



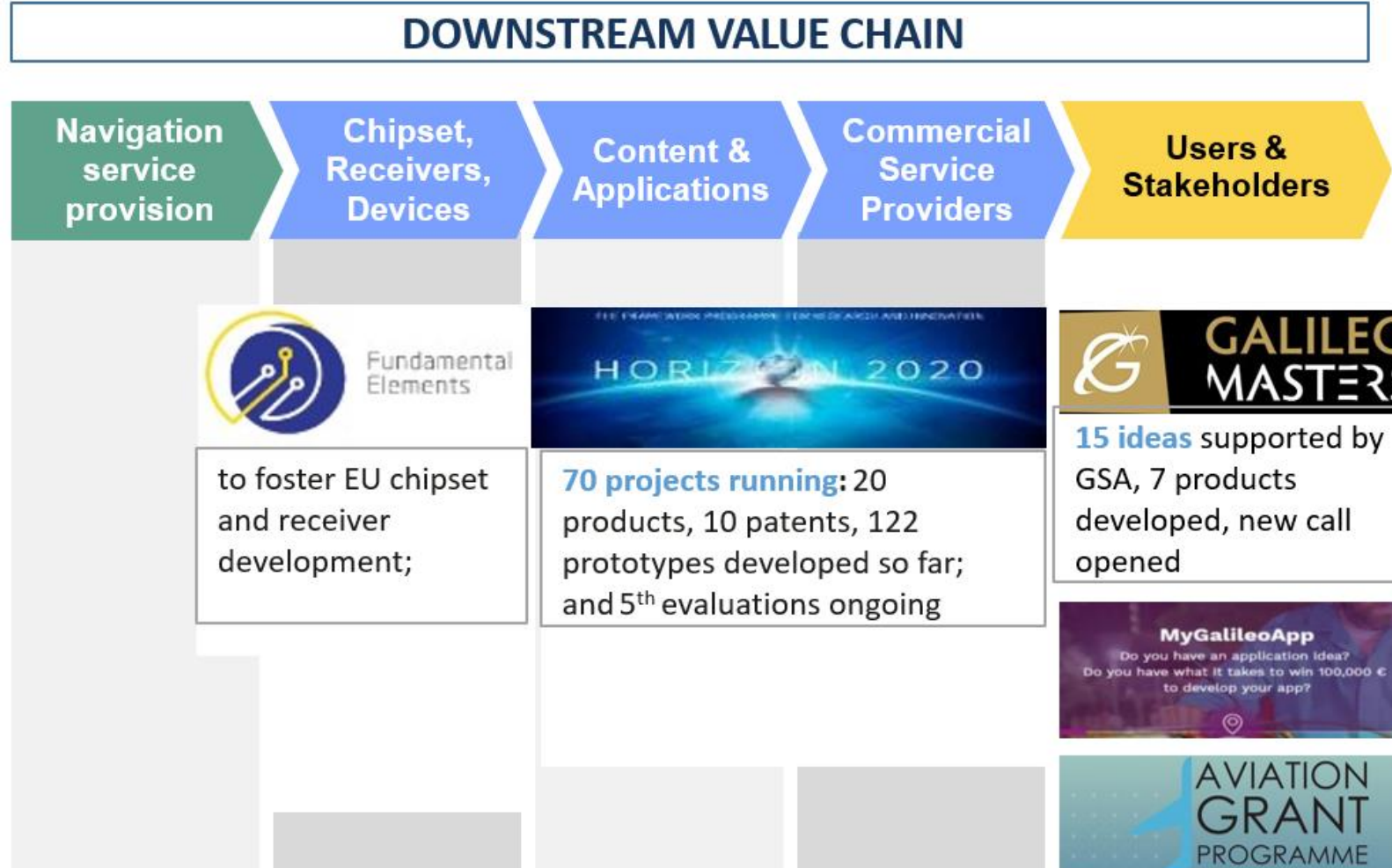
Overview of Recent and Upcoming R&D Funding Opportunities

Fourth annual GNSS Raw Measurements Taskforce Workshop

Vojtech Fort /Marta Krywanis, GSA Market Development department

27 May 2020, Prague, Czech Republic

R&D Programmes address the needs alongside the value chain towards EGNSS adoption



GSA has been leveraging two main R&D programmes as tools to stimulate the offer and increase adoption



Aims to foster adoption of EGNSS via content and application development and supports the integration of services provided by these programmes into devices and their commercialisation

150 €mIn is the budget dedicated to EGNSS applications and products in 2014-2020

The topics covered by the calls were focused on:

- ✓ Green, safe and smart mobility
- ✓ Digitisation
- ✓ Societal resilience and environment
- ✓ Awareness raising and capacity building
- ✓ Innovation Procurement



Fundamental
Elements

Fundamental Elements projects focus on fostering the development of innovative Galileo- and EGNOS-enabled receivers, antennas and chipsets technologies

100.5 M EUR (including PRS)- envelope of FE

Budget still available for calls 10.5 M EUR

5 Projects opened for submissions

FE Calls open for submissions



Name of the call	Market Segment	Grant/ Tender
Galileo Reference High Accuracy Service User Algorithm and User Terminal	Transversal	Tender
Development of a drone-borne double frequency Galileo receiver	Aviation	Grant
Shipborne double frequency multi-constellation receiver (E1/E5)	Maritime	Grant
Receiver technologies for high-precision in mass market	Transversal	Grant
Receiver for localisation in train signalling	Rail	Grant

GSA has supported Galileo Masters for 12 years



The objectives of the GSA Special Prize:

- Raise EGNSS awareness in all user sectors
- Demonstrate the business potential of EGNSS
- Stimulate innovation and entrepreneurship in EGNSS markets

The Prize

- Cash prizes worth 3x EUR 10,000
- Extra EUR 10,000 if the concept gets selected as Galileo Masters 2020 Overall Winner
- Chance to win one of the tailored Galileo Incubation prizes worth up to EUR 62,000 each



**GALILEO
MASTERS**

GSA Space for Fun Challenge

GSA is looking for new solutions using space data from Galileo and EGNOS for the gaming, sports, leisure and tourism markets.

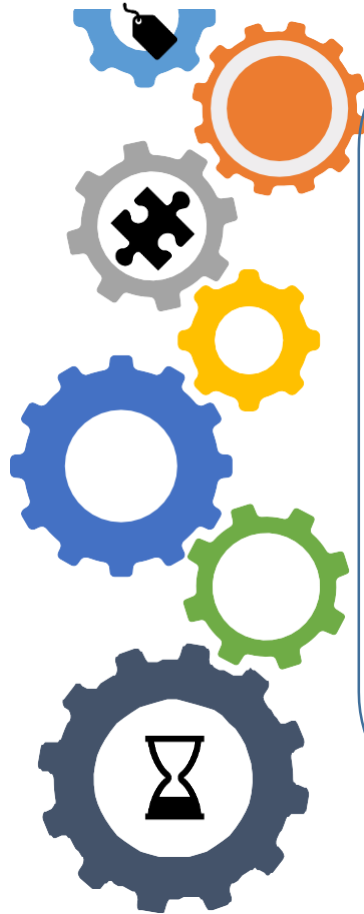
GSA Space for our Planet Challenge

GSA is looking for solutions that use space data to help overcome climate change and environmental degradation, which are an existential threat to our children in Europe and worldwide.

GSA Space for Being Safe & Healthy Challenge

GSA is looking for solutions using downstream space data as key enablers to develop innovative applications that will help stem the spread of the novel COVID-19 virus.

After 2020 EGNSS market will change and R&D funding will need to consider the new opportunities



Situation after 2020

Galileo fully operational

All differentiators will be available
Dual frequency and authentication will be in the market

Galileo enabled receivers in use

Most of the receivers and devices will be having Galileo enabled and activated

Wide portfolio of commercially available applications

New challenging applications will be closer to maturity (e.g. autonomous vehicles)

User needs expansion

e.g. ubiquitous positioning, automation and ambient intelligence, security, ...

User technology advancement

e.g. MEMS integration, Smart Dust, Multi-constellation, multi-frequency GNSS, Pervasive networks SOOP

Other GNSS systems evolution

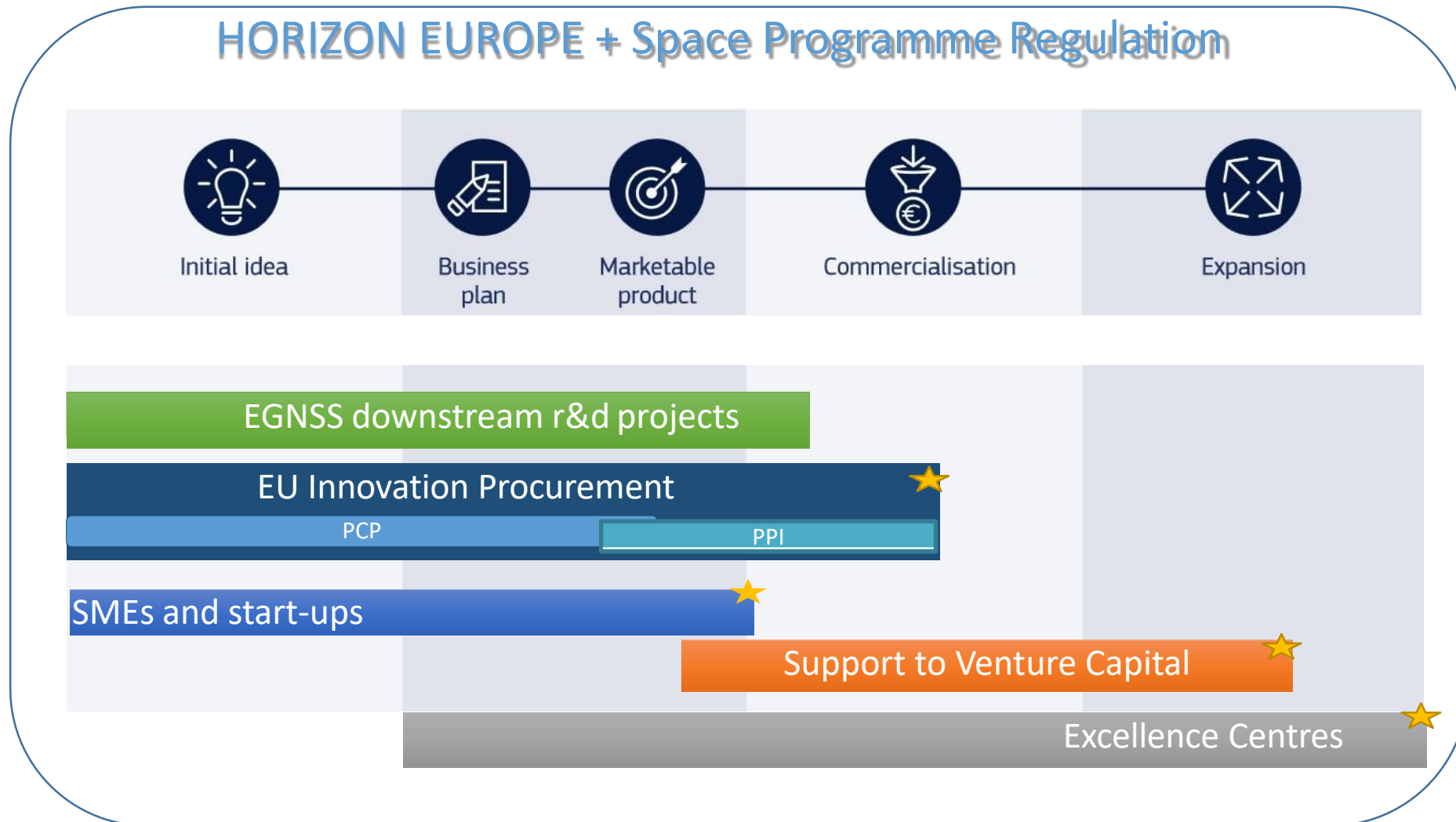
New EGNSS downstream R&D funding tools needed after 2020, as the market and Galileo will change

Endorsement of the presented funding mechanisms during several consultation

- Significantly increase the budget of **Horizon Europe** in comparison to H2020 (*continue the H2020 grants and FE*)
 - ✓ complete the uptake in longer term regulated market segments
 - ✓ position Galileo as a leader where differentiators make a difference (via large pilot projects)
 - ✓ support EU industry to export
- Introduce **New Funding Tools*** to cope with the new needs (also via the Space Regulation “innovation actions”)
 - ✓ **Innovation Procurement** for Public Sector as Customer of Galileo
 - ✓ **Centres of Excellence** to leverage regional and national competences as example and supporters for the others
 - ✓ **Space-based entrepreneurship** to provide dedicated funding tool for the area of mass market
 - ✓ **Venture Capital** to scale-up our start-ups



The landscape of New EGNSS funding tools defined covers all stages of development



★ **NEW** (Support to SMEs, start-ups and Venture Capital- To complement support to start-ups and SMEs; PCP/PPI- to involve public administration as EGNSS users through; Excellence Centres in order to share the experience, provide advice and mentorship to new comers)

GSA fully ready to continue H2020 and FE in new financial perspective

Existing
funding tools



Preparatory actions:

- Analysis of synergies between **H2020 and FE** in order to make the mechanisms more efficient and effective;
- Focus more on EGNSS differentiators
- Analysis of synergies with Copernicus and other systems/technologies
- Continuous monitoring of market and technology **trends**
- First definition of EGNSS R&D funding priorities in the area of applications and receivers, chipsets, antennas



GSA launched the Innovation Procurement pilot in the 5th call of H2020

PCP/PPI



Public Sector as Customer of Galileo

PCP/PPI to foster better meeting of public needs through buying the development (PCP) and deployment (PPI) of innovative solutions

Preparatory actions:

Definition of a topic: EGNSS applications for public authorities within 5th EGNSS applications call:

- The main challenge of this topic is to deepen user integration and thus foster exploitation of EGNSS applications to match the needs of public authorities at national, regional or local levels.
- Proposals should be building on procurement needs of the participating organizations.
- The proposals should support the EGNSS market take-up across Europe and demonstrate a sustainability of solutions beyond the lifespan of the proposed project.
- The choice of EGNSS market segment and application is left to the proposer.

SPACE-EGNSS-5-2020:

EGNSS applications for public authorities' pilot

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Specific Challenge:

Innovation procurement can drive the R&D and deployment of innovative solutions from the demand side through respectively pre-commercial procurement (PCP). This can open new market opportunities for companies in Europe, can contribute to speeding up public sector modernisation and can help to tackle societal challenges with innovative/breakthrough solutions for the benefit of the citizen.

Satellite navigation technology is an increasingly common component of innovative applications in different market segments. Involvement of public institutions is key in fostering the EGNSS adoption. Nowadays the maturity of EGNSS based solutions and their increased accessibility provide significant contribution to the achievement of Sustainable Development Goals of the governments.

The main challenge of this topic is to deepen user integration and thus foster exploitation of EGNSS applications to match the needs of public authorities at national, regional or local levels.

The innovative EGNSS solutions developed through this action should have been tested and have demonstrated success in smaller scale settings and have not yet been deployed on a large scale.

Scope:

The objective is to launch demand-driven innovation actions by public authorities aiming at customising EGNSS applications for their needs. Transnational cooperation has a key role to play in this context, as it can facilitate knowledge transfer and optimisation of resources for public authorities. Proposals should be building on procurement needs of the participating organizations. The proposals should support the EGNSS market take-up across Europe and demonstrate a sustainability of solutions beyond the lifespan of the proposed project. The choice of EGNSS market segment and application is left to the proposer. A non-exhaustive list of possible applications is presented below:

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

Centres of Excellence: to increase applications/service development competencies and knowledge sharing between different regions in Europe

Proposal: Centres of Excellence (Business and Market Champions): build on the excellences existing at regional/national level on a certain EGNSS application, so that it can serve as example, demonstration, learning and testing facilities for other private and public entities in Europe, creating a spill over effect



GSA preparatory actions:

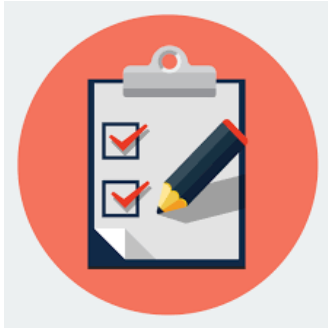
- Gathering inputs from countries related to the EGNSS downstream activities, during the workshops with MS and on one to one basis, addressing specific local competences and needs
- Development of a detailed map of Europe, for region's competence in specific market segments
- Definition of list of services that could be further customized for specific selected centres.
- Assessment of ways to ensure the sustainability of such centres



Space-based entrepreneurship to nurture new business and start-ups, and consolidate existing ones

SMEs and Start-ups

Proposal: agile tool dedicated for the area of mass market (characterized by short time to market and high dynamic of innovation), currently not well covered by H2020, addressing specifically start-ups and SMEs



GSA actions:

- Analyzing the accelerators/incubators suitable for supporting start-ups and business related to downstream GNSS R&D
- Identifying the best practices for high performing incubation/acceleration structure
- Launched MyGalileoApp to expand the current GSA network of mobile applications' developers that can valorize Galileo use in smartphones
- Discussing with EC the Strategy for the Cassini programme implementation, avoiding overlaps and creating synergies with existing funding tools and support services for start-ups and SMEs

Support to Venture Capital: to scale-up start-ups and SMEs

Support
to VC

Proposal: Support to Venture Capital through tool that aims to facilitate the access to finance for EU GNSS downstream companies (especially start-ups, for example the ones created in H2020 projects, and SMEs), overcoming the lack of EGNSS potential acknowledgment by currently existing funds.



GSA preparatory actions:

- Analyzing the Venture Capital funds and other financial tools for SME suitable to support R&D and commercialization activities of products based on GNSS
- **Signature of the MoU with EIB (10/09/2019)**
Organization of an event where investors meet SMEs and start-ups



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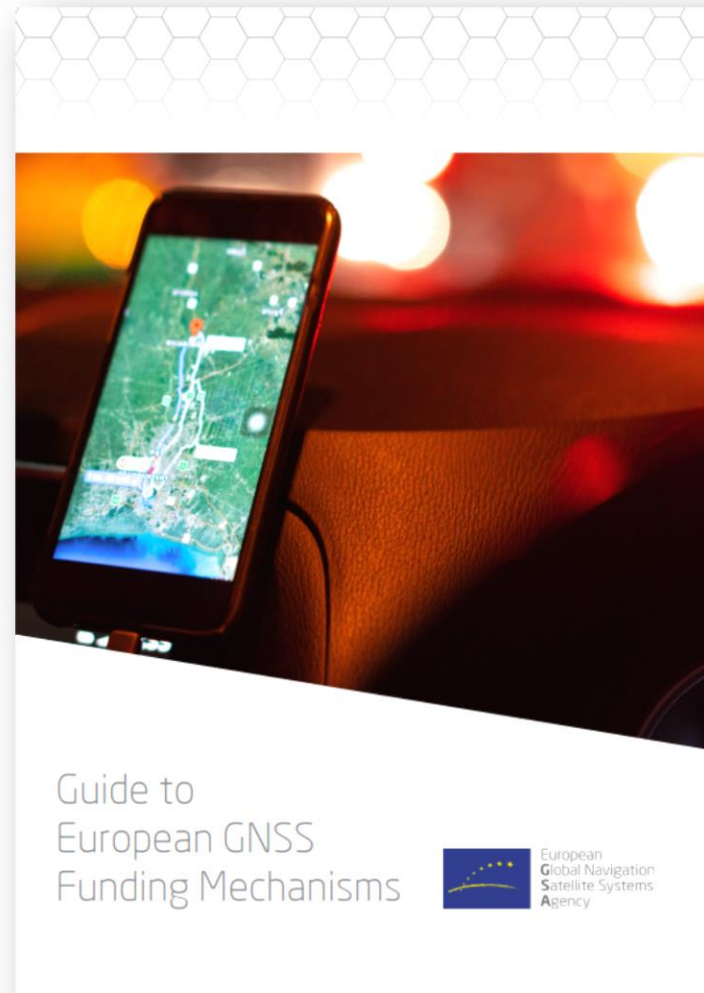
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Funding Guide Published

Overview of all funding opportunities for European GNSS companies



Linking space to user needs



How to get in touch:

15 Years of
EU Satellite
Navigation



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EGNOS-portal.eu



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