

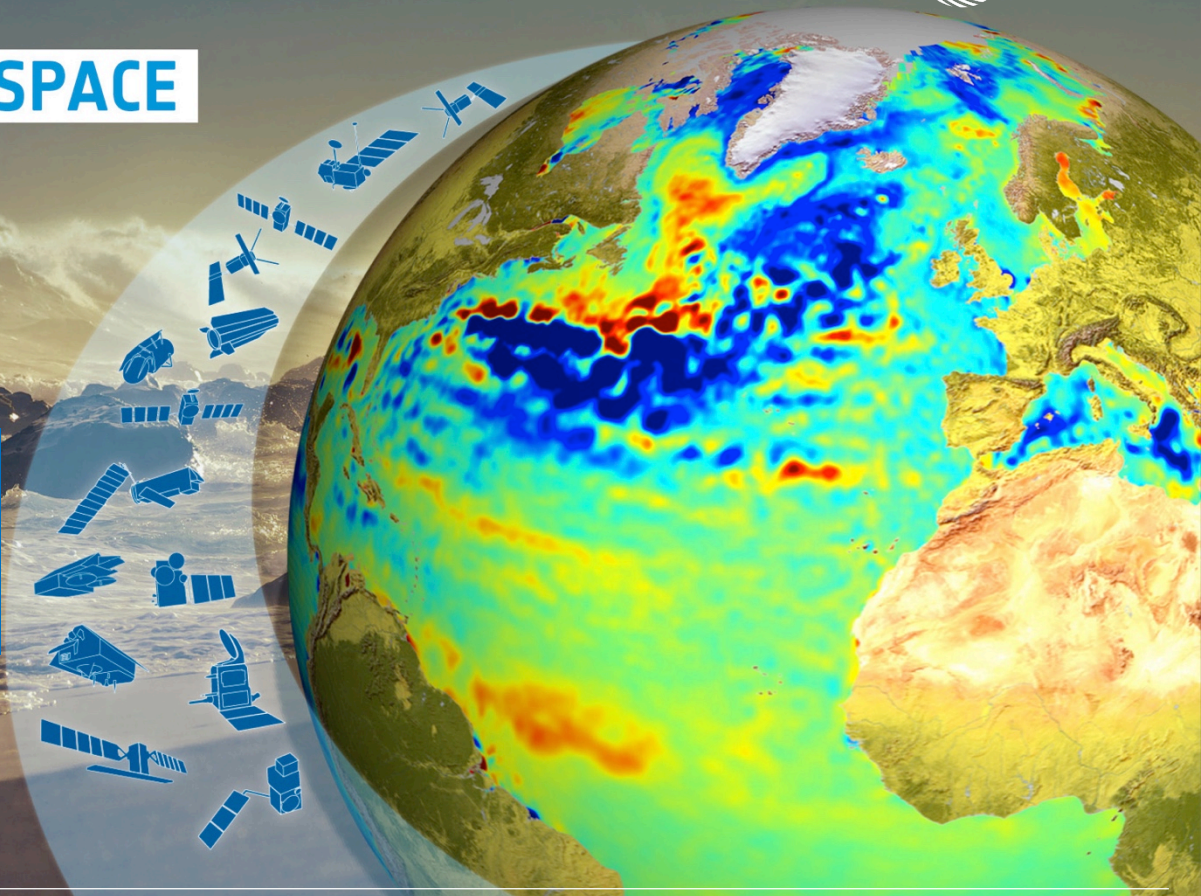
→ ATLANTIC FROM SPACE WORKSHOP

23–25 January 2019
National Oceanography Centre
Southampton, UK

Innovations For Maritime
Economy In The Polish
National Space Program
For 2019-2021

Marek Moszynski

Polish Space Agency



POLSA is responsible for:

- preparation and implementation of the **National Space Programme** – an executive programme under the **Polish Space Strategy** prepared and published by the Polish government in **2017**



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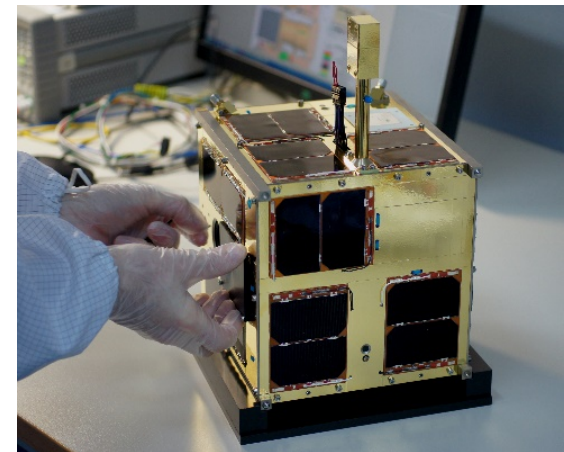


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Instruments
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Types of projects:

1. Big projects (5)
2. Downstream sector support (10)
3. Innovation (5)
4. Maritime-Space sector support (4)
5. International environment (5)
6. Internships and training (8)
7. Education (10)
8. Promotion (6)
9. Other projects (2)



Assembly of a scientific satellite „BRITE”
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4. Maritime-Space sector support

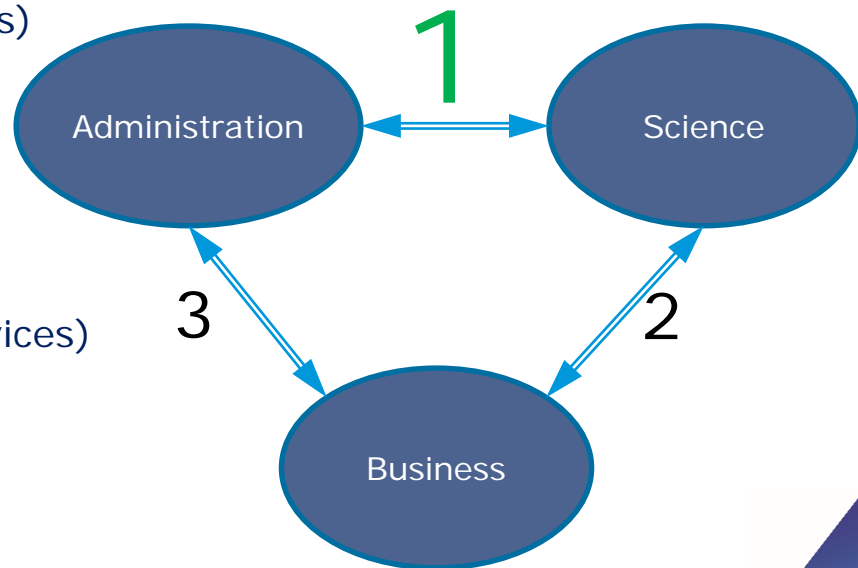
- Challenges
- Range of Activities
- Expectations
- Maritime-Space project proposals

Challenges:

- Monitoring of the marine environment:
Availability (weather, seasons), Size (volume and types of data)
Cost (measuring and observation infrastructure)
- Data sources:
Historical data, In-situ measurements, Earth Observation data (including Copernicus Programme), Data from satellite navigation services
- Marine information systems:
Innovative information services (data fusion), Systems of systems (integration of services), Stakeholders / beneficiaries (cooperation /coordination - science, administration, business)

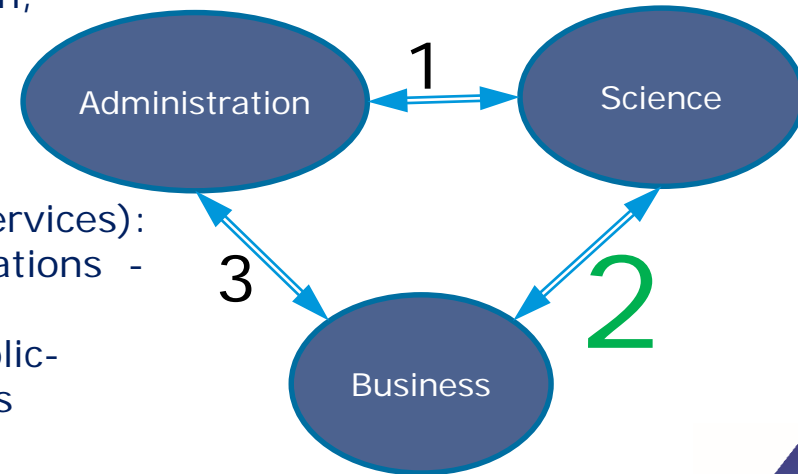
Administration – Science

- Historical data (information services)
- Forecasting
- Planning
- Policy
- Decision-making procedures
- Formal and legal requirements
- Functional requirements
- Implementation of operations (services)



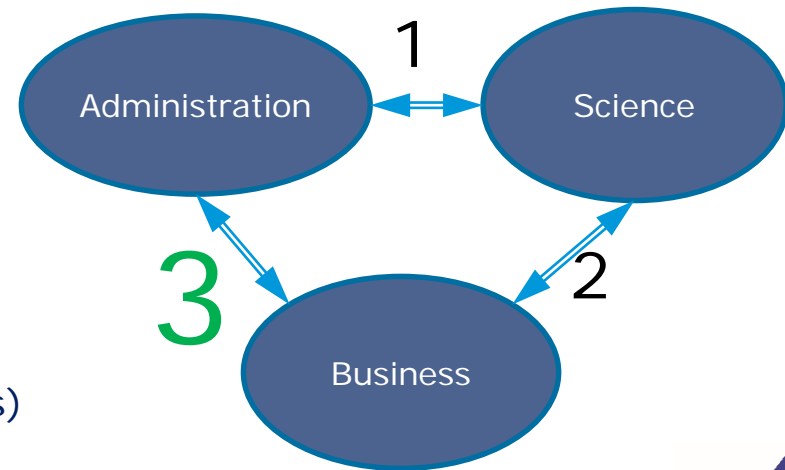
Science – Business

- Large-scale data repositories (satellite, in-situ)
- Technical infrastructure (data acquisition, computing resources)
- Competence resources (staff)
- Models (simulation of phenomena and processes)
- Innovative products (methods, tools, services):
- Demonstrators, prototypes, implementations - industrial research, development works
- Business models - structural funds, public-private partnership, private investments

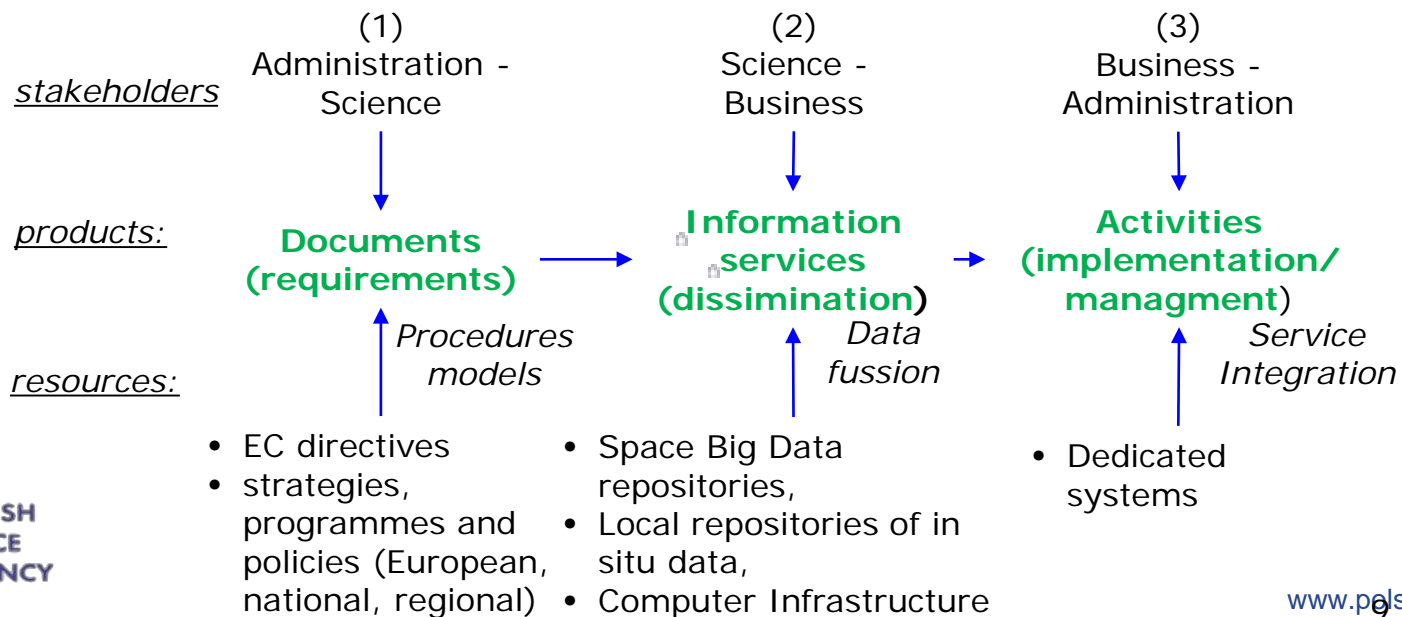


Business - Administration:

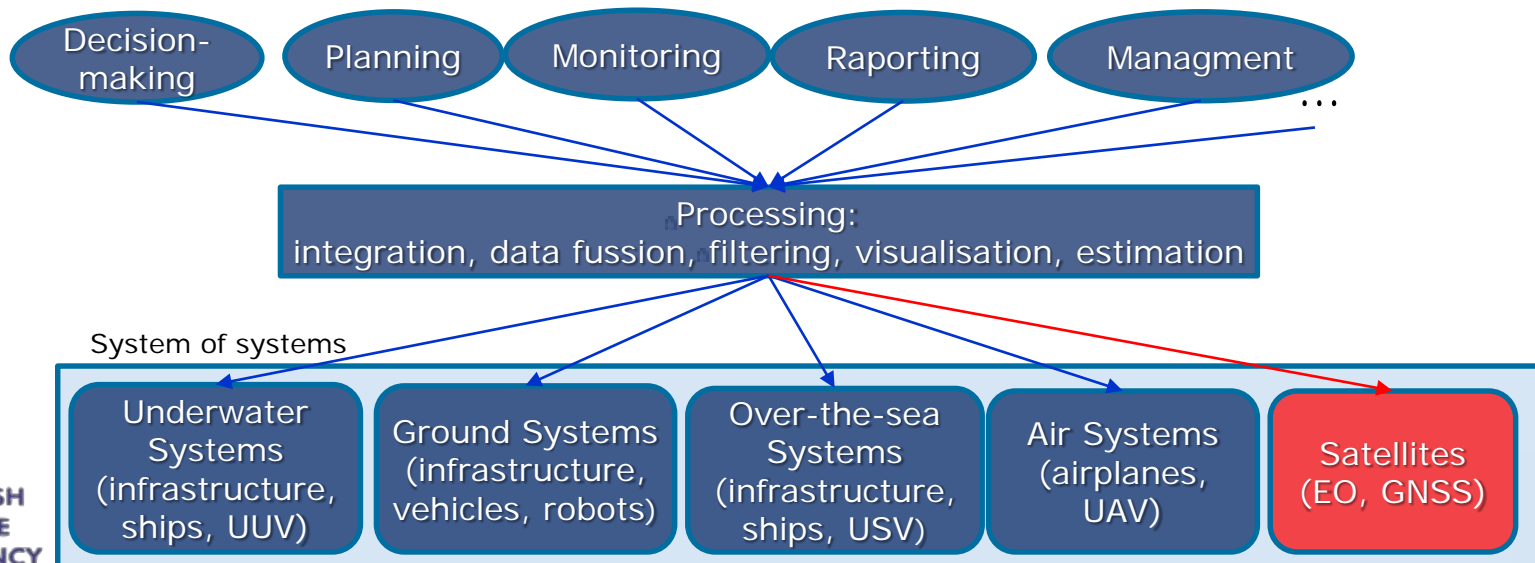
- Dedicated systems (implementation/ supervision of decisions/actions)
- Quality attributes
- Functionality
- Efficiency (efficiency, cost-effectiveness, effectiveness),
- Security system (security)
- Stakeholders (safety)
- Reliability, availability, readiness
- Utility
- Service integration (Systems of systems)



The workflows of activities:



Marine Information Systems



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Expectations - the use of satellite data:

- extending the decision space to new data sources
efficiency of particularly complicated decision-making processes
accuracy of decisions
operational (current) and strategic (long-term) perspectives
- improving competitiveness and increasing the potential of domestic companies in the maritime sector
entities of the European market operating in the area of the Baltic Sea already using services using satellite data (ports, logistics, tourism)
participation in the creation of the digital market (intelligent information services)
- increasing the maritime security of the country
current and future satellite platforms
new potential threats to Polish maritime areas

Activities:

1. Procedures for obtaining information on the condition of the Baltic Sea environment
2. Cloud platform for intelligent information services using satellite data for national administration and maritime economy
3. Monitoring the position reliability of global navigation satellite systems (GNSS)
4. A system for locating and identifying marine objects/facilities using satellite data

1. Procedures for obtaining information on the condition of the Baltic Sea environment

- **Expected results:** methodology of obtaining desirable indicators of the Baltic Sea environment condition based on satellite Earth observation data implemented in the decision-making processes of the national administration.
- **Benefits for the sector:** Improving the efficiency of decision-making processes of the national administration in the area of maritime economy

2. Cloud platform for intelligent information services using satellite data for national administration and maritime economy

- **Expected results:** thematic information services platform for the collection and processing of large-scale data, extracting information for the needs of national administration, enterprises and scientific units
- **Benefits for the sector:** simultaneous analysis of satellite and non-satellite data in the (operational) current and strategic (historical) perspective, supporting decision-making processes concerning the environment of the Baltic Sea, increasing the competitiveness of domestic entities operating in its subregion.

3. Monitoring the position reliability of global navigation satellite systems (GNSS)

- **Expected results:** The system of monitoring and assessing the credibility of satellite position services implemented in the sector of the national public administration responsible for security management of Polish sea areas.
- **Benefits for the sector:** improvement of the effectiveness of services responsible for the security of Polish sea areas (rescue operations at sea, protection of sea borders, smuggling/transport of hazardous materials by sea, terrorist activities)

4. A system for locating and identifying marine objects/facilities using satellite data

- **Expected results:** software module for processing satellite data to support the localization and identification of surface facilities integrated with the existing software of the National Maritime Safety System.
- **Benefits for the sector:** improving the effectiveness of services (detecting deliberately falsified data on surface units).

