an ex-aequo, the prize will be divided in equal parts among the ex-aequo winning teams and in turn for each team, in equal parts among their members.

The Special Mentions will receive a Certificate.

To foster the possibility to establish collaboration for future businesses, Telespazio and Leonardo will offer to #T-TeC 2024 participants the following opportunities, which will be given to proposals of Category Prototype with highest business readiness:

- One position to enter in the 12-week Seraphim Space Accelerator acceleration programme of Seraphim (<https://seraphim.vc/accelerator/>) in 2025, under the condition that the team will establish a startup company when entering the Programme;
- Up to three positions to enter a pre-incubation path with cesah GmbH (<https://cesah.com/>), giving the team(s) the possibility to then apply to ESA BIC Hessen (<https://cesah.com/index.php/gruenderinnen/esa-business-incubation-centre>), under the condition that the team(s) will establish a startup company registering their business in Germany - Hessen region by the end of the incubation path.⁴
- A research contract to support 3-month Proof of Concept (PoC) of the proposed idea which is worth up to € 20,000, with no obligation to establish a startup company.

Telespazio will have a pre-emption right at the same value offered by a third party on the startup participating to the Seraphim Space Accelerator in the event of issue of new shares or a transfer of shares. The right will last until 1 month after the end of the acceleration programme.

Telespazio and Leonardo reserve the right to unilaterally increase the number of proposals that will be supported with the research contract for the PoC.

Telespazio, as organiser of #T-TeC 2024, guarantees that it shall have no rights over the Background Intellectual Property Rights contained in the Proposals, the Presentations or the Demonstrations. Nothing in the contest shall affect the ownership of the Background Intellectual Property Rights or imply any licence to a party's Background Intellectual Property Rights unless granted expressly.

In case of further collaboration, the management of the Intellectual Property Rights will be defined and agreed case by case.

CONFIDENTIALITY AND DATA PROTECTION

Telespazio, as organiser of #T-TeC 2024, will ensure the confidentiality of all the submitted Proposals and related materials. The submitted Proposals, as well as the stored status of the submission, will be protected against unauthorised access by third parties. The personnel and experts charged with carrying out the competition and the evaluations are committed to treating all matters confidentially.

Subject to the signature of the Release Statement in Annex 2, participants' personal data will be processed according to the Privacy Policy attached in Annex 3 subject to participant acknowledgment and signature.

During the Awards Ceremony, the awarded Proposals will also be made public along with the Winners.

For further information, please contact us to the e-mail address proposals.ttec@telespazio.com.

⁴ To be eligible for pre-incubation paths, the teams shall not have similar activities already on going or ready to be started at national or international (e.g. ESA BIC) level.

ANNEX 2 – RELEASE STATEMENT

NOTE: each participant shall sign “Annex 2 – Release Statement” individually (one signed Annex for each team member).

The undersigned as participant in the **#T-TeC 2024** initiative organized by Telespazio S.p.A. ("**Event**"), declares to have read, understood and agreed the Privacy Policy (Annex 3) and to authorize Telespazio S.p.A. to take video and audio recording of the project presentations and the award ceremony related to the Event, which will be stored/published for all uses related to the Event, on the following media and/or documents, foreseen therein by way of example but not limited to: Telespazio S.p.A. intranet, website and social media.

Telespazio S.p.A. undertakes not to use the images/videos thus acquired in contexts that would exploit or cause malicious representation toward the participants. It is understood that installation and use of the images are to be considered free of charge.

DATE _____ *[enter date]*

SIGNATURE FOR ACKNOWLEDGEMENT AND ACCEPTANCE _____

ANNEX 3 – PRIVACY POLICY

NOTE: each participant shall sign “Annex 3 – Privacy Policy” individually (one signed Annex for each team member).

Policy pursuant to Article 13 of Regulation (EU) 679/2016 ss.mm.ii. (the "**GDPR**"), and of the Italian laws that integrate it as amended. ("**Applicable Privacy Law**") (the "**Policy**") - Processing of personal data.

Pursuant to Article 13 of the GDPR, Telespazio S.p.A. ("**Telespazio**") provides this Policy regarding the processing of personal data provided by participants in training, professional updating, promotional and any other type of events organized by Telespazio ("**Event**").

1) DATA CONTROLLER AND DATA PROCESSORS FOR THE PROCESSING

1.1 - The Data Controller of personal data is Telespazio S.p.A., with registered office in Via Tiburtina, 965 - 00156 Rome, represented by the CEO, Gabriele Pieralli.

1.2 - The Data Processor, appointed by the Data Controller pursuant to art. 29 of the GDPR, is the U.O. Research, Digital & Innovation, represented by Ing. Marco Brancati.

1.3 - Personal data will be processed by the Data Controller through its duly authorized personnel, only to the extent necessary and according to specific instructions of the Data Controller, with a guarantee of confidentiality and privacy.

1.4 - The Data Controller also has a Data Protection Officer (DPO), as required by the GDPR, with the task of surveillance, supervision and specialist advice in the privacy field, who can be contacted for any support at the following email address: data.protection.officer@telespazio.com.

2) DATA SUBJECTS AND CATEGORIES OF PERSONAL DATA

2.1 - The following subjects are involved in the processing of personal data carried out by the Data Controller: students, PhD students and researchers who intend to participate in an Event ("**Data Subject**").

2.2 - The following personal data, by way of example and not limited to, will be processed: name, surname, contact details, image.

2.3- The Data Controller may process, pursuant to the Applicable Privacy Law, data belonging to particular categories referred to in art. 9 of the GDPR (for example, any particular data obtainable from photographs, audio-visual footage, etc.), for the purposes referred to in paragraph **3.1** below, subject to the specific consent of the data subject, pursuant to art. 9, paragraph 2, lett. a) of the GDPR.

3) PURPOSE AND LEGAL BASIS OF THE PROCESSING

3.1 - The personal data of the data subjects will be processed by the Data Controller, in compliance with the Applicable Privacy Law, for the purposes of participation in the Event and for purposes related to the Event itself, including, by way of example but not limited to, for:

- (i) the administrative management of the Event, both before and after the Event itself;
- (ii) informational and disclosure purposes, by publishing the name (name and / or surname) of the participants in the Event on the websites owned by the Data controller, on the social networks on which Telespazio is present with its own pages and possibly in the press;

(iii) promotional, public relations and "press office" communication purposes, connected to the Event, through communication and / or dissemination of the personal data of the data subject, including through photographic and / or audio-visual reproductions, made during the Event itself, on the following media and / or in the following documents, foreseen therein by way of example and not limited to: electronic bulletin boards, magazines, publications, presentations, reports, financial statements, monographs, exhibitions, catalogues, brochures, calendars, invitations, postcards, books, as well as the Internet and Group Portal.

3.2- The personal data of the data subjects will be processed for the purposes foreseen in point **3.1** above through the acquisition of specific preventive consents, pursuant to and for the purposes of Articles 6, letter a), 7 and 9, paragraph 2 letter. a) of the GDPR, depending on whether it is common data or belonging to particular categories.

3.3 - The provision of personal data required for the purposes referred to in point **3.1** above is necessary for participation in the Event: their failure, partial or incorrect provision could result in the inability to participate in the same.

4) METHOD OF PROCESSING

4.1 - The processing of the personal data of the data subjects will be carried out in accordance with the methods and guarantees established by the Applicable Privacy Law, and will be carried out with automatic and / or manual systems, in any case suitable to guarantee the security of the processing.

4.2- The processing of the personal data of the data subjects will in any case be based on the principles of proportionality and necessity, therefore unnecessary personal data will not be processed or collected; the principle of loyalty and transparency, for which adequate communication will always be given to the data subjects of the processing carried out, and will take place in compliance with the adequacy requirement of the security measures.

5) SCOPE OF DISSEMINATION AND COMMUNICATION AND PROVISION OF DATA TO THIRD PARTIES

5.1- In pursuing the purposes described in paragraph **3** above or if required by applicable law, the personal data of the data subjects may be disseminated, as well as communicated or shared with third parties, including public and / or private organizations, authorized to receive them by law, as well as to natural and / or legal persons, associations or professional firms that provide services or assistance and consultancy activities to the Data Controller.

5.2- In pursuing the purposes referred to in point **3** above, the personal data of the data subjects will not be subject to transfer to third countries with respect to the European Union or international organizations.

6) RIGHTS OF THE DATA SUBJECTS

6.1 - With regard to the personal data held by the Data Controller, the Data Subject can exercise all the rights foreseen by the Applicable Privacy Law. In particular, the data subject may:

- a) request the Data Controller to confirm the existence of their personal data, the origin of such data, the logic and purposes of their processing, the categories of data subjects to whom the data may be communicated, as well as the identification details of the Data controller and its data processors;
- b) request access to personal data, transformation into anonymous form, blocking, rectification, updating, integration, cancellation of such data or limitation of their processing;
- c) oppose the processing of personal data, for any reason connected to the particular situation of the Data Subject, within the limits established by the Applicable Privacy Law and, in particular, oppose, at any time, the sending of communications and / or information material by the Data controller (right to be forgotten) pursuant to article 17 of the GDPR;

- d) exercise the right to portability, within the limits set out in Article 20 of the GDPR;
 - e) withdraw the consent at any time, without prejudice to the lawfulness of the processing based on the consent given before the revocation;
 - f) file a complaint with the Personal Data Protection Authority, following the procedures and instructions published on its official website (www.garanteprivacy.it).
- 6.2-** Any modification or cancellation or limitation to the processing carried out on request of the data subject, namely after the withdrawal of consent - unless this is impossible or involves a disproportionate effort - will be communicated by the Data Controller to each of the recipients to whom they have been communicated. personal data. The Data Controller may communicate these recipients to the Data Subject upon request.
- 6.3-** For the purpose of exercising the rights referred to in paragraph **6.1** above, as well as for any clarifications, the data subject may contact the Data Controller directly by sending an email to the following address: data.protection.officer@telespazio.com.

7) RECORD-KEEPING OF PERSONAL DATA

7.1 - The personal data transmitted by the data subject will be kept for a period of 5 years on digital platforms protected with appropriate security measures, accessible to duly authorized personnel.

PROCESSING OF PERSONAL DATA
(pursuant to the Applicable Privacy Law)

Having read the above information, and without prejudice to my right to withdraw consent at any time, I undersigned, after having read and taken note of the contents of the above information, pursuant to and for the purposes of Articles 6 and 7 of the GDPR and the Applicable Privacy Law,

I agree
 I do not agree

to the publication of my name on the sites foreseen in point **3.1 (i)** of the Policy.

Furthermore, pursuant to and for the purposes of Articles 6, 7 and 9, paragraph 2, letter a) of the GDPR and of the Applicable Privacy Law,

I agree
 I do not agree

to the processing of my personal data necessary for participation in the Event, in the manner and for the purposes connected to it, referred to in paragraph **3.1** of the above information, and precisely for purposes related to the Event **(ii)** of an informative and disclosure nature , by publishing the name (name and / or surname) on the websites owned and not by the Data controller, on the social networks on which Telespazio is present with its own pages and possibly in the press, as well as **(iii)** of a promotional nature, of public relations and "press office" communication, through communication and / or dissemination of personal data also through photographic and / or audiovisual reproductions made during the Event, on the following media and / or in the following documents, indicated therein merely by way of example and not exhaustive : bulletin boards, magazines, publications, presentations, reports, balance sheets, monographs, exhibitions, catalogs, brochures, calendars, invitations, postcards, books, as well as the Internet and Telespazio Portal.

Date

The Data Subject

ANNEX 4 – KINSHIP OR AFFINITY DECLARATION

NOTE: each participant shall sign “Annex 4 – Kinship or Affinity Declaration” individually (one signed Annex for each team member).

Are there cases of kinship or affinity or professional or personal relationships (which could involve situations of conflict of interest) with subjects currently operating at Leonardo S.p.A., Telespazio S.p.A. or one of the legal entities directly or indirectly participated by Telespazio S.p.A.?

Yes

No

If yes, please provide detailed information.

DATE _____ *[enter date]*

SIGNATURE _____