

# Space and Security

## Governmental Satellite Communications

### ESA GOVSATCOM Precursor

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# MARKET POOLING & SHARING PARTNERSHIP







## 1. POLITICAL CONTEXT

- December 2013: European Council identified the need for 'enhancing the development of capabilities, specially in the areas of ... governmental satellite communications (GOVSATCOM)'
- December 2014: EU Competitiveness Council underlined the need to 'avoid fragmentation of demand and to foster civil-military synergies for preparation of the next generation satellite communications, through close cooperation among Member States, EDA, the EC and ESA'
- December 2015: EC roadmap for space strategy for Europe 'under the forthcoming Action Plan for European Defence Industry, the work will start on the preparations for the next generation of Governmental Satellite Communications (GOVSATCOM) in close cooperation between the EC, Member States, EDA and ESA'



## 2. SOCIETAL CHALLENGES AND NEEDS

- Europe is facing rising security threats ranging from climate change, migrations, nearby conflicts and crises, to terrorism
- EC and EDA studies identified governmental satcom needs in support to domains such as
  - civil protection and humanitarian aid
  - maritime and border surveillance
  - key infrastructure monitoring
  - common security and defence policy missions
- Need for improved European assured/guaranteed access to secure satcom systems and services.





### 3. INDUSTRIAL OPPORTUNITY

- Security as new market opportunity for innovations in
  - Technologies and Products
  - Services and Applications
- Market opportunity
  - Europe, e.g. future GOVSATCOM
  - Worldwide
- In a situation with
  - significant institutional funding provided in US via DoD
  - A changing market, e.g. New Space/Megaconstellations



# ESA GOVSATCOM Precursor

## WHAT?

### FOCUS: Pooling & Sharing



- Support the development and demonstration of new and innovative system solutions for improved pooling & sharing of existing national and European secure satellite communications systems and services of
  - Member States
  - Industrial/Commercial
- Ground segment developments for managing the user demand for secure satcom services and the available national and European satcom resources, e.g.
  - secure Operations facilities including mission planning functions
  - user terminal developments
- Demonstrations of pooling & sharing solutions with users
- In addition, also enhancements of Space Segment capabilities may be supported, e.g. flexibility in allocation of capacities/capabilities to different users

## 1. Public Private Partnership Principles

- Use of established ESA SATCOM Programme Framework
- Share of risk, responsibility, funding
- ESA supporting innovation and covering technical risk
- Industry covering market risk
- Industry-initiated
- Applied to about 90% of ESA SATCOM activities





# ESA GOVSATCOM Precursor HOW? INSTITUTIONAL Perspective



2013

2014

2015

2016

2017

2018

2019

2020

2021

2022

2023



*Requirements Identification phase*

*EDA Govsatcom Preparation phase*

*Programme Arrangement*

**CST**

**CSR/BC**

*Military needs*

*EDA Govsatcom feasibility study*

*Pooling & Sharing*

*ESA ARTES 1 study*

**ESA CMIN**

*GOVSATCOM ESA precursor phase*

*CMIN preparatory proposal*

*Possible  
GOVSATCOM  
Operational  
programme*

*Civil requirements*

*Civil solutions*

**Rec**

**Defence  
Action Plan**

**Space  
Strategy**

## OUTLINE HIGH LEVEL SCHEDULE

The EC concluded a study on “Identification of the requirements for Satellite Communication to support EU Security and Infrastructures”

➤ User Communities :

- Border Surveillance
- Maritime Community
- Police Missions
- Civil Protection
- Humanitarian Aid
- EU External Action

➤ Key Infrastructures:

- Transport Infrastructures (Air, Rail and Road traffic management)
- Space Infrastructures & Services (EGNOS & Galileo, Copernicus)
- RPAS Communications
- Arctic Communications
- EU Institutional Communications



EDA launched a study on 'GOVERNMENTAL SATELLITE COMMUNICATION (GOVSTACOM) FEASIBILITY STUDY'.

- Three sets of Information Exchange Requirements (IER) are collected:
  - IER1 as needed for Common Security and Defence Plan (CSDP) operations,
  - IER2 as would be required by National Defence Agencies and
  - IER3 as for civilian requirements (the EC study provided the inputs on IER3)
- Example of the areas of user needs:
  - Situational awareness Information collection (including RPAS)
  - Telemedicine
  - Secure Welfare
  - Secure Logistics
  - Support of operations e.g. governmental needs/ CSDP

# ESA GOVSATCOM Precursor HOW?

Via ESA Industry-initiated Precursor Project



ESA Precursor Projects in line with EC and EDA identified needs

All major European SATCOM Operators are represented

Focus on Pooling & Sharing of 8 Proposals proposing different

- satellite mission(s), in-orbit already or under deployment
- nature of their mission(s), i.e. commercial, national, European
- innovative secure operations facilities and ground segment development
- demonstration activities and targeted user domains and users requirements

One Proposal on innovation of space segment for enhanced flexibility

# ESA GOVSATCOM Precursor

## Supporting preparation of GOVSATCOM

### Next Steps



- Establishment of ESA Precursor Projects after CMIN16
- Consolidation, together with the EC and EDA the user requirements (EC Expert Group)
- Consolidation of system requirements and architecture
- Support to the definition of a security framework and interoperable ground segment interfaces
- Gap analysis on existing & planned national and European capabilities
- Cooperation with the EDA Pooling & Sharing activities
- Cooperation with the EC H2020 Space for supporting R&D
- Support to the EC Impact Assessment (EC/EEAS/EDA/ESA Coordination Group)





Thank you

# EXAMPLE

## European Data Relay System (EDRS/GlobeNET) Laser SATCOM for Earth Observation & Security



1. Global Quasi-Real Time Earth Observation for Copernicus
  - for time-critical applications, e.g. disaster management
2. Future use for UAV/RPAS for
  - maritime safety
  - border surveillance
3. Programme based on
  - Public-Private Partnership
  - Service Level Agreement

