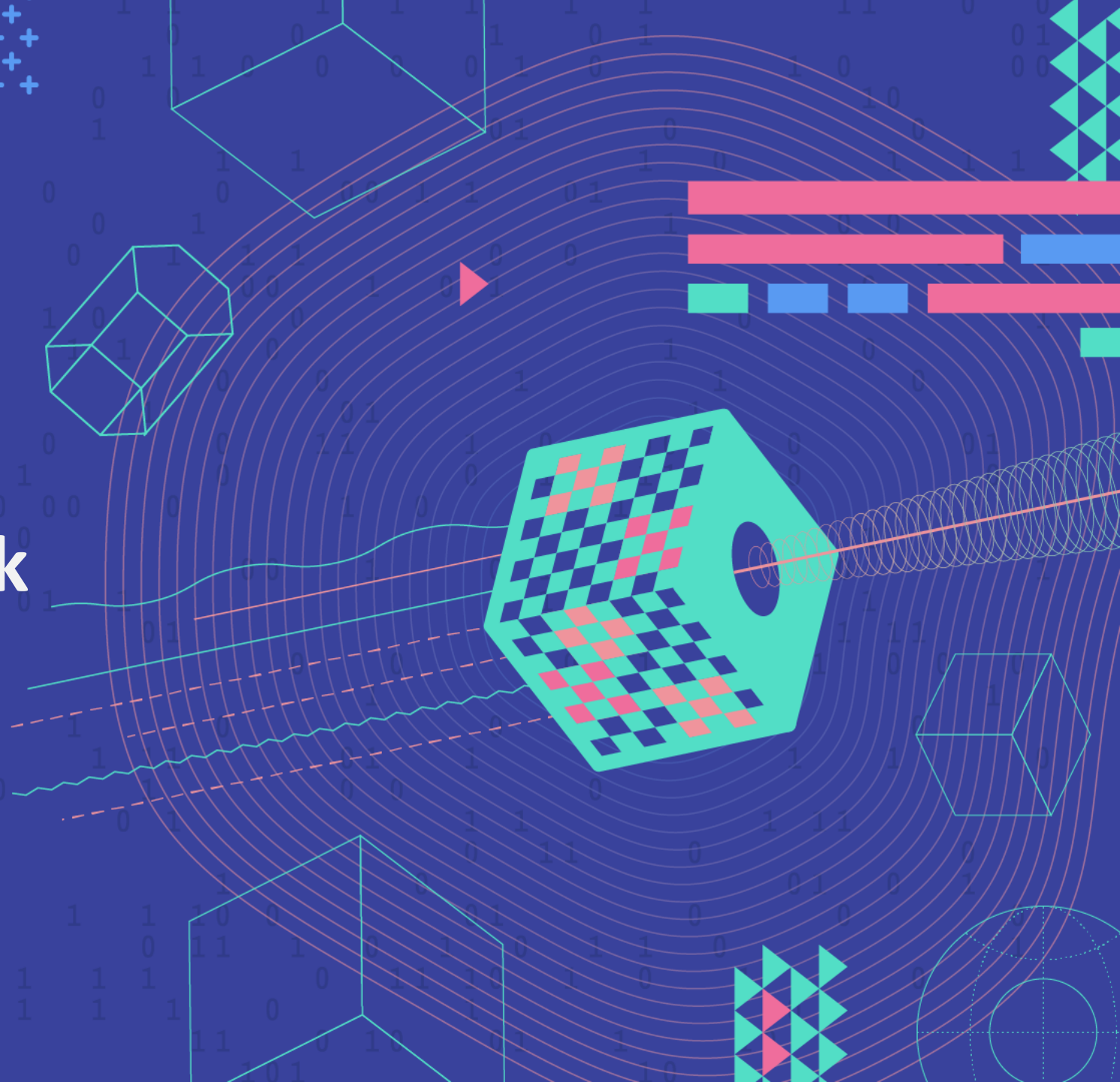
CASSINI #EUSpace
Hackathons & Mentoring

Participant Playbook

12th CASSINI Hackathon:
Space for Peace and Resilience

27 -29 November 2026





The participant playbook is intended to guide you through the most important information about the 12th CASSINI Hackathon & Mentoring.

Inside you will find information about the tools, platforms, and communication channels you need to make the most out of the weekend.

We are eager to see how you use EU space technologies to support consumers' experiences!



What you will find in this playbook



1. Core information

- Overview of the 12th CASSINI Hackathon
- The theme and challenges
- Connecting with the EU Space programme
- EU Space programme
- Tools & resources
- Accessing help & support

2. The Hackathon

- The Hackathon events
- The 10 local organisers
- Accessing the data
- The hackathon agenda & rules
- Overview of the hackathon platforms
- The Demo Day & Awards Ceremony

3. Mentoring programme

- Introduction to the programme
- How it will work
- Meet some of our seasoned mentors


CASSINI #EUSpace
Hackathons & Mentoring
12th CASSINI HACKATHON
EU SPACE FOR PEACE AND RESILIENCE
27-29 NOVEMBER 2026

Defence & Security: EU Space for peace and resilience

Connecting with issues that are **important for our future**

What **resonates with the next generation** of innovators?

In the 12th CASSINI Hackathon, participants are invited to develop bold, deployable solutions using Galileo and Copernicus to support peace, resilience, and security in Ukraine and other conflict-affected regions

From jamming detection and aid coordination to countering organised crime, this edition focuses on space-enabled responses to real-world instability

Whether protecting infrastructure or supporting humanitarian actors, the mission is clear: Use EU space assets to build a more secure and stable world



EU Space for Peace and Resilience







Challenge #1: Cybersecurity for space-based strategic enablers

Galileo and Copernicus are vital for **positioning, navigation, surveillance, and monitoring**. But as these services become more essential, they're increasingly vulnerable to cyberattacks, particularly in conflict zones where disruption can endanger individuals. It is therefore vital to **strengthen the cyber-resilience of critical services and infrastructures**



Potential scenarios (examples)

These scenarios are provided only as examples

Use EU space technologies to:

- Detect and locate **spoofing/jamming of Galileo** signals in real time
- Monitor **Copernicus-based EO data systems for anomalies or tampering**
- Create **early warning dashboards** for signal interference or data corruption
- Integrate **Copernicus imagery** to assess **cyber-induced physical damage**
- Conduct a **space-based contingency drill** and prepare a **cyber recovery and response plan**

EU Space in action (examples)

Galileo: Signal integrity validation, secure GNSS timing, spoofing detection

Copernicus: Satellite imagery verification, anomaly detection, cyber-damage mapping

Challenge #2: Space-enabled crisis response and civil resilience

War and instability threaten **safety, infrastructure, and basic services**. Humanitarian actors, first responders, and civil authorities rely on **real-time, trusted information to act effectively**

Potential scenarios (examples)

These scenarios are provided only as examples

Use EU space technologies to:

- Map **conflict damage and population displacement with Copernicus EO**
- Use **Galileo for routing and navigation** in disrupted transport networks
- Build apps that direct civilians to **water, shelter, and aid points**
- Provide **EO-based tools to plan the reconstruction** of hospitals, schools, and housing
- Track **environmental risks** (e.g. damaged pipelines, nuclear sites) in conflict zones



EU Space in action (examples)

- **Copernicus:** High-resolution imagery for damage assessment and displacement
- **Galileo:** Accurate navigation in GNSS-degraded environments

Challenge #3: Countering transnational crime and terrorism with space data

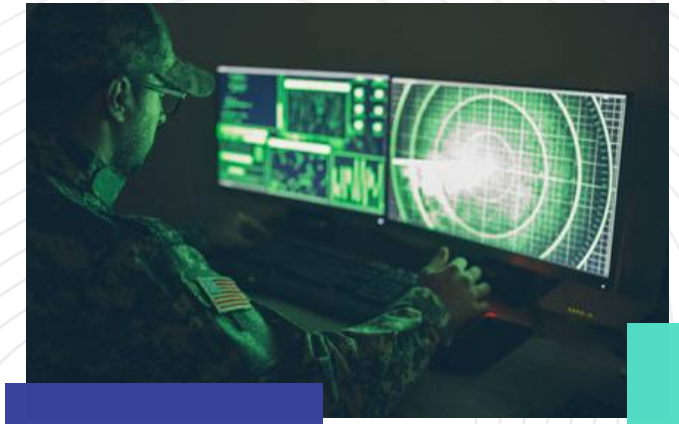
Conflicts weaken state control and create fertile ground for arms trafficking, smuggling, and extremist networks. The EU needs smart tools to **anticipate, track, and respond to these threats** — often before they cross its borders

Potential scenarios (examples)

These scenarios are provided only as examples

Use EU space technologies to:

- Detect **suspicious activity at borders** using change detection in EO data
- Track **smuggling routes and patterns** over time
- Monitor **illegal infrastructure**, such as hidden landing strips or depots
- Create **GNSS-based tracking tools** for cargo, vehicles, or personnel
- Fuse space data with **open-source intelligence to support law enforcement**



EU Space in action (examples)

- **Copernicus:** Persistent monitoring for illicit activity indicators
- **Galileo:** Movement tracking, border monitoring, cross-border coordination

EU Space Programme Overview



3 MISSIONS

- EARTH OBSERVATION
- NAVIGATION
- PROTECTION & SECURE COMMUNICATION

5 COMPONENTS

COPERNICUS

Earth Observation (EO) and monitoring based on satellite and non-space data

N°1 world provider of space data and information

GALILEO

Global satellite navigation and positioning system (GNSS)

10% of the EU GDP enabled by satellite navigation

EGNOS

Enables the use of GNSS signals for safety of life applications in aviation

Operational in **426** airports & helipads in **32** countries

SSA

Space situational awareness monitoring and protecting space assets

Providing surveillance and tracking services to **268+** satellites

GOVSATCOM

Secure satellite communications for EU security actors

Delivering **rapid support** over crisis areas

Connecting you with the EU Space programme

The EU Space programme consists of several flagship programmes including Europe's Earth observation, satellite navigation, secure communications and space situational awareness programmes. The hackathon challenges participants to use data and signals from Copernicus, Galileo & EGNOS or future services using IRIS2.

Copernicus is the European Union's Earth observation programme, looking at our planet and its environment to benefit all European citizens. It offers information services that draw from satellite Earth Observation and in-situ (non-space) data.

More information

Galileo is Europe's Global Navigation Satellite System (GNSS), providing improved positioning and timing information with significant positive implications for many European services and users.

More information

The European Geostationary Navigation Overlay Service (EGNOS) is Europe's regional satellite-based augmentation system (SBAS) that is used to improve the performance of global navigation satellite systems (GNSSs).

More information

Connecting you with the EU Space programme

The EU Space programme consists of several flagship programmes including Europe's Earth observation, satellite navigation, secure communications and space situational awareness programmes. The hackathon challenges participants to use data and signals from Copernicus, Galileo & EGNOS or future services using IRIS2.

GOVSATCOM

The European Union Governmental Satellite Communications (GOVSATCOM) programme provides secure and cost-efficient communications capabilities to security and safety critical missions.

More information

EUSST

The Space Situational Awareness initiative will provide Europe and its citizens with complete and accurate information on objects orbiting Earth, on the space environment and on threats coming from space.

More information

IRIS²

The IRIS2 Satellite Constellation will offer enhanced communication capacities to governmental users and businesses, while ensuring high-speed internet broadband to cope with connectivity dead zones.

More information

Spotlight on Copernicus data & information

Never worked with **Copernicus Earth observation data**? No problem!

We have put together some important resources to get you started:

- What is the Copernicus programme?
- Overview of the programme
- The Copernicus services
- Copernicus Data Space Ecosystem
- The Copernicus Browser



Spotlight on Galileo & EGNOS

Just getting started using satellite positioning technologies? We have collected some important resources for you to get started:

- What is Galileo?
- What is EGNOS?
- Galileo-enabled devices
- EO & GNSS Market Report



All the tools you need to succeed!

As participants you have access to invaluable tools, training, and support to help you with your hacking. We provide everything you need, so you can give everything you got!



Jupyter notebook

We wanted to minimise the time needed to process data. That's why we created a dedicated data notebook for each hackathon. The data notebooks contains several resources focused on the hackathon theme. Learn about the Copernicus Data Space Ecosystem, the platform used for the last editions of the hackathons.

Go to Copernicus



Cloud infrastructure

Access virtual storage and computational resources for the duration of the hackathon. The Copernicus Data Space Ecosystem supports this hackathon edition and will enable you to discover, manipulate and download Copernicus data and information. You will also have all the processing power and storage you need to hack your way to success.

Some of our other tools…



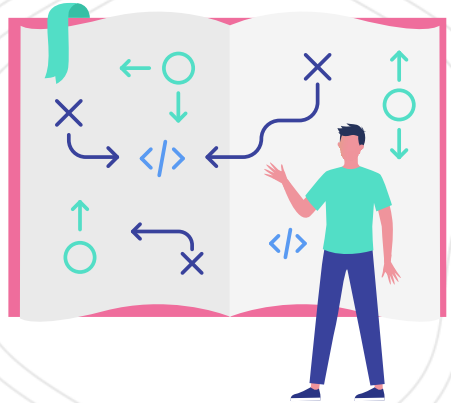
Code repository

Still missing crucial data? We've got you! You will have access to our code repository for space-data sources. Hackers are invited to share their code with the CASSINI Hackathon community as open source on Github.

github.com

Playbook

New to hackathons? No problem. We've prepared two playbooks that will allow you to make the most of your first hackathon experience. Access helpful tips on how to face challenges, where to go if you need support, and what tools you'll be required to use throughout the event in the Participant Playbook. The Business Design Playbook guides you to discover, build and tap into business opportunities with your ideas.



Business Design Playbook

Participant Playbook

Looking for additional resources?

Here is a collection of **publicly available** trainings:

▶ The EUSPA Space Academy offers entrepreneurs a free and customisable online development programme. What's in it for you?

- Tailor your learning path spanning **business and technical** Copernicus & Galileo know-how
- Access **Q&A and workshop sessions with seasoned trainers** ready to guide you in the space entrepreneurship world
- **Book online mentoring sessions with +30 experts** from diverse backgrounds open to help you start or scale up your business.



EUSPA Space Academy

Meet the core team behind the hackathons & mentoring

Got questions? One of us will get back to you with the answer.



Dany Robberecht



Vittorio Bava



Sarthak Solat



Thomas Tanghe



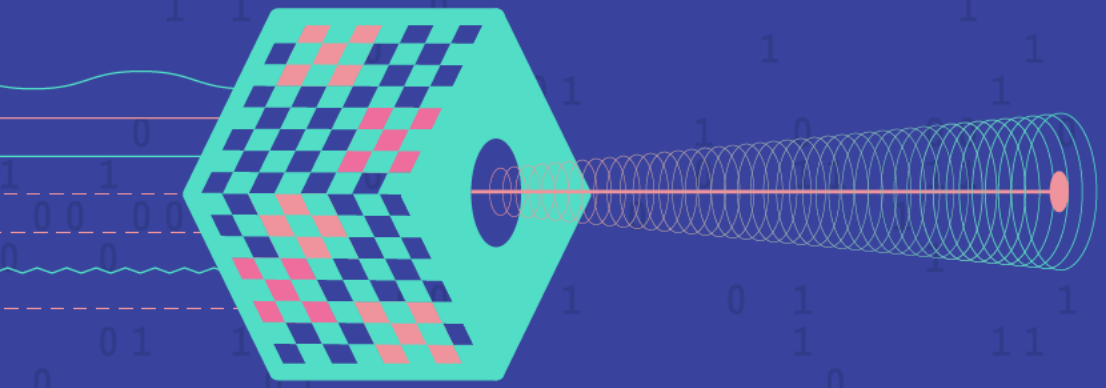
Annabel Egert



Aaron Wedlich

Reach us at: hello@hackathons.cassini.eu

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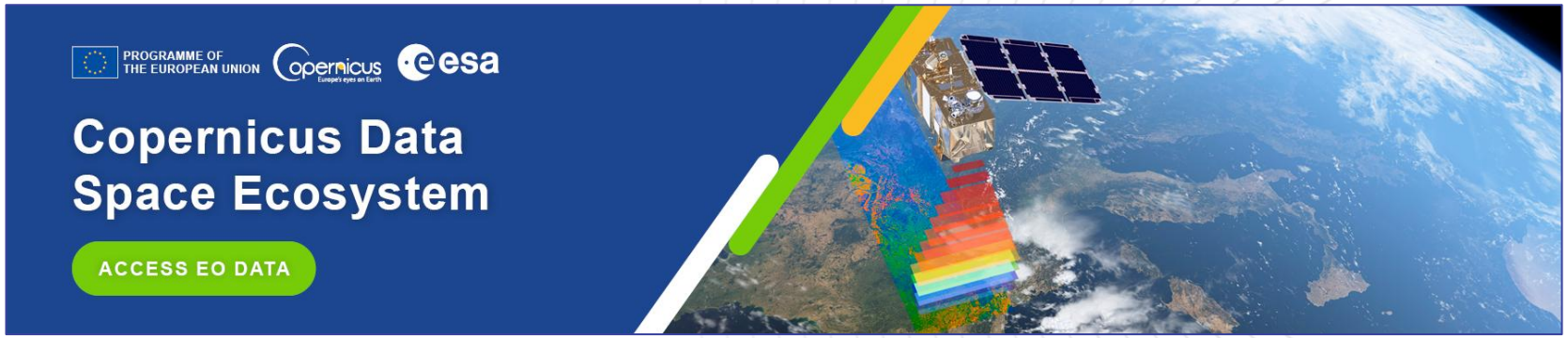


The Hackathon tools

In this section, you will learn about the information on the available tools you can use during the Hackathon

The Copernicus Data Space Ecosystem

- We are working with the **Copernicus Data Space Ecosystem** to give you free access to cloud processing infrastructure and data storage for the duration of the event.
- The package includes:
  - **Processing tools:** Access APIs, versatile tools and web-based environments
  - **Data access:** Data & information at your fingertips
  - **Training & support:** Training sessions and technical support during the Hackathon Weekend



The Copernicus Data Space Ecosystem

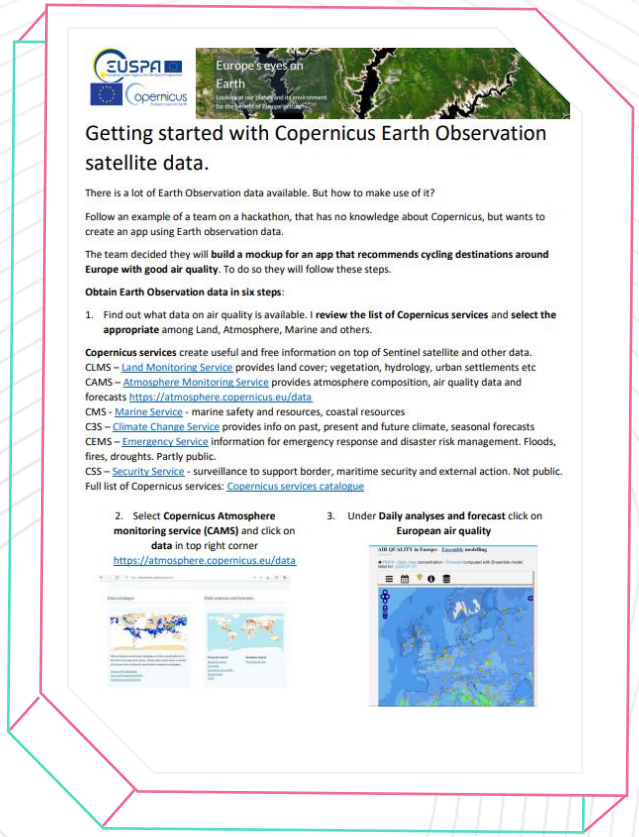
- You can find **tailored on-demand training videos** on the Copernicus Data Space Ecosystem by visiting our Tools page. These includes trainings on:
  - Introduction to Copernicus, the Data Space Ecosystem, and browser
  - How to use the Copernicus Data Space Ecosystem APIs
  - Introduction to Galileo & EGNOS
- Alternatively, you can also visit dataspace.copernicus.eu for further features, tutorials and highlights demonstrating the use of the Ecosystem, including:
  - Exploring the Copernicus Data Space Ecosystem
  - Sentinel data
  - Copernicus Browser
  - openEO

Other useful links:

- Documentation Site
- Request Builder
- Copernicus Browser
- Sentinel Hub API Documentations
- Github Notebook Samples Repository
- Custom Scripts Repository
- openEO Algorithm Plaza
- openEO web editor
- Jupyter Lab
- Service Desk

Getting started with Copernicus Earth Observation satellite data

- EUSPA has created a **simple guide on how to access Copernicus data** for people who hear about it for the first time.
- This file is not exhaustive and is meant to be used as a simple guide on how to access various Copernicus data. It is a good **starting point** if you want to learn more about Copernicus!


Getting started with Copernicus Earth Observation satellite data.

There is a lot of Earth Observation data available. But how to make use of it?

Follow an example of a team on a hackathon, that has no knowledge about Copernicus, but wants to create an app using Earth observation data.

The team decided they will **build a mockup for an app that recommends cycling destinations around Europe with good air quality**. To do so they will follow these steps.

Obtain Earth Observation data in six steps:

1. Find out what data on air quality is available. I **review the list of Copernicus services** and **select the appropriate** among Land, Atmosphere, Marine and others.

Copernicus services create useful and free information on top of Sentinel satellite and other data.
CLMS – Land Monitoring Service provides land cover; vegetation, hydrology, urban settlements etc
CAMS – Atmosphere Monitoring Service provides atmosphere composition, air quality data and forecasts https://atmosphere.copernicus.eu/data
CMS - Marine Service - **marine safety and resources, coastal resources**
C3S – Climate Change Service provides info on past, present and future climate, seasonal forecasts
CEMS – Emergency Service information for emergency response and disaster risk management. Floods, fires, droughts. Partly public.
CSS – Security Service - surveillance to support border, maritime security and external action. Not public.
Full list of Copernicus services: Copernicus services catalogue

2. Select **Copernicus Atmosphere monitoring service (CAMS)** and click on **data** in top right corner https://atmosphere.copernicus.eu/data

3. Under **Daily analyses and forecast** click on **European air quality**

Download the Guide



Build your EO use case with FlyPix AI – no code needed

FlyPix AI is a **no-code SaaS platform** that turns **satellite, aerial and drone imagery into trained AI models** – in hours, not months.
Use it during the hackathon to **go from idea to a working EO prototype**: detect, segment and monitor objects and change over time.

STEP 1

Source your imagery

No data needed – browse Copernicus or or high-resolution imagery in the Data Data Market, or upload your own satellite, aerial or drone files.

STEP 2
2

Annotate examples

Mark a few objects of of interest. ORION and GeoSense assist assist with labelling labelling and exploring the scene. scene.

STEP 3
3

Train & apply

Train a custom AI model in a few clicks and run it across your full area of interest.

STEP 4

Analyse & share

Use analytics and change detection, share results with your team, connect via API/SDK.

GOALS
Working EO prototype for your pitch

STEPS
Imagery – Annotation – Training – Results

TOOLS
FlyPix AI app.flypix.ai

POWERED BY FlyPixAI

EO Algorithms from ESA APEx

ESA's Application Propagation Environments initiative (APEx) gives hackathon participants access to a curated catalogue of **ready-to-use Earth observation algorithms**, many of them hosted on the Copernicus Data Space Ecosystem.

Each **algorithm can be run on demand**, so you can map solar photovoltaic farms or monitor changes in land cover at border regions for the time period and location of your interest. Try them out with the CDSE account's free tier!

Algorithm Catalogue

On-Demand Execution

Access and execute **on-demand Earth Observation algorithms** hosted directly on the Copernicus Data Space Ecosystem (CDSE).

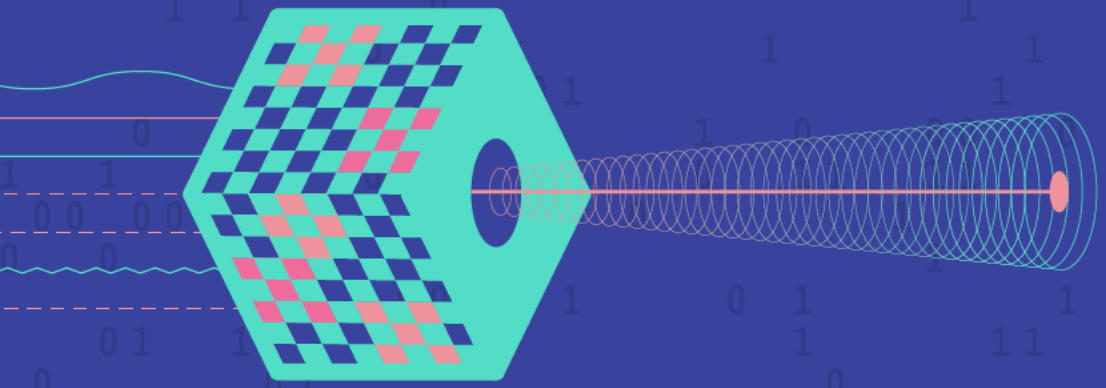
Code or No Code

You can run these algorithms with a few clicks using the **openEO Web Editor or using Python in JupyterLab**.

Validated Results

Easily incorporate **validated algorithms from ESA research projects** into your solution.

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Hackathons & Mentoring



The Hackathon

In this section, you will find all the information you need to participate in the hackathon.

The CASSINI Hackathon event

Hackathon activities are split across **three main events**:







1. **Big ideas campaign**

   2 –13 November

2. **THE HACKATHON**

   27– 29 November

3. **Demo day + Awards**

   2 December

The Hackathon Weekend | Central Agenda*

WIP

November 27
Friday

18:00 **Welcome to the HACKATHON**

18:05 **Welcome from Stefan Schneider (EUSPA)**

18:10 **Details for the weekend ahead**
- The theme, challenges, EU Space data
- Practical information
- Overview of the Hackathon locations
- Interaction with local organisers
- Technical briefing on tools (KINEIS, ATT, Copernicus)
- Last words

18:30 **International Sharing Session**

19:00 Livestream carousel

20:00 **Workshop: Business Modelling**

November 28
Saturday

09:30 **Kick-off Session & What's Ahead**

09:35 Livestream carousel

10:00 **Workshop: Needs Analysis**

10:30 Livestream Carousel

12:20 **International Sharing Session**

13:10 Livestream Carousel

15:00 **Workshop: Product/Service**

16:00 **Workshop: Pitching**

17:00 **International Sharing Session**

17:30 **Workshop: Roadmap Building**

18:00 **Round-up of the day!**

November 29
Sunday

10:00 **Kick-off Session & What's Ahead**

10:10 Livestream carousel

13:30 **Deadline reminder**

15:00 **Submission deadline**

15:05 **Local Pitching Contest**

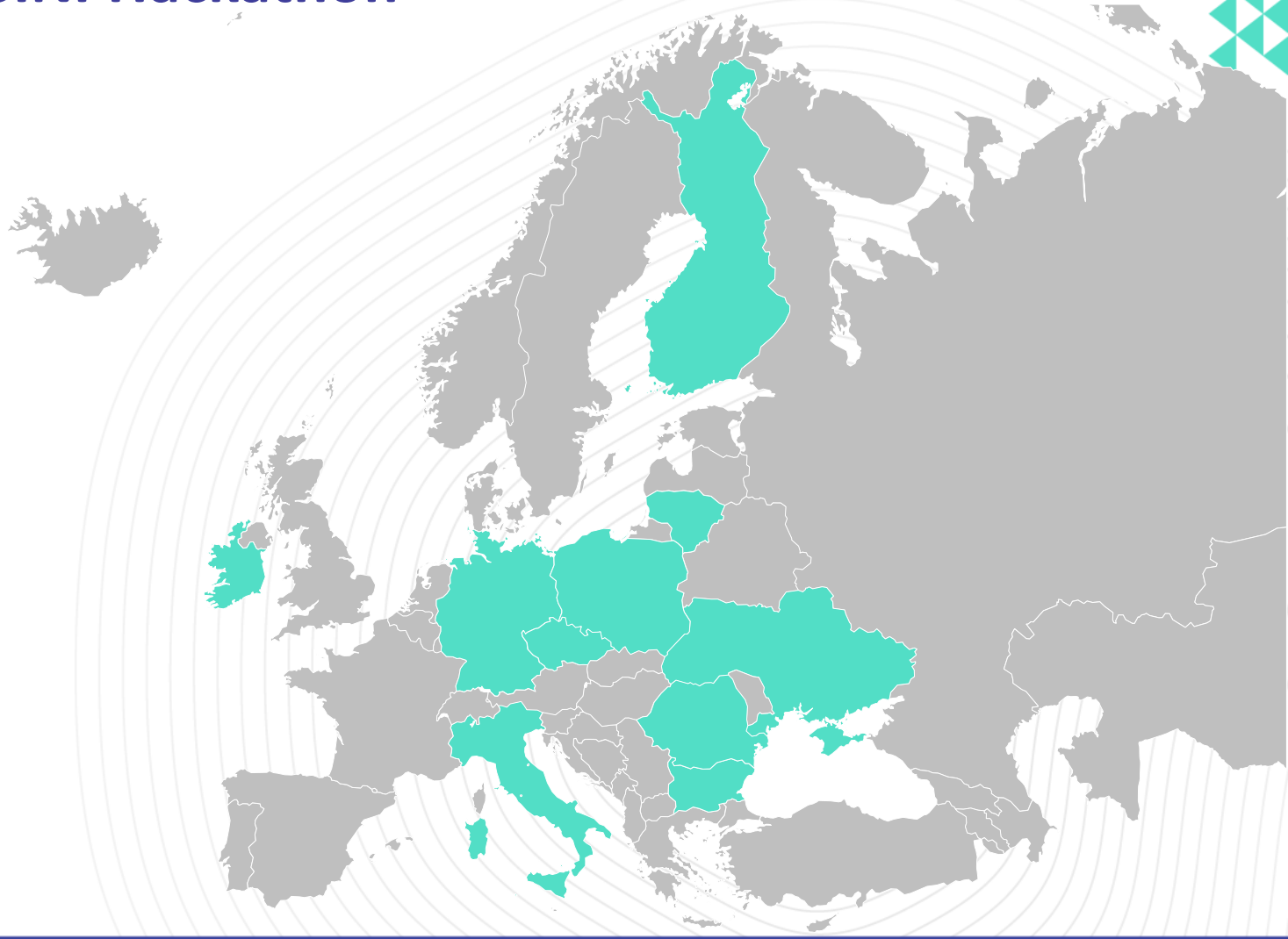
15:05 Livestream carousel

18:00 **Winners Announcement**
- Thank you from Stefan Schneider (EUSPA) and Tomas Halaska (European Commission)
- 1st, 2nd, 3rd Winners Announcement
- Interviews Winning Teams
- Round-up and closing remarks

*Local Organisers may adapt the agenda to a local programme, while participating in the central sessions online

Local organisers for the 12° CASSINI Hackathon

Local organiser	Country
Blue Dot Solutions	**Poland**
cesah GmbH Centrum für Satellitennavigat Hessen	**Germany**
Futuretournaments Oy (Ultrahack)	**Finland**
METALAB	**Ukraine**
National College of Ireland	**Ireland**
Prague Innovation Institute	**Czech Republic**
Pro.M.Oda srl	**Italy**
Risk Space Transfer - Technology Transfer Office	**Bulgaria**
Romanian Tech Startups Association (ROTSA)	**Romania**
VšĮ Kauno mokslo ir technologijų parkas (Tech Park Kaunas)	**Lithuania**



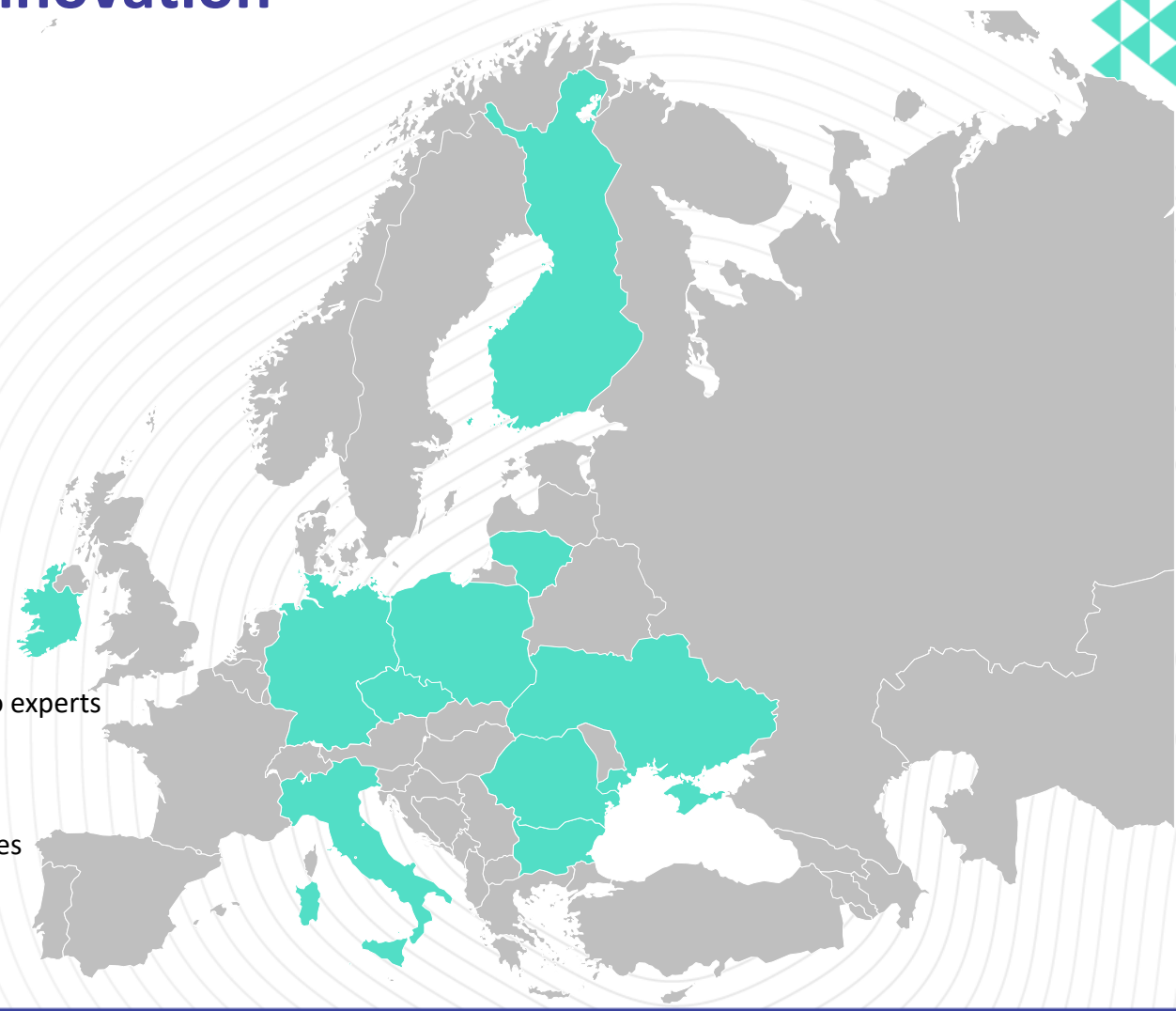
Open for everyone with a passion for innovation

All European students, entrepreneurs, engineers, designers, researchers, policy makers, and others are welcome to participate

On-site at one of the hackathon locations

No previous space experience is required!

- Online resources
- Relevant datasets
- Access to experts
- Hybrid experience
- Interesting speakers
- Cool prizes



Big Ideas Campaign

The Big Ideas Campaign is a series of evening events between **2 – 13 November** filled with exciting and invaluable sessions intended to get you warmed up for the Hackathon Weekend!

Join the campaign and take advantage of the benefits!

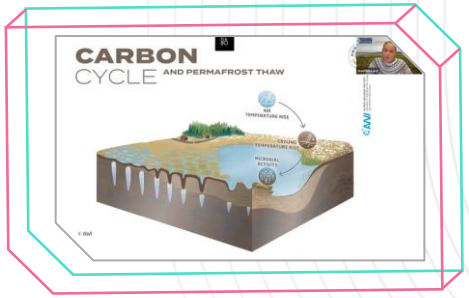
Training

Learn about EU space technology, Copernicus, Galileo & EGNOS. We'll make sure you are equipped with the knowledge and tools to succeed during the hackathon.



Inspiration

Get inspired by our success stories, past winners and training sessions we prepared so you can change the way we do finances!



Networking

Take advantage of the Pan-European network and engage the community!



Participating in the virtual hackathon

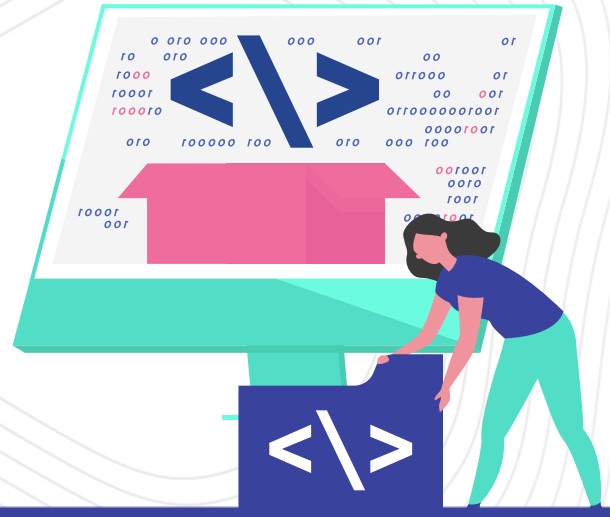
Click the register button on our website cassini.eu/hackathons/ and engage with us across these platforms:

Hackathon platform

Want to register as a participant? Great! Head to the hackathon platform, register, and join/form a team.

To hackathon platform

TAIKAI



Forming a team

If you are a **team leader and already have a project in mind**, but don't yet have a full team, follow these steps to create your **dream team**:

1. Create your project and indicate you're looking for teammates

- **Visit TAIKAI** and create your project
- Once you publish your project, go to your project dashboard and click on the **"Positions" tab**
- Describe the details of the position

2. Scout for participants

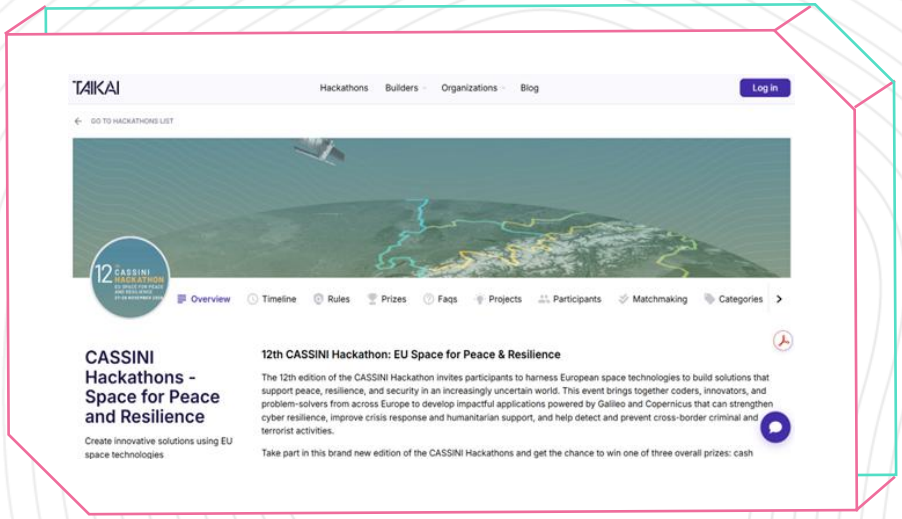
Find your ideal team member:

- Go on to the **'Participants' tab**
- Search for participants from your hackathon location
- Check 'Looking for a team' tag
- Filter by skillset

3. Contact future team members

Message the person, introduce yourself and your project.

TAIKAI



Joining a team

If you are an **innovator looking for a team**, follow these steps to find your dream team:

1. Indicate your availability

- **Visit TAIKAI**
- **Click** on the ''PREFERENCES'' tab on the left
- Click ''Yes'' under the Matchmaking section

2. Scout for projects

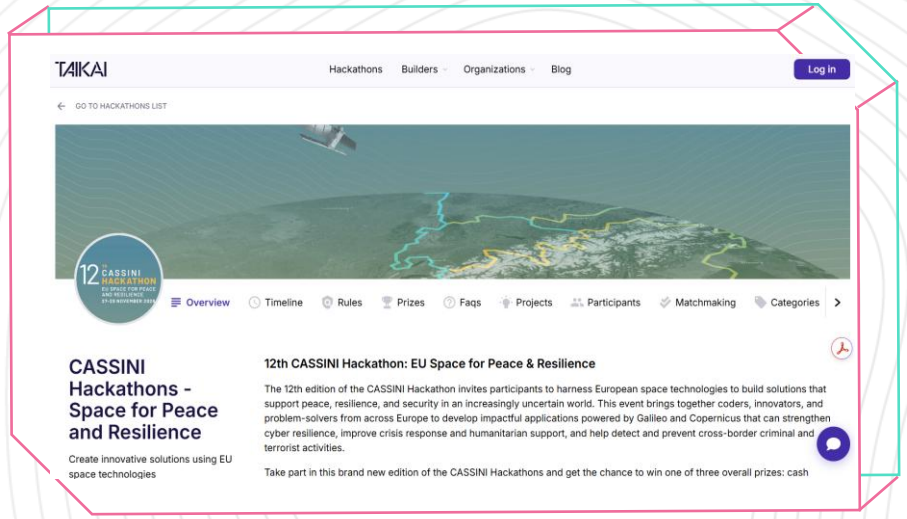
Find your ideal project:

- Go on to the **'matchmaking' tab**
- Search for projects from your hackathon location
- Check the skills needed for the project
- Choose your ideal team

3. Contact project owner

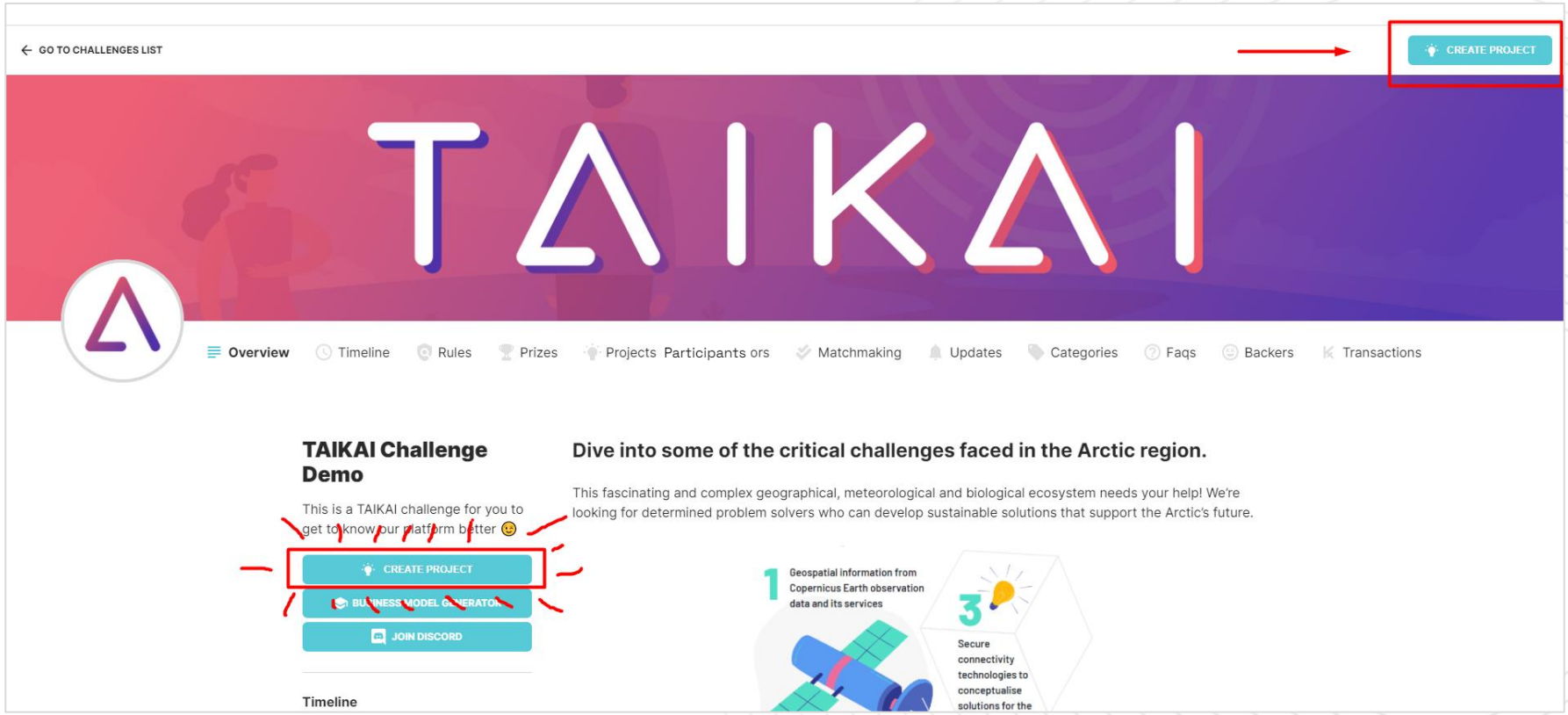
Message the person and introduce yourself.

TAIKAI



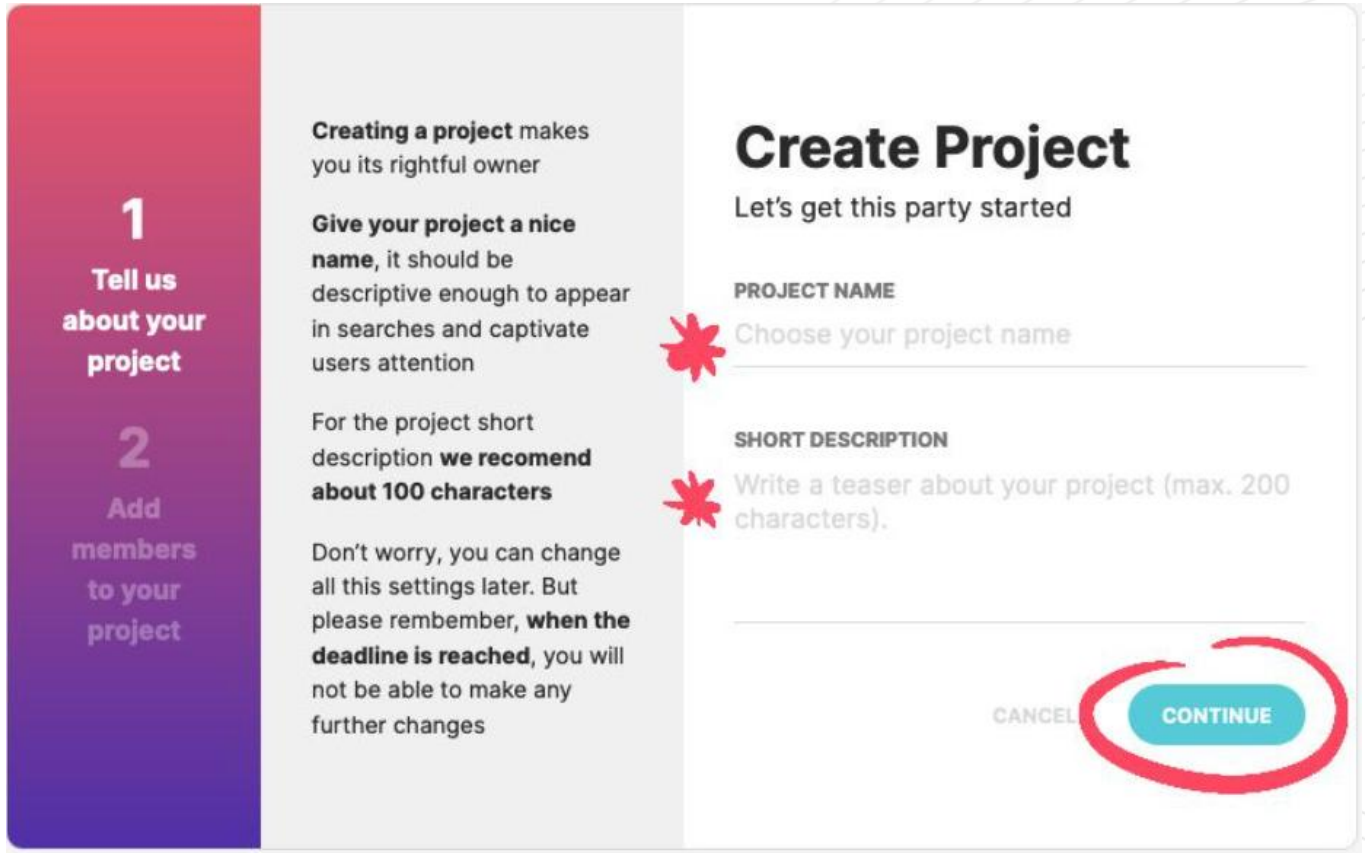
TAIKAI - Project creation

To create a project, participants need to navigate to the **"Create Project"** button on the screen's **top right or on the left sidebar.**



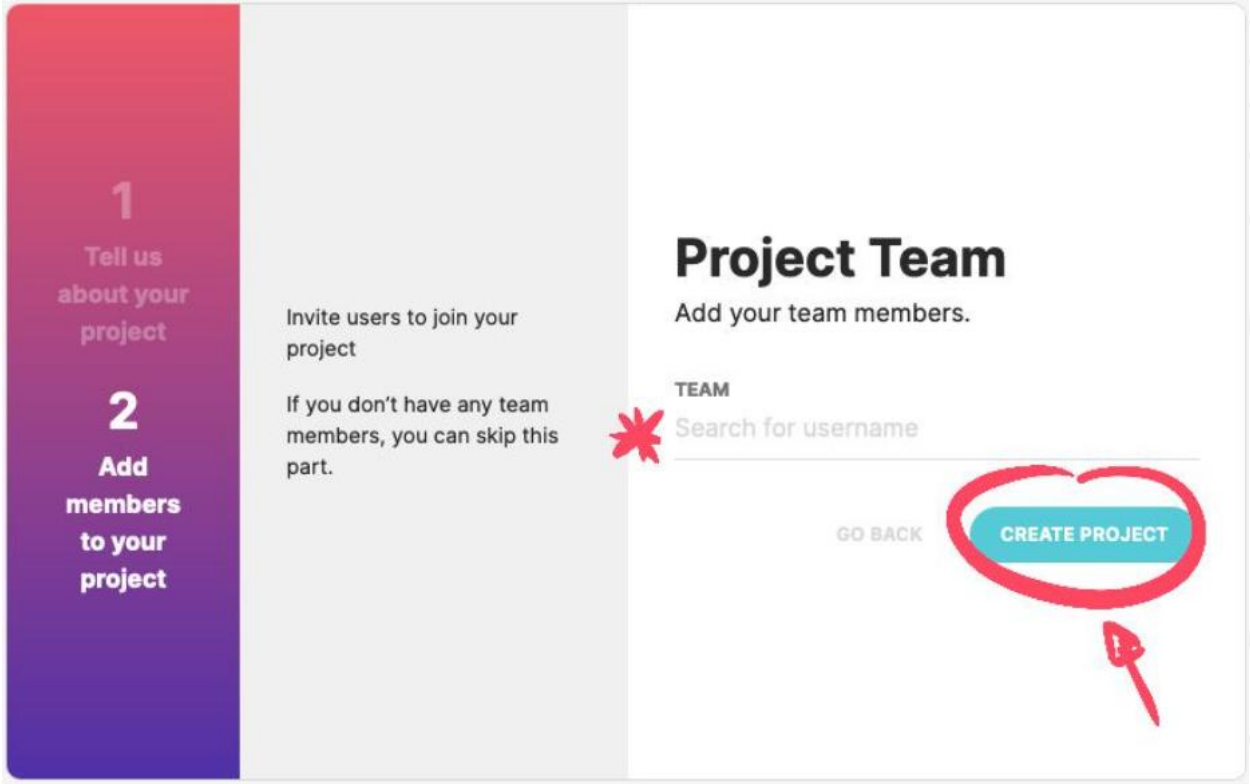
TAIKAI updates – Create a project

They will then be prompted to provide the **title** of their project and a **short description** of what they are planning to build.



TAIKAI updates – Create a project

The final step is to add their team members to the project. All team members need to be registered on the TAIKAI platform and registered to the challenge. Once they have completed adding their team members, they must click on "Create Project" button.

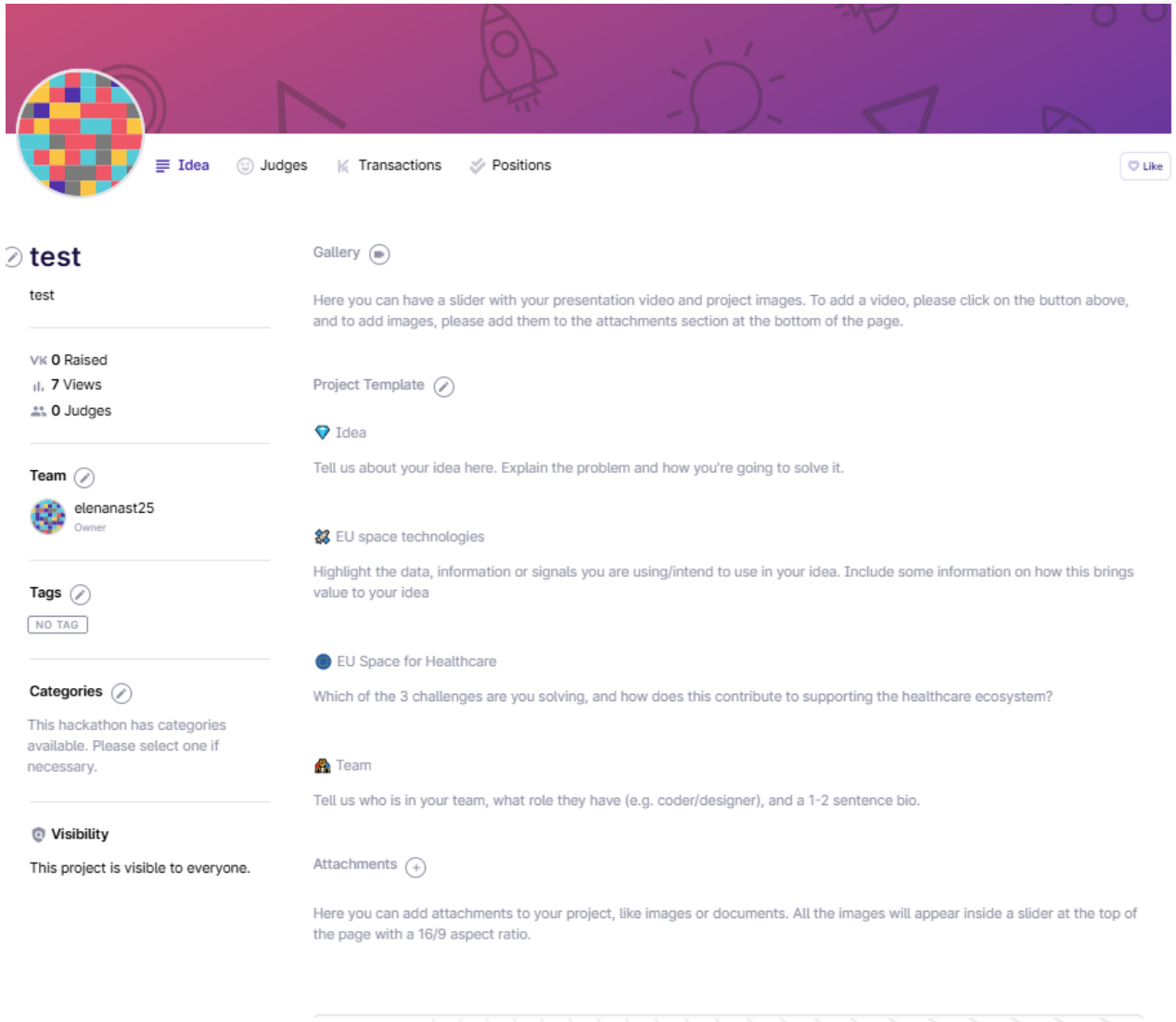


Once they have created their project, they can then fill out their project details and complete it during the hackathon

Project details

All team members must be registered to the same hackathon location.

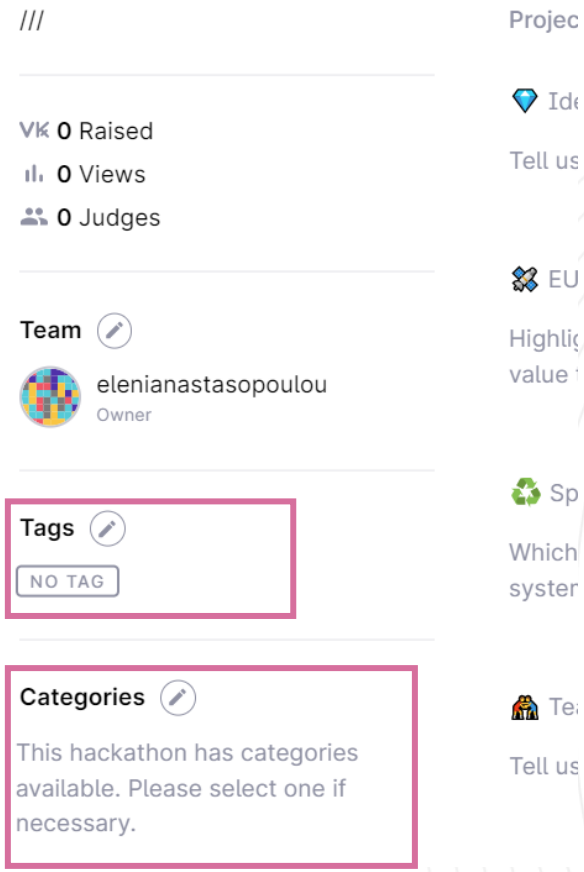
All projects must have the **correct tag** (hackathon location).



Project details

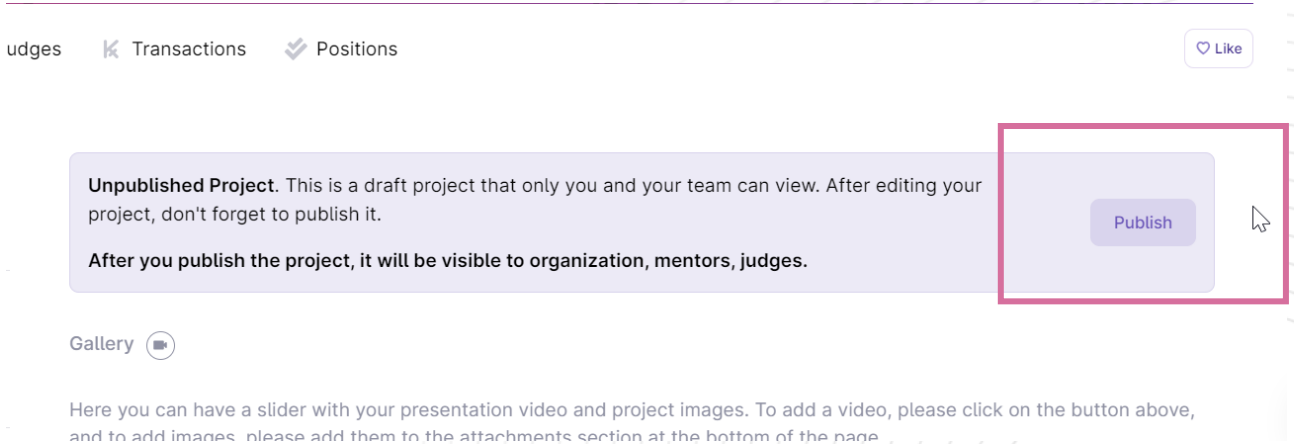
Add your tag and select your country

Click on the categories and select the hackathon challenge you are addressing.



Project details

When you are ready publish your project!



Joining a team

If you are an **innovator looking for a team**, follow these steps to find your dream team:

1. Indicate your availability

- **Visit TAIKAI**
- **Click** on the ''PREFERENCES'' tab on the left
- Click ''Yes'' under the Matchmaking section

2. Scout for projects

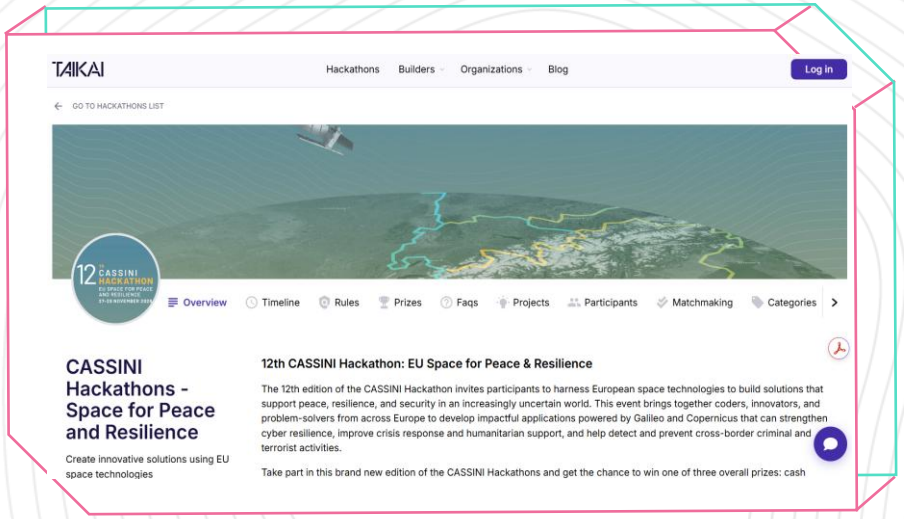
Find your ideal project:

- Go on to the **'matchmaking' tab**
- Search for projects from your hackathon location
- Check the skills needed for the project
- Choose your ideal team

3. Contact project owner

Message the person and introduce yourself.

TAIKAI



TAKAI's participants journey – Changing location

Interested in trying out a **new location**?
You can do so by editing your registration on TAIKAI!

1. Go to our platform page

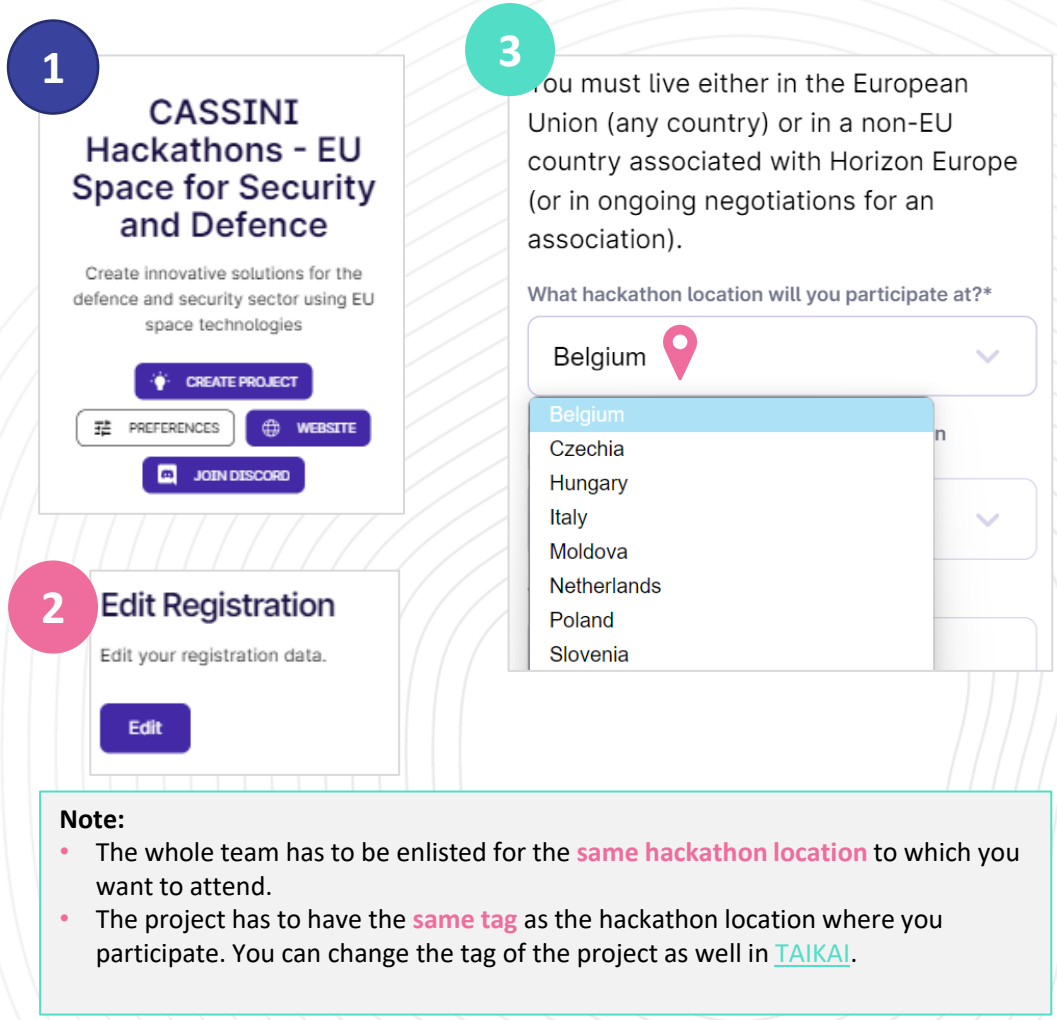
- **Visit TAIKAI**
- Log in to your TAIKAI account
- visit the Hackathon's **platform page**
- Click on '**Preferences**'

2. Edit your registration

- Click the 'Edit' button on '**Edit Registration**'

3. Choose a new location

Select the hackathon you wish to participate in from the local organiser list and save your preferences.



Note:

- The whole team has to be enlisted for the **same hackathon location** to which you want to attend.
- The project has to have the **same tag** as the hackathon location where you participate. You can change the tag of the project as well in TAIKAI.

Demo Day & Award Ceremony

2 December
Wednesday

18:00 (CEST)

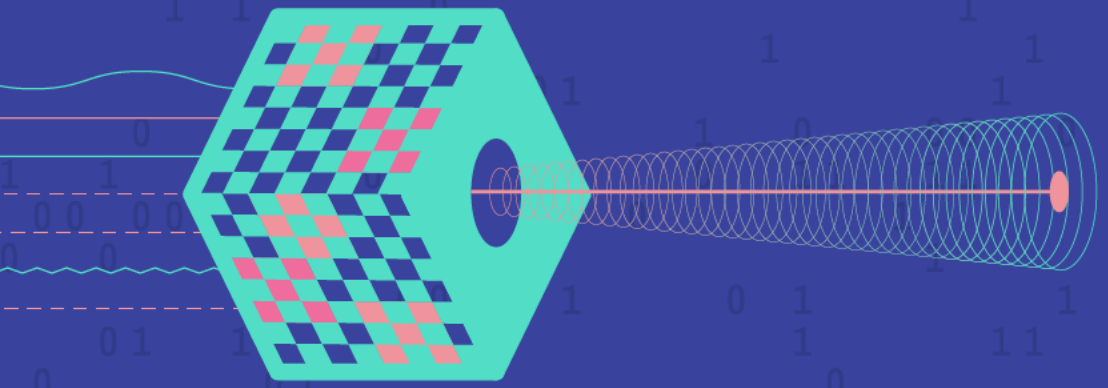
During the Demo Day & Award Ceremony the 10 winners of the local hackathons will pitch their projects.
A jury of experts will evaluate the projects and select the three overall winning teams who will win 100 hours of expert mentoring each.



Join the demo day to…

- Meet the top teams from the 10 local hackathons
- Watch 10 innovative project pitches
- Discover the 3 overall winners of the hackathon

CASSINI #EUSpace
Hackathons & Mentoring



Mentoring Programme

In this section, you will learn about the mentoring programme available to the top 3 teams selected in the hackathon.

Each winner has access to our mentoring programme

Three winning teams can benefit from 100 hours of mentoring each spread across the six months following the event.

How does it work?

Each team will have a lead mentor who will guide them through the mentoring programme.

The lead mentor will connect the teams with different expert mentors who are available in 5-hour blocks.

Teams will monitor their progress over the six months on their path to creating a sustainable and commercially viable solution!



Meet some of our mentors

Each of the three overall winners will work with our expert mentors. Their backgrounds range from product development, Earth observation and GNSS through to business development, marketing, design and more. Here are a small selection:



Carlos Bello Marcos
INNOVA4EU



Dimitris Matsakis
P.L.A.N.



Dr. Johanna Braun
Innovation, Venture & Sustainability



Dennis Kibirev
Mesh Ai, FrontierFunder



Floriano Bonfigli
AC75



Pablo Garrido
EIT Urban Mobility

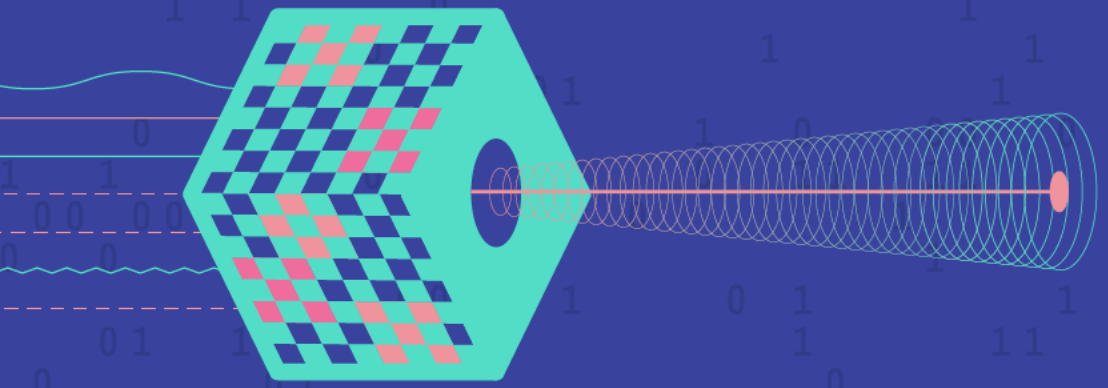


Alexandre Mencik
Space Platform



Pedro Branco
Virtual Angle B.V.

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Hackathons & Mentoring



SCAN ME

Register for the hackathon at

https://taikai.network/cassinihackathons/hackathons/space-for-peace-resilience

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THANK YOU!

