

A circular inset showing a satellite map of a city area, with numerous yellow rectangular overlays indicating specific land parcels or buildings.

GEOINFORMATICS

Infrastructure for Spatial Information (SDI) in the European Community (SDI INSPIRE)



We provide tailored solutions for integration and harmonisation of geographical data and services, in governing requests of environmental monitoring and reporting drafted by European-, national- and local- policies and actions.

In Europe a major maturity entered into force via the INSPIRE Directive in May 2007, establishing rules for infrastructures for spatial information aimed to supporting Community enviro-policies and policies or activities impacting the environment

In SDI INSPIRE EPSILON offers:

- **Use Case analyses and system requirement definitions** for the development of Spatial Data Infrastructures and INSPIRE related applications and services guiding reform priorities, policy development, legislative improvements and exchange of knowledge in the environmental and other sectors.
- **Data and metadata harmonization services** according to specific reference data themes resulting in easily accessible and reusable datasets through the use of open standards and services, enabling users to run data and metadata remodelling processes, perform remapping from single different data/metadata source-schemas to respective target schemas via INSPIRE gml schemas and INSPIRE metadata profiles.
- **Data and metadata validation services** by ensuring compliance to common reference models (e.g., OGC, ISO, INSPIRE implementing rules and guidelines) through sets of validation services used to validate metadata-, data- and services- according to standards and protocols of references enabling users to run validation processes claiming compliance against specifications.
- **Semantic interoperability services** ensuring efficient access to heterogeneous geographical Information sources, both in a multicultural and multilingual context, through use of a common thesaurus (e.g., GEMET, EARTH) as a support to data modelling and metadata provision, in compliance with existing CEN and ISO standards for GI and in connection with similar activities carried out at EU and global levels.
- **Pilot theme applications, Shared Environmental Information Systems (SEIS) and INSPIRE services** on environmental monitoring facilities, area management-, restriction-, regulation-zones and reporting units, meteorological geographical features, protected sites, land cover and other.
- **Operate Best Practice Networks on SDI for environment** by exploiting experiences and in cluster with other similar communities, organization of awareness, dissemination and training activities including local workshops and EU wide conferences to potential target users, e.g. regional and national authorities seeking for interoperable datasets and services, for INSPIRE Drafting Teams and for stakeholders in general.

"10 current" projects on INSPIRE:

1. **ArcFUEL: Mediterranean Fuel Maps Geodatabase for Wild-land & Forest Fire Safety (2015).** ArcFUEL delivers a complete, up-to-date, methodology for Fuel Classification Mapping (FCM on a Web-Geodatabase) based on "readily available" data, harmonized, accessible & interoperable according to INSPIRE principles for the Mediterranean (Greece, Portugal, Italy and Spain). www.arcfuel.eu
2. **SEIS-MT (2014): Shared Environmental Information System, Malta.** The SEIS-MT Geoportal development is a service of the MEPA (Malta Environment & Planning Authority). SEIS-Malta delivers one of the first practical implementations of SEIS in Europe in INSPIRE. The SEIS-MT is a collaborative initiative of the European Commission (EC) and the European Environment Agency (EEA) aimed to establish an integrated and shared EU-wide environmental information system together with the Member States according to INSPIRE principles. www.seismalta.org.mt
3. **BRIDEIDE: BRIdging SErviceS, Information and Data for Europe, Information society and media Directorate (2014).** BRIDEIDE delivers time-aware extension of data models developed in the context of previous/ongoing EU INSPIRE related projects, application (e.g. Civil Protection) based on the integration of existing, user operational information and value added services for spatio-temporal data management, authoring, processing, analysis and interactive visualisation, using INSPIRE relevant themes, via a chain of stakeholders, data providers, and downstream users. www.briseide.eu
4. **eENVplus: e-Environmental Services for Advanced Applications with INSPIRE (2015).** The project integrates large amount of environmental data placed at the disposal of national/regional environmental agencies and other public and private stakeholders through the integration and INSPIRE harmonization of existing services, linked to environmental monitoring and policies. www.eenvplus.eu
5. **GrecoRisks: Hellenic Natural Hazards Risks Management (2015).** GrecoRisks delivers a Multi-Risk geointelligent web platform integrating risk modules and INSPIRE compliant data and metadata for nine (9) hazards in Greece: geohazards (earthquake, volcano, landslide, ground movement), forest fires, flash-floods, extreme weather, tsunami, industrial accidents. The geobased platform delivers surface risks for user specified regions, to satisfy the analysis and interoperability needs of public Civil Protection Agencies, and promotes the collaboration and interoperability of systems between public and private entities (e.g., insurance companies) for data exchange and sharing. www.grecorisks.com
6. **GeoSmartCity (2015): Open geo-data for innovative services and user applications towards Smart Cities.** GeoSmart-City contributes to Smart-City implementation practices whilst establishing a cross-platform, re-usable and open hub able to publish open geographic information and to provide specialized services based on open standards, as recommended by the EU Open Data Strategy. GeoSmartCity considers PSI and INSPIRE data infrastructures, with an emphasis on Municipalities as service and data providers to professionals and citizens. www.geosmartcity.eu
7. **SmeSPIRE (2014): A European Community of SMEs built on environmental digital content and languages.** Due to legal requirements, INSPIRE implementation becomes the entry-point for crucial business opportunities, opening new, or reinforcing existing perspectives. SmeSPIRE's encourages and enables the

participation of SMEs in the mechanisms of harmonizing and making large scale environmental content available in relation to INSPIRE as an integral component of the Digital Agenda for Europe. www.smespire.eu

8. **Medislae-3D (2012): Mediterranean Islands 3D Aerial Navigation.** Medislae-3D delivers for 100+ European Mediterranean islands a spatial database infrastructure (SDI) based on EU-INSPIRE, a 3D-aerial webGIS flying-over application, for island navigation as virtual-visiting, a dynamic Portal for islands information, data sales, and 3D aerial navigation, the latter also being linked to the Google Earth™, Virtual Earth™, and ArcGlobe™ SDI/GIS platforms. www.medislae-3d.eu
9. **Smart-Islands (2015).** Smart-Islands are mobile Apps for iPad / Android and an online 3D viewer, that provides information on travelling accommodation, entertainment, leisure, history, weather, health, public issues, and many other, data structured based on INSPIRE principles for cross-accommodation of the apps between EU countries. The apps proved information like: Explore all island facilities and services via a single touch, Get impressive landmarks and POIs information, Booking integration, Stunning 3D navigation, Discover shops, restaurants, events, news, tours, and many more, and Panoramas, videos, social networks integration, GPS Detection, www.smart-islands.eu
10. **Nature SDI Plus (2012): Best Practice Network for SDI in Nature Conservation.** NATURE-SDIplus aims, through state-of-the-art methodologies and best practice examples, to improve harmonization of national datasets and make them more accessible and exploitable. It contributes to the INSPIRE implementation with specific reference to a cluster of data themes on nature conservation. www.nature-sdi.eu

Our Services are supported by:

- **Flight & UAV/UAS operations** also supported by our associated company www.aviontek.com
- **GIS/GPS/GSM/GPRS** and other IST and field mapping technologies, also offered by Epsilon Italia srl, www.epsilon-italia.it
- **Data and metadata harmonization & validation tools** (e.g. CoPublisher, CatMDEdit, INSPIRE Metadata editor, MIG etc)
- **Statistics & GIS database products** (for Greece & Cyprus)
- **Research & development**
- **Training and capacity building** also offered by Epsilon Bulgaria ood, <http://epsilon-bulgaria.com>
- **Hardware, software, middleware** integration supported by PC-Systems SA, www.pcsystems.gr
- **Management Consulting** also offered by Epsilon Consulting Ltd., Cyprus, www.epsilon-cyprus.com.cy
- **Flight & UAV/UAS operations.** also supported by our associated company www.aviontek.com

We address cross-sectoral and institutional issues on an international, national and local level to ensure the sustainability of natural resources and to support integrated and socially acceptable solutions; this multi-discipline approach aims, amongst other, at protecting the environment, ensuring economic development, increasing public awareness, understanding uncertainties, managing risks and supporting policy adaptation. EPSILON is certified according to **ISO 9001:2008** by TUV NORD for: civil & environmental engineering consulting services, design & development of information technologies applications in the field of Geoinformatics and GIS, geo-navigation, surveying, collection and production of GIS data, project management, GIS & environmental studies, remote sensing & photogrammetry services.



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Number of
EPSILON Group
offices in Europe

35

Number of countries
where EPSILON has
significant presence

120★

Number of large RTD projects conducted
during last decade



www.epsilon.gr