Expertise across the entire value chain in satellite systems
Deimos technology is present in more than 60 satellites

Capabilities to lead a complete space mission
Background
<table>
<thead>
<tr>
<th>Initiative</th>
<th># Services</th>
<th>Pilots Thematic Areas</th>
<th>Targets</th>
</tr>
</thead>
<tbody>
<tr>
<td>SenSyF</td>
<td>7</td>
<td><strong>Generic</strong>&lt;br&gt; (water, polar, vegetation, spectro-temporal integration, land use / land cover, agriculture support)</td>
<td>Ingestion of Copernicus data, tools - SenSyF SDK, integration of pilot services in cloud platform</td>
</tr>
<tr>
<td>SIMOCEAN</td>
<td>3</td>
<td><strong>Maritime Monitoring</strong>&lt;br&gt; (port entry, fishing, interactive analysis)</td>
<td>Data preparation, data hub &amp; catalogue, geo-portal</td>
</tr>
<tr>
<td>CoReSyF</td>
<td>6+8</td>
<td><strong>Coastal Research</strong>&lt;br&gt; (water quality, bathymetry, storm surge, vessel detection, oil spills + 8 masters thesis)</td>
<td>Tools - Co-ReSyF SDK, integration of pilot services in cloud platform</td>
</tr>
<tr>
<td>NEXTGEOSS</td>
<td>11+</td>
<td><strong>Monitoring of SDGs</strong>&lt;br&gt; (agriculture, biodiversity, security, artic, megacities, geohazards, territory, food security, smart cities, energy, +marine)</td>
<td>Data ingestion &amp; hub – catalogue, QoS and community feedback, user management, cloud + DIAS (ongoing), operations &amp; monitoring</td>
</tr>
<tr>
<td>BETTER</td>
<td>3x6</td>
<td><strong>Challenges</strong>&lt;br&gt; (food security, intelligence, geohazards, …)</td>
<td>Data ingestion and transfer, data analytics including ARD / data cubes, data visualisation</td>
</tr>
</tbody>
</table>
AIR Centre - For the benefit of the Atlantic societies

A new long-term platform for **scientific and economic cooperation** across and along the **Atlantic**, based on existing research capacities and infrastructures.

Addresses R&D gaps within the 6 Societal Benefit Areas aligned with the UN Sustainable Development Goals (SDGs).

Global challenges:
- Understanding, Predicting and Adapting to Climate Change
- Understanding the Atlantic ocean for a Healthy & Productive Ocean
- Clean, Affordable and Secure Energy for All
Collaborative EO ecosystem for systems and services

- Engage **Users** and **federate** service needs
- Easy access to a wide range of geospatial **data**
- Collaborative R&D, development and **operations**
- Attract funding and ensure **sustainability**
- Support the **SDGs** and Belém Statement
- Leveraging GEO and **GEOSS** for the Atlantic
"Need to bridge the gap between research and operational services"

Marco Weydert (EC)
First Public Release
Feb 2019
OPEN CALLS

1. Integration of new **pilot services** in operational environment:
   - *Fully scalable resources*
   - *Cloud vendor independent environment*
   - *Easy access to data sources*
   - *Dedicated operation dashboards*

2. Cataloguing **data** from projects and services
   - Providing single access point to (mainly) European data sources

3. Cataloguing **services** and **projects**
   - Increase visibility for distributed activities and services

[https://nextgeoss.eu/join-us/](https://nextgeoss.eu/join-us/)
Vision: The Atlantic GEOSS’ vision is to enhance the role of Earth Observation information and services serving the Atlantic Region societal needs, with strong focus on the Sustainable Development Goals and the Belém Statement, while promoting collaboration and growth.

Mission: The mission of the Atlantic GEOSS is to mobilize and coordinate complementary resources of Atlantic countries to create a sustainable EO data ecosystem for the Atlantic region, supporting the use of Earth Observation information in decision-making processes.
CONTEXT: Opportunity and Challenges

• International Cooperation and Belém Statement
• Opportunity to engage with end users
• Access to a wide Atlantic community
  • 30+ countries across 4 continents

• Federate Users needs from multiple countries
• Address indicators for several SDGs with accepted EO-based procedures
• Scale applications geographically

“Coordinate existing skills, means and opportunities into a unified approach.”
Miguel Miranda (IPMA)
CONCEPT DESIGN

Users Federation
- International group of federated user institutions
- Identify and standardise requirements
- Issue joint calls for ideas and challenges

Virtual Research Environment
- Interactive environment
- Visual workflow manager
- Advanced visualization

Virtual Development Environment
- Software development toolkit
- Analysis ready data
- Configurable dashboards

Operations Environment
- Operations monitoring dashboards
- Service Desk
- Community Portals

Knowledge Sharing
- Capacity building for AtlanticGEOSS ecosystem
  - Training events, webinars, …
- Standardisation and interoperability

Citizen Engagement
- Engage citizen science activities
- Disseminate AtlanticGEOSS initiatives
- Data governance

Sustainability
- Ensure sustainability attract international funding institutions
- Promote calls for activities
CONTEXT: PRELIMINARY NEEDS IDENTIFIED

Internal study shows some of the relevant issues to be tackled within Atlantic monitoring, taking into consideration the available technologies and research activities being carried out.

Main Challenge

Scale information of most relevant issues for the Atlantic region.

Main Focus: Marine, Maritime and Coastal

- Marine Environment & Ecosystem
  - e.g. EOBs, monitoring of coastal area ecosystems and protected areas, plastics-free Ocean
- Fishing and Aquaculture
  - e.g. Fish population characterisation, illegal fishing detection
- Maritime Safety and Security
  - e.g. Supervise and secure navigation, people, goods
- Marine Spatial Planning
  - e.g. secure navigation, people, goods, assessment of offshore infrastructures
### Rough Order of Magnitude (ROM) Budget for 2020-22

<table>
<thead>
<tr>
<th>ACTIVITY</th>
<th>DESCRIPTION</th>
<th>BUDGET</th>
</tr>
</thead>
<tbody>
<tr>
<td>User needs</td>
<td>Identification of main users needs through direct and remote interaction, including the setup of thematic users meetings. This should be followed by a detailed feasibility assessment.</td>
<td>3M€</td>
</tr>
<tr>
<td>Services definition</td>
<td>Identification of the EO services for users, including the identification of technical developers, existence and access to required datasets in all applicable regions for each potential service and other potential blocking points.</td>
<td>1.5M€</td>
</tr>
<tr>
<td>Funding rounds</td>
<td>Multilateral initiatives with international, regional and national funding organizations to select activities and services to go forward to implementation stage.</td>
<td>2.5M€</td>
</tr>
<tr>
<td>Services Implementation</td>
<td>Implementation of an AtlanticGEOSS catalogue of data and services. Implementation of EO services through collaborative engagement of technological solutions from AtlanticGEOSS countries.</td>
<td>6M€</td>
</tr>
<tr>
<td>Capacity Building</td>
<td>Preparation of dedicated actions for capacity building for users, system operators and downstream developers. Collocation of key users and stakeholders with development teams for specialized training.</td>
<td>3M€</td>
</tr>
<tr>
<td>Dissemination</td>
<td>Website, social media, participation in international events, etc.</td>
<td>1M€</td>
</tr>
<tr>
<td><strong>ROM TOTAL (3 years)</strong></td>
<td></td>
<td><strong>17M€</strong></td>
</tr>
</tbody>
</table>
Potential Funding Institutions for AtlanticGEOSS Projects and Activities:

• AIR Centre, e.g. in kind support of human resources for promoting international cooperation
• African Development Bank (AfDB)
• World Development Bank (WDB)
• European Investment Bank (EIB)
• European Bank for Development and Reconstruction (EBRD)
• West African Development Bank (BOAD)
• Food and Agriculture Organization of the United Nations (FAO)
• United Nations Office for Outer Space Affairs (UNOOSA)
• European Space Agency (ESA), including Atlantic Initiative (5-6 M€)
• European funding through H2020 actions, e.g.:
  • Coordination and Support Actions (CSA), e.g. SC5-16-2019 CSA (1M€)
  • Research and Innovation Actions (RIA), e.g. DT-SPACE-06-EO-2019 (2M€)
  • Innovation Actions (IA), e.g. SC5-16-2019 CSA (3M€)
• National/Regional Budgets
• Private investment (>3M€)
SETUP ROADMAP 2019

- Gather initial list of supporting countries and entities / potential members within AIR Centre stakeholders
  - Define initial contributing individuals
    - Engage user authorities in participating countries
      - Discuss collaborative governance and structure
        - Discuss and agree on a AtlanticGEOSS programme for submission to GEO
      - Obtain and consolidate concrete requirements for services from users
        - Assess capacity of Atlantic GEOSS members
          - Apply to first projects funding
            - Engage with international funding agencies to attract interest

PREPARE FOR FIRST BATCH OF AIR-C ACTIVITIES

- January
- February
- March
- April
- May
- June
- July
APPLICATION TO GEO

Cooperation for a better understanding of the Atlantic

In 2015 the UN members agreed upon a new set of strategies to promote a sustainable development, defining 17 Sustainable Development Goals (SDGs) to be achieved over the next 15 years. Earth Observation (EO) data and monitoring systems have proven to be an effective solution for a deepened understanding of the marine environment and, as a result, a better response to emerging challenges. The AtlanticGEOSS is an initiative proposed in the context the Atlantic Research Centre (AIR-Centre), focusing on an integrated approach for Earth Observation based services. It will be proposed as an official GEO Initiative to the Group of Earth Observations in February 2019.

The goals of the AtlanticGEOSS are to develop an integrated EO framework that promotes collaboration and growth within the Atlantic countries, and to engage with communities to identify and potentiate opportunities for EO information and services, serving the region’s societal needs.

The AtlanticGEOSS is focused on Marine, Maritime and Coastal application areas, such as monitoring marine biodiversity and protected areas, fishing and aquaculture, and marine spatial planning. Geographically, the initiative is based on the extension to the South Atlantic of the Galway Statement - the Belem Statement, signed between the EC, South Africa and Brazil. The initiative comprises institutions from many Atlantic states from Europe, Africa and America, in order to facilitate the creation of value-added services for federated users in support to decision-making processes.

The four pillars of the AtlanticGEOSS are 1) federating user needs for the Atlantic leveraged mostly on the AIR-Centre extensive network; 2) matching the user needs with solid Earth observation technologic and scientific players in Atlantic bordering countries; 3) engaging International and National Funding Institutions to support the initiatives with highest impact; 4) promote dedicated capacity building to ensure the local and widespread sustainability of the activities.

If you are interested in AtlanticGEOSS, please click on the button below. We are currently collecting support from interested parties from Atlantic bordering countries, in order to prepare the AtlanticGEOSS 2020-2022 program, to be submitted to GEO in February 2019.

Fill in Form

We are also collecting comments and suggestions on the application programme to GEO until the 6th of February. Please download the current draft here, review the document (make sure Track Changes is turned on), and then upload it here:

Upload Your Review

Alternatively, you can also your reviewed document to nuno.catarino@deimos.com.pt.
Thank you!
nuno.catarino@deimos.com.pt