

THE REMARKABLE CONTRIBUTION OF SPACE DURING THE COVID-19 CRISIS



A unique source of information to monitor the impact of the crisis



On **international trade** and **traffic flows**



On **industrial activities**



On **air quality**



On **agricultural productivity**



On **emergency hospitals construction**



On **greenhouse gas emissions**

On our **economy and society**

On our **environment**

And to support the recovery



Movement of goods



Industry recovery



Climate and environment

Monitoring the recovery

Guiding new policies and supporting their implementation

Unique tools to fight against the pandemic



Coronavirus contact-tracing



Mapping contagious areas



Managing the flux of people

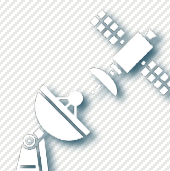
And to ensure the resilience of our societies



Tele-medicine



Tele-education

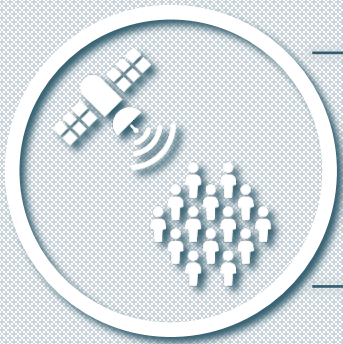


Teleworking in sub-urban, rural and remote areas

SUSTAINING THE EUROPEAN PUBLIC INVESTMENT IN SPACE IN TIME OF CRISIS



Space creates Value to the European Economy and Society



- Brings significant **economic value** and **employment in Europe** and supports the whole economy
- Ensures Europe's **strategic independence** and **geopolitical position**
- Contributes to Europe's **scientific** and **technological leadership**

Space Solutions will become even more indispensable in the Post-Crisis World



- Space-based services** will support an **ever-more connected** economy and society
- Space-enabled data** will support an **ever-more digital** economy and society
- Space exploration** will bring **cutting-edge technologies** that can transform other sectors

Public Investment is essential to the Health of the European Space Industry



- Enables **competitiveness** of the European sector and its **success on the commercial and export market**
- Allows **more ambitious programmes** and **boosts innovation**
- Fosters **private funding** and supports **new financing schemes**

Sustained Investment in Space will support a Durable Economic Recovery



- Innovation and R&D** are particularly **at risk during an economic crisis**
- Public investment in innovation is one of the **keys to durable recovery**
- Long-term damages occur when **high-skilled workforce** is not retained

Brings significant **economic value** and **employment in Europe** and supports the whole economy



230,000 jobs
In the European space industry



€8 billion
Sales of the European space upstream industry



€60 billion
European downstream commercial market



€25 billion
To be generated by ESA's €2 billion investment in 11 Satcom Partnerships



Up to 90%
Of ESA funding returned to governments as taxes

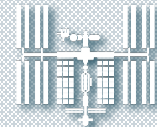
Ensures Europe's **strategic independence** and **geopolitical position**



Independent navigation system
Galileo



Autonomous access to space
Ariane and Vega



International cooperation
Low Earth Orbit and Moon Exploration

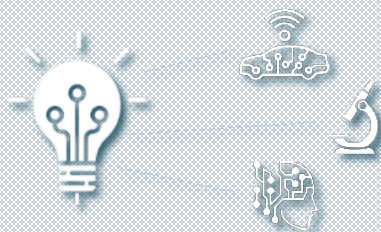


Independent access to world-class environmental information
Copernicus and FutureEO



Autonomous systems for security
Govsatcom

Contributes to Europe's **scientific** and **technological leadership**



Cutting-edge technologies
benefiting other innovation fields



Leading European scientific community
Highest levels of discovery and innovation ensured by scientific and exploration missions

Space-based services will support an **ever-more connected** economy and society



Bridging the digital divide



Space for 5G



Tele-medicine



Tele-education



GNSS tracking to fight contagious diseases

Supporting **global connectivity**

Supporting **digital transformation**

Space-enabled data will support an **ever-more digital** economy and society



Climate change



Economic intelligence



Movement of goods



Crisis management

Ensuring a **continuous Earth monitoring** to the benefit of citizens, businesses and the environment

Supporting **political decision-making** and **public policies**

Space exploration will bring **cutting-edge technologies** that can transform other sectors

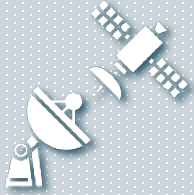


Being at the forefront of **robotics** and **autonomous operations** in hazardous environments

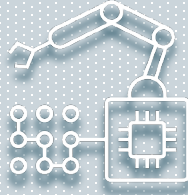


Advancing **virtualisation** and **digitalisation**

Enables **competitiveness** of the European sector and its **success on the commercial and export market**



1st and 3rd
SES and Eutelsat
on the global
satcom operator
market



1st and 2nd
Airbus Defence and Space and
Thales Alenia Space on the
commercial satcom GEO
manufacturing market



1st
Arianespace on
the commercial
launch market

Allows **more ambitious programmes** and **boosts innovation**



Successful
**Public-Private
Partnerships**



Innovative
**risk-sharing
schemes**

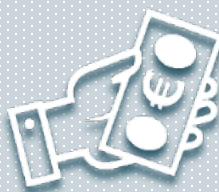


Investment allocated to
**highly-innovative
technologies**

Fosters **private funding** and supports **new financing schemes**



Up to €3
Co-invested by Third
Parties for each euro
invested by ESA



**SME access to
financing**
Supported by ESA and
European Investment Bank



**Innovative funding
schemes**
ESA Grand Challenge

Innovation and R&D are particularly **at risk during an economic crisis**



SMEs and start-ups, engines of innovation, are fragile and particularly exposed

Public investment in innovation is one of the **keys to durable recovery**



The 2008 financial crisis demonstrated the positive impact of significant investments in R&D on the economic growth recovery

Access to finance and funding must be guaranteed for the survival of strategic industry in times of crisis

Long-term damages occur when **highly-skilled workforce** is not retained



The highly-skilled workforce in the space sector has gained knowledge and expertise during years of research and development

Policies aimed at avoiding employment losses in innovative sectors are essential to maintain leadership and enable durable economic recovery

May 2020

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