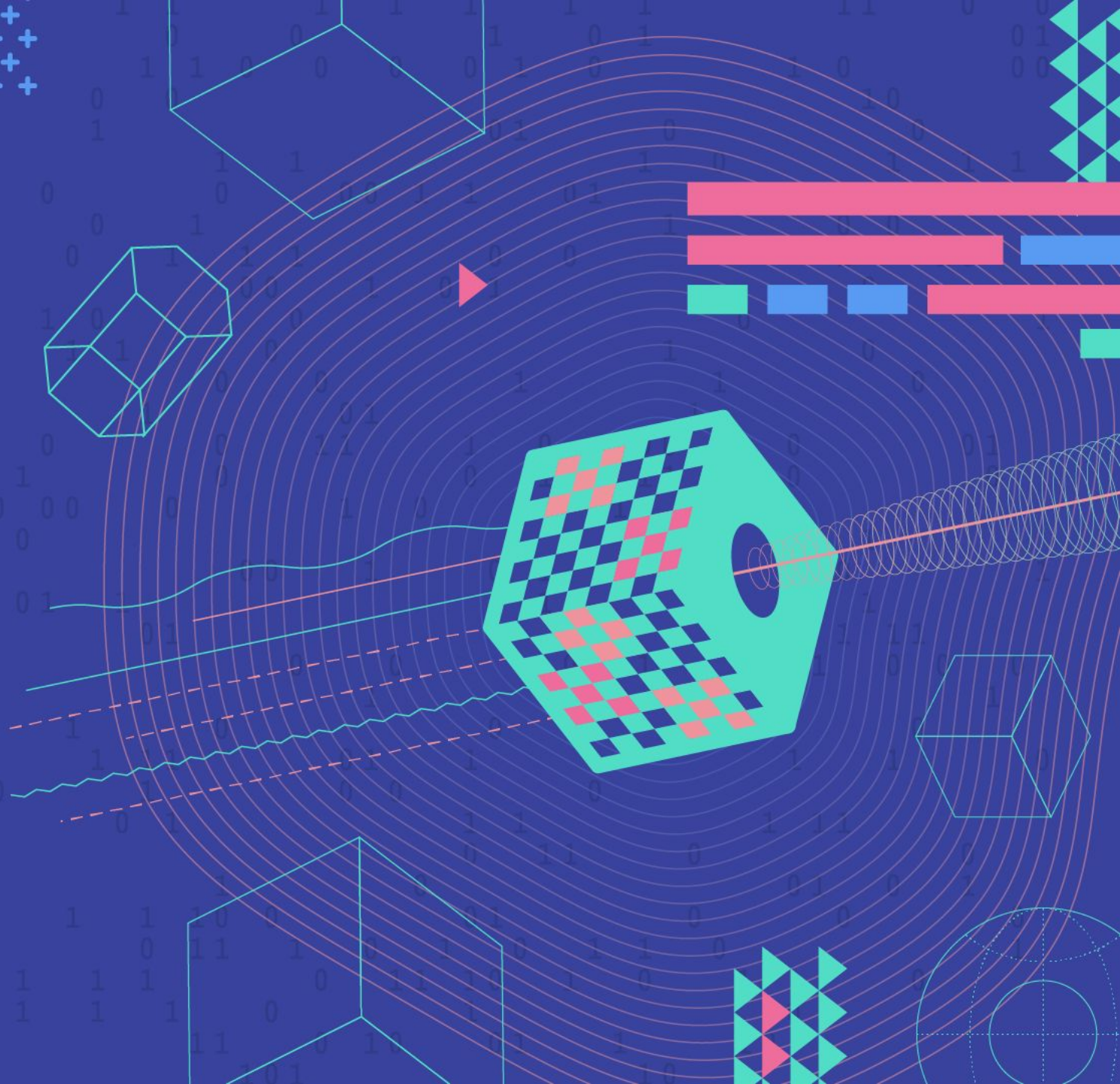
CASSINI #EUSpace
Hackathons & Mentoring

EU Space for Healthcare

9th CASSINI Hackathon

Bologna, 16-18 May 2025



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VERHAERT | MASTERS IN INNOVATION

NOVASPACE

TESEAS

The local organiser: Teseas

About us

Teseas is a leading provider of cutting-edge technology solutions for a variety of industries. We specialize in the design, development, and deployment of innovative systems that enable businesses to enhance efficiency, reduce operational costs, and boost profitability. Our expertise spans the following key areas:

Artificial Intelligence and Machine Learning
Climate Change and Environmental Science
Biotechnology and Life Sciences

TESEAS

Philosophy

Teseas leverages market opportunities and its acquired expertise to be a reliable partner in delivering innovative and competitive solutions.
We are dedicated to a sustainable technological future through continuous innovation and global expertise integration.

KNOWLEDGE MANAGEMENT

INNOVATION & SUSTAINABILITY

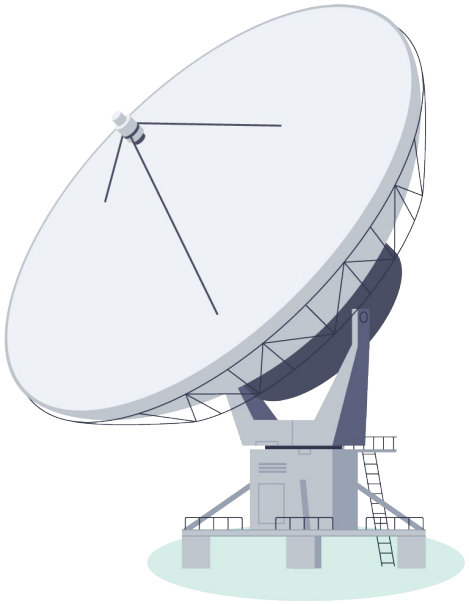
Strategy

Teseas aims to drive technological change while providing tools and methodologies to help businesses manage risks, make informed decisions, and analyze key economic, legal, scientific, and technological factors. Partnering with Teseas offers not only expert guidance in managing complex projects but also enhances strategic business capabilities.

Discover more on Teseas | A little over the horizon (Teseas.com)

What is the CASSINI Hackathon?

The CASSINI Hackathons & Mentoring was launched in 2021 and is the first flagship action of the Competitive Space Startups for Innovation initiative (CASSINI) promoted by the **European Commission**.



- The **9th edition of the CASSINI Hackathon** focuses on leveraging space technologies to tackle critical **challenges** related to **Europe's healthcare**.

- The Hackathon brings together students, coders, problem-solvers, and innovators from across Europe to develop cutting-edge solutions using space-based technologies that can enhance healthcare services, improve crisis response, and promote equitable access to medical care, especially in remote or emergency situations

EU Space for Healthcare

Challenge #1: Monitoring Disease Outbreaks and Health Risks

Environmental and climate conditions influence public health, creating new risks or amplifying existing ones. Chronic conditions such as asthma, cardiovascular or kidney diseases, and respiratory illnesses are exacerbated by air pollution, extreme heat, and shifting weather patterns. Similarly, **climate conditions can affect the prevalence of vector-borne diseases, like malaria** and the **development of viruses or pandemics**. Space technologies provide a valuable resource to understand and address these issues.

This challenge calls on participants to develop products, devices, or services that leverage European space data, information and signals from Copernicus and Galileo or future services using IRIS2 to forecast and monitor health risks and disease outbreaks. We encourage participants to dive into the areas of:

- **Health Risks Prediction and Mapping:** Use Copernicus data to identify environmental factors, like air quality and heatwaves, that foster health risks and create risk maps and protection tools. Develop predictive models to forecast disease patterns based on climate trends, environmental changes, and population movement and behaviors.

- **Disease Tracking and Outbreak:** Identify hotspots for viruses and diseases like malaria by monitoring environmental changes and water body conditions.

- **Consumer apps and tools:** Create tools that combine satellite data and personal health metrics to provide guidance for mitigating health risks.

Challenge #2: Smart Emergency Healthcare Delivery

Access to timely and effective healthcare is a cornerstone of a resilient society, yet many communities face significant challenges in receiving adequate medical care due to geographical, logistical, or situational barriers . Innovative solutions that harness space technologies can transform healthcare delivery, making it more accessible, efficient, and responsive to diverse needs .

This challenge tasks participants **to develop products, devices, or services that leverage European space data, information and signals** from Copernicus and Galileo or future services using IRIS 2 to enhance healthcare delivery and services . Possible areas for development include :

- **Remote medical delivery (Telemedicine):** Utilize satellite communication to provide remote medical aid (consultations, diagnostics, treatment guidance and monitoring) from afar and improve patient care and engagement.

- **Medical Services Delivery and Logistics:** Create solutions to optimize the delivery of medical aid, supplies, vaccines especially to especially to hard -to - reach or health -crisis -affected (pandemics, natural disasters) regions. Utilize drones, autonomous vehicles on land or water for effective and timely delivery.

- **Support Search and Rescue Operations:** Leverage Galileo's Search and Rescue (SAR) services to provide emergency medical aid to individuals in danger and develop tools to streamline the coordination between rescue teams and healthcare providers.

Challenge #3: Mental Health and Well-Being

Mental health and well-being are crucial for a thriving society but are increasingly impacted by environmental factors like air quality, heatwaves, and urban noise levels. These stressors can exacerbate mental health challenges, affecting individuals and communities. Space technologies provide invaluable resources for understanding these impacts and offering actionable solutions to improve well-being.

This challenge tasks participants to develop products, devices, or services that leverage European space data, information and signals from Copernicus and Galileo or future services using IRIS2 to monitor, assess, and improve mental health and well-being. Possible areas for exploration include:

- **Environmental Stress Monitoring:** Use Copernicus environmental data to analyze factors like sunlight intensity, air pollution, extreme temperatures, and urban green space availability, to assess their effects on mental health.

- **Personalized Well-Being Support:** Design solutions that integrate environmental data with user-specific inputs to recommend daily activities tailored to individual preferences and needs.

- **Urban Management and Planning:** Develop solutions that integrate environmental and mental health indicators, enabling urban planners to create healthier living environments.

Registration timeline

- Registration to the CASSINI Hackathons is officially open from 14/3 and will close on 8/05.
- The link to take part in the local Hackathon is available on the TAIKAI platform. Soon
- Be sure to select the right LOCATION before registering!

14/03/2025 12:00
Registration open

28/04/2025 17:00
Big Ideas Campaign starts

7/05/2025 9:00
Last call for registration

8/05/2025 23:59
Registration deadline

16/05/2025 10:00
Hackathon Weekend starts

18/05/2025 10:00
The Final sprint

18/05/2025 15:00
Submission deadline

TDB

Platforms & tools

TAIKAI is the **Hackathon platform** to support participants and teams during the entire Hackathon.
It enables registration, and provides access to the virtual stages. The participants have to complete their profiles, filling the skills field as this will facilitate the team formation process

TAIKAI

Discord is the **Community platform** chosen to connect with the participants. You can use it to ask questions, share ideas, and find teammates. It will be your virtual space to chat and meet before, during, and after the hackathon.

DISCORD

MailerLite is the **Mailing tool** used to create and send emails to the subscribers of the local hackathons. Download it to be posted!

mailerlite

Prizes at local level

€2000

€1000

€500

Plus, teams will be rewarded with mentoring and training opportunities at top industries, and Teseas is also currently securing further sponsorships… stay tuned!

Prizes at European level

At the European level, the three top hackathon teams will win an extra cash prize of 9.000€ in total and access 6-month mentoring programme that includes 100 hours of mentoring by top experts.

Partnership options: Partners support the local organiser, Teseas, in reaching out to the students and researchers by directly engaging in the promotion and communication activities as well as in the social media and press campaign.

What can you do?

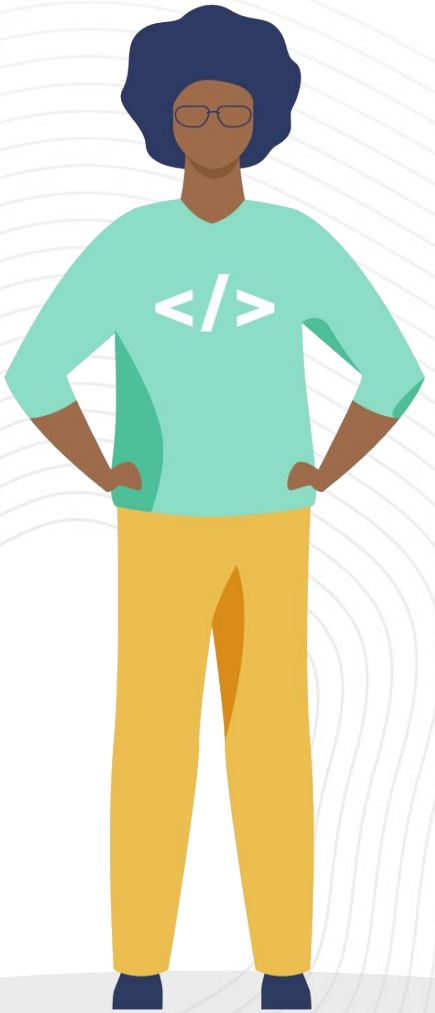
- ➔ Promote the CASSINI HACKATHON on your social media channels, blog or newsletter
- ➔ Share gadgets and promo material at the event

What do you get?

- ➔ Increase visibility on your organisation by having your logo featured on the official website
- ➔ Provide opportunities to your community
- ➔ Become a Hackathon judge
- ➔ Be an expert

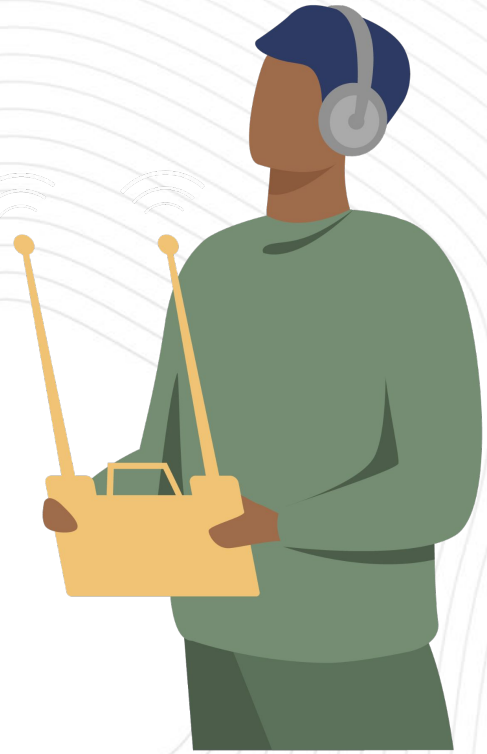
Who and how to participate?

- ★ Hybrid event (in person at hackathon in Bologna location and virtual): we encourage the in person participation not to lose the educational and networking opportunities
- ★ Teams of minimum 3 people and maximum 8 people: each participant registers autonomously and then match with a pre-defined team or looks for a team to join
- ★ Participation to the event is FREE
- ★ Age: between 18 and 100 years old!



What do we offer?

- ★ Educational material and training: BIG IDEAS CAMPAIGN 5-9 May 2025
- ★ Access to the experts and mentors community
- ★ 3 days of learning, experience and challenges for your community
- ★ Networking and future collaborations
- ★ Increase brand visibility and contribute to a European project
- ★ Coffee breaks and lunch breaks



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Thank you for your attention!

TESEAS VERHAERT MASTERS IN INNOVATION NOVASPACE