EU SPACE PROGRAMME AND DATA CHALLENGES
CONTEXT

MULTIYEAR FINANCIAL FRAMEWORK 2021-2027
Presented on 2 May 2018
"EU budget for the future"
Simplification: Programmes grouped into policy clusters
Focus on European added value:
"This budget proposal is truly about EU added value. No invest even more in areas where one single Member State cannot act alone or where it is more efficient to act together" (Commissioner Gentner on 2 May 2018)

LEGAL BASIS

Article 189 TFEU (Treaty on the Functioning of the European Union)
• Basis for the EU competence in space policy
• To reach objectives, propose to establish a European space programme

Space Strategy (2016, endorsed by the European Parliament and the Council)
• Need for public investment in space
• Importance of Space as an enabler for numerous key Union Priorities

SECOND SPACE POWER IN THE WORLD

• European space industry employs over 230,000 people and its turnover was estimated between €46 and €4 billion in 2014, representing around 21% of the value of the global space sector;
• EU space flagship programmes – Galileo/EGNOS and Copernicus
• Instrumental for key EU policy (environment, climate change, security...)
Not a single Member State could do it alone

INVESTMENTS

EU investment in Space: €5 billion for 2007-2013 and €11 billion for 2014-2020 (plus investment by Member States)
Next MFF proposal for €16 billion for 2021-2027

EU investments guarantee long-term provision of services
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LESSONS LEARNED

Mid-term evaluation
The EU proved its ability to successfully implement the existing Galileo, EGNOS and Copernicus components

Lessons learned from mid-term evaluation
- Streamline the governance and strengthen the security governance of the systems
- Improve the distribution and access to data, real challenge to deal with the huge volume of data generated by Copernicus (improvements currently being set-up and to be continued)
- Strengthen the integration of space data into other policy areas and economic sectors, increase focus on user uptake

Lessons learned - Key messages from Public consultations
Stakeholders highlighted the benefits provided by the EU space components. Their main remarks were:
- Importance of open data policy
- Importance of a long-term guarantee of services
- Renewed interest in enhanced services
- Concern on the governance and its impact
- Support to improved flexibility

Challenges
Revolution in space sector and increased competition
- From traditional, emerging and new space powers: both-state (USA, Russia, China, Japan, India)
- And private (SpaceX, Blue Origin) supported by Venture Capital investments, disruptive technologies & new business models

EU needs a clear strategy to secure its industrial and political leadership as well as autonomy to keep its comparative advantage on the global market.

New needs: Climate change, data economy, security/defense
Mid-term evaluation

The EU proved its ability to successfully implement the existing Galileo, EGNOS and Copernicus components

=> mid-term evaluation reports confirmed these major achievements, the importance of these investments for the EU and the expertise of the EU in these domains

These mid-term reports and the acquired knowledge of the EU led to a certain number of lessons learned
Lessons learned from mid-term evaluation

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- Importance of open data policy
- Importance of a long-term guarantee of services
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New needs: Climate change, data economy, security/defence
The proposed scenario corresponds to **€16 billion**

<table>
<thead>
<tr>
<th>Activities</th>
<th>Current MFF (€ billion)</th>
<th>Current MFF (€ billion) Transmitter to 2027</th>
<th>MFF Proposal (€ billion) Current year</th>
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</thead>
<tbody>
<tr>
<td>Galileo</td>
<td>0.5</td>
<td>0.5</td>
<td>0.5</td>
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<tr>
<td>Copernicus</td>
<td>1.2</td>
<td>1.5</td>
<td>2.3</td>
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<tr>
<td>MAGNITUDOS</td>
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<tr>
<td>Total</td>
<td>3.3</td>
<td>3.5</td>
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</table>

The budget is targeting the continuity of services (93.5%) and supports also new Copernicus missions, Galileo evolution and new components (6.5%).

**Priorities by action – Copernicus**

- **€ 5.8 billion**: 36% of the total allocated budget (continuity 33.5%, new missions 2.5%)
  - Continuity of the operations and provision of state-of-the-art data and services
  - Improved integration of the Copernicus data and information
  - Enhanced services to address emerging needs: environment (CO2 emission monitoring) and security (needs for external actions)

**Priorities by action – Horizontal activities**

Horizontal activities financed through GNSS and Copernicus budget

- Autonomous, reliable and cost-effective access to space
  - Aggregation of the EU launches (visibility, long-term commitment)
  - Possible support of necessary ground infrastructure (when EU added value established)
- Support to space economy e.g. space hubs at regional and national level, user uptake activities, support to innovation in synergy with other Union programmes such as Horizon Europe
- Security of the systems

**The EU Space Programme**

Need for a single EU space programme to capitalise on achievements, promote greater coherence, visibility and budgetary flexibility

**Sectoral activities**

- **Galileo**: Eurosat
- **Copernicus**: Earth observation
- **Open Space Weather**: Space Weather and Training, Space Weather and aware under LN
- **ENVISAT**: Satellite communication for institutional users

**Cross-cutting activities**

Access to space – support to access and security of all users.
The EU Space Programme

Need for a single EU Space Programme to capitalise on achievements, provide greater coherence, visibility and budgetary flexibility

**Sectorial activities:**

- **Galileo & EGNOS:** Global Navigation Satellite Systems
- **Copernicus:** Earth Observation
- **Space Situational Awareness:** Space Surveillance and Tracking, Space Weather and Near Earth Objects
- **GOVSATCOM:** Satellite communication for institutional users

**Cross-cutting activities:** Access to space, support to business and security of the systems
Programme structure and priorities

The proposed scenario corresponds to €16 billion

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<thead>
<tr>
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</thead>
<tbody>
<tr>
<td>Galileo + EGNOS</td>
<td>6.8</td>
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<td>9.7</td>
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<tr>
<td>Copernicus</td>
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<td>4.8</td>
<td>5.8</td>
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<tr>
<td>SSA/GOVSATCOM</td>
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<td>0.5</td>
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<td><strong>Total</strong></td>
<td><strong>11.1</strong></td>
<td><strong>12.5</strong></td>
<td><strong>16</strong></td>
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</tbody>
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- Security of the systems
SPACE DATA & UPTAKE CHALLENGES

**Are we stuck in Phase 2?**

**PHASE 2**

- Improve data availability and use
- Invest in decision support systems
- Quicker and better policy feedback loop

**Optimization of decision-making**

- At higher level: "Identifying user needs and identifying the data available to meet those needs"
- At lower level: "Identifying user needs and matching data available to meet those needs"

**Conditions for success**

**Getting unstuck Phase 2**

1. Ownership of process
2. Feedback loops (working methods)
3. Horizon scanning (fresh demand and offer)
4. Usability and responsiveness for all
5. Training (Agile etc)
Are we stuck in Phase 2?

PHASE 2

1. Improve data availability and use
2. Invest in decision support systems
3. Quicker and better policy feedback loop

Data

1. Interoperability of systems, consistency in data inventory, quality and variety (SPACENET, PSS) - with emphasis on resilience and weather warning;
2. Use of data and information across services platforms (e.g., GMES) for policy remote sensing: spatial environment and climate awareness, the CAP “monitoring” approach to decisions and control;
3. Strengthening data access and use by beneficiaries of EU policies, by water stakeholders groups and citizens, e.g. through approaches such as the proposed EU-wide Farm Sustainability Tool for farmers and platforms (FST).

Optimization of decision-making

1. At beneficiary level - digital decision support systems and apps, simplification of bureaucratic processes;
2. At MS level - optimisation of design and implementation of monitoring, monitoring and control through data platforms and effective co-governmental engagements - co-government as a platform rather than isolation/kidding decision-making;
3. At EU level - utilisation of resource solutions through interoperability and data harmonisation - solutions financed by the Horizon, SME tasks, the CEP, etc. should be dynamically incorporated in a digital ecosystem, actively used by stakeholders and policy-makers, and support ongoing thematic actions, climate, environmental and social innovation, etc.

The policy feedback loop

1. A new digital ecosysytem for a multi-stakeholder, dynamic picture of measures implementation, adjustment of interventions; ensuring and enhancing policy feedback cycles;
2. Pragmatic engagement of and with the knowledge-based key stakeholders through respective, participatory design and development of services: i.e. it is key for added value;
3. Future-proofing public support : supporting architectures that allow for easy repositioning and creation of services (e.g., data and information across services platforms (e.g. EU DAS) and apps instead of traditional web-based webtools.

Conditions for success

Getting unstuck Phase 2?

1. Ownership of process
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4. Usability and responsiveness for all
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Source: EARSC
Are we stuck in Phase 2?
“I don’t care how thick the markers should be. I did not ‘over-declare’ anything. You can as well keep your money.” […] “I would love to see my farm on this tablet […] It would be nice if the EU could help with satellite grass measuring”
Data

- Interoperability of systems, consistency in data inventory, quality and variety (INSPIRE, PSI) -> artificial intelligence and machine learning;

- Use of data and information access services platforms (e.g. DIAS) for policy: remote sensing-enabled environment and climate measures, the CAP ‘monitoring’ approach to checks and controls;

- strengthen data access and use by beneficiaries of EU policies, by wider stakeholders groups and citizen, e.g. through approaches such as the proposed EU-wide Farm Sustainability Tool for nutrients and platform(s).
Optimization of decision-making

- **At beneficiary level** – digital decision support systems and apps, simplification of bureaucratic processes.

- **At MS level** – optimisation of **design and implementation of measures, monitoring and control**: through data platforms and effective e-government architectures -> Government as a platform rather than solution ‘vending machine’;

- **AT EU-level** – mutualization of resources and solutions through inter-operability and data-sharing/re-use -> solutions financed by the H2020, SME funds, the CAP etc. should be dynamically incorporated in a digital eco-system, actually used by beneficiaries and policy-makers, and support coexisting aims: ec. growth, environment and climate, social inclusion etc.
The policy feed-back loop

- A new digital eco-system for a real-time, dynamic picture of measures implementation, adjustment of interventions; shortening and enriching policy feed-back cycles;

- Pragmatic engagement of and with the knowledge-base. Key stakeholder buy-in through responsive, participatory design and development of services: buy-in is key for win-win solutions;

- Future-proofing public support: supporting architectures that allow for easy repurposing and coordination of services: e.g. data and information access services platforms (e.g. EU DIAS) and apps instead of traditional web-based interfaces.
PHASE 2

Improve data availability and use

Invest in decision support systems

Quicker and better policy feedback loop
Conditions for success

Getting unstuck from Phase 2?

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Contact

Thank you!

GROW I.3
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