



# The Copernicus Programme

*European Commission – DG GROW-I3*

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User  
Uptake

# Copernicus





## User Uptake





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# C O P E R N I C U S   I N   B R I E F

- **Copernicus is a flagship programme** of the European Union:
  - ✓ To monitor **the Earth**, its environment and ecosystems
  - ✓ To prepares for **crises, security risks** and **natural disasters**
- **EUR 7.4 Bn** between 2008 and 2020
- **A full, free and open data policy**
- It is also:
  - ✓ A tool for **economic development**
  - ✓ a driver for the **digital economy**
  - ✓ A contribution to the **EU's role as a global power**



Space Component

# THE SENTINELS

FULL, FREE AND OPEN

## Sentinel Mission and Status

## Key Features

|   |   |  |
|---|---|--|
|  | <b>SENTINEL-1:</b><br>9-40m resolution, 6 days revisit at equator | <i>S1-A and B in orbit</i>                   |
|  | <b>SENTINEL-2:</b><br>10-60m resolution, 5 days revisit time      | <i>S2-A in Orbit<br/>S2-B in Orbit</i>       |
|  | <b>SENTINEL-3:</b><br>300-1200m resolution, <2 days revisit       | <i>S3-A in Orbit<br/>S3-B Launch Q4 2017</i> |
|  | <b>SENTINEL-4:</b><br>8km resolution, 60 min revisit time         | <i>1st Launch Q4 2022</i>                    |
|  | <b>SENTINEL-5p:</b><br>7-68km resolution, 1 day revisit           | <i>Launch in Q2 2017</i>                     |
|  | <b>SENTINEL-5:</b><br>7.5-50km resolution, 1 day revisit          | <i>1st Launch in 2021</i>                    |
|  | <b>SENTINEL-6:</b><br>10 days revisit time                        | <i>July 2020</i>                             |

- ▶ Polar-orbiting, all-weather, day-and-night radar imaging
- ▶ Polar-orbiting, multispectral optical, high-res imaging
- ▶ Optical and altimeter mission monitoring sea and land parameters
- ▶ Payload for atmosphere chemistry monitoring on MTG-S
- ▶ Mission to reduce data gaps between Envisat, and S-5
- ▶ Payload for atmosphere chemistry monitoring on MetOp 2<sup>nd</sup>Gen
- ▶ Radar altimeter to measure sea-surface height globally





# COPERNICUS SERVICES

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*Monitoring the State of the  
Earth System Environment ...*



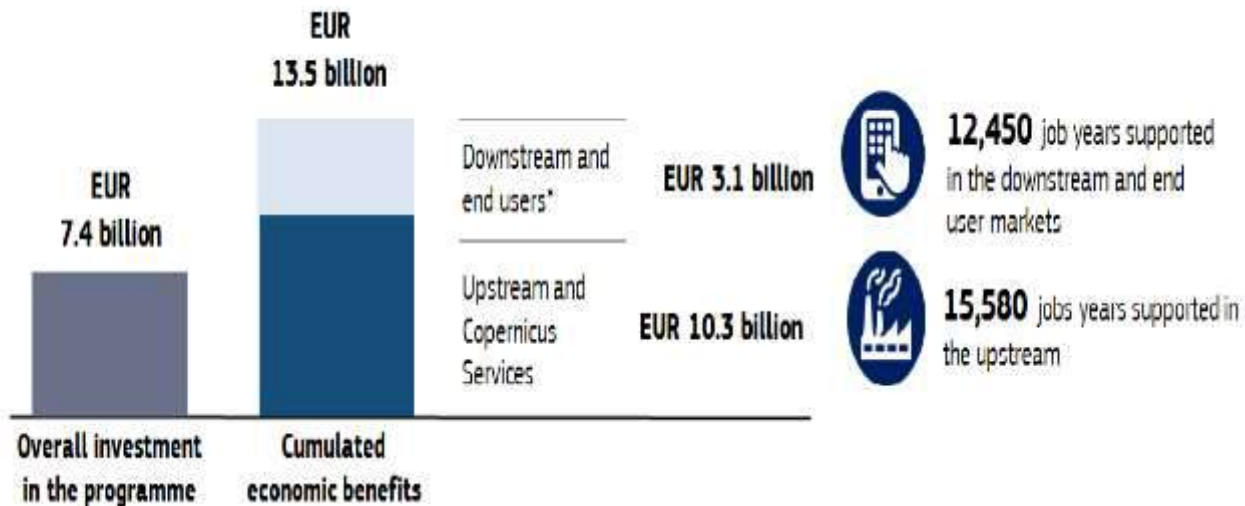
*... Six cross-cutting  
Thematic Services*



# C O P E R N I C U S M O N E T A R Y B E N E F I T S

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## Estimated direct monetary benefits between 2008 and 2020



\* The Downstream and end user analysis includes only 8 value chains: Agriculture, Forestry, Urban Monitoring, Insurance, Ocean Monitoring, Oil & Gas, Renewable Energies and Air Quality. Estimates for end users were only calculated for Insurance, Oil&Gas and Urban Monitoring. The estimates of downstream and end user benefits should be seen as extremely conservative because they were calculated a year after the launch of the first Sentinel satellite. Benefits are likely to increase significantly as more Sentinels become operational.



European Commission

Copernicus  
The eyes of Earth



# EXAMPLES OF COPERNICUS BENEFITS

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Pipeline Infrastructure Monitoring in the Netherlands

Benefits for the Netherlands:  
€15 to €18 M/year



Forest Management in Sweden

Benefits for Sweden:  
€16 to €22 M/year



Winter Navigation in the Baltic

Benefits for Sweden and Finland:  
€24 to €106 M/year

Source: EARSC





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