Introduction to Horizon Europe

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EGNSS downstream R&D in Horizon Europe

I. Horizon Europe
   1. Budget, preliminary structure
   2. Space in Horizon Europe
   3. EGNSS in Horizon Europe
   4. Mission and Partnerships
   5. Horizon Europe and the Space Programme
   6. Interesting as well ... InvestEU
   7. Where are we and what is next?
      • State of play of inter-institutional negotiations
      • Strategic planning process

II. Consultation process with stakeholders

III. Input we would appreciate from stakeholders
I. Horizon Europe: Budget & Preliminary structure

Budget (Commission proposal): €100 billion for seven years (2021-2027)

Pillar 1
Excellent Science
- European Research Council
- Marie Skłodowska-Curie Actions
- Research Infrastructures

Pillar 2
Global Challenges and European Industrial Competitiveness
- Health
- Culture, Creativity and Inclusive Society
- Civil Security for Society
- Digital, Industry and Space
- Climate, Energy and Mobility
- Food, Bioeconomy, Natural Resources, Agriculture and Environment
- Joint Research Centre

Pillar 3
Innovative Europe
- European Innovation Council
- European innovation ecosystems
- European Institute of Innovation and Technology

Widening Participation and Strengthening the European Research Area
- Widening participation and spreading excellence
- Reforming and Enhancing the European R&I system

Digital, Industry and space
- Manufacturing technologies
- Advanced materials
- Next generation internet
- Circular industries
- Space, incl. Earth Observation
- Emerging enabling technologies

Space budget “commensurate proportionally” to Horizon 2020 (recital Council PGA)

15 bio EUR
I. Horizon Europe – Space

- Galileo and EGNOS
- Copernicus
- Space Situational Awareness
- Secure Satellite Communications for EU governmental actors
- End-to-end Satellite Communications for citizens and businesses
- Non-dependence and sustainability of the supply chain
- Space ecosystem (IOV/IOD, space demonstrators, breakthrough innovations, and technology transfer
- Space science
I. Horizon Europe - EGNSS

- Innovative applications, global uptake including international partners
- Solutions improving robustness, authentication, integrity of services
- Development of fundamental elements such as chipsets, receivers and antennas
- Sustainability of supply chains
- New technologies (e.g. quantum technologies, optical links, reprogrammable payloads)
- Next generation systems development for new challenges such as security or autonomous driving.
II. EGNSS in other parts of Horizon Europe

• **Pillar II – Cluster 3 (Civil security for society)**
  ➢ Rationale: […] Full use will be made of available instruments, including the European space programme (Galileo and EGNOS, Copernicus, Space Situational Awareness and Governmental Satellite Communications).

• **Pillar II – Cluster 4 (Digital, Industry and Space)**
  ➢ Rationale: […] The EU must make the most of these opportunities by fully exploiting the potential of its space programmes Copernicus, EGNOS and Galileo, and by protecting space and ground infrastructures against threats from space.

• **Pillar II – Cluster 5 (Climate, Energy and Mobility)**
  ➢ 4.2.5. Communities and Cities
    ➢ Broad Lines: Urban planning, infrastructures and systems including mutual interfaces and interoperability, nature-based solutions and the use of space based services and data;
II. EGNSS in other parts of Horizon Europe

• Pillar II – Cluster 5 (Climate, Energy and Mobility)
  ➢ 4.2.8. Smart Mobility: Smart mobility will help ensure the efficiency..., by using..., advanced satellite navigation (EGNOS/Galileo)
    ✓ Broad Lines: …use of innovative satellite positioning/navigation (EGNOS/Galileo);

▪ Pillar II – Cluster 6 (Food, bio economy, natural resources, agriculture and environment)
  ➢ Rationale: […] As these challenges are complex, interlinked and global in nature, activities will follow a systemic approach, cooperating with Member States and international partners, with other funding sources and with other policy initiatives. This will involve user-driven exploitation of environmental big data sources, such as those from Copernicus, EGNOS/Galileo, […]
I. Horizon Europe: New instruments - Missions

Adaptation to climate change, including societal transformation

- Clear EU-added value
- Contribute to reaching Union priorities.
- Wide societal/economic relevance.

Mission areas

Healthy oceans, seas, coastal and inland waters

Cancer

Climate-neutral and smart cities

Soil health and food

“A mission is a portfolio of actions across disciplines intended to achieve a bold and inspirational and measurable goal within a set timeframe, with impact for society and policy making as well as relevance for a significant part of the European population and wide range of European citizens. Missions will be designed in the context of a strategic planning process”.
I. Horizon Europe – New approach to European Partnerships

New generation of objective-driven and more ambitious partnerships in support of agreed EU policy objectives

Key features

- Simple architecture and toolbox
- Coherent life-cycle approach
- Strategic orientation

Co-programmed
Based on Memoranda of Understanding / contractual arrangements; implemented independently by the partners and by Horizon Europe

Co-funded
Based on a joint programme agreed and implemented by partners; commitment of partners for financial and in-kind contributions

Institutionalised
Based on long-term dimension and need for high integration; partnerships based on Articles 185 / 187 of TFEU and the EIT-Regulation supported by Horizon Europe
I. Horizon Europe and the Space Programme

- Establishment of a European Space Programme
  - EU GNSS
  - COPERNICUS for earth observation
  - Space Situational Awareness
  - GovSatCom (secured communication)
- Reshaping the role and responsibility of the GSA
- Strategic partnership with European Space Agency
- Ambitious budget proposal for 2021-2027: 16 B€ among which 9.7 B€ for EU GNSS programme in the proposal of the European Commission
- Highest political support –State of the Union address by EC President Juncker
I. Horizon Europe and the Space Programme
- Actions in support of an innovative Union space sector -

Article 6

Actions in support of an innovative Union space sector

The Programme shall support:

(a) innovation activities for making best use of space technologies, infrastructure or services;
(b) the establishment of space-related innovation partnerships to develop innovative products or services and for the subsequent purchase of the resulting supply or services;
(c) entrepreneurship, from early stage to scaling-up, in accordance with Article 21 and other access to finance provisions as referred to in Article 18 and Chapter I of Title III;
(d) cooperation between undertakings in the form of space hubs bringing together, at regional and national levels, actors from the space and digital sectors, as well as users, and providing support to citizens and companies to foster entrepreneurship and skills;
(e) provision of education and training activities;
(f) access to processing and testing facilities;
(g) certification and standardisation activities.

Article 43

Eligible actions

Eligible actions under Galileo and EGNOS shall cover:

(d) certification and standardisation operations;
(e) the provision and market development of the services provided by Galileo and EGNOS;
I. Horizon Europe
- Interesting as well for EGNSS applications ... InvestEU

Programme, which brings together financial instruments supporting entrepreneurship, start-ups and scale-ups through equity instruments, guarantee instruments and risk sharing instruments in four "windows":
• Sustainable infrastructure
• Research, innovation and digitisation
• SMEs
• Social investment and skills

Support through:
- InvestEU Fund
- InvestEU Assistance
- InvestEU Portal

Invest EU’s 4 investment windows: budgetary guarantees in billion €

Overall Budget: € 38bn. It is expected to mobilise more than € 650bn of additional risk finance across Europe
€ 11,25bn are for R&I activities, which is expected to trigger investments of € 200 bn into R&I.
I. Horizon Europe – Where are we?

European Parliament and Council reached a common understanding on Horizon Europe on 19 March 2019

- Budget, synergies and third country association still pending, depending on the overall MFF negotiations
- Commission has started preparations for the implementation of Horizon Europe
I. Horizon Europe – What is next?
Strategic plan for the implementation of Horizon Europe

Strategic Plan (new implementing act by the Commission) will prepare the content in the work programmes and calls for proposals for the first four years

- Strategic orientation for R&I support, expected impacts
- Partnerships and missions
- Areas for international cooperation
- Issues such as: Balance between research and innovation, Social Sciences and Humanities, Key Enabling Technologies and strategic value chains, Gender, Ethics and integrity, Dissemination and exploitation
II. Horizon Europe – Where are we and what is next?

Parliament and Council negotiations on
- Commission proposal for Horizon Europe
- Union budget 2021-2027, incl. Horizon Europe budget

- Early involvement and exchanges with MS
- Consultation with stakeholders and the public
- Establishment of Mission Boards

- Establishment of new Commission - envisaged endorsement of Strategic Plan

- Drafting of first Horizon Europe Work Programme on the basis of the Strategic Plan

1 January 2021 - Envisaged start of Horizon Europe
II. Horizon Europe – Consultation process with stakeholders - Space

Horizon Europe Space

Programme Committee

Commission Proposal

Programme evolution and applications

Galileo
Copernicus
SSA
Gevsatcom

Space Technologies

Final SRIA

SPEG
Sub-group on Space Tech

Draft SRIA

Consultation Platform
EC Led in coordination with ESA

Industry (incl. SMEs), RTO, Academia

4 working groups:

- Promote Synergies; Common Roadmaps and Dual-use
- Foster Competitiveness; Space systems, incl. ground component, generic tech and tools
- Reinforce Access to Space; Launcher systems and services
- Strengthen Opportunities; Governance and funding

Dedicated consultation processes

This process comes in addition of bi-lateral consultations

SRIA: Strategic Research & Innovation Agenda
II. EGNSS downstream in Horizon Europe
- Our consultation process -

Consultation process quite advanced
- Galileo User Consultation Platform in Madrid (Nov 2017) and Marseille (Dec 2018) -> White paper
- Consultation of Member States via GSA Admin Board Workshop, Prague (Jan 2019) -> Report on priorities
- Consultation of industry and academia on Horizon Europe EGNSS Downstream, 4 June 2019, Prague
- Final EGNSS Stakeholder Consultation meeting (Downstream and Upstream), 13 September 2019, Prague
II. Forthcoming consultation meetings related to EGNSS

Horizon 2020 Space Info Days & Horizon Europe EGNSS Stakeholder Consultation (Downstream & Upstream)
12 – 13 September 2019, Prague

• Bringing together industry, academia and MS, to promote the 2020 space calls
• EGNSS stakeholder consultation – to help shape the future of EGNSS research and innovation policy
• Workshop on Pre-Commercial procurement

Research and innovation days, 24 – 26 September 2019

• Bringing together policy-makers, researchers, innovators, civil society representatives and other interested stakeholders
• Three days to debate, solve and innovate
• Three key elements of Horizon Europe to be discussed in particular: The Strategic Plan, Missions and Institutional partnerships
EGNSS market uptake/ applications in Horizon 2020 - From Horizon 2020 to Horizon Europe -

5th call – Introduction of Pilot on Pre-commercial procurement of EGNSS applications for public authorities

Launch of demand-driven innovation actions by public authorities, aiming at developing EGNSS applications that meet their needs

Open call - Non-exhaustive list of possible applications

- Mobility as a service, cooperative ITS, public transport and smart cities
- Helicopter emergency medical services with EGNOS capabilities (operations and equipment)
- EGNSS to support port operations
- Integration of EGNSS into U-Space concept
- Public rescue services with Galileo SAR capable helicopters, boats and drones
- Monitoring of infrastructure with EGNSS (rail, road, critical infrastructure)
- Others

✓ Study on PCP/PPI will be finalised in May 2019 (conducted by VVA, GMV and LS)

✓ First Workshop on PCP on 11 April 2019, Prague. Second Workshop on PCP on 13 September 2019, Prague

Budget: EUR 3 million
III. Input we would appreciate from stakeholders

1. Budget – Important for EGNSS applications

2. Priorities – Input on R&D topics

3. Instruments – Input on instruments considered most useful

Please join & promote:

• Horizon 2020 Space Info Days & Horizon Europe EGNSS Stakeholder Consultation (Downstream and Upstream), 12-13 September 2019, Prague, GSA
Main documents

Space Programme

Horizon Europe

Common understanding reached by Council Presidency and EP

InvestEU
Thank you for your attention