ISSUE 17

# geoxperience

planetek italia

Planetek Italia Srl
Benefit Company

Looking at the Earth from space is a fascinating experience. Since 1994, we have been committed to transforming this experience into knowledge useful for improving the well-being of people and the protection of our planet.

**SIMPLIFYING THE COMPLEXITY OF SPACE**

# From Earth to Orbit: Planetek and D-Orbit Accelerate Europe's Strategic Autonomy.

*A globally shared vision delivering real-time earth intelligence and sustainable innovation*

Planetek and D-Orbit have joined forces to change the trajectory of Europe's space capability. What began as two distinct missions - one rooted in logistics and launch, the other in Earth Observation analytics - has become a unique ecosystem. SpaceStream is the outcome: a cloud-native, in-orbit processing architecture already operational aboard AI-eXpress satellites, deployed under ESA's InCubed programme.

These satellites represent more than technological excellence, introducing a new operational tempo. Artificial Intelligence runs directly in orbit, compressing the response time from hours to seconds. It's no longer about acquiring data but delivering decisions where and when needed.

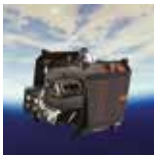
At the heart of this alliance is a vision of Europe's strategic autonomy. The new Open In-Orbit Lab developed in collaboration with ASI - creates a testing ground for researchers and innovators to upload and execute software in space. Embedded in the Italian National Space Programme, this initiative offers a fast track from concept to orbit, driving a more agile, sovereign innovation model.

This fusion of upstream and downstream moves us beyond the traditional space value chain. Instead of a linear flow, we activate a real-time network, resilient, distributed, and capable of supporting civil protection, defence, and commercial services at scale. This is not a roadmap: it's already happening.

We are steering IRIDE - Italy's new national EO constellation - towards operational maturity by 2026. This system will provide daily intelligence over the national territory, empowering users from public authorities to private developers. In parallel, Planetek Hellas leads the development of the Government Hub that will anchor Greece's upcoming constellation and ensure its seamless integration with Copernicus.

Our impact is global. Through missions such as EO4SD, EO-Africa, and GDA-Marine, we are already supporting institutions in Africa, the Caribbean, and Southeast Asia with tools for drought monitoring, coastal risk, and sustainable marine economy, combining data sovereignty with practical, timely insight.

Sustainability is not an accessory. Planetek and D-Orbit are Benefit Companies and early adopters of ESA's Zero Debris Charter and the ESA Statement for a Responsible Space Sector. In the field, we monitor the Saudi Green Initiative's ten-billion-tree programme, while mapping soil sealing and fragile coastlines across the Mediterranean. With Ulysses, we're expanding these services to the Atlantic and Red Sea, giving governments an evolving satellite view of environmental change.



This business combination isn't just a merger. It's a species leap - a structural answer to the challenge of speed, autonomy and responsibility in space. A European SpaceStream is now live: serving communities today and shaping the new frontier of tomorrow.

*Giovanni Sylos Labini*
*CEO of Planetek Italia*

# Summary


**08**
D-Orbit and Planetek Business Combination

**10**
Creating value with sustainability, and culture.

**12**
Planetek Academy: Skyrocket your career!

**14**
IRIDE: Enabling Geospatial Innovation for Italian P.A.

**16**
A Portfolio of Services Designed for Public Needs

**18**
Earth Observation for Sustainable Development

**20**
Marine Environment Monitoring: Safeguarding Our Oceans.

**22**
Rheticus®

**24**
Free and Open Satellite Data

**26**
Satellite Intelligence for Local Public Administration

**28**
Satellites and Climate: Protecting Land, Lives and Infrastructure.

**30**
From OPEX to CAPEX: How Satellite Intelligence Turns Maintenance into Strategic Investment.

**32**
Defence and Geospatial Intelligence

**34**
SpaceStream: The Future of Space Services Takes Shape.

**36**
Mastering Space Software: Planetek's Robust Portfolio.

**38**
Planetek: Simplifying the complexity of Space

planetek italia

Planetek Italia s.r.l. Benefit Company - Via Massaua, 12 - I-70132 Bari, Italy. Ref: PKM002-587-v16 - Free copy.
This document is under Creative Commons licence, available on
http://creativecommons.org/licenses/by-nd/4.0
Trademarks and logos are the registered trademarks of respective owners organizations.

Credits:
p.01 D-Orbit, yassay-pixabay; p.03, D-Orbit, Medspiration; p.04, p.33 D-Orbit; p.05, p.20, p.24, p.33, p.37 Copernicus Sentinel / ESA; p.07 OpenAI; p.08, p.21, p.26, p.31 unsplash; p.12 Envato Elements Pty Ltd; p.14 e 15 IRIDE ESA/ASI; p.16 krisztian-tabori free use; p.18 NASA JSC; p.19 EO-Africa; p.23 Envato Elements Pty Ltd; p.28 Orazio_Esposito; p.30 pixabay; p.32 Hexagon; p.36 Getty Images/iStockphoto; p.40 ESA (right top and bottom), Envato Elements Pty Ltd (bottom left); p.42 NASA/GSFC.

Concept and layout Effediemme | Brand builders

# Authors

PAG. 10

**Mariella Pappalepore**

Chief Financial Officer

Degree in Geology at the University of Bari. Masters in Geographical Information Systems (G.I.S.) and Remote Sensing. Since 2015, Vice President of Confindustria Bari and Bat. She is Chief Financial Officer and founder of Planetek Italia.

PAG. 12

**Michela Sanfilippo**

Human Resources Manager

Law Degree at the University of Bari. She specializes in Human Resource Management. Since 2013, she plays the role of HR Manager at Planetek Italia, taking care of all aspects related to the people management.

PAGG. 14-16

**Edouard Royer**

Government & Security SBU Strategic Development Manager Iride

Senior aerospace engineer with vast experience in the downstream segment and launchers, both in industry and national agencies. In Planetek he is Program Manager for IRIDE, dealing with the service segment and studies for the long-term sustainability of the constellation.

PAG. 18

**Gamal Abouzied**

Strategic Development Specialist - EMEA

Degree in Civil Engineering at Cairo University, MSc Land and Water Resources Managment, and PhD Earthquake and Environmental Hazards. As a Business Development Specialist he focuses on expanding Planetek presence in the EO and geospatial sectors.

PAG. 20

**Antonello Aiello**

Technical Manager Geoservices

Degree in Land Protection Engineering. PhD in Earth Sciences. Experience in EO and GIS at the CNR and at the JRC of the European Commission. He deals with the management of international projects.

PAG. 24

**Daniela Valentino**

Government & Security SBU Product Specialist

Degree in Computer Science and Digital Communication, specialized in GIS. In Planetek since 2005, she is a product specialist for geospatial data. She is point of contact in Planetek for the international satellite data providers.

PAG. 26

**Giuseppe Forenza**

Business Development Manager Rheticus®

Master's Degree in Communication Sciences at the University of Bari. MBA Executive Master in Business Administration. Since 2017, he deals with Business Development Management of Rheticus® portfolio on the Italian and International markets.

PAG. 28

**Andrea Navarra**

Business to Business SBU Business Development Manager

Degree in Political Science, specialized in E-Business Management. In Planetek Italia since 2003, he is in charge of commercial consultancy for EO solutions dedicated to private organizations of Infrastructures Engineering, Energy and Oil & Gas industries.

PAG. 30

### Francesco Lacriola

Business to Business SBU
Sr. International Business Development Specialist

Degree in Business Economics, he is has matured vast experience in international BtoB development spanning various geographic markets including Europe, Africa, Asia and Oceania.
In Planetek since 2020, he is responsible for the development of the BtoB market at a global level with a focus on the Utilities sector.

PAG. 32

### Giuseppe Maldera

Government & Security SBU
Pre-Sales Technical Manager

Master's Degree in Environmental Engineering at the Politecnico di Bari. Environmental engineer with a strong specialization in GIS, Photogrammetry and Remote Sensing. Since 2015, he manages the pre-sales and post-sales technical activities regarding Hexagon software.

PAG. 34

### Leonardo Amoruso

SpaceStream SBU
Associate Head

Degree in Electronic Engineering, he is specialized in the field of satellite Earth Observation data processing (SAR & optical).
Since 2009 he works in Planetek Italia involved in the design and development of systems and softwares for the Space Systems domain.

PAG. 36

### Daniela Drimaco

SpaceStream SBU
Business Development Manager

Degree in Telecommunication Engineering, she is specialized in the field of satellite Earth Observation data processing.
Since 2007, she works in Planetek Italia involved in the design and development of systems and softwares for the Space Systems domain.

### Chat GPT

Co-Editor

I helped Planetek to make this magazine :-]

(Thanks OpenAI!!!)

# D-Orbit and Planetek Business Combination

## Interview with the three CEOs:

**Luca Rossettini**
CEO D-Orbit

**Giovanni Sylos Labini**
CEO Planetek Italia

**Stelio Bollanos**
CEO Planetek Hellas

**Why did D-Orbit decide to pursue this business combination with Planetek?**
**Luca:** I met Giovanni a few years ago, and we had the opportunity to collaborate with Planetek on joint projects. From the very beginning, I realized that we share the same core values: business ethics, sustainability, and people's well-being. This "chemistry" is essential for working together and achieving great goals.

**Why did Planetek choose to join forces with D-Orbit?**
**Giovanni:** Because we simply got along well. People come first. To work together, we need to share the same values on which to build relationships among those who collaborate. Both Planetek Italia and D-Orbit are Benefit Corporations with a mission to create common good, formally embedded in their statutes. Through our work, we aim to generate value not only for our companies but also for society, with full respect for people and the environment. These values are deeply ingrained in the DNA of both organizations, making them a fundamental pillar of this business combination.

**What industrial synergies can this combination between D-Orbit and Planetek create?**
**Luca:** This new entity brings together more than 500 employees across the three companies, with the ambition to redefine the way we think about space. We want to move beyond the traditional division between upstream (space assets) and downstream (ground operations). Our goal is to extend the concept of the cloud to space, creating a synergy between space assets to make the space value chain more efficient and sustainable. Together, we can challenge this model by introducing the concept of Spacestream, where actions are performed in the right place at the right time. We are already testing this approach with the AIX project, funded by the European Space Agency. In January 2025, together with Planetek, we launched the first satellite in the AIX series, and two more satellites are planned within the year to demonstrate the effectiveness of our model.

**Giovanni:** As Luca mentioned, our goal is to establish a new way of thinking about space, based on collaboration among all space industry players. Cooperation is essential to overcoming current

limitations and fostering the development of innovative space products and services tailored to users' needs. By adopting the Spacestream model, we can drastically reduce latency - the time between an event occurring and our ability to detect, classify, and deliver actionable information to users. We envision space as an integral part of the Internet of Everything, where real-time space surveillance generates knowledge within minutes. To support the cooperative model behind Spacestream, we have launched the In-Orbit Space Lab in collaboration with the Italian Space Agency. Built on the AIX framework, this project aims to define the optimal approach for developing onboard data-processing algorithms. We are creating a facility that will be available to the scientific and industrial communities, allowing them to test these algorithms directly in orbit.

**D-Orbit focuses on space logistics. How does this align with Planetek's 30-year expertise in EO solutions?**
**Luca:** D-Orbit remains a space logistics company, specializing in Space-to-Space services. However, with Planetek, we are exploring a new approach to delivering space services that support the Spacestream model. The creation of a space cloud with autonomous processing capabilities, capable of integrating with other space assets - such as telecommunications satellite constellations - is a key component of this model. This will enable the development of value-added services that optimize and enhance the use of space.

**Planetek specializes in managing the entire EO value chain. How does this align with D-Orbit's expertise in space logistics?**
**Giovanni:** With D-Orbit, we have the unique opportunity to imagine and immediately test innovative solutions that enable the Spacestream model. AIX is a prime example. There are no other players in the international market capable of designing solutions and testing them directly in orbit. By leveraging D-Orbit's ION satellites, which are continuously deployed in orbit, we gain access to a space laboratory where we can validate our technologies. The AIX project allows us to test our developments across three satellites in just one year - an extraordinary opportunity that significantly accelerates the qualification process of our solutions, making them available to the broader space industry.

**Beyond EO, what innovative products or services could benefit from the D-Orbit/ Planetek synergy?**
**Luca:** Our space logistics services can leverage the Spacestream model, which enables autonomous decision-making where it's needed most. In deep space exploration, the communication delay between Earth and satellites or rovers is significant. In these cases, onboard autonomous analysis is essential for making quick, informed decisions. Our logistics services, enhanced by the Spacestream model, can support space exploration missions by providing advanced decision-making capabilities.

**What innovative products or services could benefit from this combination?**
**Giovanni:** The ability to integrate all space assets into a seamless network presents a unique opportunity for the entire geospatial community. We are working to connect Earth Observation satellite constellations with constellations that provide communication and navigation services - essentially building a Cloud in Space. This will allow users to access immediate, actionable insights derived from satellite data, overcoming the latency limitations of traditional EO constellations. This technological shift could significantly expand the Earth Observation market, much like how GNSS positioning and satellite communications have experienced exponential growth in the past.

**Planetek Hellas is Greece's leading EO company. How can the synergy with D-Orbit strengthen your operations?**
**Stelio:** Planetek Hellas plays a leading role in Greece's space sector, covering the entire Earth Observation value chain, from upstream to downstream. Partnering with D-Orbit allows us to solidify our position as a provider of innovative solutions, particularly in critical applications such as border surveillance, where Greece plays a strategic role at the continental level.

**What are the next steps?**
**Luca:** All three companies are successful businesses that will continue to operate with the same teams and leadership. In reality, this business combination has been in progress for years, thanks to the joint projects we've developed and continue to work on. Now, we have the opportunity to envision and implement new technological and business synergies that will unfold over the coming years. We are fully aware that the space industry is on the brink of significant transformation, and we are ready to drive this change forward.

## About D-Orbit

D-Orbit is a market leader in the space logistics and transportation services industry with a track record of space-proven services, technologies, and successful missions. Founded in 2011, D-Orbit is the first company addressing the logistics needs of the space market. D-Orbit's roadmap includes becoming a relevant player in the in-orbit servicing market, which is forecasted to become one of the largest, growing markets within the space sector.
With offices in Italy, Portugal, Greece, the UK, and USA, D-Orbit is the world's first certified B-Corp space company and a registered benefit corporation.
In April 2025, D-Orbit and Planetek group announced a strategic business combination to integrate new capabilities in cloud-based space applications, AI-powered data processing in orbit, and near real-time data services.


# Creating value with sustainability, and culture.

Our actions, when we act as individuals and as a company, have an impact on society and the environment. This impact can be changed based on the choices we make. For this reason, since the establishment of Planetek Italia, we have nurtured the ambition to be part of the solution, rather than being part of the problem.
In these years of activity we have matured the awareness that economic growth, as we have known it so far, has led to an unsustainable environmental pressure in the long term and produced unsatisfactory results in terms of equality and social inclusion.
We are persuaded that companies can contribute significantly to the achievement of challenging objectives to combine development and sustainability. For this reason in 2021 we have evolved into a Benefit Company, and we started monitoring our sustainability performances. A long path officially started in 2008 with the adoption of an environmental management system compliant with the UNI EN standard ISO 14001:2004 and EC regulation 761/2001 (EMAS).
In the same period, we adapted our procedures to the SA8000 standard for social responsibility.
Within Confindustria, we have promoted a cultural debate on the issues of economic and social development that is respectful of man and the environment through the Club della Cultura, and since 2006 we have been members of Costellazione Apulia, a consortium of Apulian companies that discuss new sustainable development models. In keeping with our choices, in 2021 we became a Benefit Company by including among our common benefit objectives the development of actions aimed at the wellbeing of people, the reduction of our impact on the environment and the development of the territory and the community in which we operate.
The role of private companies in sustainable development has been sealed by the United Nations with the Global Agenda for Sustainable Development (Agenda 2030), the implementation of which sees a strong involvement of all parts of society, from business to the public sector, from civil society to philanthropic institutions, from universities and research centres to information and cultural workers.
The 2030 Agenda, with its 17 Sustainable Development Goals (SDGs), provides a framework for companies that want to contribute to sustainable development.
Our daily actions are constantly directed towards contributing to achieving the SDGs of the 2030 Agenda in the knowledge that "what we do is just a drop in the ocean, but if we did not do it, the ocean would have one less drop" (Mother Teresa of Calcutta).

> **There is no business to be done on a dead planet.**
>
> **(Y. Chouinard. Founder of Patagonia)**

| SDG | ACTION | WHAT WE DO IN PLANETEK ITALIA |
|---|---|---|
|  | **Good health and well-being**<br>Ensuring health and well-being for all and all ages | We have a nice, comfortable, bright office with little noise just a few steps from the sea, and walks along the seafront are part of a daily ritual during the working day. Those who wish can play sports at a sports centre that has an agreement with us, also thanks to flexible working hours. Table soccer matches punctuate the working day. Five-a-side football and volleyball are evening social moments open to everyone. We have appointed a CPO, Chief Party Officer, who, with everyone's input, organises fun and recreational activities every month. Tickets and season tickets are made available for employees to attend theatre performances free of charge. |
|  | **Quality education**<br>Ensuring quality, equitable and inclusive education and promoting lifelong learning opportunities for all | Preventing people's 'obsolescence' is a primary goal for us and therefore we promote further education courses and participation in conferences. We stimulate participation in degree courses, PhD and Master's degrees. We periodically organise corporate seminars (Design Lab Meeting, Aperitek), that are also open to outsiders, on topics proposed by the employees on technological, social and environmental issues. We host internships and apprenticeships through agreements with local universities and participate in school-work integration projects. We support industrial academic doctorates. |
|  | **Gender equality**<br>Achieving gender equality and empowerment (greater strength, self-esteem and awareness) of all women and girls | We guarantee equal opportunities for people working in the company and do not allow any form of discrimination on the basis of race, social class or national origin, religion, disability, gender, sexual orientation, family responsibilities, marital status, trade union membership, political opinions, age or any other condition that could give rise to discrimination. Since 2009, our social responsibility system has been certified according to the international standard SA (Social Accountability) 8000. In the Board of Directors, 25% are women; in the company as a whole, women are 30% above the industry average. Since 2024, we are certified UNI PDR 125/2022 Gender Equality with a score of 81/100. |
|  | **Affordable and clean energy**<br>Ensuring access to affordable, reliable, sustainable and modern energy systems for all | We have chosen an electricity supplier that guarantees, through the Guarantee of Origin issued by the GSE, to purchase only green energy, produced exclusively from renewable sources, without the use of fossil fuels and without greenhouse gas emissions into the atmosphere. We work constantly to reduce energy consumption for the running of the headquarters, for our travels and for the operation of the computers and servers we use for our activities. |
|  | **Decent work and economic growth**<br>Promoting lasting, inclusive and sustainable economic growth, full and productive employment and decent work for all | Since 2016, Planetek Italia has been listed among the 100 best Italian companies according to the Welfare Index PMI report, which certifies companies that have a welfare system that is well above the industry average. Since 2022, at the Welfare Index PMI Planetek ranked third nationwide out of more than 6,500 companies evaluated. At Industia Felix 2023, we have been awarded as the best innovative SME for management performance and financial reliability inspired by ESG principles, we have also been awarded as one Italy's most competitive and reliable companies and prized with the High Honour for Financial Statement, and rated among the Global Top 100 Geospatial Companies. |
|  | **Industry, innovation, infrastructures**<br>Building a resilient infrastructure and promoting innovation and fair, responsible and sustainable industrialisation | We invest more than 5% of our turnover in research activities. We cooperate with local, national and international research institutes and universities for training placements, dissertations, PhDs and scholarships. We share our know-how and expertise through our learning platform (https://eolearning.planetek.it) and the organisation of free educational internships, conferences, workshops and seminars. |
|  | **Sustainable cities and communities**<br>Making cities and human settlements inclusive, safe, durable and sustainable | We promote sustainable mobility through the use of public transport and cycling. For staff business trips, the use of public transport is strongly encouraged. We promote the cultural growth of the region by supporting the activities of Teatri di Bari both economically and managerially. |
|  | **Responsible consumption and production**<br>Ensuring sustainable patterns of production and consumption | The company's computers are all energy-efficient and we use cloud-based servers that guarantee a high level of energy efficiency. We have made investments to improve the energy efficiency of our workplaces by progressively adopting LED lighting, improving the thermal insulation of the offices and the air conditioning of the rooms and the server room. We carry out separate collection of glass, plastic, paper and organic waste. We are committed to reducing the use of plastic by exclusively adopting compostable products. |
|  | **Climate action**<br>Take urgent measures to tackle climate change and its consequences | Thanks to the investment plan made in 2013 for energy efficiency in the workplace, our energy consumption has been progressively reduced. In 2023, only renewable sources were used for the production of the energy used, with an estimated saving of over 68 tonnes of CO2 emissions into the atmosphere (source: Enegan). |


# Planetek Academy: Skyrocket your career!

Every decision we make every day has an impact on the environment around us and on the quality of life of citizens. To reduce this impact, you need to make quick and informed decisions. Geospatial information is crucial for significantly improving the quality of our decisions and therefore can significantly contribute to making our choices more sustainable.
For this reason, since the birth of Planetek Italia, we have always been committed to spreading geospatial knowledge with particular emphasis on the contribution of space.
In 2021, when we became a Benefit Company, we formalized our commitment by including the promotion of the geomatic culture in our statute, among the objectives of the company.
Our awareness raising action is aimed at everyone: managers of public and private companies,

**Empowering the next generation of researchers, scientists, and entrepreneurs**

professionals, students, academics and researchers. In 2022 we launched the Planetek Academy by making all our initiatives converge in a single ecosystem. The initiatives of the Planetek Academy range from the organization of events such as Webinars and workshops to inform and train on the technological and applicative evolutions of geoinformation. As a natural evolution of our free online course on remote sensing, which in 20 years since its publication has been followed by over 20,000 people all over the world, we have released on December 16, 2021 during the first National Space Day in Italy, the EO-Learning platform which provides free online courses on Earth Observation and Aerospace in English and Italian, which in the first 4 months attracted over 2,000 subscribers.
Through the creation of Hackathons and Challenges, we aim to encourage young students to learn about geoinformation.
We also support students, undergraduates, graduate students and researchers by providing access to our facilities and the tutoring of our technicians.
Similarly, we are supporting the creation of startups also through the joint development of solutions.
In confirmation of our commitment in 2022 we have acquired the status of members of the Copernicus Academy network.

# Academy & Hackathon

Planetek is part of the Copernicus Academy network. The goal of the network is to link research & academic institutions with authorities & service providers, facilitate collaborative research, develop training sessions, traineeships as well as educational and training material to empower the next generation of researchers, scientists, and entrepreneurs with suitable skill sets to use Copernicus data and information services to their full potential. Planetek partners, customers and stakeholders will be able to access and benefit from initiatives such as hackathons, workshops and webinars where qualified teachers, experience and technical-scientific skills will be made available.
The Copernicus Hackathons are events promoted by Planetek with the aim of involving students, young researchers and stakeholders interested in developing new ideas of application services and the possible creation of start-ups. Planetek organizes the Italian Hackathon in Bari since 2019.

**Hackathon Bari**
**https://www.copernicus-italia.it/**

# Improving EO skills

Planetek is a member of the EO-4GEO project, funded by the EU Erasmus+ program, where a team of 26 partners from 13 European countries cooperate to define the best strategies to cover the skills gap between industry requirements and the offer by young graduates in the field of remote sensing data analysis and processing. Planetek collaborates with local, national and international research institutions and universities for the realization of training internships, degree theses, research doctorates and scholarships. We share our know-how and expertise through our learning platform and by organizing conferences, workshops, seminars with free participation.

**Resources: http://www.eo4geo.eu**


# Copernicus, the European Earth monitoring program

Copernicus is the European Union's Earth observation programme. Copernicus aims at providing information to EU Member States on the status of the environment, by integrating different data sources such as Earth Observation and in situ data.
Six are the main themes covered by the programme: land, water, atmosphere, climate change, emergency and security. For each theme, many applications have been analyzed, including territorial planning, agriculture, forestry, health, transport, protected areas, civil protection, and marine and coastal zones. Copernicus users are public authorities and planners, but also private citizens, businesses and industries. The EU Commission coordinates the program. The European Space Agency is responsible for the infrastructure for the space component and the European Environmental Agency, with the cooperation of the EU Member States, is responsible of the in situ component.
Planetek operates mainly in the development and integration of EO data processing chains, designed for the supply and distribution of user solutions derived from optical and radar satellite data. Planetek has also a great expertise in developing large-scale Spatial Data Infrastructures for managing multi-source data and user segment elements.

**Resources: www.copernicus.eu**

# Free online courses

EO-Learning is an e-learning platform launched by Planetek with free training courses and resources on Earth Observation and remote sensing. A new opportunity for students, and professionals in private and public entities (engineers, geologist, planners, etc.) to learn and stay up to date on technologies, methodologies and applications of satellite Earth Observation.

**EO-LEARNING FREE ONLINE COURSES**
**https://eolearning.planetek.it**


# IRIDE: Enabling Geospatial Innovation for Italian P.A.

Italy's IRIDE constellation is poised to become one of the most ambitious Earth observation initiatives ever launched in Europe. IRIDE aims to deliver a wide array of geoinformation services tailored to the evolving needs of central and local public administrations (PAs). The program represents a strategic investment in technological sovereignty and data-driven public governance. The IRIDE programme, funded by Italy's National Recovery and Resilience Plan (PNRR) and managed by ESA and ASI, is an and-to-end Earth observation system designed to deliver operational services to both central and local public administrations (PA). It combines a constellation of satellites with a suite of downstream processing and service delivery capabilities. Its objective is to provide geoinformation products to improve decision-making in key domains such as water resources, air quality, environmental monitoring, urban planning, emergency response, and climate adaptation.

Planetek Italia plays a central role in this programme, leading two of the four main contracts to develop and deliver IRIDE services. As a prime contractor in Service Lots 1 and 3, and EOS4LPA, Planetek coordinates efforts to create tailored solutions that respond directly to the needs of institutional users. Its operational platform, Rheticus®, is at the core of the cross-monitoring and land cover services, transforming Earth observation data into actionable insights. Planetek also contributes to other areas of the programme,

Funded by the European Union
NextGenerationEU
Italiadomani
PIANO NAZIONALE DI RIPRESA E RESILIENZA
esa

from managing ground motion and emergency services to supporting data quality and calibration of the system.
For public administrations, these services are critical enablers of modern governance. From mapping landslide risks and monitoring air quality to tracking coastal changes and managing water resources, IRIDE's services deliver reliable, updated data layers that inform policies and planning across Italy. Planetek's commitment to user-centered design ensures that these solutions are not only technologically advanced but also seamlessly integrated into public workflows. This was ensured also thanks to a close continuous involvement of end-users in the design and development of services. This alignment of cutting-edge geoinformation with institutional processes marks a major step forward in Italy's digital and green transitions, underscoring the growing role of Earth observation in shaping resilient, efficient public services.

## NOX: D-Orbit SAR satellite for IRIDE.

NOX is a SAR (synthetic aperture radar) satellite developed by D-Orbit part of the forthcoming Italian IRIDE constellation.
Based on ION's capabilities, NOX will host SAR sensor implemented by MetaSensing and will deliver imaging performance with sub-meter ground resolution, using a 3.2 m deployable RF-TX antenna. D-Orbit will provide one SAR satellite, and will manage its flight operations segment on behalf of the end user.
NOX is part of the IRIDE program - a €26-million satellite contract including ground operations infrastructure and the potential for an additional SAR satellite, worth €24 million.
The IRIDE program will consist of a satellite constellation, ground operational infrastructure, and services for the Italian public administration. The satellite constellation, which will be launched between 2025 and 2026, will use various detection techniques and technologies, including microwave and optical imaging in different frequencies, and will provide data for applications in commercial startups, SMEs, and industry.


## Planetek Hellas Boosts Greece's National EO Programme

The Greece's National Satellite Space Project, developed in collaboration with ESA, marks a strategic investment in the country's Earth observation (EO) capabilities.
Centred around the creation of a governmental hub and a constellation of EO and secure connectivity satellites, the programme will enhance Greece's autonomy in environmental monitoring, security, and crisis management.
Planetek Hellas plays a key role in this ambitious initiative, leveraging its extensive experience in ESA programmes to support the development of advanced ground segment and service infrastructure.
With contracts exceeding €11.5 million, the company leads the definition and implementation of mission planning, data processing and archiving systems, as well as user services.
This programme represents a unique opportunity for Greece to strengthen its national space ecosystem, building local capacity and accelerating innovation.
Planetek Hellas stands at the forefront of this effort, contributing its EO expertise to ensure the programme's success and long-term impact.

# A Portfolio of Services Designed for Public Needs

The IRIDE programme provides a comprehensive suite of geoinformation services tailored to the operational requirements of central and local public administrations. These services cover a wide range of policy areas and are designed to support planning, monitoring, and decision-making through high-quality, ready-to-use information products.
The service requirements were defined through the work carried out within the 'Mirror Copernicus' initiative and the 'Copernicus National User Forum', which involved extensive consultation with a broad range of national institutional users.
As prime contractor, Planetek Italia lead the design and coordination of the services of LOT 1 & 3 (S1, S2, S4, S5, S6), and EOS4LPA (LOT 3), and collaborating in the LOT 2 & 4 (S3, S7, S8) managed by e-Geos.

## IRIDE services for PA

**Coastal and Marine Monitoring (S1)**
Mapping and environmental monitoring of the marine-coastal zone, as well as to the modelling and forecasting of environmental parameters. Supporting the development of the blue economy and the protection of the environmental and cultural heritage of Italy's coastal areas.

Supporting
- National-scale forecasting and monitoring of the marine-coastal zone
- Forecasting and monitoring of specific areas such as ports, aquaculture sites, and offshore platforms
- Mapping and monitoring of environmental parameters in coastal areas

**Air Quality (S2)**
A web service providing 3D maps generated from forecasting models developed by institutional bodies. The platform enables access to all data from federated models and the satellite information needed to support air quality monitoring and modelling activities.
Supporting:
- Air quality monitoring and forecasting
- Monitoring and assessment of pollutant emissions
- National-scale air quality reanalysis

**Ground Motion (S3)**
Mapping and monitoring ground and infrastructure movements caused by natural dynamics or events such as earthquakes, volcanic eruptions, landslides, subsidence, and other natural or human-induced phenomena.

Supporting:
- National-scale ground motion mapping
- Landslide, seismic volcanic area monitoring
- Monitoring of cultural heritage sites and critical infrastructure

In addition, the IRIDE Service Segment produces a high-resolution, national-scale Digital Surface Model (DSM) and Digital Terrain Model (DTM).

**Land Cover and Land Use (S4)**
Provides regular maps and updates on land cover and use changes, supporting urban planning, agricultural policies,

and climate monitoring. The Soil Sealing Monitoring tracks the expansion of artificial surfaces and urban sprawl, contributing to soil protection strategies and sustainable urban development. Urban Heat Island.

**Environmental Monitoring**
Providing processing chains and support products to define the status and changes in land cover, land use, and land consumption at various scales (national, regional, local, parcel level).

Supporting:
- Mapping and monitoring of land cover and land use
- Mapping and monitoring of land consumption
- Mapping of natural habitats
- Monitoring of urban heat islands
- Characterisation of urban green areas
- Forest management

**Forest Management**
Support to National Forest Inventory production and update, to understanding forest capital both quantitatively and qualitatively, information on the health status of Italy's forests and associated carbon stock levels.

Supporting:
- National forest mapping
- Post-event mapping of burned forest areas
- Assessment of wildfire damage
- Evaluation of forest health
- Estimation of carbon stock indices

**Agriculture**
Delivering processing chains and information to monitor the environmental and natural resource impacts of agricultural activities. This includes assessing erosion risk, water requirements, and land use mapping. Support to the management system of the Common Agricultural Policy (CAP).

Supporting:
- Monitoring of soil organic carbon (SOC)
- Mapping of erosion risk
- Mapping of nitrogen-fixing crops (CPA)
- Mapping of irrigation needs and agricultural water consumption
- Identification of indices to assess crop health
- Common Agricultural Policy (CAP)

**Hydro-Meteo-Clima (S5)**
Satellite-derived processing chains and information to support national and regional activities in hydrometeorological monitoring and weather forecasting — from nowcasting to seasonal outlooks. These products will offer valuable data for forecast verification and for supporting the delivery of climate services.

Supporting:
- Mapping and hydrometeorological monitoring of atmospheric structure
- Monitoring of greenhouse gases (GHG) and other Essential Climate Variables (ECVs)
- Classification of herbaceous agricultural crop groups
- Lightning monitoring

**Water Resource Management (S6)**
Integrating satellite and in situ data to offer processing chains and information contributing to the mapping of the distribution and frequency of macro-geomorphological units (water, sediments, and vegetation), the granulometry of river sediments (grain size classes), the spatio-temporal evolution of river corridors, post-event flood zones, soil moisture, snow cover, drought indicators, and potential sources of pollution in river areas.

Supporting:
- Hydrological and hydraulic modelling, flood forecasting, and sediment management
- Hydro-morphological mapping of rivers and channel dynamics
- Integrated water resource management

**Emergency Management (S7)**
Processing chains and rapid mapping products that, upon request from competent authorities during emergency phases (such as floods, fires, earthquakes, volcanic eruptions, and other crises), support the identification of affected areas and initial damage assessment in cases of Natural and Man-made environmental disasters.

**Security (S8)**
Processing chains and geospatial products designed to assist with the surveillance of national territory and terrestrial and maritime borders of the European Union, as well as the monitoring of critical structures and infrastructure. Satellite-based geospatial information is also provided to support efforts in countering illegal activities, both on land (e.g. illegal waste dumping) and at sea (e.g. oil spills).

## EO Services for Local PA

"Cross-Monitoring of Ground Motion and Hot Spots of Land Cover Change" is built on top of existing automatic robust sub-services integrated together in Planetek's operational Rheticus® platform to produce and provide the requested output: a thematic grid of ground motion, burnt area map and fire severity map, land cover change map.
Through these services, IRIDE will significantly enhance the PA's capacity to act with greater awareness and strategic foresight. Planetek's leadership in several service domains ensures continuity with Europe's Copernicus ecosystem while introducing innovation in processing pipelines, AI integration, and user-centric service delivery.

# Earth Observation for Sustainable Development

Earth observation (EO) plays a vital role in supporting sustainable development by providing accurate, timely, and cost-effective data to inform decisions on natural resource management, urban planning, agriculture, and disaster resilience. Through satellite imagery and geospatial analytics, EO enables governments and organizations to monitor land use, deforestation, water availability, and crop health, even in remote or conflict-affected areas where ground-based data collection is challenging. This information supports more effective planning and policy-making, helping to protect ecosystems, enhance food security, and manage climate-related risks.

Moreover, EO empowers local communities and institutions by building digital infrastructure and data literacy, often in partnership with international agencies and NGOs. By integrating EO data into local decision-making—such as identifying areas vulnerable to floods, mapping informal settlements, or tracking the impacts of mining—developing countries can pursue more inclusive and resilient growth. EO thus becomes not just a tool for observation, but a foundation for action aligned with the UN Sustainable Development Goals (SDGs).

Planetek Italia is involved in several projects providing satellite-based environmental information and capacity building to support ESA and IFI (e.g. Asian Development Bank) initiatives in monitoring land, water and food resources in developing countries.

Planetek activities in African regions include natural disaster risk reduction, water resource management, biodiversity conservation, food agriculture and aquaculture, and land monitoring.

**Natural Disaster Risk Reduction:**
In Gambia, historical ground motion is assessed using Rheticus®

Displacement service to support local authorities in masterplan development and monitoring. Project: ESA EO4SD-DRR.

**Water Resource Management:**
In Egypt, EO AFRICA WRM activity aims to estimate crop water stress and evapotranspiration using EO data, with outcomes including precision irrigation planning and better regional water management policies. Project: EO AFRICA

In East African Rift Valley (Ethiopia, Kenya, Tanzania), a sustainable water management system is developed to address fluoride contamination in water, soils and food to help improve living standards (environmental, health and food security) of its population. Project: Flowered H2020.

**Sea and Coastal Water Management:**
In Tanzania, EO-processing chains are tailored for national SDG monitoring, focusing on coastal eutrophication. Innovative EO-based methods are deployed on a dedicated EO platform, which funnels the information into the national systems and processes that measure the SDGs. In particular, this activity addresses the SDG 14.1.1a Monitoring Index of Coastal Eutrophication. The project has a strong user-centric approach, with early adopters and experts involved in all project activities: National Bureau of Statistics, Tanzania; Regional Environmental Centre (REC) Albania (directly connected with the national statistical office). Project: Eu-Mon

**Coastal Eutrophication Monitoring:**
In Tunisia, evaluation of blue carbon from coastal ecosystems includes seagrass and phytoplankton mapping. These data and trends helps policy makers and decision making having a constantly updated information on ecosystems and in evaluating changes and high-risk areas. Project: GDA AID Marine Env. & Blue Economy

**Biodiversity Conservation:**
In Guinea Bissau, mangrove detection and delineation support WB team studying the impact of economic activites on coastal ecosystems. EO products in Guinea-Bissau drive economic development and marine biodiversity preservation. They are systematically integrated into the "West Africa Coastal Areas Resilience Investment Project" and enhance coastal resilience efforts. Project: GDA AID Marine Env. & Blue Economy

**Aquaculture Development and Market Connectivity:**
In Kenya, EO technologies assess potential aquaculture sites and support decision-making for farm locations. A Geospatial web platform allows the consultation of geospatial dataset and socio-economic data supporting decision-making. Project: Worldfish.

**Food:**
Wastewater reuse in agriculture. In Tunisia, wastewater reuse strategies in agriculture are planned, optimizing irrigation needs and energy consumption.

**Land Monitoring:**
Soil sealing products for Mediterranean coastline support policymakers and researchers in coastal zone management and climate change resilience. Project: Ulysses.

**Forest Carbon Emission:**
In Mozambique, preventing deforestation and preserving forests generate carbon stocks for nature-based offsetting projects, complying with REDD+ program requirements. Reliability ranking of the Carbon Credits productivity estimations deriving from REDD+ Projects. Estimation indexes are generated through standardized procedures based on satellite images' multi temporal analysis. Site Report: based on standard procedures, standardized indexes in space and time, short production timescales, available on sites located anywhere in the world, low costs.

**Further Activities of Interest:**
Activities include coffee sector development in Timor-Leste, ecosystem-based management in Philippines, informal trade estimation in Central Asia, responsible banana supply chains in Philippines, and afforestation monitoring in Saudi Arabia.

**Capacity Building:**
In-situ and online training through EO-Learning platform dedicated to remote sensing and Earth Observation. Project: ESA EO4SD-DRR.

## EO-Africa

"EO Africa Water Resource Management" is an ESA-funded initiative within the EO Africa Explorers framework. The main goal is to demonstrate an open-source innovative satellite-based solution to support efficient water use management in agriculture.
The EO Africa Water Resource Management project uses multispectral and hyperspectral data to estimate crop evapotranspiration time-series, easily accessible to users through a web platform.
By combining cutting-edge satellite technologies and machine learning, it represents a pre-operational tool that enables farmers and planners to optimize water use, fostering sustainable agriculture and resource conservation.

# Marine Environment Monitoring: Safeguarding Our Oceans.

The marine environment is vital for life on Earth, covering over 70% of the planet and producing at least 50% of the world's oxygen through phytoplankton. Oceans also absorb around 25% of human-generated $CO_2$, helping to mitigate climate change, while regulating weather and temperature via ocean currents. Coastal ecosystems like mangroves and coral reefs provide protection from storms and are key to food security and livelihoods. The "blue economy" - the sustainable use of ocean resources - is valued at $ 2.5 trillion annually and supports sectors such as fisheries, marine biotechnology, tourism, and maritime transport. Fisheries alone support the livelihoods of over 800 million people and are a major protein source for more than 3 billion. However, this economy is at risk due to overfishing, pollution, habitat loss, and climate change, with over 30% of global fish stocks overexploited and 8 million tons of plastic entering the oceans each year.

Monitoring ocean health is crucial to safeguard marine ecosystems and sustain the blue economy. Satellite-based EO technologies provide continuous, large-scale data on sea surface temperature, chlorophyll, currents, and more - essential for informed decisions and effective conservation. Planetek plays a leading role in marine monitoring through advanced EO solutions. Within ESA's GDA Programme, Planetek develops tools for water quality assessment, fishery resource tracking, erosion mapping, and pollution monitoring. Projects like EuMon focus on eutrophication impacts, while REACT and SPOTTED use AI and high-resolution imagery to detect marine plastic pollution. Initiatives in Saudi Arabia and Cambodia further show Planetek's global impact in supporting sustainable coastal and marine ecosystems. Through innovation and international cooperation, Planetek contributes to a healthier, more resilient ocean for future generations.

## GDA AID Marine Environment and Blue Economy

The Global Development Assistance (GDA) programme, launched by the European Space Agency, builds upon the Earth Observation for Sustainable Development (EO4SD) initiative. It seeks to raise awareness among stakeholders in developing countries about the potential of satellite Earth Observation in facing critical development challenges. The programme collaborates with the World Bank (WB) and the Asian Development Bank (ADB) to create advanced EO thematic information products and integrate EO-based information into all stages of international development assistance projects, aiming to amplify the benefits of EO-based information for development assistance operations. The GDA Marine, led by Planetek Italia, has supported the WB and the ADB through various use cases, addressing diverse needs such as ecosystem protection, water quality assessment, pollution monitoring, fisheries support, shoreline erosion mapping, and evaluating the impact of port infrastructure on marine environments. GDA Marine aimed to expand the adoption of EO services on a pre-operational basis, aligning with the current operations, planning, and strategic goals of the WB and the ADB in the marine domain of developing countries.

## Spotted

In the ESA-funded SPOTTED project, Planetek has developed new techniques using advanced data fusion and Artificial Intelligence to enhance marine debris detection. By using high-resolution satellite images, such as those from Sentinel-2 and PlanetScope, they can better identify and monitor landfills and floating debris.

## EuMon

The EUMON project is dedicated to enhancing the monitoring of marine environments to support Sustainable Development Goal (SDG) reporting, with a particular emphasis on indicator 14.1.1a, which addresses eutrophication.
The project seeks to validate and showcase effective EO products by leveraging advanced satellite data and collaborating closely with early adopters. These tools offer crucial insights into the health of marine ecosystems, aiding in the assessment of water quality and the preservation of these vital environments.
The information provided by the EUMON project empowers early adopters to accurately report on SDG 14.1.1a, marking a significant advancement in our capacity to monitor and protect marine ecosystems, ensuring their sustainability for future generations.

## React

The ESA-funded REACT project was an innovative initiative to address the growing issue of marine plastic pollution. The project sought to develop a proof-of-concept for remotely sensing marine plastic litter by utilising advanced satellite imagery and image fusion techniques.
This cutting-edge approach allowed for the detection of plastic waste in our oceans, providing valuable data to support efforts in reducing plastic pollution and protecting marine ecosystems.
The REACT project represented a significant step forward in our ability to understand and combat the environmental impacts of plastic waste in marine environments.

## ULYSSES: Soil Sealing Assessment and Monitoring.

The project Mediterranean Soil Sealing, promoted by ESA European Space Agency, aims to provide specific products related to soil sealing presence and degree over the Mediterranean coastal areas by exploiting EO data with an innovative methodology capable to optimise and scale-up their use with other non-EO data. Such products have to be designed to allow - concerning current practices and existing services - a better characterisation, quantification and monitoring within time of soil sealing over the Mediterranean basin, supporting users and stakeholders involved in monitoring and preventing land degradation.

The project fits perfectly with the proposed EU Soil Monitoring Law which aims to protect and restore soils to ensure they are used sustainably. The law aims to address key soil threats in the EU, such as erosion, floods, landslides, sealing, as well as the loss of soil biodiversity.

**Maps and Products**
The targeted products generated from Copernicus Sentinel-2 are high-resolution maps of soil sealing over the Mediterranean coastal areas (within 20km from the coast) for the 2015-2020 time period, at yearly temporal resolution with a targeted spatial resolution of 10m. The team, led by Planetek Italia and supported by CLS and ISPRA, have generated maps spanning the 2018-2022 period. The maps have allowed for the quantification and monitoring of soil sealing over the Mediterranean basin, supporting users and stakeholders involved in monitoring and preventing land degradation.
In 2024, ESA decided to extend the scope of this mapping efforts from the coastal regions to encompass the entirety of the involved member states - specifically Spain, France, Italy and Greece.


# Rheticus®

## Geoinformation services by subscription to support production activities and land management

The availability of timely, up-to-date and accurate information is essential to make quick and informed decisions. Rheticus® is a geoportal that provides actionable information services designed to support decision-making in a growing number of business applications. Public Administrations and companies will access maps, reports and indicators, to monitor specific land related phenomena, satisfying multiple application areas. Rheticus® has the ability to detect millimeter displacements of the Earth's surface and infrastructures. This is essential to monitor

**Maps, reports, and indicators for timely and accurate information**

landslide and subsidence prone areas to help the management of spatial planning plans, the monitoring stressed water and sewage pipelines, the stability of transport infrastructures, and of electric towers, the areas affected by mining and geothermal activities. Thanks to its flexibility, it is possible to monitor areas affected by wildfires and the evaluation of the level of reforestation, but also to monitor the quality of coastal marine waters, and to provide a vertical support service for aquaculture. Each services is offered through the activation of an annual subscription, which guarantees access to updated information and the receipt of periodic summary reports.
Information and the receipt of periodic summary reports.
Rheticus® services are marketed internationally through a network of distributors.

# Industries

**UTILITIES**

Oil&Gas, Energy, Mining, Sewerage, District heating, Desalination plants

**ENGINEERING**

Airport, Railways, Roads, Tunnels, Dams, Bridges, Subway, Offshore drilling, Dredging

**FOOD**

Fishing, Aquaculture, Crop yeld forecasting, Precision farming

**GOVERNMENT**

Masterplan, Illegal crops, Wildfires, Coastal marine environment

# Rheticus® services

**Rheticus® Displacement**
Designed for the monitoring of areas prone to subsidence or landslides it identifies millimetric movements of ground surface.

**Rheticus® Network Alert**
Identification of water and wastewater pipelines under stress to support preventive maintenance and field inspections campaigns.

**Rheticus® Safeway**
Timely identification of critical situations in the stability of road infrastructures and the surrounding areas.

**Rheticus® Safeland**
Ground motion detection and monitoring supporting regional geological survey information services.

**Rheticus® Marine**
Marine water quality assessment in costal zones in accordance with the EU “Marine Strategy” Directive.

**Rheticus® Aquaculture**
Information service for fish and shellfish farming activities in marine waters, designed for environmental and production monitoring.

**Rheticus® Oenoview**
Supporting the agronomic management of vineyards and the selective harvesting of wine grapes.

**Rheticus® Wildfires**
Identification, localization and classification of areas burnt by wildfires, identification of illegal transformations and monitoring of renaturalization processes.

**Rheticus® Urban Dynamics**
Monitoring the progress of urban transformation plans (VAS) and the environmental impact assessment of works (EIA).

**Rheticus® Building Check**
Monitoring of buildings and facilities stability to provide predictive analysis of any movement within the area of interest, while also timely tracking any anomaly and its evolution over time.

**Rheticus® Electric Towers**
Monitors electricity infrastructure and suggests predictive maintenance prioritizing areas that need interventions.

**Rheticus® Forest Carbon Offset**
Evaluating and reporting Forest Carbon Offsets of REDD+ projects through EO-derived analytics.

# Free and Open Satellite Data

Open data are resources that are made available to ensure transparency and create business opportunities. In the world of remote sensing satellite data, the turning point came in 2008, when the United States Geological Survey (USGS) decided to open the archive of Landsat satellite images collected for forty years. Today, Landsat 9 in orbit since 2021 is consistently capturing high- quality images across the globe.
The free and open data policy has been confirmed by the government American in continuity with the previous Landsat 8 mission.
The European Union with Copernicus, the Earth observation program, has launched a much more ambitious initiative, providing as open data both the data acquired by Sentinel satellites, and the services of the Copernicus program. The Copernicus constellation of satellites called Sentinel brings onboard the different missions a range of specific technologies to meet a wide range of applications, such as radar and multi-spectral instruments for monitoring the earth's surface, oceans and atmosphere. Beyond to the data coming from the Sentinels, the Copernicus program offers, in open data mode, the so-called "Core Services", ie geographic added value products or thematic maps on land, sea, atmosphere, climate change, emergency management and safety. These services are designed to meet the needs of monitoring the transformations that take place on a continental and global level and can be used freely by Member States, businesses or citizens. The challenge to be taken is to integrate the data offered by Copernicus with all the other databases available online, of national and local public administrations, non-profit organizations (eg. OpenStreetMap), private companies and even individual citizens, to use them as a flywheel for the creation of initiatives that can combine economic development and environmental protection to improve the well-being of citizens.

**A flywheel for the creation of initiatives**

# Satellite data, cloud platforms and pay-per-use.

The world of satellite data is changing fast and there are dozens of image providers on market that differ in technical characteristics, geometric resolution, radiometric content and review times.
Untangling in space becomes more and more complex, as we have gone from scarcity to abundance of satellite data with an excess of options in the world of satellite remote sensing.
In addition to commercial data, there is also an enormous availability of free data thanks to the constellation of the Sentinel and Landsat satellites.
To simplify the complexity, platforms for processing are increasingly coming to the aid online and processing services that offer geospatial content in pay-per-use mode with tailored subscriptions.
The increase in supply is therefore causing a significant reduction in the cost of purchasing images but especially the introduction of new commercial scenarios thanks to cloud-based platforms that provide centralized access to data and information.

## imageryPack

Imagerypack is an integrated subscription solutions launched by Planetek that guarantee instant access to the best satellite images at very high, medium and low resolution all over the world, coming from historical archives that can reach up to 20 years of acquisitions, including coverage acquired a few hours ago and the possibility of planning new acquisitions and ranging over various constellations.

**Resources:**
**www.planetek.it/imagerypack**

## Partnerships

Main partnerships for the distribution of satellite imagery.

AIRBUS
- **Spot**
- **Pléiades**
- **Pléiades Neo**
- **TerraSAR-X**

planet.
- **RapidEye**
- **PlanetScope**
- **SkySat**

EUSI
- **WorldView Legion**
- **WorldView Satellogic**
- **Umbra SAR**
- **GeoEye-1**
- **QuickBird**
- **IKONOS**

HEXAGON
- **HxGN Content Program Aerial Imagery**

**and also imagery of Capella Space, OnyX Space, ICEYE, 21AT.**

**Resources:**
**https://bit.ly/3wo97kp**

# Satellite Intelligence for Local Public Administration

Local Public Administrations are increasingly on the front lines of complex environmental, urban, and climate-related challenges: extreme weather events, aging infrastructure, unplanned urban expansion, critical mobility, and land protection. Addressing these issues requires governance based on up-to-date, integrated, and timely data. In this context, Earth Observation (EO) plays a strategic role, one that becomes concrete by meeting three fundamental needs of local governments: simplifying access to reliable information, ensuring full alignment with existing administrative processes so that data can be effectively used and maintained over time, and enabling smooth integration with other information layers already in use within municipal territorial portals.
These three pillars are the foundation of **Rheticus®,** a platform that transforms satellite data into real operational tools. Not just maps, but a system that delivers advanced analytics, ready-to-use thematic indicators, and intuitive dashboards, all seamlessly integrated into the operational workflows of public entities.
Rheticus® does not replace existing systems but fits naturally into decision-making dashboards, territorial portals, and document systems already in use, ensuring operational continuity without requiring changes to tools or procedures.
The Rheticus® suite of services spans multiple domains, mobility, land consumption, landslides, infrastructure, coastal zones, and urban quality, and is tailored to the specific needs of various municipal departments such as urban planning, environment, and mobility. Each function is supported by indicators designed according to the operational logic of public administrations, already aligned with relevant regulatory frameworks.
In short, access to EO-based information is now practical, contextualized, and actionable. Local decision-makers can finally embed Earth Observation into their daily decision-making flows, without technical complications, but with concrete tools that meet real needs in management, planning, and sustainability.

## Palermo: An Urban Control Room for Integrated Territorial Governance.

In the heart of Palermo, urban governance is being transformed through a control room where all the city's informational layers converge. This is where the **SIAC, Sistema Informativo Ambientale Comunale** project, developed by SISPI and the Municipality of Palermo, takes concrete form: a digital system where Rheticus® satellite data integrates seamlessly with the municipality's existing geospatial data.
The modular and flexible Rheticus® suite powers the control room with specific services: **Rheticus® Safeland,** for managing hydrogeological risk areas and road infrastructure; **Change Detection,** to monitor urban transformations; a module for asbestos mapping; and tools for monitoring urban greenery, helping to optimize irrigation and maintenance while reducing fire risk.
All this data, continuously updated and validated, is not merely accessible, it is interrelated, providing a transversal view of the territory. Anomalies, changes, and priorities emerge in near real-time and become actionable insights, reducing response times, waste, and uncertainty.

## Taranto and the Time Machine: A Platform for Air, Sea, and Green Spaces.

In Taranto, where environmental challenges are intertwined with a complex urban and industrial context, continuous monitoring of air, marine waters, and green spaces is not just a technological choice but a strategic necessity.
Through the **Calliope** project, the Municipality adopted Rheticus® not as a mere observation tool, but as a true **environmental time machine,** capable of narrating the past, interpreting the present, and anticipating the future.
With services such as **Air Quality, Marine,** and **Urban Green,** it is possible to reconstruct the state of the environment over time, generating trend maps and historical analyses that help understand how phenomena evolve. Continuous monitoring, regularly updated, also allows early detection of recurring or emerging environmental issues, enabling more timely and targeted interventions.
From identifying areas most exposed to air pollution, to evaluating the impact of coastal discharges on water quality and analyzing the health of urban vegetation using indices like **NDVI,** each indicator contributes to building an integrated and dynamic picture of the territory.
The data, fully integrable with other information layers and easily shareable with both public and private stakeholders, supports evidence-based decision-making for more informed and sustainable urban management.

## Rheticus® Safeway Aligns Infrastructure Monitoring with ANSFISA Guidelines

Among the many responsibilities of Metropolitan Cities, the management and safety of road infrastructure are among the most urgent. Compliance with regulatory obligations, such as **Ministerial Decree 204/2022** and the **ANSFISA 2026 Guidelines,** requires a significant step forward in systematically surveying, overseeing, and monitoring hundreds of road structures.
In this context, the Rheticus® platform offers a solution fully aligned with public administration workflows. Its multi-level analyses, already structured according to regulatory requirements, enable administrations to define the **Class of Attention (CdA)** for each bridge, using a scalable, objective, and documentable approach.
One of the key features is the automatic generation of **ground motion indicators** using satellite data, capable of detecting even millimetric displacements over time, signaling potential structural issues before they become emergencies.
A concrete example comes from the **Metropolitan City of Milan,** which has integrated Rheticus® into its **Metroponte** project, a digitalization initiative to improve road infrastructure management. Here, **Rheticus® Safeway** provides an interactive and integrated view of the road network through thematic indicators, dynamic maps, and exportable reports, turning regulatory requirements into real, operational tools that can be integrated with public asset management systems.

**Resources:**
**https://www.rheticus.eu**

# Satellites and Climate: Protecting Land, Lives and Infrastructure.

Extreme weather events - floods, wildfires, landslides - are increasing in intensity and frequency, placing growing pressure on people, infrastructure and ecosystems. Public authorities, engineers and land managers urgently need reliable tools to prevent risks and plan sustainable development. Earth Observation (EO) satellites now offer a vital, objective and continuous source of environmental intelligence.
Satellite data, from optical and radar sensors, allow us to observe vast areas in near real time, detect minute changes in the land, assess risk and monitor ongoing transformations. Optical sensors track vegetation, land use and surface impact, while radar (SAR) penetrates clouds and darkness to detect ground movement - crucial for landslide or infrastructure monitoring.
Planetek has developed cutting-edge EO solutions to serve this growing demand. With its Rheticus® platform, EO becomes a ready-to-use service for public agencies and private actors. Platforms like Rheticus® offer continuous support throughout all phases of risk management: from mapping vulnerable areas and monitoring territorial changes, to evaluating the effectiveness of mitigation measures. By integrating high-resolution satellite imagery with predictive models, EO provides accurate and up-to-date information, which is crucial for informed and proactive territorial governance.
Rheticus® builds on free Copernicus data and is accessible via WebGIS or API. It empowers national and local governance in line with EU

**ready-to-use geoinformation for predictive management**

## Landslide Monitoring in Urban Areas and Infrastructure

In a hilly area of central Italy, a local authority used the Rheticus® Displacement service for weekly monitoring of ground movements in a neighbourhood exposed to hydrogeological risk. SAR (Synthetic Aperture Radar) analysis enabled the detection of millimetric deformations not visible from the ground. The information was integrated into the municipality's emergency plans and guided the design of stabilisation works, improving safety for both citizens and infrastructure.

## Wildfire Prevention in Forest Areas

In collaboration with Civil Protection and regional authorities, Rheticus® Wildfires was activated - a service based on Sentinel-2 optical imagery, climate data, and vegetation indices. The aim was to map high-risk ignition areas ahead of the critical fire season. Hazard maps and predictive models enabled better allocation of prevention and surveillance resources across the territory.

policies, including the Green Deal, Agenda 2030 and the Floods Directive. As climate change accelerates, EO becomes not just a technological advantage, but a public necessity.
Yet beyond its technical strengths, what stands out is the growing urgency to equip ourselves with tools capable of transforming the Earth's signals into meaningful action. Satellite observation is not just about data - it is a window into our collective future. It helps us recognise the vulnerabilities of the present and lays the groundwork for adaptation strategies that are effective, equitable and sustainable.

## Rheticus® EO Geo-Information Service Platform

Rheticus® is an automated platform developed to transform satellite data into ready-to-use information services.
Accessible via WebGIS or API, it covers multiple application domains:

- Rheticus® Displacement: ground motion monitoring
- Rheticus® Wildfires: wildfire risk assessment and post-event damage analysis
- Rheticus® Urban Dynamics: urban growth and land use mapping
- Rheticus® Marine: water quality and coastal dynamics

All services are based on open data from the Copernicus programme, with frequent updates and seamless integration into existing workflows.
Rheticus® is already adopted by public administrations, urban planners, infrastructure managers and environmental companies.

**Resources:**
**https://www.rheticus.eu**

# From OPEX to CAPEX: How Satellite Intelligence Turns Maintenance into Strategic Investment.

Maintaining water and sewage networks is one of the most critical and costly responsibilities for utility operators. With increasing regulatory pressure to improve efficiency, sustainability and digital transformation, there is a growing need to adopt technologies that enhance infrastructure resilience—while being recognised not merely as operational expenses (OPEX), but as strategic capital investments (CAPEX). Satellite intelligence offers exactly this opportunity.

By continuously monitoring the territory, Earth Observation (EO) data can detect early warning signs of ground movement, subsidence, and anomalies that may indicate leaks or stress within underground pipelines. When integrated into predictive maintenance workflows, this intelligence becomes a multi-year asset—improving planning, reducing emergency costs and guiding targeted interventions.

EO solutions such as Rheticus® Network Alert by Planetek Italia provide utility companies with a digital service that transforms routine maintenance into a strategic investment. This approach can be formally recognised in the Regulatory Asset Base (RAB), qualifying for tariff remuneration as outlined by the Italian Regulatory Authority for Energy, Networks and Environment (ARERA). Both the ARERA Guide to the RAB (https://www.arera.it/it/docs/22/074-22.htm) and the latest MTI-3 framework (Del. 639/2023/R/idr) actively promote digital and innovative infrastructure investments as part of long-term service sustainability.

By shifting from reactive to predictive operations, satellite monitoring becomes a pillar of intelligent asset management—offering not only greater operational resilience, but also financial return and regulatory alignment. In this light, EO no longer supports the network; it becomes part of it.

planetek italia | aquanexa

# Predictive Sewer Network Maintenance: From Risk to Resilience.

In pursuit of more sustainable and efficient sewer infrastructure management, **Planetek Italia and Aquanexa** have developed an integrated solution for predictive maintenance that combines satellite intelligence with on-the-ground technical expertise. The service relies on multi-temporal SAR satellite analysis to detect recurring ground motion patterns - often linked to hydrogeological dynamics and clay-rich soils - which may threaten the stability of underground networks.

The **Rheticus® Network Alert** platform classifies pipeline segments by risk level, generating thematic maps to prioritise inspections. Satellite data, validated through geotechnical and geophysical surveys by Aquanexa, supports the planning of preventive interventions - avoiding unexpected failures and optimising resource allocation.

This structured and systemic service provides multi-year impact and qualifies as a capital investment (CAPEX) under ARERA's MTI-3 tariff regulation. The benefits are clear: greater infrastructure resilience, reduced emergency costs, extended asset lifespan, and inclusion in the Regulatory Asset Base (RAB), enabling tariff-based remuneration. In short, this is a capital-ready solution that combines technological innovation with long-term economic value.

alfa

# Enabling predictive maintenance in Varese, Italy.

With growing environmental pressures from climate change, managing water infrastructure requires tools that enable predictive maintenance and prevent critical failures.

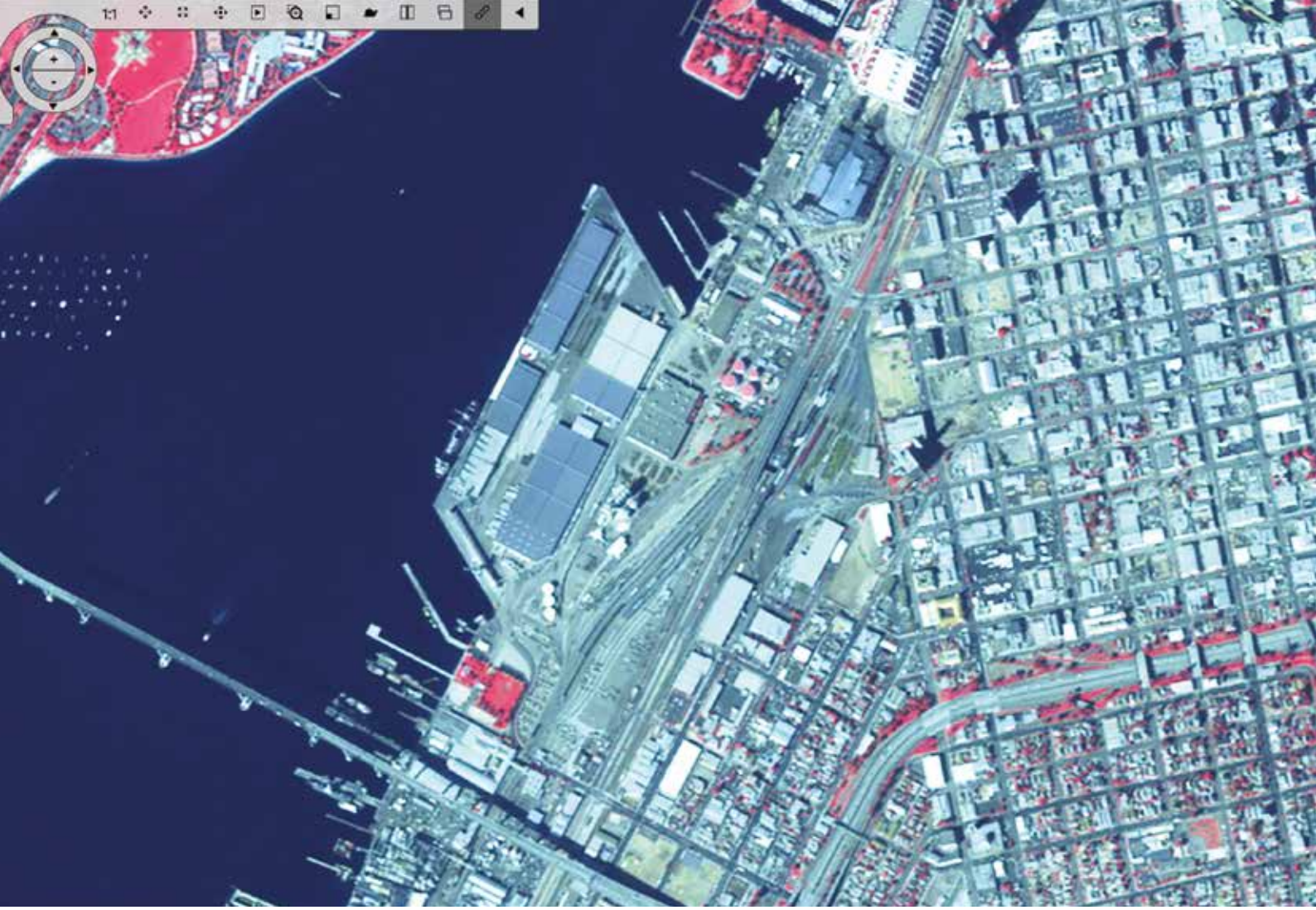
This was the approach taken by Alfa Srl, the Integrated Water Service operator for the Province of Varese, which adopted Rheticus® Network Alert as a key technology for advanced network monitoring. Using high-resolution satellite data, the system detects ground movements with millimetric precision, providing objective, continuous assessment of stress on underground infrastructure.

The service was structurally integrated into operational workflows, turning satellite observation into a long-term strategic asset. Its CAPEX classification is justified by its ability to enable data-driven planning and proactive interventions - optimising time, resources and cost-efficiency.

By reinforcing infrastructure management, the service directly contributes to the operator's asset base.

The results speak for themselves: of 40 critical segments flagged by the system, 32 were confirmed as damaged and classified by severity (18 class 3, 10 class 4, 4 class 5 under UNI-EN13508-2).

Timely action prevented major failures and strengthened network resilience - an investment delivering operational, environmental, and asset value.



# Defence and Geospatial Intelligence

The current war in Ukraine and in general all the outbreaks of conflicts near the external borders of Europe, in addition to the repetition of serious terrorist attacks, are just some of the elements that are changing the conditions in which the operators of the Defence. The availability of updated and accurate information can be decisive for reducing risks and countering threats.
In this scenario, the need for geospatial information for Intelligence purposes is growing (satellite images, aerial photos and data collected in the open field), which can guarantee information "dominance". It is no coincidence that the main satellite data market is defense, thanks to the huge investments of the American defense in this field.

Interoperability, security, on-the-fly distribution of data and information extracted from their processing are basic requirements in the development

**Multi-source and multi-sensor analysis**

of solutions for Geospatial Intelligence (GEOINT). On the market there are architectures based on OGC standards that allow you to produce, manage and share geospatial data and content, in an effective and secure way.

Systems that have 2D, 3D visualization tools and 3D virtual worlds useful for mission planning and situational awareness. Through simplified procedures, these systems allow for rapid analysis of changes, identification of objects and target recognition through multi-source and multi-sensor analysis of optical satellite and airborne sensors (E.O. e.g. Opsat -3000), hyperspectral (HSI), multispectral (MSI), LiDAR and Radar (SAR), such as those of the Italian constellation COSMO-SkyMed and CSG.
A radical technological change which, thanks to solutions available on the market, can also be achieved with investments compatible with the limited budget available.

## DECISMAR: European defence industrial development programme (EDIDP 2019).

Planetek Hellas is one of the companies that can claim the prestige, within the EU, of participating in one of the 16 selected projects of the European Defense Industrial Development Program (EDIDP 2019).
The project aims to develop a decision support toolbox (DSTx) in a feasibility study in updating maritime surveillance systems, integrating already consolidated solutions with new innovative solutions (DECISMAR). The toolbox, implemented in a “cyber secured” and innovative IT environment, greatly facilitates and automates the decision-making process and procedures by adopting a holistic philosophy; the objectives are relevant to the program as they provide an innovative defense product.
Ultimately, a new solution to conduct feasibility studies on enhancing the EU’s maritime surveillance capabilities through the adoption of new technologies that combine PESCO, EDIDP and innovation together.

## An integrated system for monitoring the territory via drones.

Planetek Italia and Sky Eye Systems have developed an integrated solution for monitoring the territory using drones.
Process the video streams and the optical and SAR data, acquired by the sensors on board the Rapier family drones, using artificial intelligence algorithms in order to automatically extract sensitive and useful information to IMINT analysts and to all entities that deal with territorial control and management of environmental emergencies: this is the object of the collaboration of the two companies in the aerospace sector.
Planetek’s thirty years of experience in the processing of geospatial and multi-source data for IMINT and GEOINT well paired with Sky Eye Systems’ innovative family of drones, “Rapier”: a fixed wing UAS (Unmanned Aerial System) used in intelligence and surveillance missions. Among the main applications developed and made available in real-time on a rugged workstation dedicated to data exploitation, the system includes: change detection, data fusion, generation of 3D models and automatic object recognition.
The information acquired by the drone, and the reports generated through the rugged workstation, can be shared, in real time, both with other units deployed in the field and with remote command centers.

## ERDAS Geoprocessing in your cloud

More and more satellite data are available, todays, with higher geometric resolutions and more frequent acquisitions, for this reason it is necessary to optimize data processing times through the use of GPU graphics cards and parallel and distributed computing techniques.

M.AppX, the web / enterprise version of ERDAS IMAGINE software was developed for this purpose. M.App X offers all the most important features geospatial data analysts need: orthorectification of optical and radar images, pan sharpening, optical / radar data fusion, automatic change detection, 2D and 3D analysis of digital terrain models, intervisibility analysis, coordinate measurement, vector data editing, deep learning algorithms for target detection, creation of annotations and reports.
M.App X can also installed on infrastructures and / or private clouds (on premises), and is based on a multi-node architecture that enables easy distribution of workloads on different servers and to scale performance over time.

The ability to manage several users through a single installation makes it possible to simplify the procedures for updating and maintaining the software usually required in the case of traditional software.
It is compatible with all browsers currently in use, and can be used on both traditional PCs and laptops and laptops.

**Resources:**
**www.planetek.it/mappx**




# SpaceStream: The Future of Space Services Takes Shape.

SpaceStream is Planetek's visionary response to a fast-changing Space Economy. A new paradigm for space operations: delivering the right action, in the right place, at the right time.
By overcoming the traditional separation between upstream and downstream, SpaceStream enables a seamless continuum where satellites do not just collect data, but process and interpret it directly on board. This approach dramatically reduces latency and paves the way for real-time Earth Observation and space services.
Thanks to the strategic integration with D-Orbit, SpaceStream has today both a technological vision and an industrial roadmap. It brings together Planetek's decades of expertise in EO services and onboard computing, and D-Orbit's capabilities in space logistics.
By connecting EO, secure communications, and AI-based onboard services, it will support national sovereignty, industrial innovation, and the growth of highly specialized skills across the European space sector.
D-Orbit and Planetek's commitment to this model goes beyond innovation — it reflects a shared vision for a resilient and sustainable future in space, aligned with the ambitions of the EU Space Programme and Italy's National Space Plan.

SMART IN-ORBIT DATA PROCESSING

## AI-EXPRESS

AIX: a new era of opportunities in Earth Observation.

Space mission scenarios are rapidly evolving and raising the need for new operational concepts that must be able to implement novel technologies, and approaches at mission design that comply with the shortening of the development cycles.
AI-eXpress (AIX) addresses these needs through a configurable set of space components offered as-a-service - including advanced imaging capabilities provided by the dual-head camera, onboard Artificial Intelligence enabled by a high-performance computing platform, and software services secured with Blockchain technologies.
AIX is the first end-to-end EO satellite mission implementing the SpaceStream. Flying from January 2025, the AIX satellite series is able to demonstrate how we can change the Space Value Chain to improve the advanced EO services for our customers.
AIX provides a hybrid edge/cloud ecosystem on a Low Earth Orbit (LEO) platform equipped with EO payloads, deployable CubeSats and a software framework that autonomously manages sensors and on-board resources.
A new concept of cognitive cloud computing in space leverages cutting-edge technologies such as Artificial Intelligence and Blockchain in Space to enhance satellite capabilities in terms of reactivity, responsiveness, and low-latency data delivery.
AIX - www.aiexpress.eu - is a Planetek project developed in collaboration with D-Orbit and AIKO, and co-funded by ESA Φ-lab's InCubed programme.

**Resources:**
**https://incubed.esa.int/portfolio/aix/**

## ASI In-Orbit Space Lab

A pioneering venture is underway in Italy as Planetek, in collaboration with D-Orbit and AIKO, is developing the In-Orbit Space Lab for the Italian Space Agency (ASI). Funded by the PNRR, this innovative project is set to transform Earth observation within a multi-purpose Low Earth Orbit (LEO) laboratory.
The concept revolves around a reconfigurable LEO satellite equipped with advanced observation instruments and an onboard high-performance computer capable of dynamically loading algorithms and neural networks produced on the ground. Coupled with a development hub at the Matera Space Centre, the Space Lab will allow researchers, start-ups and innovators to deploy and test Earth Observation tools and applications in orbit. This real-time processing, enhanced by Artificial Intelligence, will fast-track data delivery and support strategic decision-making.
The In-Orbit Space Lab is developed by Planetek in collaboration with D-Orbit, and AIKO. Planetek leads the integration and software ecosystem, including a novel "Space App Store" that creates a seamless data flow between earth and space. D-Orbit contributes to ION satellite platform, while AIKO delivers advanced mission automation to orchestrate payload processing.
By bridging upstream satellite assets and downstream services, the Space Lab promises to reduce time-to-market, foster sustainable growth for technology providers and lay the groundwork for future inter-satellite constellations.
In short, the In-Orbit Space Lab represents a bold leap forward: a living laboratory in orbit where Europe's next generation of satellite intelligence takes shape - on demand, in real time, and ready to reshape how we understand our planet.

## The Circle: Pioneering Earth Observation for a Sustainable Future.

The Circle is an ambitious ESA project aimed at revolutionizing Earth Observation systems through a science-driven EO reference architecture addressing key questions from ESA's Science Strategy. It leverages the full EO ecosystem to boost ESA's digital presence and user engagement. Using a system-of-systems (SoS) approach, it integrates satellite fleets, in-situ data, HAPS, and digital infrastructure to tackle scientific challenges such as the ocean carbon cycle's response to anthropogenic $CO_2$, drivers of ice mass changes, and ecosystem transitions.

The Circle aims to shape a flexible, future-ready EO architecture that meets evolving user and stakeholder needs.
This includes operational and scientific satellites, commercial and small satellite assets, data and operations systems, ground infrastructure, predictive modelling, access to space, industrial enablers, and global partnerships.

The project is structured around six core tasks: assessing ESA's current and future EO architecture, defining observational requirements, creating initial EO and SoS scenarios, analysing future configurations, and producing a strategic action plan based on SWOT analysis.

With a long-term vision beyond 2050 and milestones for 2030 and 2040, The Circle seeks to build a sustainable, adaptive EO ecosystem for the future.

# Mastering Space Software: Planetek's Robust Portfolio.

In over thirty years of activity, Planetek has gained solid experience in space software, delivering comprehensive solutions from satellite on-board processing to ground segment control. Our expertise spans mission-critical systems, real-time image handling, and multi-mission orchestration - enabling clients to develop, launch, and operate cutting-edge space technologies.

For over three decades we have contributed to the definition and implementation of software for space missions such as IRIDE, COSMO-SkyMed, COSMO Second Generation, PRISMA, TRUTHS, Solar Orbiter, µHETsat, ERS, Envisat, Chime, PLATiNO, and AI-eXpress.
At the core of our Space Software Portfolio, are ERMES, EarthBIT, and Kadmos, which construct a powerful ecosystem: from satellite command, on-board processing, through to multi-source intelligence aggregation. Backed by years of software development in space and ground segment infrastructures, Planetek addresses the full satellite data lifecycle - design, acquisition, management, analysis, and distribution.

ERMES

ERMES is a cloud-ready, modular mission control system supporting AIT, check-out and operation of satellites and payloads. It adheres to CCSDS and SCOS-2000 standards, utilises Python and SPELL scripting for automated procedures, and supports multi-mission management via lightweight plugin models. It's deployed on ESA's Solar Orbiter and ASI's PLATiNO missions.

KADMOS

Kadmos is a middleware service suite enabling seamless fusion of data across different space missions.
It supports synergistic exploitation of multi-sensor satellite imagery, enhancing cross-mission analytics and interoperability.

EARTHBIT

EarthBIT processes large-scale SAR, hyperspectral imagery, and live video streams in real time. It offers map/reduce frameworks, GPU/FPGA acceleration, and interactive co-registered visualisation. Used by ASI missions PRISMA and COSMO-SkyMed, it delivers \~400fps GPU filtering and supports custom algorithm integration via SDK.

EARTHBIT PRISMA toolbox

Earthbit with its customized plug-ins is now in use in PRISMA and Cosmo Second Generation operational activities.

PRISMA Toolbox implements a comprehensive support for rapid interpretation and visualization of the hyperspectral data acquired from PRISMA and EnMap missions.

## Operating in:

### SOLAR ORBITER
ESA • ASI • MSSL

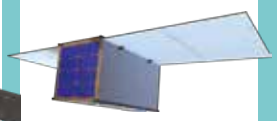
solar orbiter

- Solar Wind Analyzer Instrument Suite Payload Data Ground Segment
- SWA DPU EGSE

### ALCOR
ASI

Alcor

- Earth Next
- Spy Eye
- Innovator



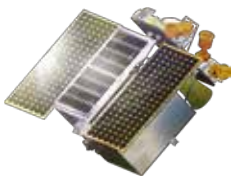
### PLATiNO
ASI • SITAEL

PLATiNO

- Mission Control System
- Avionic Test Bench
- Platform EGSE

### EAGLE-1
SITAEL • SES

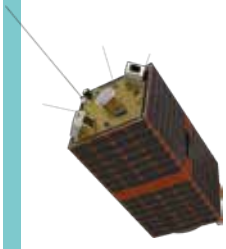
- Mission Control
- Spacecraft Planner



### µ-HET SAT
ESA • SITAEL

µHET

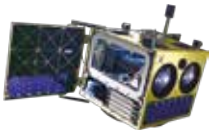
- Satellite Control System for operations



### HYPERSAT
CREOTECH

hypersat

- Satellite Control System for operations
- Payload Control System for operations



planetek
italia







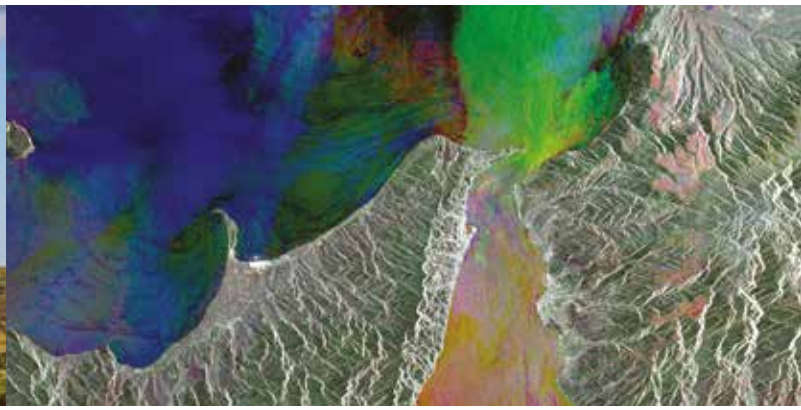
# Simplifying the complexity of Space

We are a Benefit Company established in 1994, which employs women and men passionate and skilled in Geoinformatics, Space solutions, and Earth science. Our mission is to simplify the adoption of geospatial data in order to live better and preserve the Earth. For this reason, we design new processes and solutions that simplify the use of geo-localized information to facilitate the understanding of the world around us. Our systems are designed to enable our users, public officials, researchers, major industries, entrepreneurs or individuals, to act in an informed and timely manner. We work in all phases of the life cycle of geo-localized data from the acquisition, storage, management, analysis and sharing of information to produce and generate knowledge.

At all stages, we adopt the principles of strategic design to create and develop solutions able to meet the requirements of our users, adopting the best technologies available on the market, with full respectfor economic, social and environmental sustainability. We operate in different application areas: scientific missions for planetary exploration,environmental and land monitoring, infrastructure engineering, energy, open-governments and smart cities. Through the Planetek group, we operate at an international level by providing solutions for the European Commission and its agencies, space agencies, national and international public administrations, research institutions, private companies and engineering firms.

**We adopt the principles of strategic design to meet the requirements of our users, with full respect for economic, social and environmental sustainability.**

# From Space to applications: closer to users'needs.



The organization of the company is structured into Corporate and Strategic Business Unit (SBU) functions, which constitute the Executive Committee. Strategic Business Units are segmented by market in order to better understand the needs of customers while at the same time ensuring continuity over time. The SBUs are structured to operate independently with planning, sales and production capacities.
In our software development projects we use Agile and Dev-ops methodologies.

**Government & Security SBU**
It offers application solutions and services in the P.A. market at national and international levels, and for the Defence, Educational and scientific research markets in Italy. It provides geospatially powered solutions to the agencies and institutions of the European market such as the European Environment Agency, the European Defence Agency, the European Union (EC, REA, JRC). It develops solutions for the Earth observation using optical and radar data from satellite, aircraft and drones. It develops Spatial Data Infrastructures compliant to INSPIRE, based on the Cart@net® platform, using Free Open Source and commercial software from major vendors. It offers solutions for the creation of geographic open data and metadata catalogs. It distributes remote sensing satellite data from major international operators through the Preciso® product family. It looks after the distribution of Hexagon Geospatial products within the Italian market.

**Business to Business SBU**
The target market consists of companies operating in the Oil & Gas, Renewable Energy, transport (railways, roads) sectors and engineering work and infrastructure activities. Its products range from systems for business intelligence on geographic data to the creation of geoinformative products to value- added data from Earth observation.

**SpaceStream SBU**
The target market consists of space agencies (e.g. the Italian Space Agency with the COSMO-SkyMed program, and the European Space Agency with the Sentinel program); those related to them (such as Galileo) and the major players in the aerospace market. It develops and integrates hardware and software infrastructures for the acquisition, processing and distribution of remote sensing data along their entire chain of production: from Earth Observation to Deep Space; from the Space Segment to the Ground Segment to the User Segment. The main responsibilities of the SBU fall into Systems and Software Engineering with strong verticalization towards Space Mission Analysis and Design (SMAD).

# Our leaders

**Giovanni Sylos Labini**
Chief Executive Officer and founder of Planetek Italia. He cooperated with NASA and ESA, and was director of the Center of Space Geodesy of the Italian Space Agency. Past President of AIPAS, Vice Chairman EARSC board member of SME4SPACE and Apulian Aerospace District. He was also Professor at Venice University (IUAV).

**Luca Rossettini**
CEO and founder at D-Orbit, expert at the Space Advisory Group of the EU Commission, board member of AIPAS, Confindustria Florence, and The Natural Step Italia. He is an aerospace engineer with a Ph.D. in advanced space propulsion. MBA in Strategic Leadership Towards Sustainability and a Certificate in Technology Entrepreneurship from St. Clara University, California.

**Stelios Bollanos**
Director and co-founder of Planetek Hellas. Since 2004, he is involved in different EU and ESA projects in the EO and Geomatics fields. He matured experience in the Greek and International Space Markets.

**Mariella Pappalepore**
Chief Financial Officer and founder of Planetek Italia. Vice President of Confindustria Bari and Bat.

**Cristoforo Abbattista**
Head of SpaceStream SBU. From 2002 he works in Planetek, mainly involved in the design and development of SDI and space systems. He has been teacher of WebGIS at Venice University.

**Vincenzo Barbieri**
Chief Marketing Officer & Head of Design Lab. Founder of Planetek Italia, he matured expertise in the market of geospatial applications for Public Administration.

**Sergio Samarelli**
Chief Technical Officer and Head of Business to Business SBU. Founder of Planetek Italia. He has been teacher of Remote sensing image processing at Venice University (IUAV).

**Massimo Zotti**
Head of Government & Security SBU. Responsible for the business development in the Defence market and of the Hexagon Geospatial portfolios. He is also active in several associations dealing with Open Data, Open Government and Geospatial innovation.

# THE GROUP

**D-ORBIT**
Como, Italy

**D-ORBIT PORTUGAL**
Lisboa, Portugal

**D-ORBIT US**
Boulder, Co, Usa

**D-ORBIT UK**
Didcot, United Kingdom

**PLANETEK ITALIA**
Bari, Italy

**PLANETEK ITALIA**
Athens, Greece

**GAP (Spinoff)**
Bari, Italy

**GEO-K (Spinoff)**
Rome, Italy

Planetek Italia is part of the D-Orbit Group and includes four companies based in Italy and Greece, which are active in both national and international markets.
D-Orbit operates globally, with offices in Italy, Portugal, UK, Greece, and the US. Planetek extends its reach with two spin-off companies, GAP s.r.l. and GEO-K s.r.l., and its well-established branch in Greece, Planetek Hellas.

**D-Orbit** is a global leader in space logistics and orbital transportation. Founded in 2011, one of the first players in the New Space market, we are building a space logistics infrastructure that will enable service providers to streamline satellite launch, across-orbit transportation, on-orbit servicing and refueling, and end of mission disposal. A Benefit Company certified B Corp, D-Orbit's roadmap includes becoming a relevant player in the in-orbit servicing market.

**Planetek Italia** is a Benefit Company specializing in Geoinformatics, Space solutions, and Earth Observation. Since 1994, its mission has been to simplify the complexity of space. From downstream to upstream, Planetek designs and develops solutions that harness the value of geospatial data, helping users better understand the world and act sustainably.

**Planetek Hellas** is a company based in Athens, Greece, established in 2006. It operates in the fields of Satellite Earth Observation, Spatial Data Infrastructure, and Space & Ground Segment Software. The company is actively involved in major European and National space initiatives and projects with a specific focus on the application domains of Emergency, Security and Defence.

**Geo-K** is a spin-off of the University of Tor Vergata, Roma. Its mission is to carry out research and development and provide advice, services and products in the field of image processing and optical, hyperspectral, and microwave remote sensing.

**GAP** is a spin-off of the Polytechnic of Bari. It develops products, processes and services of highly scientific or technological content in the field of remote sensing and related hardware and software technologies, with an emphasis on Geomatic applications.

# EARTH IS OUR SPACE

D-ORBIT

planetek italia

planetek hellas

## WELCOME ABOARD

# Share & read more

Visit our web channels to explore more resources, documents, video and tutorials, and feel free to contact us, make comments and give us yourlikes.

www.planetek.it

/planetek

/planetek

/company/planetek-italia

/planetekitalia