

# Copernicus Incubation Programme

Supporting promising businesses working with Earth Observation data



# About

Earth observation and big data from the Copernicus programme offer unique insights into life on Earth, its environment and people. The **Copernicus Incubation Programme** launched by the European Commission supports European entrepreneurs and start-ups working with this data to create innovative, commercially viable products and services.

## THE INCUBATION PROGRAMME

This initiative invests in the start-up phase and international growth of Copernicus-based businesses in Europe. The goal is to support European innovative, commercially promising businesses that make use of Copernicus data and services. It will boost the use of this data and services, which prove valuable globally in many domains: industry 4.0, mobile and digital services, environment protection, urban management, regional and local planning, agriculture, forestry, fishery, health, transport, climate change, sustainable development, civil protection, tourism and many more.

**Verhaert Masters in Innovation** implements the **Copernicus Incubation Programme** on behalf of the European Commission.

This initiative is part of the Copernicus Start-up Programme.

## WHAT IS COPERNICUS?

Copernicus is the European system for monitoring the Earth, coordinated and managed by the European Commission. It consists of a complex set of systems which collect data from multiple sources: Earth observation satellites and local sensors on the continent, in the air and at sea. Copernicus combines and processes these data and provides users with reliable and nearly real-time information through a set of services related to environmental and security issues.

The services address 6 thematic areas:

- Atmosphere
- Marine
- Land
- Climate change
- Emergency management
- Security

Find out more at [www.copernicus.eu](http://www.copernicus.eu)

## PROGRAMME ADVANTAGES

- Equity free funding
- Lean application procedure
- Rapid evaluation and contract procedure
- Attractive payment scheme
- Eligible salary costs
- Complimentary with other support programmes



Supporting rise and international growth of Copernicus data and services based start-ups in Europe

# The Copernicus Incubation Programme



Pitch & business design tools



Network via programme activities



50k per start up  
Max. 85% co-funding



20 start-ups per year



New data application brainstorming tools



START-UPS



SUPPORT PROGRAMMES

(ACCELERATORS & INCUBATORS)



## Programme

The **Copernicus Incubation Programme** supports the most innovative and commercially promising business applications based on Copernicus data and services. The programme awards 50,000 EUR to 20 European start-ups every year. The investment goes toward their incubation or acceleration in a programme or organisation of their choice.

### WHY SHOULD YOU APPLY?

Start-ups who receive the grant get equity-free funding to support their incubation. Furthermore, they get access to new networks, tools and promotion opportunities.

For start-ups at an early incubation stage, this support can help to achieve a first working product.

For scale-ups, the programme can be used to accelerate a business launch, improve an existing Copernicus-based product or service or increase its competitive advantage.

### WHO CAN APPLY?

You are either a start-up or a team of entrepreneurs with a maximum of five years of operational history since the registration of your business. You may be at the early incubation stage or preparing for launch and scaling. Applicants should set up a company in any EU28 country, Iceland or Norway before receiving any funding from the programme (but not necessarily before applying).

This programme accepts **joint applications**: the start-up is required to apply together with a support programme that agrees to incubate the start-up if it receives the funding. The start-up must be the lead applicant and sole beneficiary.

# Requirements, conditions and eligibility

## REQUIREMENTS AND CONDITIONS

- Start-ups receive **up to 50,000 EUR and up to 85% of the total costs** described in their application to the programme.
- **Co-funding is required for at least 15% of the total costs.** Any co-funding source is eligible, such as business angels, subsidy programmes, investors, another incubation programme or the start-up itself. In-kind contributions such as office space or coaching hours cannot be admitted as part of the required co-funding.
- The funding covers costs **up to 1 year.**
- Selected start-ups receive **50% of the total grant as pre-financing.** The remaining payment happens at final delivery (based on accountancy statements to prove costs).
- **Lead time** for the incubation support is approximately **4 weeks** after the announcement of selection results.

## ELIGIBLE START-UPS

- Teams of entrepreneurs (at least 2 complementary profiles).
- Legally established start-ups.
- University and research institute spin-outs.
- Corporate spin-outs.
- Venturing teams within corporate venture programs with an intention to spin out.

## ELIGIBLE SUPPORT PROGRAMS

- Governmental business incubators and accelerators.
- University incubators and accelerators.
- Incubators and accelerators at private and governmental research institutes.
- Corporate business incubators.
- Corporate venturing programmes.
- Other support programmes aimed at providing support to start-ups.

*Support programmes must be run in Europe and have proven business expertise and a track record of launching successful start-ups. Experience or technical expertise in space or Earth Observation businesses is not a requirement.*

## ELIGIBLE COSTS

- Prototyping and research expenses.
- Company setup, insurance, license and permit fees.
- Equipment and supplies, particularly IT equipment (hardware or software), and other technological expenses.
- Office space.
- Expenses related to intellectual property rights.
- Advertising, promotion, communication and visits to clients.
- Website and email domain, analytics services.
- Accounting, consulting or legal expertise.
- Borrowing costs.
- Employee-related costs, including recruiting expenses.

## NON-ELIGIBLE COSTS

- Benefits provided by the support programme (such as office space).
- Return on capital.
- Debt and debt service charges.
- Provisions for losses or debts.
- Interest owed.
- Exchange losses.
- Deducible VAT.

*Costs paid to the support programme (e.g. office space) are not eligible as part of the grant.*

# Application guidelines

Applications must include the following:



## Information about the start-up

- 1 Application and compliancy checklist
- 2 Start-up pitch in video or slide deck format.
  - Video: no longer than 5 minutes; may be filmed with a smartphone or any other device.
  - Slide presentation: up to 10 content slides.
- 3 Funding request application, containing:
  - Background info, summary of business pitch, explanation of the use of Copernicus data and/or services;
  - Description of objectives, tasks, expected outcomes, projected budget.
- 4 Supporting documents:
  - CVs of each team member;
  - Any other relevant documents.

*For the evaluation criteria, see 'Evaluation and selection'*



## Information about the support programme

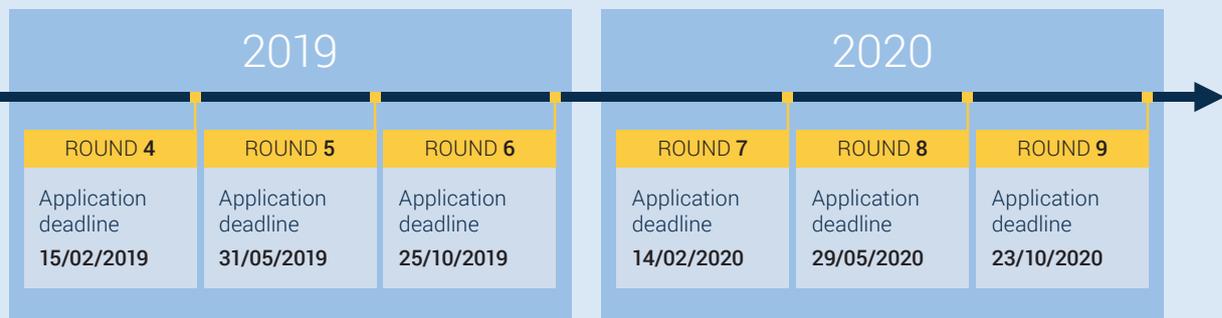
(if applicable):

- 1 Application and compliancy checklist
- 2 Presentation and/or material to prove the eligibility of the partnering support programme:
  - Available incubation services and scope thereof.
  - Track record and achievements.
  - Operational model.
  - Size and location.

**How to apply? Upload your application on [copernicus-incubation.eu](http://copernicus-incubation.eu)**

## Application deadlines and selection board meetings

The programme runs until 2020 and will evaluate applications 3 times a year.



# Evaluation

## EVALUATION AND SELECTION MODEL

Every application for the Copernicus Incubation Programme is thoroughly screened and evaluated in two rounds. All applications are judged by a team of experts in venture capital investment, Copernicus and Earth observation data, and business and start-up development or incubation.

The first round includes assessment of each applicant's compliancy and a pre-screening to judge the quality of the application. The best projects proceed to the second round, where applicants are invited to present their project in person or in a video interview. The team of experts assesses each start-up's business proposition, team and funding request in more detail.

The entire application process, from submission deadline to final decision, takes about one month. Winning start-ups may expect the first payment of their funding within four weeks after that.

## EVALUATION STAGES

### STAGE 1

2 weeks after application deadline

## Compliance check and pre-screening

All applications are evaluated by a group of experts on:

**1 Overall compliancy as defined in the programme**

**2 First qualification screening**

- Use of Copernicus data or services
- Strength of business proposition (pitch)
- Partnership with an incubator or incubation support programme

*Evaluated materials: application and compliancy templates by start-up and support programme, start-up pitch, support programme info material.*

GO/NO-GO

### STAGE 2

4 weeks after application deadline

## Interview with experts

Successful applicants are invited for a web video interview with experts to evaluate the start-up's potential.

- Use of Copernicus data or services
- Strength of business pitch and team
- Funding request

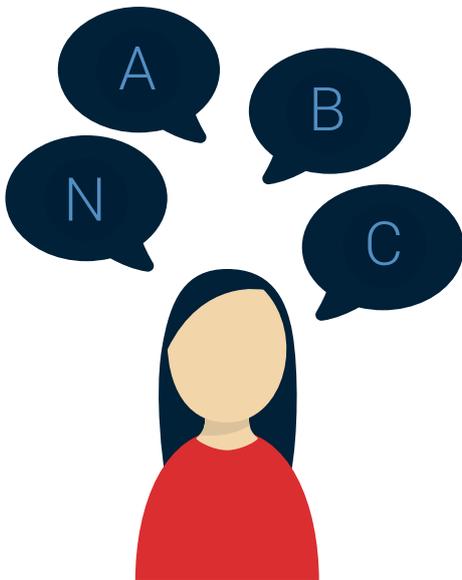
*Evaluated materials: start-up pitch, funding request application, CVs, interview results.*

GO/NO-GO

EVALUATION TOPIC	CRITERIA
Use of Copernicus data and services (1/3)	<ul style="list-style-type: none"> <li>• Relevancy of Copernicus data or services to the business proposition.</li> <li>• Team's experience and ability to work with Copernicus data or services.</li> <li>• Relevance and importance of Copernicus data or services to the success of the project.</li> </ul>
Commercial interest and financial outlook of the start-up (1/3)	<ul style="list-style-type: none"> <li>• Qualities of the team (knowledge of subject matter, business drive, motivation and ambitions).</li> <li>• <i>NABC</i> business pitch (see below).</li> </ul>
Business expertise of the supporting incubation or acceleration programme (1/3)	<ul style="list-style-type: none"> <li>• Scope and strengths of support services available to start-ups.</li> <li>• Track record of success in incubation performance.</li> <li>• Ability and motivation to support the applicant.</li> </ul>

## WHICH QUESTIONS SHOULD YOU ADDRESS IN A BUSINESS PITCH?

Follow the NABC structure:



### Need

Customer problem and market opportunity. How big is your market? Is there proof that your product or service is needed? How will you access the market?

### Approach

Solution and go2market. What is your value proposition and how does it fulfil your customers' needs? How feasible is your approach? What are chances and risks for the adoption of your product or service?

### Benefit

Added value to customers and business results. How will your customers benefit? How will you make a profit? What are your ambitions and potential for growth?

### Competition

Competitiveness. What makes you stand out from the competition? How will you secure an advantage?

# Meet our winners

## VULTUS

[www.dronesarpilot.com](http://www.dronesarpilot.com)

Swedish company Vultus AB uses space technology for **waste-free farming**. Vultus AB is using satellite data and prescriptive analytics to give farmers worldwide actionable recommendations regarding the **nutrient needs** and **varying conditions** of their fields. They recommend certain amounts of nitrogen use to combat over-fertilization and **reduce fertilizer usage by up to 40%**. This, in turn, improves crop health and soil quality and **reduces the environmental costs of farming**.

Vultus AB applied for the Copernicus Incubation because they want to **internationally expand**. They consider the partnership a great opportunity to **reach new networks, build strong business relationships** and, ultimately, **grow their business on a global scale**. They want the partnership with Copernicus to **strengthen their competitive edge in a global marketplace** and they hope the Copernicus Incubation Programme will **assist them in their continuous journey of innovation and development**. Vultus AB will be incubated by ESA BIC at Innovatum AB.

## MOBYGIS

[www.mysnowmaps.com](http://www.mysnowmaps.com)

Water is the source of life, but water is also unpredictable. Due to climate change, water resources are becoming discontinuous, creating hazardous situations. Based on mathematical modelling Italian start-up MobyGIS has developed a **new technology** that **predicts snow presence and the availability of water resources** at large scale. It processes different sources of data, ranging from ground sensors, satellite data and weather forecast. MobyGIS' results can be applied in **many sectors**. In tourism for instance, MobyGIS has developed the application 'Mysnowmaps', which allows off-piste snow explorers to plan their detailed excursion. In civil protection, MobyGIS provides a service of high resolution snow monitoring to improve avalanche prevention. In hydro-power, MobyGIS predicts water inflow in production plants to improve energy trading.

MobyGIS applied to Copernicus Incubation to use Copernicus satellite data to **improve the accuracy** of their technology and to **scale the system worldwide**. They want to integrate Copernicus satellite data into their modelling scheme and eventually test the procedure to EU mountain chains, like the Pyrenees or the Carpathians, which would be the prelude to scale the system worldwide. MobyGIS will be incubated by Trentino Sviluppo.

## DRONESAR

[www.dronesarpilot.com](http://www.dronesarpilot.com)

Irish start-up DroneSAR wants to provide all drone users with **up to date satellite imagery** from the Copernicus Emergency Management Service. DroneSAR has developed a software that **enables commercially available drones with rescue specific functions**. It allows fully autonomous flight patterns, shares locations, allows live stream to any internet browser and very soon DroneSAR will be able to automatically detect persons.

With the Copernicus Incubation Programme, DroneSAR wants to **engage with experts** in the relevant areas and allow them to **integrate up to date drone images and video** as layers on top of post-disaster satellite imagery. Through events, conferences and webinars DroneSAR wants to learn and make their vision a reality. ESA BIC Ireland will incubate DroneSAR.



## LIVE-EO

www.live-eo.com

German LiveEO is helping infrastructure companies to **monitor their infrastructure networks** in the domains of oil & gas, electricity and railways. With the data of earth observation satellites, LiveEO **analyses the situation alongside the grids** of these infrastructure networks, based on **completely automated methods in the cloud**.

LiveEO has been supported by the Copernicus Programme since the beginning. They have won the Copernicus Masters, they're part of the Copernicus Acceleration Programme and they are using the data of Copernicus as the core of their analytics. The Copernicus Incubation Programme is enabling them to **accelerate their development progress, improve their technology** and **bring their solutions to the market**. LiveEO will get the support of the Technical University Berlin.

## UNISPHERE

www.unisphere.de

Unisphere is a German start-up, closing the gap between traditional aviation and space, focusing on **high altitude pseudo satellites**. It develops **mission simulation software to operate high altitude pseudo satellites (HAPS)**. They are made of very light-weight structures, operate at altitudes of up to 20km for several months at a time and travel with the speed of a bicycle. With Unisphere's integrated simulation software, they **use nature as a friend**, not as an enemy. Unisphere includes the HAPS performance, payload characteristics, weather forecasts, air traffic control, airspace structures and many more inputs into one software. Copernicus satellite data will provide Unisphere with additional information to improve their mission simulation software free of charge.

**Near real-time pictures from space**, as well as **the Copernicus early warning component**, are added value to HAPS flight planning. Easy access to the data through the Open Telekom Cloud was another reason for Unisphere to apply for Copernicus Incubation. While **implementing near real-time satellite imagery and the early warning component into their mission planning software**, Unisphere hopes to discover even more elements of Copernicus. ESA BIC Bavaria will incubate Unisphere.

## GEOMATIC VENTURES

www.geomaticventures.com

Geomatic Ventures Limited is a British start-up operating in **environmental safety and security**. They possess a system that can **identify and monitor very precise surface ground movements** as an early warning system for industries like infrastructure management, natural environment, rail & road, mineral extraction and energy extraction and storage.

Geomatic Ventures wants to establish itself as **a supplier of land-deformation data to the European rail industry**. Copernicus Incubation Programme will **support their market and business development**. Geomatic Ventures wants to reach out to the European rail industry through the provision of funding to cover the traveling to meetings, the creation of marketing materials, the equipment for data processing and the support for producing legal agreements, accountant reports and contracts. GVL gets the support of the University of Nottingham.

## COLOMBOSKY

www.aquaexploration.com

Based in Italy, ColomboSky provides to aquaculture companies a novel solution to **monitor water quality** and to protect their farming sites from harmful water threats. Differently from standard in-water sensors, the **combined use of the newest Copernicus satellite data** (Sentinel 2 and 3) and Copernicus Marine Environment Monitoring Service, enables a wider range of observation and the development of **novel early detection algorithms**. In addition to this, in-situ ground-truth and theoretical models are integrated to **create daily risk maps** of the presence of Harmful Algal Blooms, Jellyfishes and Oil spills. Presented on an **online portal, called AquaX**, they provide actionable insights to **support the understanding of the water quality status** on aquaculture farming locations.

With the Copernicus Incubation Programme, **ColomboSky will further consolidate its modelling and forecasting capability**, accelerating the product catalogue growth and the market reach. We will also expand our network, build strong key partnerships and **grow the business** with global scalability in mind. ESA BIC Lazio will incubate ColomboSky.

## E-ODYN

www.eodyn.com

e-Odyn is a French maritime industry and ocean observation start-up. It operates in oceanography and massive data analysis. Thanks to **geolocation data transmitted by ships**, the start-up is using machine learning and big datasets to **measure real-time ocean surface currents**. All of this at a global scale.

The Copernicus marine products fit well with e-Odyn's Omni-Situ ocean observation technology and that's why e-Odyn applied for the incubation. E-Odyn is planning to design **high potential added value services** requiring to use both Omni-Situ surface currents and Copernicus products. The Incubation Programme and the proposed support is the perfect occasion to develop and test these new services. Through visibility provided by the Programme and key information from Copernicus experts, e-Odyn will **engage with its audience in a better way**, gain early feedback and iterate quickly to enhance its commercial products. E-Odyn gets the support of incubation-cooperative 'The Village' by CA Finestère.

## SURVEY INTELLIGENCE

survintel.com

Today most believe the credo: the more data the better. The question is how to extract intelligence from vast data series and how to translate this into value. This is where Survey Intelligence comes in: we **help our clients in the energy sector to visualise, identify and understand their data** by developing software and services to analyse time-series.

We **assist the energy sector with the transition to renewable energy**. First, we help the industry to reduce its impact on the environment by increasing efficiency and the quality of its decisions. Secondly, we facilitate knowledge transfer from fossil energy production to renewable energy production by integrating subsurface and earth observation information for H2 or CO2 storage, geothermal activity and water resources management.

Survey Intelligence uses advanced geo-statistical methods for interpreting remote sensing data. Our mission is to **make EO data indispensable for reservoir production and monitoring**.

Copernicus data is essential part for our services for monitoring reservoir integrity, because it allows our clients to supervise large areas efficiently and prevent safety issues. The Copernicus Incubator will help further developing and integrating EO data into our services.

## CYBELE

<https://robinbouvier.wixsite.com/cybele>

CYBELE aims to provide evidential support in the form of satellite data for **lawyers and activists collating dossiers on environmental cases**. They support experts in the public and private sector, including law firms, insurance companies, states and civil society. CybELE Earth Observation (EO) investigation provides **quick access to environmental crime reports** for law firms and insurance companies. Saving time and money usually spent on research, the reports constitute crucial evidence of infringement of environmental laws and assess the cost of environmental damage.

With the Copernicus Incubation program, the team will now be able to **develop strong proofs of concept** and to prepare its future scale-up strategy.

## TETHYS

[www.tethysfarming.com](http://www.tethysfarming.com)

TETHYS Yield Estimator from **Centrale Valutativa** is a **precision farming tool** providing farmers and insurance companies with **low-cost estimations of the crop development** in a timeframe in a field or in a larger monocropped area. The combined use of Copernicus satellite data (Sentinel 2 and 3) and weather and soil data enables the calculation of the crop yield as the result of the **daily biomass growth over the whole vegetation period**. The service provides farmers with data and information useful to optimize fertilization and irrigation and to **improve farm profitability**; it also supports insurance companies to properly assess the weather damages occurring in insured farms, **raising**

## MAPTLER

MapTiler.com

The MapTiler product from Czech start-up OctoGEO offers **global satellite and street maps targeting businesses**. It is an affordable alternative to other providers like Google Maps, but unlike them, the maps are **ads-free, redistributable, respecting the privacy** of end-users and based on open data. They are provided from global infrastructure as a **service or available as on-premise software and data package** for deploy in a closed environment.

With the help of Copernicus Incubation, MapTiler wants to **increase the quality** and the frequency of **updates to their satellite map**. Our in-house processing of the open data from the Copernicus Sentinel programme will make our Satellite maps even **more affordable** to commercial entities, research facilities and other data consumers.

## 3BEE

[www.3bee.it](http://www.3bee.it)

3Bee is an electronic industry based business that designs new **IoT systems for precision agriculture in farming animals**: from the **beekeeping sector** to the broiler one. 3Bee intends to reduce chemical and antibiotic treatments using data driven solutions. 3Bee Hive-Tech is an innovative IoT diagnostic system designed for **monitoring beehives**, which ensures the real time analysis of the main parameters of their life, **from air quality to sound spectrum** and weight that helps to **identify the main causes of disease and anomalous behaviors**. The aim is to **create value for beekeepers**, changing and improving the way in which hives are managed, and providing a simpler and non-invasive solution. Hive-Tech will help in **reducing bee mortality** of 32%, increasing production of 30%, decreasing logistic costs by 20% and reduce treatment use by nearly 40%.

Copernicus data and services are very valuable because 3Bee wants to further develop Hive-Tech involving the analysis of satellite images. With this tool, 3Bee will be able to **identify the most interesting flowering zones and the areas where pesticides are widely applied**. In this way, beekeepers can know exactly where bees can thrive and are mainly threatened by chemical agents. 3Bee gets the support of ComoNext Incubator.

**the efficiency of on-field appraisals**. The Copernicus Incubation will give us the opportunity to calibrate the model, to complete its automation

and to improve the commercial appeal of the service. The Yield Estimator is one of the different services offered by **TETHYS Smart Farming**, also including a crop monitoring service and a smart irrigation service. TETHYS services are developed by **Centrale Valutativa** ([www.centralevalutativa.it](http://www.centralevalutativa.it)), an innovative start-up based in Rome and incubated at ESA BIC Lazio.

## TESSELO

www.tesselo.com

Tesselo's ambition is to accelerate the world's **transition toward environmental sustainability** through geospatial intelligence. We combine satellite imagery, artificial Intelligence and environmental knowledge to deliver actionable business insight to make the **natural commodity supply chain management** more efficient and sustainable. Our solutions target the **forestry, agri-food and urban planning related sectors**. For the Copernicus Incubation Program, we will focus on the **timber industry**: producers, transformers, distributors, insurers – enabling them to **easily access and gain insight from Copernicus data**. We automate imagery ingestion, processing and analysis into our online platform, which allows for continuous and real-time monitoring at any scale at 10m resolution.

Thanks to the support of the Copernicus Incubation Programme, Tesselo will **develop, test and integrate new functionalities to the platform**, including deep learning. Tesselo will also scale-up the customer outreach, targeting key potential customers in the main timber producing countries. Tesselo is supported by DNA-Cascais.

## CYSTELLAR

CyStellar.com

CyStellar is a geospatial intelligence company on a mission to **deliver real-time insights for the insurance sector** to support data-driven strategic and operative decision making. CyStellar remotely detects risks, classifies objects from the risk point of view, and consistently monitors risks, even the most infinitesimal changes over time. With the Copernicus Incubation Programme, CyStellar will further consolidate and **improve its geospatial risk assessment capabilities**.

The Copernicus Incubation will give CyStellar the opportunity to **deploy a specialized line of natural catastrophe insurance solution**, extend its customer base in the insurance sector, and work towards its go-to-market strategy to become a specialized insurance Managing General Agent. CyStellar will be incubated by Startupbootcamp InsurTech London.

## DANTE

www.adtelecom.es

DANTE TECHNOLOGIES is a startup located in Barcelona (Spain) which develops an effective and competitive solution for the **early detection and emergency management of wildfires**.

**Climate change and human practices have meant wildfires** a problem that is becoming increasingly violent, having a devastating impact on economy and environment. Fire management is a high volume global market, but **current detection systems are either too slow or unaffordable** to be deployed in extensive areas. DANTE is an **early warning system which features advanced methods** to report and manage

## SENSOR

www.sensor.nl

Sensor develops an enterprise platform for **monitoring millimeter-level deformations in civil infrastructures** from satellites. Sensor's platform allows civil engineering professionals to harness the power of Earth Observation to **manage risks related to ground subsidence or structural weakness**. The platform provides easy access to high quality data products based on complex satellite radar data – bringing these "InSAR" capabilities to the masses. Using the platform, enterprises can develop their own service offerings or business applications that leverage the operational use of satellite monitoring.

Copernicus is an important enabler for Sensor. The consistent and global availability of both Sentinel-1 radar data and ERA5 weather data has created a **huge opportunity to provide the infrastructure monitoring** "platform-as-a-service" to civil engineers across the globe. With the help of the Copernicus Incubation Programme, Sensor will further develop the technical capabilities and user experience of the platform as well as expand the marketing and sales team. Sensor is part of ESA BIC Noordwijk.

## AURAVENT

www.auravant.com

Auravant is a Spanish **big data company for agriculture**. It develops and commercializes a Support Decision Tool that help farmers and agronomists to adopt precision agriculture and produce more efficiently. Auravant's tool leverages on Sentinel imagery to allow for **field zoning, variable rate sowing, fertilization, and crop monitoring**. These tasks permit an optimal usage of seeds, fertilizers, herbicides and other agricultural inputs.

The Copernicus Incubation Programme will help Auravant speed up the development of **an irrigation feature for european farmers**, test it commercially, and accelerate their internationalization efforts. Auravant's mission is to democratize precision agriculture, and the Copernicus partnership is keystone for taking their products to a global scale.

operations to help rapidly extinguish a fire and goes further by providing all critical information required for an effective extinction operation.

The efficient use of in-situ and Copernicus datasets led DANTE's team to be the winner of the Copernicus Masters Disaster Management Challenge (November 2017), among other recognitions such as ESNC 2017 Catalonia. The Copernicus Incubation programme and the support from ACCIO, Catalonia Trade & Invest are an excellent opportunity to **accelerate the route to market**, boosting the potential of DANTE using Copernicus data.

## AGRIBORA

www.agribora.com

agriBORA is a German start-up developing a **location specific Farm Decision Support System** for the smallholder agriculture sector in Africa. The principal challenge to financing and insuring smallholder farmers remains cost-effective risk evaluation. Through the system, actors in the agri-insurance and banking sectors **monitor and assess different crop growth indices** which inform their risk and potential assessments while smallholder farmers are provided with localized and actionable agronomic advisories to **boost their farm productivity**.

With the Copernicus Incubation Programme agriBORA will further develop their system to monitor the vegetative state and health of the crops as well as point to regions where crops may be susceptible to alterations in crop phenology cycle or adverse effects on crop health. This will be made possible by **integrating high-resolution, objective and reliable data sets from the Copernicus data** and services with other remotely sensed and in-situ datasets into intelligent algorithms. This could enable the sector to **better assess the risk of financing and insuring smallholder farmers** and the conditions in which they operate. ESA BIC Darmstadt will incubate agriBORA.

## SPECTATOR EARTH

spectator.earth

Spectator.earth is a Polish start-up building an online platform to **stimulate collaborative discovery and use of satellite-based information**. A place for everyone to contribute to the growth of Earth Observation, Spectator offers **data access centralization, processing and products publishing capabilities**. The creators believe the biggest potential for this industry moving forward lies in the community. That's why Spectator offers tools for teams and individuals to collaborate and speed up the process of getting new EO ideas ready for testing in the real world.

Copernicus Incubation gives Spectator a **possibility to help more users in building their innovative applications** and sharing their observations quickly. In consequence, growing the EO knowledge base and making it accessible to everyone.

## VYPNO

vypno.com

Vypno provides **deep learning solutions for asset tracking and object detection tasks**, with a focus of using synthetic data. They have developed Deep Data Engine, which is an innovative product that generates high-quality training data efficiently for deep learning tasks, with precise labeling. Vypno uses Copernicus **satellite imagery data to extend Deep Data Engine so that it simulates and synthesizes realistically-rendered satellite** and drone images.

The Copernicus Incubation Programme will help Vypno to **extend their product and support more use cases required by customers**. Through Copernicus network, Vypno also wants to reach to more global customers and partners.



## LANDMARKET

cornel.nitu@gmail.com

LandMarket (Field Data Zoom) is a Romanian startup that has a bold target: **providing "service history" for agricultural fields** to estimate their marketplace and value. It will help farmers **better estimate the value of their lands**, take an informed decision when buying and also present trust when selling.

The access to specific Core Data facilitated by Copernicus (Sentinel-1A and Sentinel-2A) enables them to analyze, process and aggregate derived knowledge in order to **generate information related to crop automatic detection and field boundary detection, crop history, crop rotation, soil moisture, vegetation indices and phenology indices**. Moreover, they advance a product that impacts the Romanian agricultural land market by combing climate data provided by the Copernicus Climate Change Service with soil geological and geophysical information and considering the average price of the fields in a specific area. This increases the potential of investor farmers to trigger a more competitive Romanian agriculture. Consequently, the number of jobs in rural areas will increase, as well as the sustainable development of rural areas.

The funding from the Copernicus programme will **help us implement the minimum viable product**, that will later be used to attract more investments to bring it to more enhanced and complex versions.

## POLISENSIO

polisensio.io

Polisensio has developed a **mobile urban Air Quality Monitoring**, data collection, analytics and visualization system dedicated to (smart) cities and businesses. The end product is environmental intelligence on Air Quality delivered on Polisensio's web platform in several formats and/or through API. Using this system, the **decision makers of a city can implement short-term quick response actions** or long-term strategies, from basic traffic management/area closure, to policies on city landscaping, road planning, investments in green vehicles and so on.

By **integrating Copernicus Sentinel 5p data better forecasting & prediction models** can be obtained. This is crucial to identify the pollution generators regionally and then have a deeper understanding on urban air pollution trends at a micro level.

With the support of Copernicus Incubation program, **the team will grow with new members** especially on the technical side to integrate the Sentinel 5p data but also bring the platform to full functionality.

## OPT/NET

OPT-NET.eu

OPT/NET BV is a Dutch startup that has developed **TSAR AI**, which helps **emergency and disaster response** teams to work quicker, smarter, and more effectively through on-the-fly analysis of geospatial Earth Observation Data provided by satellites. The TSAR AI solution works with **Sentinel 1 data**, complemented with high resolution data from TerraSAR, TanDEM and PAZ. When cloud cover permits, they plan to make use of Sentinel 2 multispectral MSI products as well.

The funding of this programme will help them **achieve product-market fit**. So far, they have been able to **gain early traction with emergency response teams**, as well as earning the support of large industry players. They will use the Copernicus funding to **ramp up their marketing & sales efforts**, attending industry events where they can disseminate information about TSAR AI platform and interact with potential customers and partners, as well as distribute promotional materials and explore new use cases.

## SMART CLOUD FARMING

smartcloudfarming.com

Their product – SoilEye – is a **precision farming recommendation service** sold to farmers. Its artificial intelligence combines two data sources: 1D soil information of ground sensors reaching soil depths of 1 meter and **2D soil information from satellites**, specifically from Sentinel-1 and 2. The results are 3D soil maps which provide a platform for an absolutely new level of precision in farming, for instance for **precision irrigation or fertilization**. The 3D soil map platform outcome is combined with further Copernicus services, including the Copernicus Global Land Services.

The Copernicus funding is going to be the ideal support to **accelerate and complete their market entry as well as to expand to worldwide markets** subsequently by promoting the technology as well as the market development. The Copernicus programme will additionally deliver to them the network they need to access the right spots regarding technology and market.

## SOLORROW

solorrow.com

The German start-up Solorrow develops a smart farming mobile app based on satellite data from the Copernicus programme. The app analyses satellite images of **agricultural fields** to create individual maps which show zones of **differing growth potential**. Using those maps for **applying fertilizer, pesticides and seeds**, farmers can save input material and costs while at the same time **optimize yield potential**. This supports a more sustainable agriculture – both for the farmer as well as for the environment.

Using Copernicus data is crucial for Solorrow, as the field potential maps, which are the heart of Solorrow, are solely based on the images from Copernicus satellites. Thus, **Solorrow is highly scalable** and not only available for fields in Germany but many more European countries as well as globally. To apply Solorrow field potential maps, **connection to agricultural machinery is fundamental**. With the support of the Copernicus Incubation program, Solorrow will **take this development to the next level and focus on improving the send-to-machine process** by partnering with machinery providers and multiplier platforms.

## SOBOLT

www.sobolt.com

Sobolt **helps cities to become more resilient against the adverse effects of climate change** and overpopulation. By developing data-driven solutions, Sobolt enables governments and large companies to make better, substantiated decisions. Through a **combination of satellite data and deep learning, the current state of sustainable development is assessed** and tools are offered for future planning.

Using **TROPOMI data** from the Copernicus program, Sobolt will **offer cities worldwide insights into air quality**. 'Upgrading' historical data from the OMI instrument, will result in a high resolution air quality dataset from 2004 until now, which enables trend analysis. Through the Copernicus Incubation Grant, the **adverse effects of hot weather conditions on urban air quality can be visualized** and the role of vegetation in pollution reduction can be assessed in great detail. With this information, cities can start to take real action to create a healthy, sustainable and resilient city.

## LOCKLESS

www.lockless.it

Lockless is a start-up of the Sapienza and Tor Vergata universities of Rome. Stemming from the extensive research activity of its founding team, Lockless **designs and develops high-performance data processing systems**, simulation platforms, parallel and concurrent data processing tools and operating system components, with ad-hoc solutions for customers and software for the general audience.

With the support of the Copernicus Incubation program, Lockless **will develop XClouder, a smart tool that automatizes and makes the processing of Copernicus data hosted in the cloud cost-efficient**. Every possible user can run its algorithms in the cloud and define in the XClouder datasets that have to be processed, relevant geographic areas, data time intervals, required data processing schedule and computation deadlines. XClouder automatically finds the most-cost efficient machine types for each user algorithm, creates an computing platform according the user processing schedule on-the-fly, runs the algorithms and comes back to user with results.

## DEEP BLUE GLOBE

[www.deepblueglobe.eu](http://www.deepblueglobe.eu)

Deep Blue Globe is a start-up based in Darmstadt (Germany) developing **artificial intelligence solutions for the maritime industry based on Earth observation data** and satellite navigation and communications services. Deep Blue Globe has developed POSEIDON, a solution that uses Sentinel satellite data and Copernicus services to **optimise the journey of ships saving them time, fuel and money** on any kind of route from regional to international journeys. The solution can be offered to all kinds of fleet operators shipping cargo, including tankers, consumer goods, plus fishing fleets, ferries, and cruise liners and also small maritime operators and sailors.

The participation in the Copernicus Incubation Programme allow them to speed up the development phase, support customer outreach and consolidate the business strategy to achieve their long term goal: **Establish maritime autonomous navigation powered by artificial intelligence considering real time maritime traffic and weather conditions**. For this purpose, DBG is supported by ESA BIC Darmstadt.

## GMATICS

[www.gmatics.eu](http://www.gmatics.eu)

GMATICS applies the newest **deep learning architectures** and remote sensing techniques to automatically process massive amounts of Earth Observation satellites data and generate **timely alerts and rich data visualization** for large infrastructure operators. The NetMoA (Network Monitoring and Alert) service is conceived to be fully integrated within customers' operational work-flow **to support their field workforce in managing planned maintenance and emergency situations**.

**Copernicus will be a key enabler of NetMoA** and of its up-scaling at world-wide level through high frequency free data, contributing mission data and "pay per use" DIAS services. The Copernicus Incubation Programme will **speed up GMATICS activities** for the integration and validation of the new service work-flow as well as for marketing the service in Italy and in Europe. GMATICS is an Italian start-up incubated at ESA BIC Lazio, hosted by LAZIO INNOVA.

## KERMAP

[www.kermap.com](http://www.kermap.com)

KERMAP provides **environmental insights to cities and support their ecological transition**. Based on earth observation data, KERMAP develops monitoring, modelling and forecasting products on key indexes such as **urban sprawl, biodiversity, urban climate and carbon storage**. KERMAP is a spin-off of an academic laboratory and mainly uses technology transfer on **machine learning and geography**. It benefits from incubation support of IMT Atlantique and IGN, the French Institute of Geographic and Forest Information. KERMAP started to

## DEEP PLANET

[www.deepplanet.ai](http://www.deepplanet.ai)

British start-up, Deep Planet's mission is to **boost global sustainability goals**. The company aims to **empower businesses with actionable insights** derived from satellites and machine learning. Deep Planet is led by an **experienced team** of research and business professionals – Natalia, Sushma and Dave who met at Oxford University. The company specializes in **computer vision for satellite imagery**. It has developed a **state-of-the-art AI system** that can detect and track changes by leveraging satellite data, complementary sensors, economic indicators and human intelligence. Some of Deep Planet's products include **vineyard monitoring, soil moisture monitoring, gas Leak monitoring**, etc.

Copernicus data will strengthen Deep Planet's product portfolio and improve customer cost benefits. With the Copernicus Incubation Programme, the company **will speed up its development progress** and ability to bring solutions to market. Deep Planet is supported by ESA BIC UK.

## GREENSENSE

[www.greenseNSE.at](http://www.greenseNSE.at)

GreenSense is an Austrian start-up specialized in **remote sensing for agriculture**. Their vision is to close the technological and cultural gap between farmers and readily available satellite products, sensor data and models. Using **advanced data visualization techniques** of satellite-derived information, they enable the farmer to interact with site-specific information in a cost-efficient and intuitive way. Such an application **will serve the 1.5 million European farms** who are not able to invest in more expensive equipment for precision farming. It will not cost more than a good smartphone.

Thanks to Copernicus data, they want to create an **innovative and intuitive vision experience** to improve access to information for the farmers in the field and for other professionals in the future. The Copernicus Incubation will give them the opportunity to **develop a prototype** and to attract investments to bring the uptake of Copernicus data to a new level.

collaborate with Copernicus since 2016: KERMAP was selected in the 2016 Copernicus Masters and followed the Accelerator Program in 2017.

The Copernicus Incubation program will **boost the industrialization** of several proofs of concepts relying on Copernicus products. Sentinel constellations and Copernicus Land and Atmosphere products **deliver global, homogeneous and continuous data** and are suitable to deploy its solutions on an international scale and structuring its commercial offer.

## TERRAMONITOR

[www.terramonitor.com](http://www.terramonitor.com)

Terramonitor is the world's most up-to-date and **comprehensive map of the globe**, which is created by Finnish start-up Satello. Terramonitor makes **space data maps reachable to anyone**. Smart space data means that it is easy to use and access by anyone via browsing web interface or integration to any GIS (Geographic Information System). Their technology is based on **artificial intelligence and machine learning processes**, which combines satellite data to multi-source data. The processes use Copernicus data (Sentinel-2) as the primary satellite data source.

Copernicus satellites provide frequent data updates with **high spatial and radiometric resolution**, which is suitable for **monitoring the forests**. With the help of the Copernicus Incubation Programme they are able to develop their services further for forestry and scale the service globally. ESA BIC Finland will incubate Terramonitor.

## TICINUM AEROSPACE

[www.ticinumaerospace.com](http://www.ticinumaerospace.com)

Ticinum Aerospace is a spin-off company of the University of Pavia, sprung from the experience earned along almost **two decades of scientific and technical activity** of the research group at the Remote Sensing Lab. Its team took part in several projects worldwide, always proposing high-level, high-quality products. Among those projects, **Saturnalia** commands a prominent position. The Saturnalia service **collects, aggregates, and analyses data related to vine and grape growth** and it uses this data to **forecast wine quality**. At its core lies a system for **automated retrieval and analysis of Copernicus satellite data**, plus data from a network of tailored, technologically advanced weather stations distributed over the areas of interest. The system can then leverage such data to **predict the characteristics of the upcoming vintage**, and the future wine obtained from it.

Ticinum Aerospace applied to Copernicus Incubator to take a **leap forward in expanding its network** of contacts, in increasing the momentum of the project, plus getting tailored tutoring to tune the business idea. Last but not least, Ticinum believes that operating under the hat of an initiative from the European Commission helps **enhancing its credibility with investors** and future customers.

## SUSTAINABILL

[sustainabill.io](http://sustainabill.io)

The German start-up sustainabill GmbH offers a **cloud platform helping manufacturing companies** and retailers to discover their **supply chain** all the way to the farm or mine and **analyse the sustainability** of products and suppliers. The sustainability assessment is based on self-information from suppliers enriched with other data sources. Self-information, however, is exhaustive to validate. Currently, mainly on-site audits by 3rd-parties are conducted to validate those data. This is expensive and susceptible for fraud.

Facing this, sustainabill develops an open interface to **integrate satellite data for remote data analysis**. Via the interface, Copernicus data and processed satellite data from other start-ups and organisations can be integrated directly into the sustainabill platform. Using those data, the sustainabill platform can **automatically validate supplier information** helping customers to assess supply risks and achieve their sustainability goals.

## VIRIDIAN RAVEN

[viridian-raven.com](http://viridian-raven.com)

Viridian Raven brings **space to forestry**. Using Sentinel-data and data from the forests, we aim to **predict outbreaks of bark beetles**, a destructive insect that lives inside trees. With this data, foresters in the field can take **prevention measures in an early stage**, to prevent large scale forest loss. This saves timber, and thus money, and helps **keep the vital ecosystem balanced**. In their online portal, customers can access the risk maps against these outbreaks. In these maps, they can see areas with either high or low risks for forest damage.

Copernicus-data, especially Sentinel-2, gives them a much **higher resolution** than other available data. The additional red-edge band enables them to observe changes in **vegetation health**. With the help of the Copernicus Incubation Programme they will **improve their algorithms**, decreasing inaccuracies around forest borders, provide accurate risk maps concerning storm damages, and completely atomize their application.

Visit [copernicus-incubation.eu](http://copernicus-incubation.eu)  
for more winners.

# Media

Download these documents and supporting materials to help you through the application process.

- **Programme information brochure**  
Read more about the application procedure, evaluation criteria and eligible costs to be funded with support from the Copernicus Incubation Programme.
- **Programme presentation material (long and short version)**  
This material may be useful when presenting the Copernicus Incubation Programme opportunity at seminars and other occasions.
- **NABC pitch methodology booklet**  
More on the NABC methodology for business pitches. Use this booklet as a guideline or inspiration when preparing your business pitch.

## WEBINARS/QUESTIONS

The Copernicus Incubation Programme holds open webinars to answer questions and explain the programme further. Please check the website for dates.

## NEWSLETTER

Visit the Copernicus Incubation website to subscribe to our newsletter.

# Contact

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## WHO IS VERHAERT?

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