



# Space Research and Innovation under Horizon Europe: state of preparation

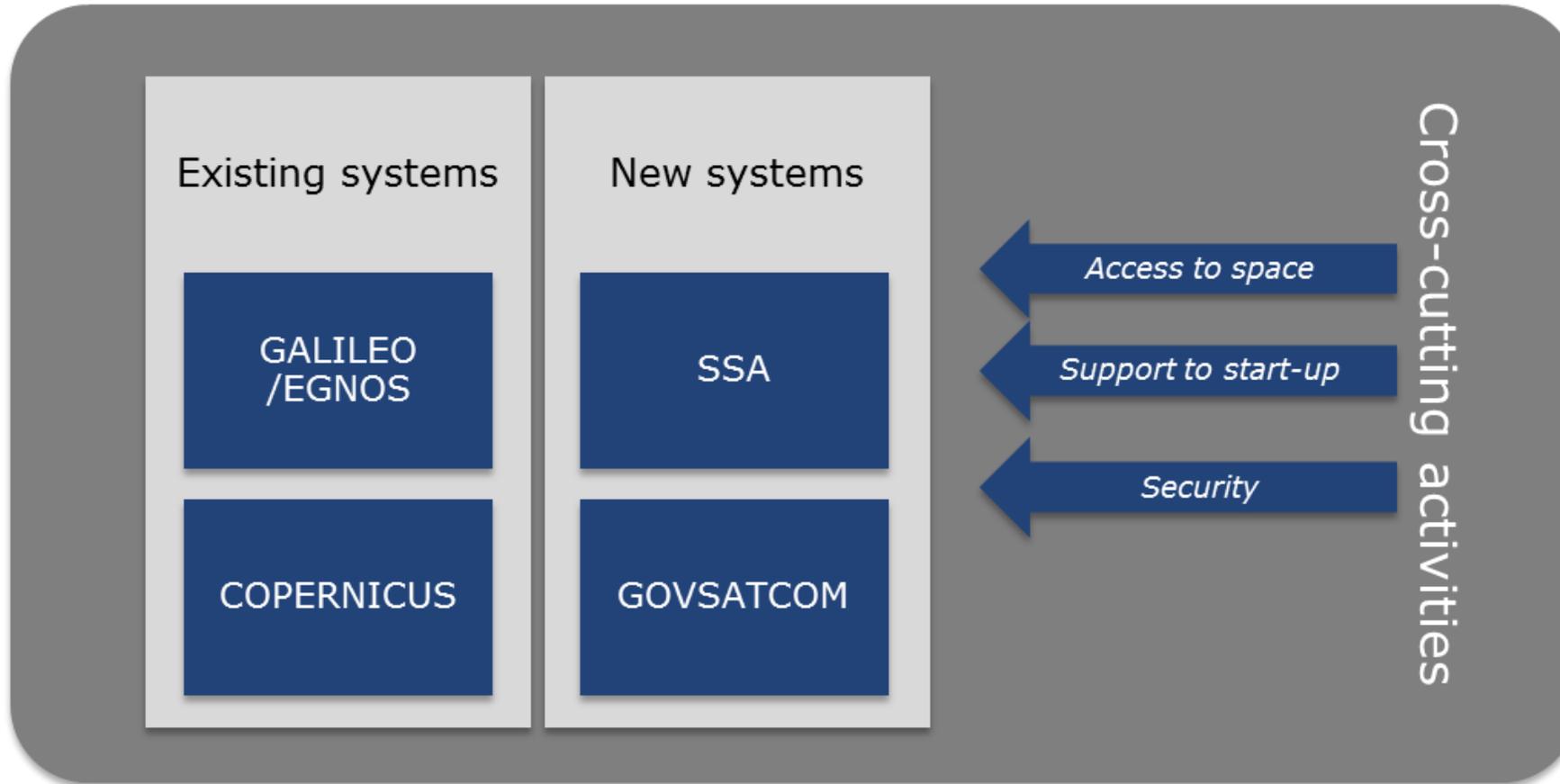
60th European Space Sciences Committee Plenary Meeting

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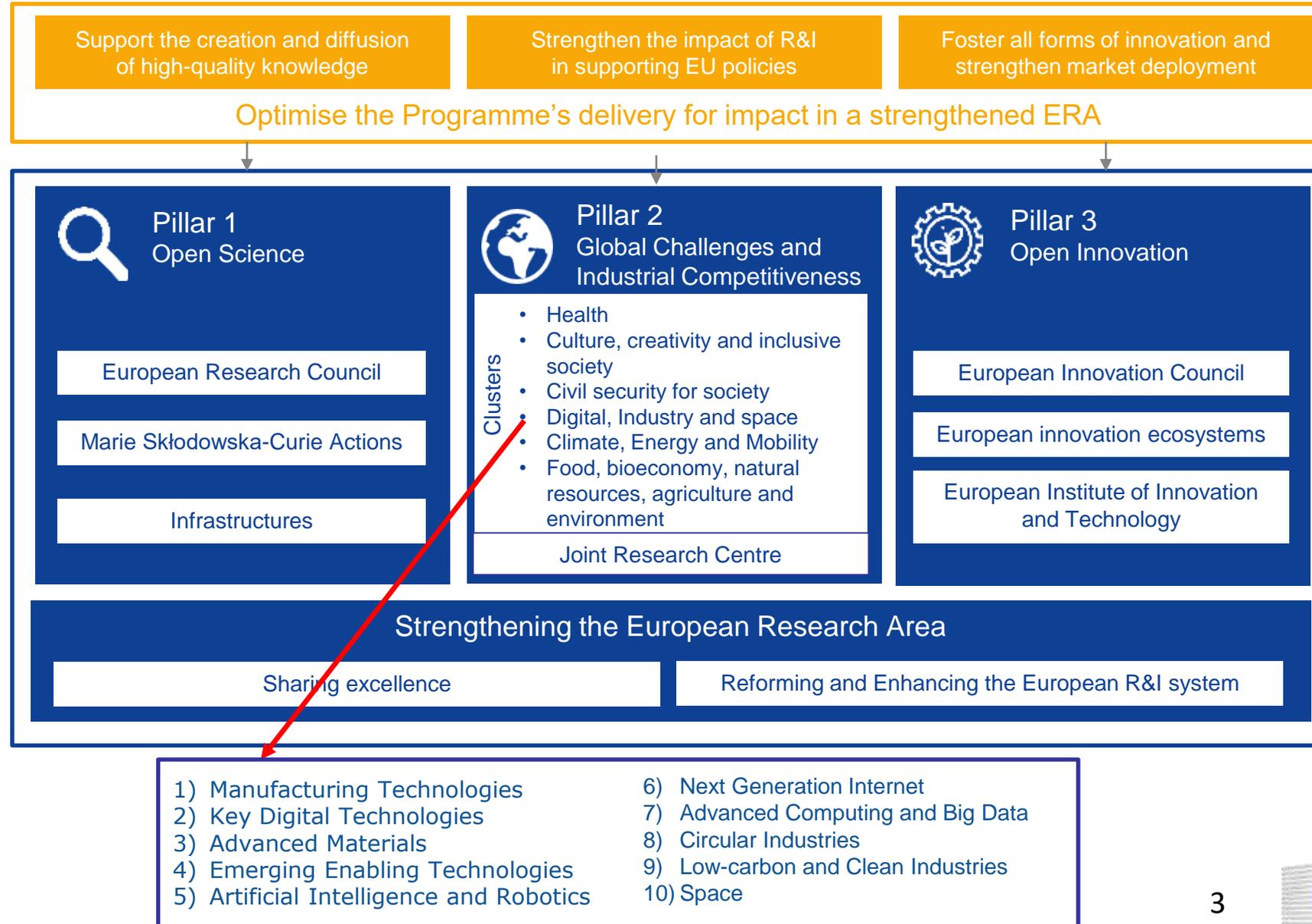
# Proposal for a EU Space Programme 2021-2027



4 Components – 3 horizontal activities



# Space under Horizon Europe



# Horizon Europe Space

## Upstream Space

**Foster competitiveness of space systems**

**Reinforce our capacity to access and use space**

*Strategic Research and Innovation Agenda SRIA*

## EU Space Programme Components and emerging initiatives

EGNNS

**Evolution of space and ground infrastructures**

EGNNS and Copernicus

**Evolution of services**

**Development of applications**

**Innovative Capabilities**

SSA  
GOVSATCOM  
Quantum

**Ecosystem for Entrepreneurship - Cassini**

## Targeted and strategic actions

**Critical Technologies for Non-Dependence**

**IOD / IOV**

**Synergies with Data Strategy AI, HPC**

**Space Science**

**Education and Skills**

**International Cooperation**

# Foster competitiveness of space systems

- Telecommunication Satellites
- Earth Observation
- Ground segment
- High-speed data handling, processing, storage and transfer
- New services
- Digitalisation and automation
- Disruptive technologies and concepts



# Reinforce our capacity to access and use space

- Matured technologies enabling operational capacities by 2030
- New space transportation solutions/services
- Disruptive technologies and concepts for the launcher systems sector



# Evolution of space and ground infrastructures: EGNSS

- Constant adaptation of the EU space infrastructure
- Ensure continuity of EGNSS service
- Minimize risks for technology inclusion in the infrastructure
- Reinforce protection against modern threats (cyber notably)
- Increased strategic autonomy on key technologies



# Evolution of services

## ○ Galileo

- service portfolio evolution
- new services and capabilities
- adaptation to evolving user needs, market trends

## ○ Copernicus

- Evolution of the existing core services
- Focus on anthropogenic CO2 monitoring, EU arctic policy and sustainable development goals



- Open Service (OS)
- High Accuracy Service (HAS)
- Public Regulated Service (PRS)
- Search and Rescue Service (SAR)

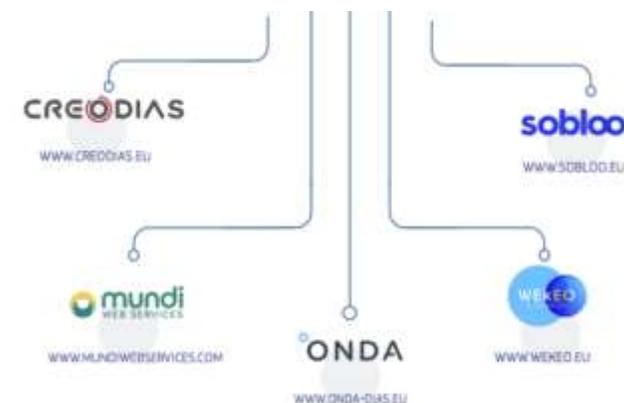


# Development of applications



- EGNSS and Copernicus downstream applications for EU citizens, companies and society.
- Promote adoption applications in the EU and worldwide
- Synergies between Galileo/EGNOS and Copernicus, as well as synergies with other programmes (e.g. EMODnet) including non-space

Use Copernicus DIAS !



# Innovative space capabilities

- Space Situational Awareness
  - Space Surveillance and Tracking
  - Near Earth Objects
  - Space Weather
- Govsatcom
  - Pooling and sharing of resources
  - Increasing the strategic technology autonomy in the infrastructure
  - Reinforce protection against threats
- Quantum
  - Quantum technologies for EU space infrastructure
  - Space-based services.



# Space entrepreneurship ecosystems

(incl. New Space, start-ups) and skills

- Increase in the number of start-ups using Copernicus and Galileo data and/or developing space technologies in the EU and improve their success rate
- Increase the number of space-based SMEs that scale up.
- Improve their ability to work with customers and their capacity to expand
- Make them investment-ready and able to secure VC funding.



# Targeted and strategic actions supporting the EU space sector

- Development of critical technologies for EU non-dependence and strengthening of relevant supply chains (components, materials and processes)
- Establishment of regular and cost-effective flight opportunities for IOD/IOV will contribute to de-risk new technologies, concepts and applications
- Space science: e.g. exploitation of space data from European and international space missions and other targeted space science activities, outreach and education activities
- International cooperation e.g. in climate research and sustainable development and in space science



# State of Play

- Preparation of the Work Programme 2021-2022 underway
- Adoption of the Strategic Plan and the Work Programme Q1 2021