

ESA/CNES/ARIANESPACE-ServiceOptique CSG, S. Martin



# Horizon 2020

## EGNSS Mission and Services

### Workshop

16 February 2022, Virtual Meeting

# 2<sup>nd</sup> Workshop - H2020 EGNSS Mission And Services

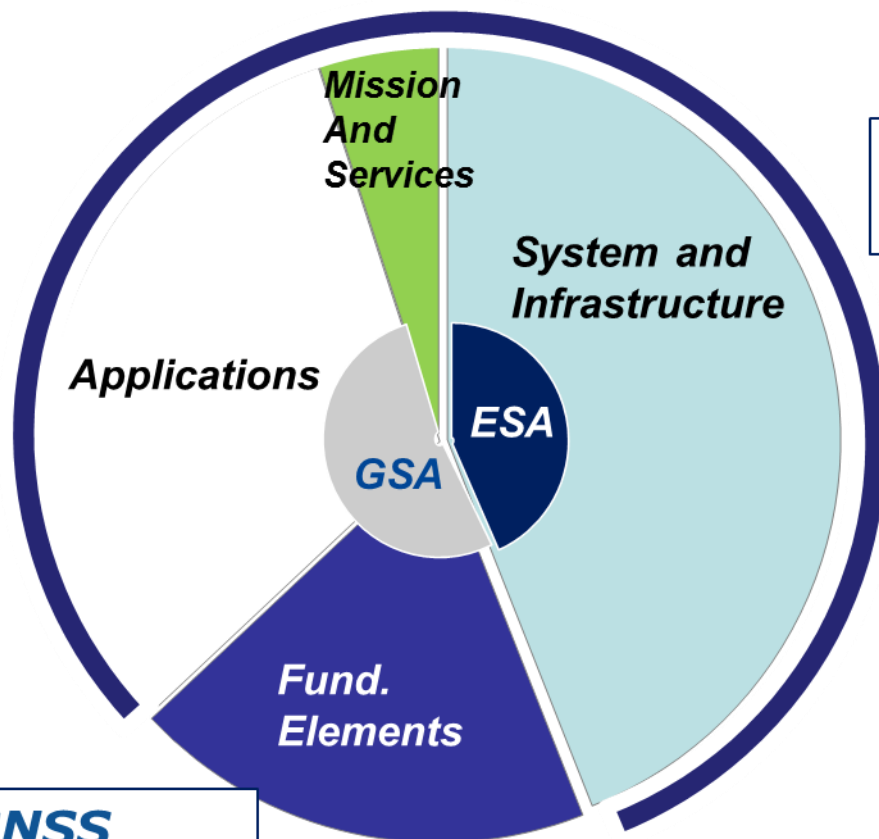


N°	Lead.	Topic
1	EC	<b>09:15 Welcome and Introduction</b> <ul style="list-style-type: none"> <li>– Welcome address</li> <li>– Presentation of the Agenda</li> <li>– MAS Context: EGNSS Evolutions and R&amp;D Framework</li> </ul>
2	Industry Consortium / EC/JRC	<b>09:45 Space Service Volume – GENESIS</b> <ul style="list-style-type: none"> <li>– Project overview (Intro EC/JRC)</li> <li>– Project Results</li> <li>– Q&amp;A</li> </ul>
3	Industry Consortium / EC/JRC	<b>10:30 FUNTIMES (I and II)</b> <ul style="list-style-type: none"> <li>– Project overview (Intro EC/JRC)</li> <li>– Project Results</li> <li>– Q&amp;A</li> </ul>
4	Industry Consortium / EC	<b>11:30 Galileo and EGNOS Timing Services - EGALITE</b> <ul style="list-style-type: none"> <li>– Project overview (Intro EC)</li> <li>– Project Results</li> <li>– Q&amp;A</li> </ul>
5	Industry Consortium / EUSPA	<b>12:15 EASE</b> <ul style="list-style-type: none"> <li>– Project overview (Intro EUSPA)</li> <li>– Project Results</li> <li>– Q&amp;A</li> </ul>
<b>13:00 Lunch</b>		
6	Industry Consortium / EUSPA	<b>14:00 EGNOS High Accuracy</b> <ul style="list-style-type: none"> <li>– Project overview (Intro EUSPA)</li> <li>– Project Results</li> <li>– Q&amp;A</li> </ul>
7	Industry Consortium / EUSPA	<b>14:45 SEASOLAS</b> <ul style="list-style-type: none"> <li>– Project overview (Intro EUSPA)</li> <li>– Project Results</li> <li>– Q&amp;A</li> </ul>
8	EC / JRC	<b>15:30 ARAIM</b> <ul style="list-style-type: none"> <li>– Project overview (Intro EC/JRC)</li> <li>– Project Results</li> <li>– Q&amp;A</li> </ul>
9	Industry Consortium / EC	<b>16:15 NACSET</b> <ul style="list-style-type: none"> <li>– Project overview (Intro EC)</li> <li>– Project Results</li> <li>– Q&amp;A</li> </ul>
10	EC	<b>17:00 Wrap-up</b>
<b>17:30 End of Meeting</b>		

# EGNSS EVOLUTIONS

- Process formally established through specific Working Group under the EGNSS Programmes Committee
- Guiding Principles for Mission Evolutions
  - Users Needs are at the center of the evolutions:
    - Timely introduction of new features
  - Decisions based on Costs-Benefit analysis:
    - Maximization of socio-economic benefits
    - Cost effectiveness for deployment and operations
- Supporting Actions conducted under the EU R&D Framework Programme

# Overall EU Framework on R&D for EGNSS



**GNSS  
Programme**

**Horizon 2020  
Programme**

- Horizon 2020 Areas related to EGNSS Evolutions
  - ⇒ Mission and Services, direct EC management
  - ⇒ System and Infrastructure, managed by ESA through Delegation Agreement

Global coordination by EC to ensure complementary and consistency

# Horizon 2020 EGNSS Mission and Services



- Scope

- ↳ Innovative Concepts

Definition of services with potential to be part of the Mission for the future EGNSS

- ↳ Evolutions of Services currently defined

Enhancement of currently defined Services for both EGNOS and Galileo

90% of proposed ideas for 2018-20 were covered by the projects already started

- Inputs for the definition of MAS Actions come from various sources:

- **Consultations** with Stakeholders

- Call for Ideas 2013: questionnaire prepared by EC, in mid-2013
- Horizon 2020 Consultation Workshop in 2014: organized by EC/GSA
- Horizon 2020 Stakeholder's Consultation in 2016: organized by EC/ESA/GSA
- 2018 Workshop on Mission And Services R&D
- 2019 Horizon Europe Stakeholder Consultation: organized by EC/ESA/GSA

- **GNSS Market analyses** conducted by EUSPA

- Analyses on Evolutions foreseen for **other GNSS** Systems

- Participation to **International** fora

- EC Team



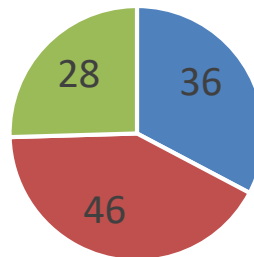
# Horizon 2020 EGNSS MAS State of Play

- Where we stand

- All foreseen Horizon 2020 MAS procurements launched
- In total, 26 Actions - 28 projects; 110 beneficiaries
- First project Kicked off in 2016; Last Kicked off July 202
- Currently 8 projects running; 20+ beneficiaries



- Origin of Beneficiaries



- Large European Space Industry
- SME
- University, Research Institutes, Public Entities

# IMPACT OF MAS Actions - Galileo

**Timing Service**

**OS Space Service Volume**

**Emergency Warning Service**

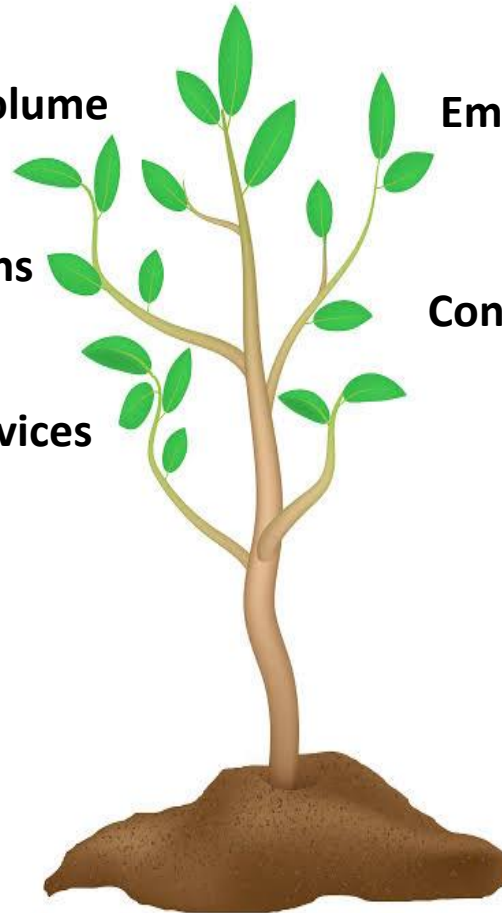
**Contribution to SoL Applications**

**Contribution to Ionospheric  
Prediction Service**

**SAR RL Services**

## Services Enhancements:

- **Authentication**
- **HAS**
- **Signals improvements**



**G2G**

## Support to Standardization and International fora

- **ICAO**
- **EU/US Working Group C**
- **COSPAS-SARSAT**
- **IMO**

# IMPACT OF MAS Actions - EGNOS

## Towards new EGNOS Services

- **EGNOS DFMC Service**
- **EGNOS Timing Service**
- **EGNOS Maritime Service**
- **Rail Safety Service**
- **Road Service**

## Services Enhancements:

- **EGNOS Authentication**
- **EDAS Services**

## Support to Standardization and International fora

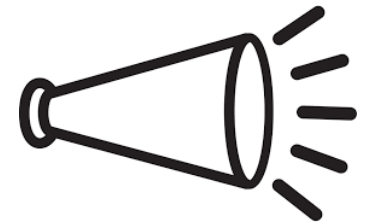
- **ICAO**
- **EUROCAE-RTCA**
- **IMO**
- **RTCM**
- **IEC**
- **ERTMS**



# Horizon 2020 MAS Dissemination of results

- Area created under the DG DEFIS Website

[https://ec.europa.eu/defence-industry-space/horizon-2020\\_en](https://ec.europa.eu/defence-industry-space/horizon-2020_en)



- Area started under DG GROW, then moved to DEFIS
- Coordinated with the Horizon 2020 Participant Portal

- Area contains a link for each project

- Description
- Duration, budget
- Project Partners, coordinators contact
- Project results
  - Executive summary
  - Relevant document(s) for download





- Key to anticipate R&D actions consistent with service evolution planning (mid- and long-term)
- Independence of mission and services from system/segment level studies is important to generate alternative ideas and proposals
- Depending on the study, inclusion of a prototype development for proof of concept
- Legal framework, foreground IPR stay with EU facilitates to future evolutions
- Continued effort required to motivate new SME's and other entities with relevant expertise to join consortia

# Line for MAS Actions continue under Horizon Europe

- Pillar II - GLOBAL CHALLENGES & EUROPEAN INDUSTRIAL COMPETITIVENESS
- Cluster 4: Digital, Industry and Space



- MAS in Work Programme 2021-2022



Next MAS WS: H2020 + HE

