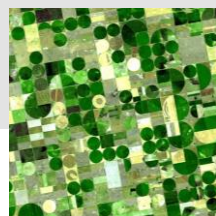


Planetek Italia

Simplifying the complexity of Space.



Company Profile



Vision & Mission

We empower people to make informed and timely decisions, improving lives and safeguarding our planet.

We make geospatial data and technologies accessible and actionable, helping people better understand the world and act with confidence.



Company Profile

Planetek Italia is an Italian Benefit Company, established in 1994, which employs 140+ women and men, passionate and skilled in Geoinformatics, Space solutions and Earth science.

We provide solutions to exploit the value of geospatial data through all phases of data life cycle from acquisition, storage, management up to analysis and sharing.

We operate in many application areas ranging from environmental and land monitoring to open-government and smart cities, and include engineering, agriculture and food production, defence and security, as well as satellite missions and space exploration.

The main activity areas are:

- Satellite, aerial, and drone data processing for cartography and geo-information production;
- Continuous monitoring with satellite data of Earth's surface, infrastructures, work sites, urban dynamics, or marine coastal areas in support of decision-making and operational activities;
- Design and development of Spatial Data Infrastructures (SDI) for geospatial data archive, management and sharing;
- Design and development of real-time geo-location-based solutions, through positioning systems such as GPS/Galileo/GNSS and indoor location systems;
- Development of software for the satellite on-board data and image processing and for ground segment infrastructures..

We are also a diamond dealer of Octave (former Hexagon Geospatial) software and a reseller of satellite imagery from main global providers.

Through our Strategic Business Units, we guarantee cutting-edge customized solutions in different markets: Government & Security, European Institutions, Space Systems, Business to Business.

Planetek 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: Planetek Italia Srl, Planetek Hellas EPE, GAP Srl and Geo-k Srl.

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



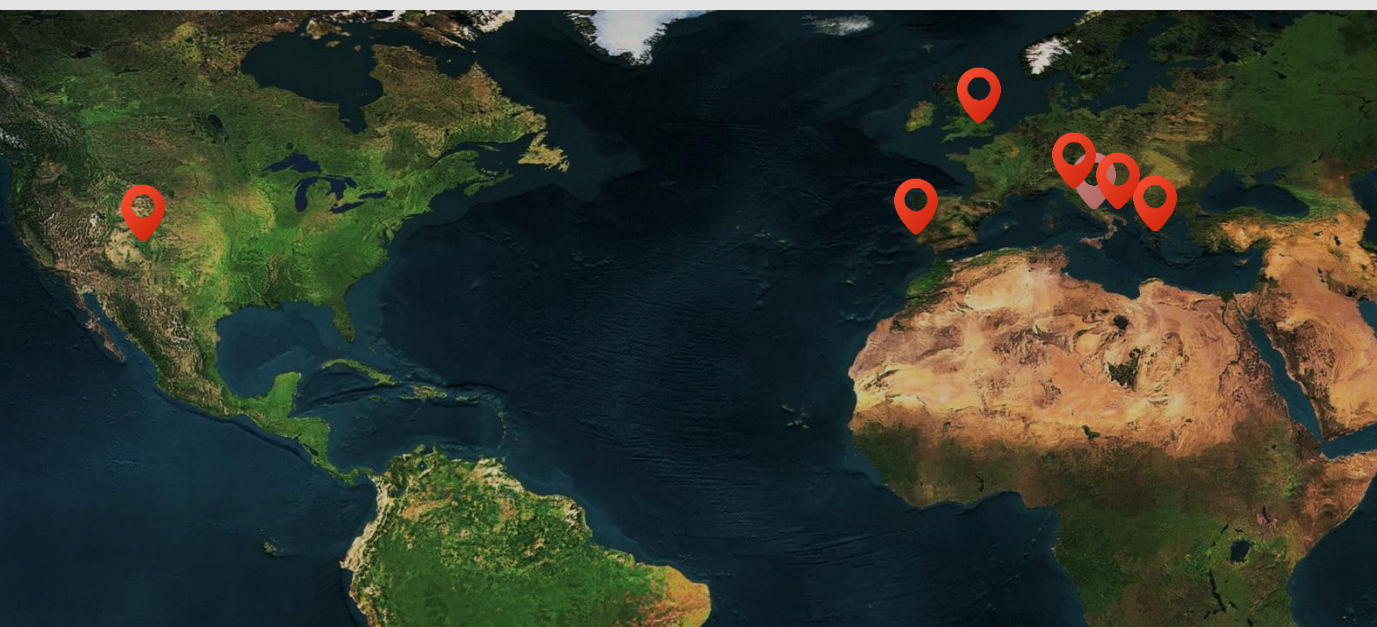
PLANETEK HELLAS
ATHENS, GREECE



GAP (Spinoff)
BARI, ITALY



GEO-K (Spinoff)
ROME, ITALY





THE GROUP

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 based in Rome.
GAP is a spin-off of the Polytechnic of Bari based in Bari.



The spin-offs are focused on developing innovative solutions for processing satellite remote sensing data with a strong specialization towards radar data (COSMO-SkyMed).



Key numbers

THE GROUP

D-ORBIT

planetek
italia

planetek
hellas

PEOPLE 600+ | REVENUE 70+ M€



FOUNDED 1994



PEOPLE 140+



TURNOVER M€/Y 30



R&D INVESTMENT % 15



Our team

Women and men, all passionate and skilled in
Geoinformatics, Earth science, space systems,
and sustainable living.



Key People



Giovanni Sylos Labini
Chief Executive Officer

He cooperated with NASA and ESA, and was director of the ASI's Center of Space Geodesy. He is also BoD Member of D-Orbit, Vice Chairman of EARSC and Apulian Aerospace District, BoD member of SME4SPACE, Past President of AIPAS. He was also Professor at Venice University (IUAV).



Mariella Pappalepore
Chief Financial Officer

Degree in Geology, Masters in GIS and Remote Sensing. She held various roles in Confindustria Bari and Bat: President of the Communication and Innovative Service sector, Vice President, and Manager of the "Club delle imprese per la Cultura".



Vincenzo Barbieri
Chief Marketing Officer & Head of Design Lab

Degree in Agronomy, specialized in Land planning & management. He matured solid expertise in the market of geospatial applications for central / local Public Administration and entities involved in land management. He is also President of Consorzio Costellazione Apulia.



Sergio Samarelli
Chief Technology Officer, Head of Business to Business SBU

Degree in Electronic Engineering. He contributed to the growth of Planetek Italia, as a Technical Director. He was a lecturer of remote sensing image processing at Venice University Institute of Architecture (IUAV).



Massimo Zotti
Head of Government & Security SBU

Degree in Economics. Responsible for the business development in the Government and defense markets, and of the Hexagon portfolios. He is also active in several associations dealing with Open Data, Open Government & Geospatial innovation.



Cristoforo Abbattista
Head of SpaceStream SBU

Degree in Electronic Engineering. Involved in the design and development of SDIs and Space systems. He was a lecturer of WebGIS at Venice University Institute of Architecture (IUAV).



Stelios Bollanos
Planetek Hellas Director & co-founder

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.

Links & resources



www.planetek.it/eng/company/team

How we do it

We adopt the principles of strategic design to create and develop solutions able to meet the requirements of our users, through the implementation of the best technologies available on the market, with full respect for economic, social and environmental sustainability.



Benefit Company

Promoting a generative business model pursuing higher standards of well-being for people and environmental protection.

In 2021, Planetek Italia has evolved into a "Benefit Company", and stated the purposes of common benefit in the corporate statute.

As a Benefit Company we have formally adopted a business model that aims to operate in a responsible, sustainable and transparent way towards all stakeholders, communities, organizations, associations,

and the environment.

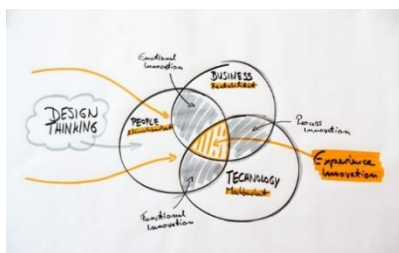
The sustainability assessment tool we have chosen is the Open-es digital platform, developed by Eni, Boston Consulting Group and Google Cloud.

Open-es allows companies to measure their Sustainability Performance in four dimensions: People, Planet, Prosperity and Governance.



[Read the Corporate Impact Report](#)

Design Thinking



The model we adopt in all our business activities is based on the principles of Strategic Design. The aim is to identify the best combination, over time, between the user requirements, the technological feasibility and the economic, social and environmental viability.

This model is based on the continuous development of prototypes and the progressive revision of the requirements, which lead us to develop solutions based on the real needs of our customers.

The customer is a "member" of the project team who actively participates in all project phases contributing at the implementation of solutions.

This model leads to a true partnership with our users, based on a full and mutual trust, leading to informed decisions and the highest return in terms of satisfaction.

In our software development projects we use Agile and Dev-ops methodologies.

Quality & Certifications

Our quality system is compliant with the ISO 9001 standards. Since 1998, when the company obtained its first certification, it has upgraded to the **ISO 9001:2015** Quality Certification.

We adopt an Information Security Management System for all the databases owned and managed by the company and for the information treatment processes, in compliance with the **ISO/IEC 27001:2013**.

All the company team is truly involved in considering the environment as a part of our production and business, and operates in accordance with Italian and EU environment laws and directives. We adopt an Environmental Management System in conformity with **ISO 14001:2015** law and the directive CE n.1221/2009 (**EMAS III**).

Planetek Italia has always naturally considered human rights as being fundamental. Since year 2009 we are **SA8000 certified**. We are also certified for Gender Equality UNI/PdR 125:2022.



Vincenzo Pompilio
Chief Quality Officer



Innovative SME

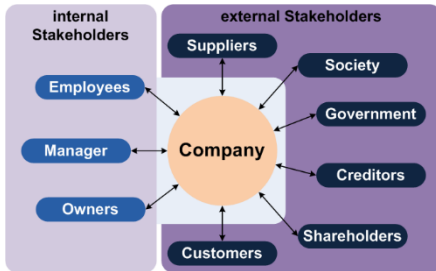


Links & resources



[Annual reports & documents](#)

Stakeholders



In April 2021, we evolved into a "Benefit Company", and stated the purposes of common benefit in the corporate statute. The goal is to reinforce our commitment to promoting a generative business model pursuing higher standards of well-being for people and environmental protection,

We maintain continuous relations with our stakeholders, promoting close collaboration, participating in initiatives and making our resources and expertise available to contribute to territorial and industrial growth.

We are strongly committed to promoting geography and education programs to young people: traineeships, research work, workshops, meetings & events all over Italy, and sponsoring initiatives.

As a member of Costellazione Apulia, a network of enterprises active in promoting social responsibility, cooperation and new economic models.

Memberships

In Europe we actively participate in the development of the sector as a member of **EARSC**, European Association of Remote Sensing Companies, and **SME4SPACE** an European Space SMEs association. We are founder member of **AIPAS**, the Italian Space SMEs Association, and in Apulia Region we have an active role in the **Apulian Aerospace District**, the **Apulian Technological Aerospace District** and in the **Apulian Informatics District**.

We are founder members of the **Italian Open Data Institute**, members of **Stati Generali dell'Innovazione**, of **AFCEA** capitolo Roma, the Copernicus Academy, and the Geographical Information System International Group (**GISIG**) .

Planetek Italia is also a member of the Tre.e network, the Space Weather Italian Community (SWICO), and the European Quantum Industry Consortium (QUIC).

Through Planetek Hellas we are a member of the **si-cluster** (Hellenic Space Technologies and Applications Cluster) and the **Hellenic Association of Space Industries** (HASI).

SME4SPACE





Awards



- 2025 **Global Top 100 Geospatial Companies**
Recognized among the Global Top 100 Geospatial Companies that are shaping the future of geospatial technology by Geoawesome.



- 2024 **WELFARE CHAMPION**
Since 2016, listed in the top Italian companies, and named as Welfare Champion for its Welfare Index noticeably higher than the average of the sector and its support to employees.



- 2024 **EUROPEAN EO COMPANY AWARD**
In 2024, 2017, 2016 Planetek was awarded twice the first place and one third place by EARSC "European Earth Observation Company and Product Award".



- 2024 **STELLE DEL SUD**
Il Sole 24 Ore, the main Italian financial newspaper, ranked Planetek among the 200 best companies in the South with the best growth performance in revenue, employees, and assets.



- 2023 **SUSTAINABILITY HERO**
Sustainability Hero award by SME EnterPRIZE for a business model based on the values of sustainability



- 2023 **INDUSTRIA FELIX PRIZE**
Since 2015, awarded as one Italy's most competitive and reliable companies and prized with the High Honour for Financial Statement.



- 2019 **WORLD SMART CITY AWARD**
Urban Environment award to Rheticus® use case Hera Group multi-utility at World Smart City Congress 2019.



- 2018 **WICHMANN INNOVATION AWARD**
Best Software award to Rheticus® at the Wichmann Innovation Award 2018, during the INTERGEO 2018.



- 2017 **Hexagon Social Media and Marketing Award**
During the HxGN live 2017 event in Las Vegas, Planetek Italia has been awarded the "Social Media and Marketing Award" by Hexagon Geospatial.



- 2016 **Best Practices for Innovation**
Rheticus® Displacement has been awarded the "TIM Telecom award for innovation" at the 10th edition of "Premio Best Practices per l'innovazione".



- 2013 **INSPIRE Conference Awards**
In 2014 and 2013, smeSpire Challenge Award for "Best Practices for INSPIRE" awarded to getLOD application. Academic Excellence and Innovation in INSPIRE for "innovative activities in the field of INSPIRE and SDI development".

What we do

From technologies to solutions for users

We design solutions that are the best combination, over time, between user requirements, technological feasibility and economic, social and environmental viability. The corner stone of our applications is our geospatial knowledge.

Our **3** Strategic Business Units (SBU) are segmented by market in order to be more aware of the needs of our customers, at the same time ensuring continuity over time. The SBUs are structured to operate independently with planning, sales and production capabilities.



Business Units

Government & Security

Through our G&S SBU we offer application solutions and services in the Public Administration market at national and international levels, and for the Defence, Educational and scientific research markets in Italy.

We provide 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).

We develop solutions for the Earth observation using optical and radar data from satellite, aircraft and drones.

We develop Spatial Data Infrastructures (SDI) compliant to INSPIRE, based on the Cart@net® platform, using Free Open Source and commercial software from major vendors. We offer solutions for the creation of open data geographies and metadata catalogs.

We distribute remote sensing satellite data from major international operators through the ImageryPack service and the Preciso® product family.

Through our Rheticus® platform we provide satellite-based monitoring services for Smart Cities and city assets.

As Diamond Dealer, we distribute Hexagon Geospatial software within the Italian market.

Business to Business

Through our B2B SBU we offer solutions to companies operating in the Oil & Gas, water, energy, transport (railways, roads), works and infrastructure engineering.

Our products range from systems for business intelligence on geographic data to the creation of geo-informative products and to value-added data from Earth observation.

Through our Rheticus® platform we provide our B2B clients satellite-based monitoring services for decision-making and operational activities.

SpaceStream

The target market served by our SpaceStream SBU consists of Space Agencies (e.g. the Italian Space Agency with the COSMO-SkyMed program and Prisma mission, and the European Space Agency with the Sentinel program and Solar Orbiter mission), those related to them (such as Galileo) and the major players in the aerospace market.

We develop and integrate 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 and 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).



Solutions



- **Processing of satellite**, aerial, and drone data for cartography and geo-information.



- **Continuous Earth monitoring** with **satellite** data on cloud **HPC**, leveraging **AI** for advanced analytics.



- Design and implementation of **marketplace & downstream infrastructure** for space data and information management and sharing.



- Software engineering for **on-board** and **ground segment** EO mission operations.

Fields of application

We develop geospatial solutions to provide strategic insights useful in several application fields: territorial planning, land & coastal monitoring and protection, defence, civil protection and emergency response, agriculture, aquaculture, fleet monitoring, infomobility, energy (oil & gas and renewable), infrastructure engineering and transportation (roads, bridges, railways).

Spanning from ground surface and infrastructure monitoring, to open-government and smart cities, or agriculture and food production, our solutions are based on Remote sensing data from satellite, aircraft and drones.

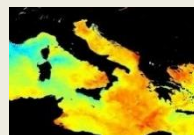
In order to simplify information sharing, we develop Spatial Data Infrastructures (SDI), compliant with INSPIRE guidelines, based on our Cart@net® platform, using Free Open Source, free and commercial software from major vendors like Hexagon Geospatial. We offer solutions for the creation of open data geographies and metadata catalogs.

We look after space system software for Earth Observation and Space Exploration missions such as ERS, Envisat, COSMO-SkyMed, COSMO SG, PRISMA, Mars Express, Mars Reconnaissance Orbiter and Solar Orbiter. We provide "Ground Segment" systems and technologies to manage and process satellite data acquired by the spacecraft's instruments. Our main activities include real-time systems, on-board processing software for the space segment, radar and optical data processing for the ground segment, mission planning and software for EGSE.

EO marketplace & exploitation tools



Environmental Monitoring



Smart City



Oil & Gas Energy, Utilities



Infrastructure Engineering



Civil Protection



Security & defence



Space Logistics



Space software



Cosmic Exploration



Key customers/partners

SBU SpaceStream

Agencies

- ESA - European Space Agency
ESRIN, ESTEC, ESAC, ESOC, ECSAT
- ASI - Italian Space Agency

Enterprises

- Airbus Defence & Space
- Thales Alenia Space
- Telespazio / e-Geos
- OHB - CGS S.p.A.
- D-Orbit
- SITAEL
- INDRA

SBU Business to Business

ICT

- KPMG, Exprivia, Al maviva,
Engeneering – Municipia, Vitrociset

Energy

- Eni, Total, SAIPEM
- Terna, Enel / Enel Green Power

Transport

- ANAS, Italferr, Ansaldo STS, ADR –
Aeroporti di Roma,

Multiutilities - water

- ACEA, Hera, IREN, AQP, MM,
United Utilities, Veolia, SUEZ

SBU Government & Security

Public Institutions - International

- UE - European Union Directorates
- UE - European Union Agencies
JRC, EEA, SatCen, GSA, EUSPA
- International Governments
Saudi Arabia, USA, Chile, France, Germany, Spain, etc.
- IFFI
Word Bank, Asian Development Bank

Public Institutions - Italy

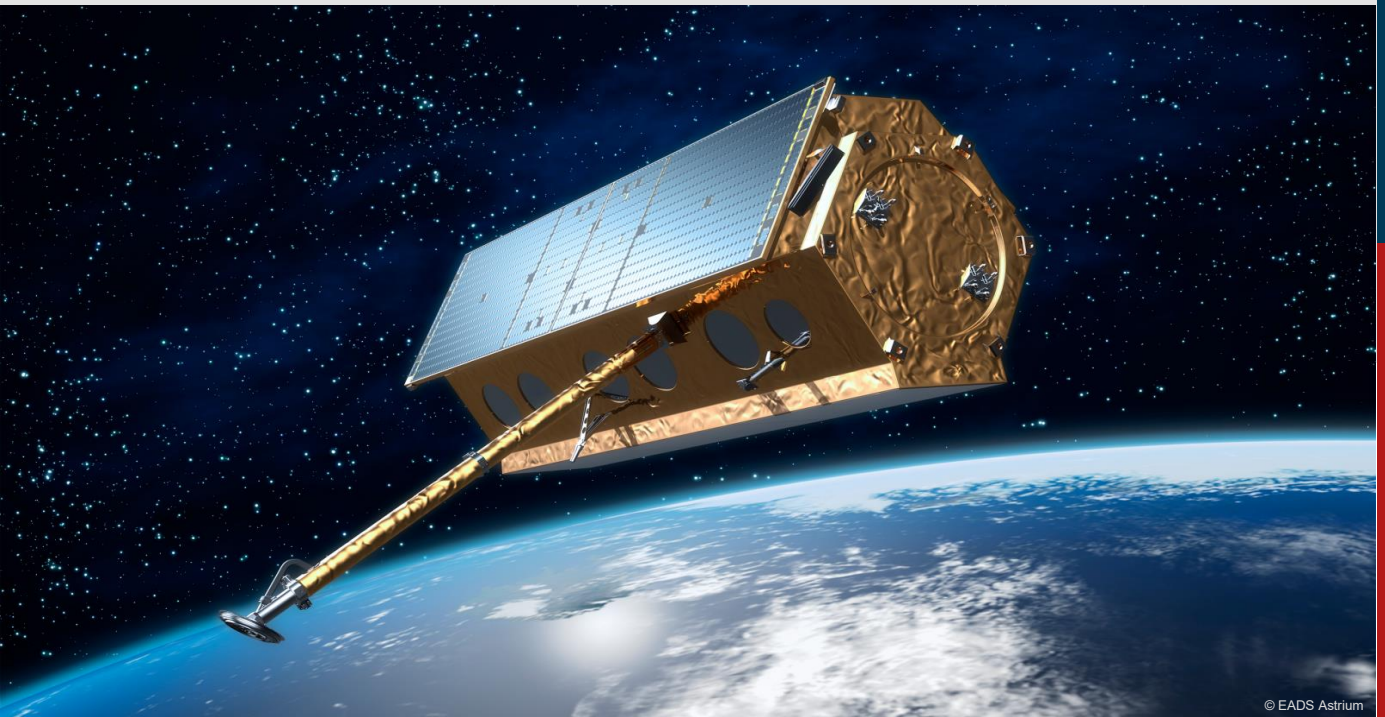
- Italian Ministry
Environment, Defence, Agriculture
- Local Administrations
Regions, Provinces, Municipalities
- ISPRA - Italian National Institute for
Environmental Protection and Research
- ARPA - Regional Agencies for Environment
Protection
- IGM – Military Geographic Institute
- National Parks



Products

Planetek Italia is Diamond Dealer in Italy and Malta of Hexagon Geospatial solution for GIS, remote sensing, photogrammetry, and geospatial data management.

The Company is also one of the main Italian satellite data resellers and value added providers.



Commercial Partnerships

Geospatial software – Diamond Dealer



Software: GeoMedia, ERDAS Imagine, Imagine Photogrammetry, Luciad, Smart M.Apps, M.App Enterprise, Motion Video Analyst.

A complete software portfolio that combines the best photogrammetry, remote sensing, GIS and cartography technologies available. Flowing seamlessly from the desktop to server-based solutions, these technologies specialize in data organization, automated geoprocessing, spatial data infrastructure, workflow optimization, web editing, and mapping.

 www.planetek.it/eng/products/by_manufacturer/hexagon_geospatial

Satellite data

imageryPack

Satellite imagery by subscription

ZEUSI

WorldView Legion, WorldView, Satellogic, Umbra SAR, GeoEye-1, QuickBird, IKONOS

AIRBUS

Pléiades Neo, Spot, TerraSAR-X



RapidEye, PlanetScope, SkySat

and also imagery of Capella Space, Onyx Space, ICEYE, 21AT.

Satellite images: optical and radar; up to 15 cm resolution; daily acquisitions of the entire globe; on demand tasking.

 www.planetek.it/eng/products/by_category/satellite_images

Planetek Products

GEOINFORMATION SERVICES

A portfolio of geoinformation services based on continuous satellite monitoring delivering industry-focused actionable information and predictive analytics for decision-making and operational activities.



AQUACULTURE
BUILDING CHECK
DISPLACEMENT
ELECTRIC TOWERS

MARINE
NETWORK ALERT
OENOVIEW
SAFELAND

SAFEWAY
URBAN DYNAMICS
WILDFIRES
FOREST CARBON OFFSET

GEOINFORMATION DATA & PRODUCTS

A portfolio of data, and geoinformation products designed to provide users with cognitive frameworks that meet the specific needs of each application field.



imageryPack

SPACE SOFTWARE FOR EO MISSION MANAGEMENT

A portfolio of software and systems for on-board and ground segment of Earth Observation and Cosmic exploration satellite missions.



SHARING, SDI & LINKED OPEN DATA



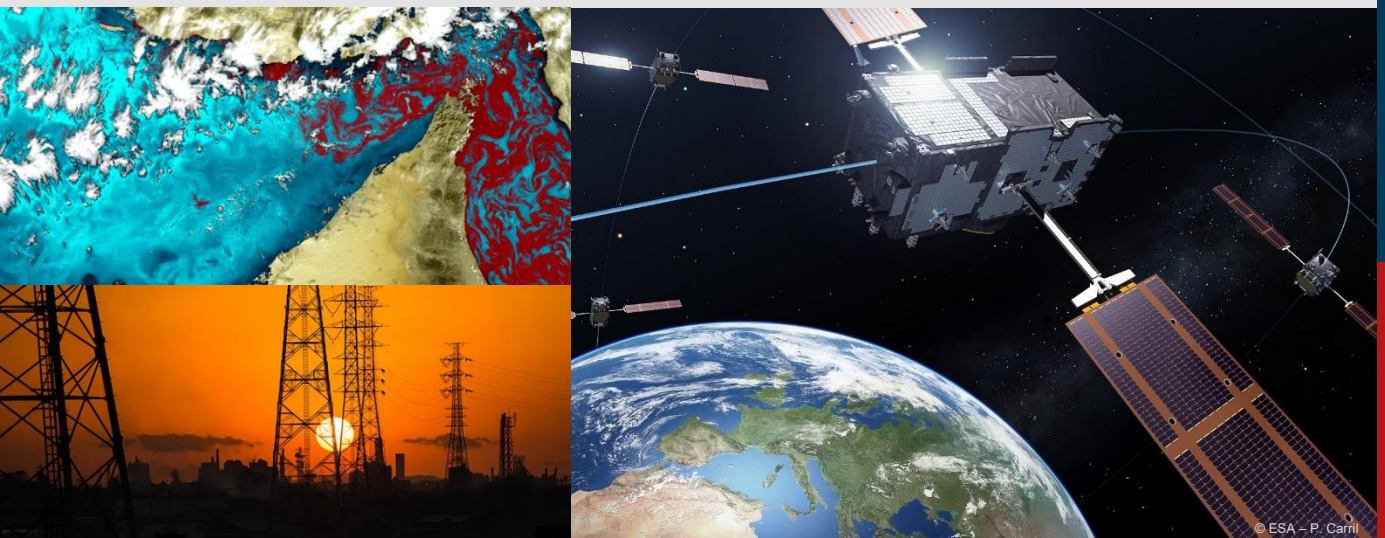
Cart@net® is the WebGIS solution for the management and consultation of large raster and vector datasets, ideal to distribute on-line catalogs of cartographic data



LOD4SDI is an open and reusable solution for publishing geographic data on the Web as Linked Open Data, according to the standard RDF / XML.

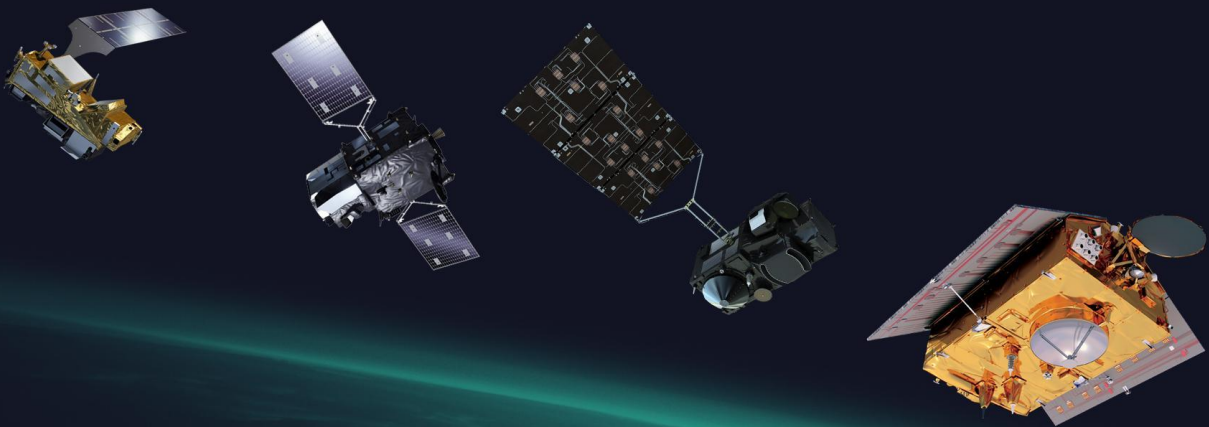
Success Stories

A glance at some of our benchmarks and success stories in the different markets.



UPSTREAM

A glance at some of our benchmarks and success stories in the Upstream and Space Exploration segments.



© Eumetsat

IRIDE: the new Italian space programme for Earth observation

Planetek Italia plays an active role in the implementation (by 2026) of different components of the system (upstream, downstream and services).

IRIDE is one of Europe's largest space programme for Earth observation.

Promoted by the Italian Government, IRIDE is fully implemented in Italy and will be completed by 2026 with the support of ESA and ASI for a total value of EUR 1.1 billion allocated under the National Plan for Recovery and Resilience (PNRR).

The programme will build an end-to-end system consisting of LEO satellite constellations (Upstream Segment), the ground operational infrastructure (Downstream Segment) and geospatial services for Public Administration (Service Segment) at national and European levels, and for private customers.

Planetek Italia plays an active role in the design and development of different components of the system (upstream, downstream and services), acting both as prime contractor in different work lots and collaborating with the various industrial teams in charge of developing other components.



Similar projects

[PRISMA COSMO Second Generation](#), [Al-eXpress](#), [EU Copernicus projects](#)

Clients



Italiadomani

PIANO NAZIONALE DI RIPRESA E RESILIENZA



Links & resources

www.planetek.it/eng/projects/iride_constellation

AIX: Smart In-Orbit Data Processing

AI-eXpress (AIX) is an ESA InCubed programme. Planetek and D-Orbit are transforming satellites into intelligent agents — processing, understanding, and acting directly from space.

AIX is a satellite as-a-service platform providing on-demand, in-orbit data processing resources to turn raw data into actionable knowledge.

First AIX satellites are already in orbit.

Reshaping the EO value chain

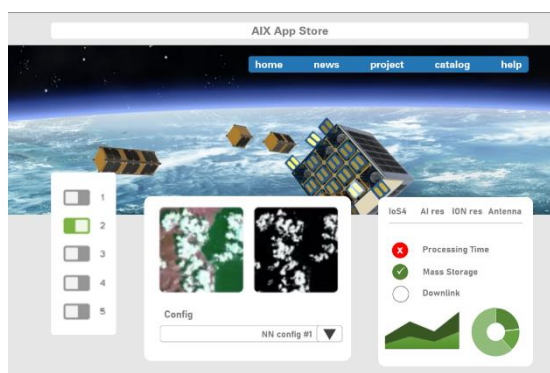
AIX marks a shift in how satellites work, think, and deliver value:

Edge computing in orbit. Processing data directly where it's generated—on the satellite itself—drastically reduces latency and the volume of data sent to Earth. **Real-time georeferencing.** Images are being geotagged using live orbital telemetry, enabling near-instant mapping and understanding of what's happening on the ground.

AI and blockchain in space. To enhance autonomy, authenticity, and data trust directly onboard.

The rise of the Space Cloud. Satellites are evolving into smart nodes of a distributed cloud infrastructure - able to execute algorithms, share insights, and interconnect with other space and ground systems.

A new business model. Customers will soon be able to deploy their own algorithms in orbit, accessing Space-as-a-Service capabilities for defence, security, environment, and infrastructure monitoring.



Similar projects

[In-Orbit Space Lab](#), [PRISMA COSMO](#)

[Second Generation](#), [EU Copernicus programme](#)

Clients



Italiadomani

PIANO NAZIONALE DI RIPRESA E RESILIENZA



Links & resources

<https://www.planetek.it/en/aiexpress>

In-Orbit Space Lab

A Space Lab for ASI's Matera Space Center. A low Earth orbit laboratory to test innovative workflows for Earth observation.

The In-Orbit Space Lab is an Italian Space Agency's (ASI) project using PNRR fundings for the empowerment of the Matera Space Centre.

The system is developed by Planetek (leader), D-Orbit and AIKO, to support the activities of the Italian Space Agency (ASI).

"In-Orbit Space Lab" is a distributed laboratory that includes **a space segment**, initially consisting of a low-orbit satellite equipped with observation instruments and a processing environment capable of dynamically loading and executing algorithms and neural networks developed on the ground, and **a development environment** that will be installed at the Space Centre in Matera.

Users of the laboratory will be able to access Earth observation instruments, on-board high-performance computers, and services and applications already available as building blocks, which can also be distributed on different in orbit platforms.



Similar projects

[AI-eXpress](#), [PRISMA COSMO Second Generation](#), [EU Copernicus programme](#),

Clients



Italiadomani

PIANO NAZIONALE DI RIPRESA E RESILIENZA



Links & resources



www.planetek.it/en/solutions/applications/space_missions

Research and Innovation in Earth observation and Space

Artificial Intelligence, blockchain, novelty detection. Our continuous research for cutting-edge solutions, based on technological and process innovation.

With the proliferation of satellites, data of the entire Earth's surface are available on a daily basis. Artificial Intelligence (AI) techniques allow to extract knowledge from Big Data in the form of correlations. Deep Learning and Machine Learning enable the automatic processing and extraction of knowledge from satellite data to develop new automatic processing chains.

The [DECiSION project](#) is an example of the use of AI techniques associated with interferometric analysis techniques for processing radar satellite images to accurately identify points of water and sewage networks undergoing stress in order to activate predictive and preventive maintenance campaigns for the networks.

In the [CTEO project](#), funded by ESA, Blockchain is used to certify Earth observation products throughout all phases of the value chain, ranging from data acquisition to its processing, extraction of information content, up to the use of the same in geoinformation products.

AI techniques are used to implement novelty detection techniques for analyzing telemetry data and data acquired by on-board satellite sensors. These techniques were used in the ESA-funded [CASTeC project](#) to preventively detect anomalies and malfunctions before they could have even affected satellite operations.



Similar projects

[Safeway](#), [SEO-DWARF](#), [PhySIS](#), [Beyond Planck](#), [E-Shape](#), [Marine-EO](#),

Clients



European
Commission



Horizon 2020
European Union funding
for Research & Innovation

Links & resources



www.planetek.it/solutions/research_development/big_data

Satellite Ground Segment

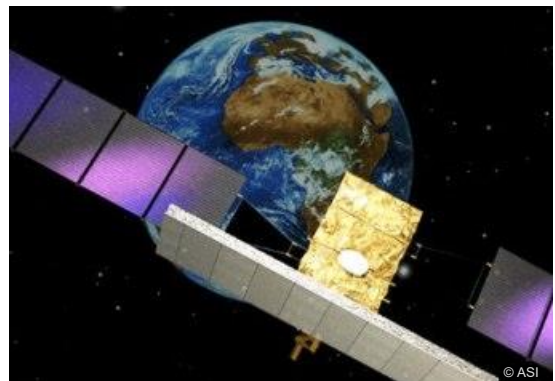
Software infrastructures for managing, acquiring, processing, archiving and disseminating satellite data.

Planetek has a sound experience in definition and implementation of software for missions, ground and space systems for EO and Planetary data. Its capabilities range from the system definition, the design and development, to the validation and the on-site delivery.

Planetek provides “Ground Segment” systems and technologies to receive and process satellite data acquired by the spacecraft’s instruments to archive, disseminate, publish and share the generated products as well as engineering consulting services for new missions definition, feasibility studies, ground control system architecture definition, requirements specification and system design.

Within Italy’s COSMO-SkyMed Second Generation constellation (CSG) of two satellites, Planetek is responsible for the design and implementation of Non-standard processors (PFMOS, PFSPF, PFCRP) and Image Quality Assessment (PFQCA Tool).

Within the Italian Space Agency’s EO mission Hyperspectral Precursor of the Application Mission (PRISMA), Planetek has the responsibility for the design and development of the full automatic L2 Processor chain in the Ground Segment.



Similar projects

[PRISMA COSMO Second Generation](#),
[Solar Orbiter](#), [Al-eXpress](#), [SEO-DWARF](#),
[PHySIS](#), [Beyond Planck](#)

Client



Links & resources



www.planetek.it/eng/cosmo_SG

Space systems for EO and Cosmic exploration missions

Facilitating planetary research and Cosmic exploration

Over the last few years, the increasing number of EO and Cosmic missions have brought about the need to have more performing systems able to manipulate, store, analyse, compare, share and display data acquired by different satellite platforms. One of the reasons to have tools like these available, is to facilitate planetary research and Cosmic exploration.

Planetek is strongly involved in activities focused on design and implementation of innovative technologies to solve issues related to data and products access, sharing, processing and fusion.

spacePTS: EGSE SW Front-End for Integration, Verification & Validation activities of a satellite payload.

spacePDP: Payload Data Processing framework, transferring satellite data processing from Ground to Space Segment.

spaceOP3C: a product that achieves high compression ratios, low data distortion, keeping a limited computation complexity suitable to the on-board constraints.

spaceADM: a real-time algorithm to evaluate satellite attitude based on Kalman Filter theory, provide highly precision estimates to satellite attitude.



Similar projects

[spacePDP](#), [spacePTS](#), [spaceOP3C](#),
[spaceADM](#), [Solar Orbiter](#), [AI-eXpress](#),
[SEO-DWARE](#), [PHySiS](#), [Beyond Planck](#)

Client



European Space Agency

Links & resources



www.planetek.it/eng/space_software

Systems for Cosmic Exploration data

Software applications for managing, storing,
processing, sharing and archiving Cosmic data.

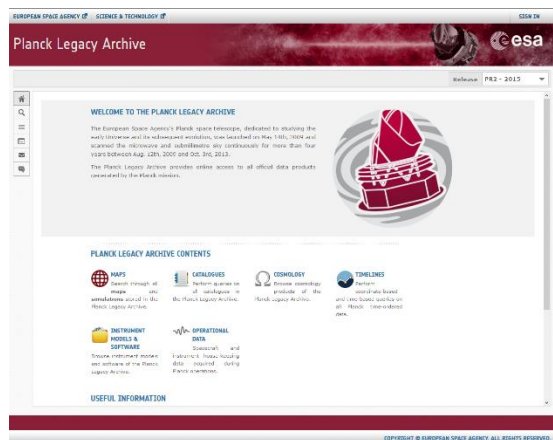
The increasing number of planetary and cosmic missions leads Space Agencies and scientific communities to require for their activities more performing systems able to handle, store, analyse, compare, share and display the data collected by different satellite platforms.

Planetek is strongly involved in activities focused on design and implementation of innovative technologies to solve issues related to data and products access, sharing, processing and fusion.

These individual solutions help scientists to portray morphologic, topographic and spectral data compositions and allow them to see the observations into a common spatial and visualization system.

spaceSVT: a Decisions Support System for the storage and analysis of scientific publications in the field of Universe Exploration.

spaceSDI: a web component designed to transform a collection of planetary data into a GeoSpatial Web Portal.



Similar projects

[Planck Added Value Interfaces](#) - [PROC](#) -
[ESA-SAPS](#), [Solar Orbiter](#), [AI-eXpress](#),
[SEO-DWARF](#), [PhySIS](#), [Beyond Planck](#)



Links & resources

➔ www.planetek.it/eng/spaceSDI
➔ www.planetek.it/eng/spaceSVT

DOWNSTREAM

A glance at some of our benchmarks and success stories in the downstream services development.



Rheticus: satellite intelligence services by subscription.

Industry-focused geoinformation services providing decision-makers and operational activities with up-to-date geoanalytics and business insights.

Rheticus® is an award winning platform, designed to provide continuous and accurate geoinformation services on our changing world.

Decision-makers and professionals can get deeper and focused knowledge of their assets and areas of interest through maps, reports and geoanalytics.

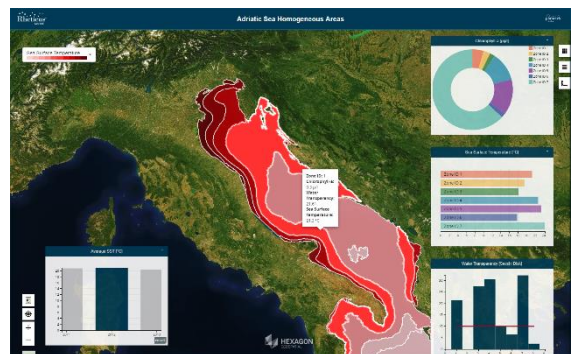
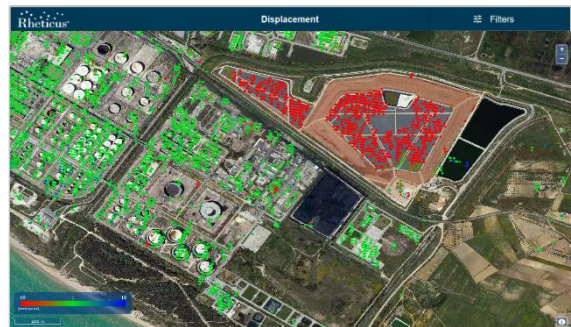
Its unique characteristics are:

- The use of Copernicus free & open satellite images
- Cloud computing
- Maps, reports and indicators are actionable and provided automatically
- Payments via customized subscription packages.

Updates are done every time new data become available and, depending on the service, the refresh rate may vary from monthly to daily.

Applications and services

Territorial changes, urban dynamics and land use changes, ground displacements, landslides, subsidence, infrastructure stability, new infrastructure and construction areas, wildfire burned areas, aquaculture and wine production or coastal sea waters quality.



Users: Infrastructure engineering and management; Civil Protection; Land & sea monitoring Authorities, etc.

Monitoring the European environment

Copernicus Land: mapping coastal zones of 39 European countries for the Copernicus Land Monitoring Service (CLMS)

The objective of the European Copernicus programme is to provide information to users in the field of environmental and other terrestrial applications.

Planetek Italia was awarded from the European Environmental Agency (EEA) the European Coastal Zone Thematic Hotspot Mapping for the Copernicus Land Monitoring Service.

Thematic hotspot mapping activities within the CLMS aim, complementary to generic wall-to-wall mapping, to provide specific and detailed land cover / land use (LC/LU) information to address environmental challenges and issues.

The new products covers all European coastal territory (39 Countries) to an inland depth of 10 km with a total area of approximately 730,000 km². The products has a minimum mapping unit of 0.5 ha and record around 60 LC/LU classes.

An online platform provides national stakeholders the opportunity to participate in preparatory activities and to actively contribute in the development and growth of Copernicus Land Coastal zones monitoring products and services.



Similar projects

[Soil sealing](#), [Aquamar](#), [Marcoast](#),
[Integrated Coastal Water Management for MED](#)

Client **European Environment Agency**



Links & resources

➔ <https://land.copernicus.eu>

➔ www.planetek.it/eng/copernicus_programme

Marine-EO: demand-driven EO-based services in Europe

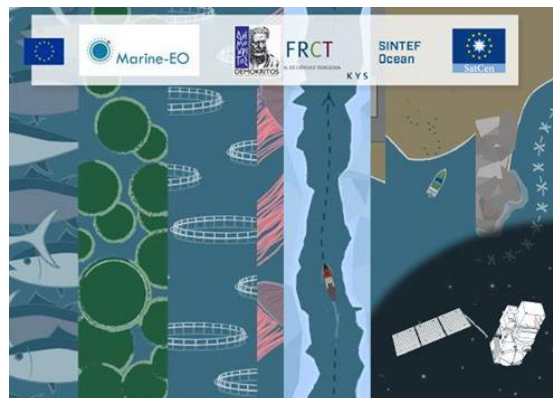
The first pre-commercial procurement in Europe, for the development of demand-driven EO-based services, in the field of maritime awareness.

MARINE-EO is “the first Earth observation pre-commercial procurement in Europe, cofounded by the H2020 program” aiming at procuring the development of demand-driven EO-based services, adopted on open standards, bringing incremental or radical innovations in the field of maritime awareness and leveraging on the existing Copernicus Services and other products from the Copernicus portfolio.

The complex cross cutting area of Marine Environment Monitoring will be monitored and explored in three use cases:

- Marine Environmental Status in Hot Spots;
- Fish Farms: Detection of Fish Farm Threats;
- Detection of Vessels and Icebergs in the Arctic zone.

The use cases are the integral part of the SATOCEAN (Lot 1) activity developed by Planetek Hellas consortium. Planetek for the WQ and aquaculture services (Rheticus®) and KSAT for the vessels and iceberg identification and routes. All the services will be implemented through a complex and advanced system based on Creotech's Data and Information Access Services (DIAS) platform.



Similar projects

[ESA Coastal TEP](#), [Aquamar](#), [Coastal Water Attribute Monitoring using satellite data](#), [SIC ISPRA](#), [ICWM for MED](#)

Clients



Links & resources

www.planetek.it/eng/MarineEO

The Italian Information System for Marine Strategy Directive

SIC ISPRA: The Italian single access point to all information assets for the collection, management and sharing of marine-coastal monitoring data.

The objective of the Italian Centralized Information System (SIC) is the collection, management and sharing at Community level of data originating from Monitoring Programs within the Marine Strategy Framework Directive (2008/56/EC) transposed into national legislation through D. lgs. 190/2010.

Developed by Planetek Italia, SIC makes information standards, methods and data uploading flows, including formal quality controls, available to local ARPA agencies and monitoring implementers.

The reports required by the Marine Strategy Framework Directive and the associated monitoring data are freely available on the SIC's home page.

The project included the development of a Web portal and application modules. The cartographic component is compliant with INSPIRE and the Italian National Repository of Territorial Data (RNDT), and adopts the OGC, WMS, WFS, WCS standards. The SIC infrastructure was adopted by ISPRA for the creation of the UNEP UN-based environmental DB UN-INFO.



Similar projects

[Marine-EO](#), [ESA Coastal TEP](#), [Aquamar](#),
[Coastal Water Attribute Monitoring using](#)
[satellite data](#),

Clients



ISPRA
Istituto Superiore per la Protezione
e la Ricerca Ambientale



MINISTERO DELL'AMBIENTE
E DELLA TUTELA DEL TERRITORIO E DEL MARE

Links & resources



www.planetek.it/enq/SIC ISPRA

Afforestation monitoring in Saudi Arabia

Earth observation services to monitor Saudi Green Initiative's afforestation program in the Kingdom.

The project, led by GeosystemsME and supported by Planetek Italia, GeoSpace International and Hexagon AB, aims to contribute to the implementation of the ambitious Saudi Green Initiative.

As part of this groundbreaking program, Saudi Arabia has set a target to plant 10 billion trees across the country, while also focusing on various land preservation actions falling under the mandate of the National Center for Vegetation Development & Combating Desertification (NCVC).

Planetek Italia will play a pivotal role in assisting GeosystemsME in developing a robust land monitoring platform capable of harnessing the power of satellite data. Leveraging a wide range of commercial and open-source Earth observation constellations, the platform will facilitate the automatic calculation of analytics and statistical indices. These insights will be instrumental in monitoring the correct implementation of the policies outlined in the Saudi Green Initiative.



Similar projects

[Kyoto-Inventory](#), [PARC system](#), [Geoportal of Moroccan Ministry of Agriculture and Marine Fisheries](#),

Clients

Kingdom of
Saudi Arabia



Links & resources

<https://www.greeninitiatives.gov.sa/>

The European environmental information Geoportal

INSPIRE Geoportal The unique access point to global European environmental geo-information resources.

The INSPIRE Directive of 2007 aims at establishing an “Infrastructure for Spatial Information in the European Community”.

It builds upon existing infrastructures in the European Member States in order to provide access to electronically available spatial data sets held by or on behalf of Public Authorities.

In order to make these spatial data sets discoverable and accessible, the Directive requires the Member States to set up the following INSPIRE network services: discovery, view, download, transformation and invoke.

As a central European point of access to these INSPIRE network services, the European Commission has set up an INSPIRE geoportal developed by Planetek Italia in partnership with the German company lat-lon. The geoportal allows cross-border, multi-lingual and harmonized access to the Member States' INSPIRE network services.

The geoportal provides integration interfaces for discovery, view and download services from Member State portals and thus to foster the harmonization of Member States' national Geoportal implementations through the adoption of open standards and open source products.



Similar projects

Geoportals of [Emilia Romagna Region](#), [Abruzzo Region](#), [Moroccan Ministry of Agriculture](#),

Client



Links & resources

www.planetek.it/eng/inspire_geoportal

Mapping the soil loss

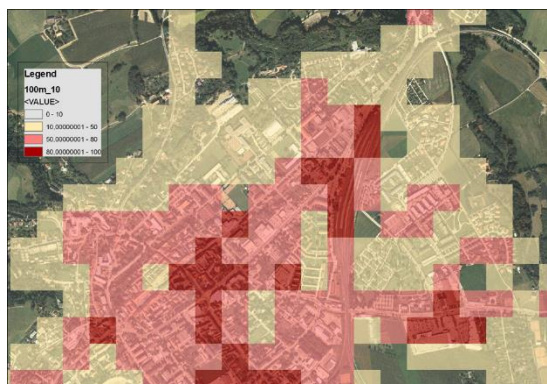
Soil sealing: A homogeneous map of high resolution land cover data for built-up areas, including degree of soil sealing, for 39 countries in Europe.

Among city planners and urban designers, there is a growing awareness of the environmental importance of surface permeability. Areas where the balance between permeable and impermeable areas has been lost may be prone to flooding and related environmental disasters. Many city and state governments are initiating procedures to actively regulate this balance. Furthermore, there is a need to monitor the rapid urban sprawl and all its negative effects on landscape and natural resources.

This service started in 2006 among the first operational geo-information services within the Copernicus (GMES) initiative of the EU Commission and ESA. Now this service is operational providing periodically updated maps.

The product realized is the raster datasets of built-up and non built-up areas, including degree of soil sealing in full spatial resolution (20m x 20m) for 5.8 million square km across Europe, the reference years being 2006, 2009, 2012. The datasets are available to users on all administrative levels.

Planetek Italia is a service provider for sealed area extraction over several European countries.



Similar projects

[GIO Land](#), [Geoland 2](#),

[Find more Copernicus projects](#)

European Environment Agency



Clients



ISPRA
Istituto Superiore per la Protezione
e la Ricerca Ambientale

Links & resources



www.planetek.it/eng/soil_sealing

Agriculture and fishery information sharing

Moroccan Agriculture & Fisheries Geoportal: the Geoportal provides easy access to the wide collection of datasets owned by the Ministry.

The Millennium Challenge Account agreement signed between the Governments of the Kingdom of Morocco and the United States of America, aims at contributing to economic growth and poverty reduction in this African country. In this context the Moroccan Ministry of Agriculture and Marine Fisheries called for the realization of a Geographic Information System based on the Web.

The Geoportal developed by Planetek gives access to the information related to the MCA projects regarding fruit tree production, small scale fisheries, functional literacy and vocational training, as well as business support.

An intranet/extranet application allows the Moroccan institutions' users quick and easy access to the data and the statistical information available. A Web based Spatial Data Infrastructure which guarantees the deployment and use of GIS tools and data throughout the Departments and Agencies involved, the integration with other information systems, the centralized hosting of critical GIS functions accessible to many users, and the delivery via the Internet.

To ensure full compliance with the customer's requirements, the entire development process has followed the Design Thinking methodology.



Similar projects

[INSPIRE Geoportal](#), [Emilia Romagna Geoportal](#)



Client

Links & resources



www.planetek.it/eng/moroccan_agriculture_geoportal

Drinkable water production

Red Tide detection and water quality monitoring in the United Arab Emirates (Arabian Gulf) in support of human health and desalination plants operation.

The coast of the United Arab Emirates in the Arabian Gulf and Oman Sea hosts some of the largest desalination plants in the world (2nd producer of sea water after Saudi Arabia) and their operation is linked in two ways to the quality of the water near the coast: from one side the water they release could have an impact on the coastal ecosystem and from the other side they can be strongly affected by harmful and non-harmful algae bloom.

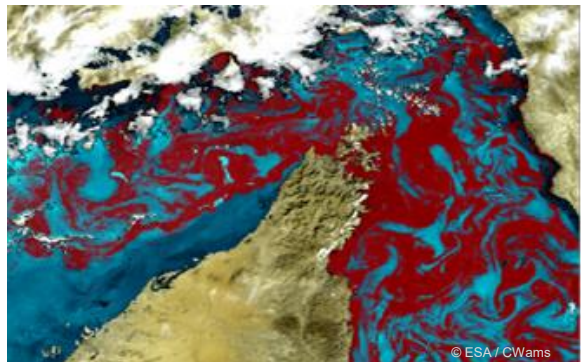
The local phenomenon known as Red Tide in the last 4 years had a relevant impact to the activities of the desalination plants, causing severe damage and halting the operations for many weeks.

The Coastal Water Attribute Monitoring using Satellite data project, funded by ESA, aims at implementing a suite of EO products and data services targeting two growing sectors: Waste Water Treatment and Desalination plants.

The main objectives of the project are:

- To define and setup feasible service and products for supporting user activities in waste water and desalination plants;
- To implement and demonstrate those products and services over two test areas chosen by the users;
- To elaborate a plan for a wide service uptake within the framework of the international obligations (e.g. European Marine Directive).

The project consortium is composed of TechWorks (Prime) and Planetek Hellas.



Similar projects

[Park-Archipelago](#), [Aquamar](#), [Ocean Color Map](#), [Marine-EO](#), [ESA Coastal TEP](#)

Client



Links & resources

➔ https://www.planetek.it/eng/projects/coastal_water_attribute_monitoring_using_satellite_data

Improving resilience of transport infrastructures

SAFEWAY is a H2020 funded project aiming at improving resilience of transport infrastructures, through a holistic toolset with transversal application

A GIS-based infrastructure management system for optimized response to extreme events on terrestrial transport networks.

SAFEWAY's main aim is to design, validate and implement holistic methods, strategies, tools and technical interventions to significantly increase the resilience of inland transport infrastructure. SAFEWAY will develop a holistic toolset with transversal application to anticipate and mitigate the effects extreme events at all modes of disaster cycle: Preparation; Response and Recovery; Mitigation.

Within these dimensions, SAFEWAY will:

- Implement novel technologies that provide a new multiscale monitoring approach;
- Use crowdsourcing and exploit social media to monitor human response during extreme event;
- Develop the framework for decision-making including advanced information from predictive models;
- Integrate this multidisciplinary approach through a modular cloud-based ICT platform designed to fully support robust decision-making for Infrastructure Management

SAFEWAY innovation will be validated in 4 near-real life scenarios along five corridors of the Trans-European Transport Network.



Similar projects

[DECISION](#), [IMPULSO](#), [IUS OPTI MA](#)

Clients



Links & resources

www.planetek.it/eng/Safeway_project

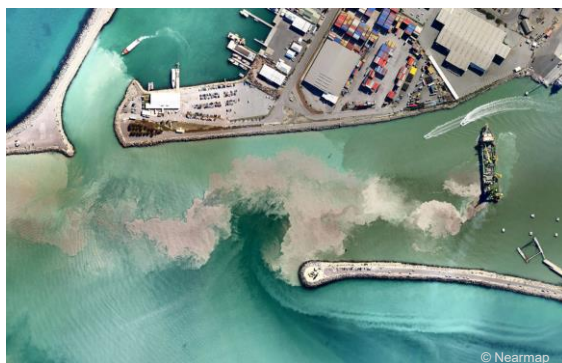
Near real-time monitoring for engineering and construction

Monitoring turbidity and water quality during dredging activities for the installation of off-shore infrastructures.

Satellite remote sensing may support the monitoring of water quality during dredging activities for the installation of new offshore infrastructures.

The use of traditional monitoring techniques (sampling at sea, measures, laboratory analysis) are certainly effective, but they present logistical and operational obstacles and long processing times, often incompatible with the need to obtain the information collected in real-time. Furthermore, field observations and measurement, although frequent, are not able to provide a complete and exhaustive spatial answer to describe all the phenomena in progress.

It integrates traditional methods with daily collections of high-resolution satellite images over the area of interest. All the monitoring phases are accurately planned: the programming of the satellite acquisitions, the data collection, the ingestion and processing. Within a few hours this method provides accurate and validated information, useful for the quantitative and spatial definition of the entity the phenomenon of dispersion of sediments during dredging operations.



Similar projects

[Posidonia Monitoring](#), [Aquamar](#), [Coastal Water Attribute Monitoring using satellite data](#), [DECiSION](#)

Client



Links & resources

- ➔ www.planetek.it/eng/solutions/applications/infrastructures_engineering
- ➔ www.planetek.it/eng/NRT_sea_turbidity_monitoring

Prevention of urban and environmental crimes

SIMP Canosa: Geospatial solutions to increase control and capacity of intervention on the territory.

Today geospatial knowledge represents a great resource for the administration of cities. It helps to achieve better decisions and make the cities greener, as well as to engage citizens in democratic activities and in decision-making processes, in order to safeguard citizens and the environment.

Through the use of satellite imagery, sensors, cameras, citizens interactions, and using geospatial intelligence we enable operators of the municipality and the Police forces to receive immediate information on the phenomena related to their areas, to process information, and to identify priorities; all this in a very short time, enabling quick actions and effective interventions.

The solution is based on Hexagon Geospatial Intelligence software, base maps, Earth observation data collected on a regular basis and external information sources (such as, for example, the Information System for the Environmental Protection of the Italian Police).

Users can create and maintain digital geo-located dossiers related to environmental crimes.



Similar projects

[WEOS](#), [Wastemon](#)

Client



Links & resources



www.planetek.it/simp_canosa

Maritime archaeology

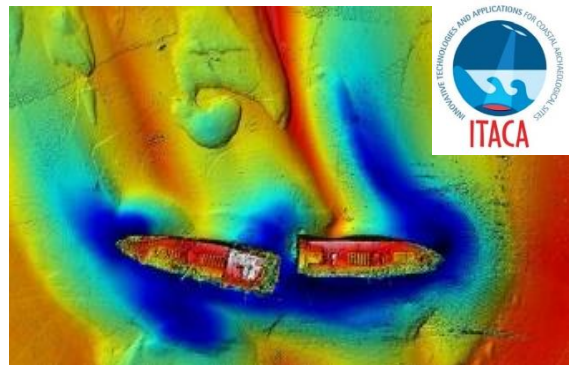
Earth Observation and WebGIS tools to locate and monitor underwater archaeological sites in coastal zones.

The monitoring of the underwater cultural heritage is a priority of Public Authorities (e.g. Ministry of Cultural Heritage, Institutions and local entities) which deal with conservation and restoration activities. These public bodies need cost-effective, reliable and systematic survey techniques and means to accomplish their mission and everyday work.

The ITACA (Innovation Technologies and Applications for Coastal Archaeological sites) project aims to prove a management system for underwater archaeological sites in coastal regions. The discovering and monitoring service uses innovative satellite remote sensing techniques combined with image processing algorithms. The project develops a set of applications integrated in a system that pursue the following objectives:

- Search and location of ancient ship wrecks;
- Monitoring of shipwrecks, ruins and historical artefacts that are now submerged;
- Integration of resulting search and monitoring data with on-site data into a management tool for underwater sites;
- Demonstration of the system's suitability for a service.

The ITACA project, funded by 7th FP is coordinated by Planetek Hellas.



Similar projects

[Park-Archipelago](#), [C-WAMS](#), [Aquamar](#),
[Ocean Color Map](#)

Client



RESEARCH EXECUTIVE AGENCY (REA)

Links & resources

➔ <http://www.itaca-fp7.eu/>

➔ <http://www.planetek.it/eng/itaca>

Multisource 3D IMagery INTelligence

3D IMINT: design and implementation of a computer system able to support the targeting activities of the Italian Armed Forces.

Getting the maximum detail from imagery and from geo-information data is crucial for Imagery intelligence activities. The aim of the “3D IMINT” project is to support the targeting operational activities of the Italian FFAA. To increase the performances of targeting activities, an extensive and innovative use of remote sensing data and new generation of elaboration algorithms was introduced. A computer system integrates innovative IMINT methodologies into a sophisticated process, resulting in a significant improvement in the accurate recognition and classification of targets, by using, among others, accurate 3D coordinates.

The key elements of the project are:

- to adopt the 3rd dimension to increase information accuracy;
- to derive Ground Control Points from Satellite radar data, archived in a global catalog, to increase military operations accuracy;
- to correctly manage the geo-information assets through proper storage, updating and accessibility of the data;
- to integrate different types of data through data fusion techniques;
- to automate and integrate the entire process with benefits in terms of time and cost saving;
- to introduce standardized e-learning systems.



Similar projects

[Geocrew](#), [G-Next](#), [Safer](#)

Client



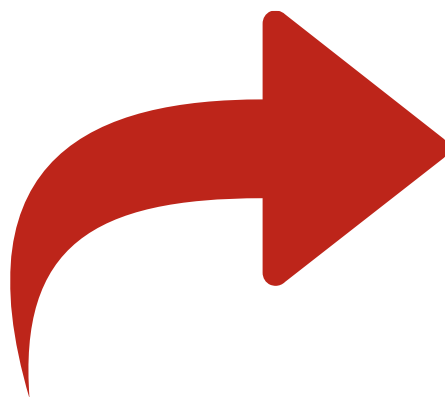
Stato Maggiore della Difesa

Links & resources



www.planetek.it/3Dimint

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