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The SANY integrated project focuses on interoperability of in-situ sensors and sensor networks. SANY architecture will provide a quick and cost-efficient way to reuse data and services from currently incompatible sensor- and data- sources.

coordinated by:



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Acknowledgement

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www.sany-ip.eu

Partners

SANY consortium is composed of 16 partners from seven EU member states and one associated state (CH). It includes two SME's, two research centres, three universities, four public authorities and one international standardisation organisation.

Austria:

Austrian Research Centers GmbH - ARC / smart systems Division
Umweltbundesamt GmbH, Vienna

Belgium:

SPACEBEL S.A.

France:

iséo
IGN - Institut Géographique National
KTT-IMA SARL
Sol Data SA

Germany:

Environmental Informatics Group, Germnay (EIG)
Fraunhofer-Institut für Informations- und Datenverarbeitung (IITB)

Poland:

Maritime Office in Gdynia

Spain:

Gestió d'Infraestructures, S.A. - GISA

Switzerland:

Eidgenössische Technische Hochschule Zürich (ETH)

United Kingdom:

BMT Cordah Limited
Open Geospatial Consortium (Europe) Ltd.
MarineTech South Ltd
University of Southampton

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Vision

Create a Single European Data Space by Developing a Generic Architecture

The vision of SANY is to contribute to the long-term goal of the European Commission to create a Single European Data and Information Space for environmental ICT by developing a generic architecture and reference service implementations for sensor networks in this application domain. SANY shall simplify the task of integrating various in-situ and remote sensors into one information space and facilitate interoperation between a wide variety of sensor types.

The SANY Project defines its tasks around five major objectives. These are:

- **To specify an architecture**
for all kinds of fixed and moving sensor networks that allows seamless "plug and measure" type of environmental risk sensor networks, and sharing of data and messages between these networks ("virtual networks")
- **To develop and validate** a reference implementation of the architecture.
- **To develop advanced** data and model-based fusion and decision support, making use of the new architecture and providing added value to end users.
- **To ensure the new architecture** is generic enough and provides added value for the end users. This goal will be reached by validating the SANY RTD work in several demonstrative use cases covering the areas of air pollution, marine risks and geo hazards.
- **To ensure** that the outcome of SANY is accepted by relevant end users and international organisations and contributes to a future standard applicable to GMES and GEOS.

(R)Evolutionary Design

Integrate the Best Aspects of Existing Technologies

SANY intends to integrate the best aspects of existing technologies and concepts independently developed in MASS-SSE, ORCHESTRA, OGC-SWE and IEEE 1451 in a single architecture. In particular, SANY adopts the ORCHESTRA principles for the design of architectural frameworks, such as:

- **Evolutionary Development and Design for Change**, i.e. an infrastructure must easily adapt to emerging needs
- **Technology Independence** i.e. operation over a long lifetime notwithstanding evolving software (in particular middleware) standards.
- **Rigorous use of concepts and standards** i.e. a software system can only serve as an infrastructure if it supports interoperability through open standards.
- **Generic Infrastructure**, i.e. the infrastructure must be application and location (organisation) independent.

Expected Results

Advanced Research for Our Environment

- **Standard service-oriented architecture for environmental sensor networks.**
- **SANY services capable of seamless "plug and measure" and sharing ("virtual networks").**
- **Reference implementations of re-usable sensor- and domain-agnostic services, including decision support and generalized data fusion services.**
- **An on-demand environment to access GMES information and services, based on results of ORCHESTRA service oriented architecture (SOA) and the MASS/SSE platform.**
- **Demonstration of results in three environmental domains: Air Quality Monitoring, Marine Risks and Geo-Hazards**

Intermediate Results:

Information about intermediate results as well as how to subscribe to the SANY newsletter can be found on the SANY web page: www.sany-ip.eu

