

The Strands



Strand 1

Smart Cities and Resilient Societies addressing issues such as urban growth, air quality, natural and manmade disasters, health, contaminated sites.



Strand 2

Resource Efficiency and Environmental Management including water, energy, food security, biodiversity.



Strand 3

Global Change and Environmental Treaties with focus on toxic and persistent pollutants, harmonization of atmosphere-ocean-terrestrial observations and models, ecosystems' response, support to policy implementation.



Strand 4

Polar Areas and Natural Resources targeted at environmental pressure from increasing anthropogenic activity, including monitoring and assessment of ecosystems' quality in Arctic and Antarctic.

A transnational call for collaborative projects was open to ERA-PLANET beneficiaries. A two-step selection process to select the most innovative and competitive proposals related to the four strands was initiated. Selected projects starting date was September 1st, 2017.



In the last decade a significant number of projects and programmes in different domains of environmental monitoring and Earth observation have generated a substantial amount of data and knowledge on different aspects related to environmental quality and sustainability.

Big data generated by in-situ or satellite platforms are being collected and archived with a plethora of systems and instruments making difficult the sharing of data and knowledge to stakeholders and policy makers for supporting key economic and societal sectors.

The overarching goal of ERA-PLANET is to strengthen the European Research Area in the domain of Earth Observation in coherence with the European participation to Group on Earth Observation (GEO) and the Copernicus.

The expected impact is to strengthen the European leadership within the forthcoming GEO 2015-2025 Work Plan. ERA-PLANET will reinforce the interface with user communities, whose needs the Global Earth Observation System of Systems (GEOSS) intends to address.

It will provide more accurate, comprehensive and authoritative information to policy and decision-makers in key societal benefit areas, such as Smart cities and Resilient societies; Resource efficiency and Environmental management; Global changes and Environmental treaties; Polar areas and Natural resources. ERA-PLANET will provide advanced decision support tools and technologies aimed to better monitor our global environment and share the information and knowledge in different domain of Earth Observation.



ERA-PLANET

The European network for observing our changing planet

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More info at: www.era-planet.eu

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The Program

Challenge addressed

To strengthen the European Research Area in the domain of Earth Observation in coherence with the European participation to Group on Earth Observation (GEO) and the Copernicus.

Overarching goal

Development of a Transnational Environmental Observation System in Support of European & International Policies through the integration of real-time monitoring data from several platforms, modelling tools and advanced, global, cyber-infrastructure for data sharing and interoperability.

Specific objectives

- **To prepare** and launch a two-stage joint transnational call along four Strands
- **To fund** projects according to a priority list set by external experts
- **To monitor** funded projects and report progress accordingly
- **To develop** a strategic research agenda to reinforce the ERA and to coordinate the cross- and inter-cooperation of European and national programs in key and selected EO domains.
- **To coordinate** initiatives with the aim to improve the interoperability among the existing and future projects on EO and links to the GCI.

Expected impact

- **Reinforcement** of European leadership within GEO (2016-2025)
- **Coordination** and integration of major European research and innovation programmes on EO
- **Fostering** a wider exploitation and use of EO derived information for the benefit of citizen's daily life
- **Support** an effective implementation of environmental policies
- **Improve** and select effective environmental indicators for different end-users and support the 2030 Agenda on SD
- **Maximisation** of value and benefits of EO investments through the improvement of shared architectural components and related information infrastructures
- **Development** of sustainable and interoperable observational, modelling, data assimilation and prediction systems



SMURBS Smart URBan Solutions for air quality, disasters and city growth

Overarching Objectives

- Empower EO-enabled, informed decision making in the urban landscape for Air Quality, Disasters, Urban Growth, Health and Migration
- Enable EO based, platform data fusion in urban management, employing smart city methods for gathering and distribution of information
- Foster smart citizen participatory mechanisms to build urban societal resilience
- Create a reference for smart city initiatives in the EU relevant area

Contribution to GEO-GEOSS

SMURBS will target to the implementation of the urban component of the GEO Strategic Plan (2016-2025; SBAs of Sustainable Urban Development, Public Health Surveillance and Disaster Resilience), and optimize exploitation of Copernicus data and core services, refocusing existing capacity under the smart city banner. It will advocate the importance of EO as irreplaceable resources to achieve resilient cities and engage stakeholders via science-based and data-driven decision making.

Impact to decision making

A gap analysis, tapping urban decision makers and citizens, will bring alignment and fit-for-purpose of the EO platforms, tools and products. The information will be provided in an online and near real time basis achieving timeliness and a high degree of comprehension via urban society-relevant indicators. Smart and open distribution of information will further empower informed decision making, culminating in the Portfolio of Smart Urban Solutions.

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GEOessential Essential Variables workflows for resource efficiency and environmental management

Overarching Objectives

- Address identified gaps and enhance the existing Knowledge Base infrastructure on Essential Variables (EVs)
- Improve the availability of EVs services from GEOSS and Copernicus platforms
- Assess the potential of synergies between ground and satellite observations
- Develop specific data workflows and build the GEOessential Hub with a dashboard from EVs to SDGs

Contribution to GEO-GEOSS

- To contribute implementing the EO Knowledge Base
- To build on the ENEON commons for a better access to in-situ data
- To contribute advancing the definition and implementation of EVs across GEOSS and Copernicus SBAs to monitor the SDGs
- To advance the present GEOSS Common Infrastructure by adding important capabilities to manage and utilize workflows and third-party modelling and semantics resources/ services

Impact to decision making

Beyond just simplifying access to existing EVs, GEOessential will transform these existing EVs into derived products for which users have identified a specific need. It will also provide an interactive visualization capability that allows the user to explore the data, the EVs and the derived indicators, for example by displaying trends and maps, and thus facilitates understanding of the data significance, in particular for monitoring the progress towards SDGs.

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iGOSP Integrated Global Observing Systems for Persistent Pollutants

Overarching Objectives

Development of a Transnational Environmental Observation System in Support of European & International Policies through the Integration of real-time monitoring data from various platforms, modeling tools and advanced global cyber-infrastructure for data sharing and interoperability in order to support the implementation of the Minamata and Stockholm conventions on global mercury and POPs contamination.

Contribution to GEO-GEOSS

IGOSP will support the goals and objectives of Strand-3 of ERA-PLANET aiming to support policy makers and stakeholders as well as Nations in implementing the Minamata and Stockholm conventions. IGOSP will contribute to the GEO Strategic Plan (2016-2025) by supporting the activities of the GEO Flagship on Global Observation System for Mercury (GOS*M) (www.gos4m.org) and of the GEO Initiative Global Observation System for POPs (GOS*POPs).

Impact to decision making

IGOSP will increase open and unrestricted data sharing capacity, interoperability amongst observational, data assimilation, modeling, and forecasting systems to provide key information and support the COP of the Minamata Convention on Mercury and the Stockholm Convention on POPs, in their effort to evaluate the effectiveness of measures undertaken at country and global scale.

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iCUPE Integrative and Comprehensive Understanding on Polar Environments

Overarching Objectives

- Synthesize data from comprehensive long-term measurements, intensive campaigns and satellites, collected during the project or provided by on-going international initiatives
- Relate the observed parameters to impacts
- Deliver novel data products, metrics and indicators to the stakeholders concerning the environmental status, availability and extraction of natural resources in the polar areas

Contribution to GEO-GEOSS

iCUPE will advance the sector of the Key-Enabling Technologies for EO applications and will reinforce data provision and data services by GEOSS, thus reinforcing the European role in GEOSS and contribute to the dialogue with Copernicus downstream services. Within iCUPE, the data interoperability is carried out by evaluating the interoperability interfaces and tests with GEOSS Common Infrastructure (GCI). The work utilizes the GEOSS GCI and the "GEO Discovery and Access Broker - Application Program Interface" (DAB APIs).

Impact to decision making

- iCUPE will provide multidisciplinary information and novel data on the current status of the polar environment, including the relative contributions of local emissions and long-range transported pollutants on atmospheric concentrations, deposition and surface properties.
- The comprehensive and harmonized data produced within iCUPE will be applied for improving the modeling capacity for future exposure and impact scenarios in the Arctic.

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