



PROGRAMME OF
THE EUROPEAN UNION

LIFE ON LAND

SUSTAINABLE DEVELOPMENT GOAL

15



SUSTAINABLE
DEVELOPMENT
GOALS

Satellite images are essential for accurately monitoring the vast areas of our planet. The Copernicus land monitoring service provides geographical information on land cover and its changes, land use, vegetation states and the water cycle. Applications of this service can provide support in areas such as spatial and urban planning, forest management, water management, agriculture and food security, nature conservation and restoration, rural development, ecosystem accounting and mitigation/adaptation to climate change and emergency management. The use of Galileo and EGNOS services has made it possible to develop new monitoring applications, which collect information on the fauna and flora of predefined areas. Europe's space technologies contribute to better understanding and protection of our wildlife and forests.



DIGITAL FARMING, ADDRESSING ENVIRONMENTAL CHALLENGES

EU space services allow farmers to monitor and respond to the precise needs of their crops and animals.

- Almost 82% of farmers who use satellite navigation for precision farming in Europe use EGNOS.
- Copernicus accounts for 20% to 100% of the Earth observation data used in smart farming solutions, which enable applications such as yield mapping, input management and farm management recording, field scale and crop dynamics mapping and monitoring. Copernicus allows farmers to optimise irrigation management, drought monitoring and the use of fertilisers, which in turn provide economic and environmental benefits.
- Smart farming can lead to about 20 % decrease in the consumption of water, fertilisers and pesticides, all whilst increasing production. Galileo-enabled drones assist with field monitoring before harvesting.



- Using Galileo signals, the drones can monitor a field before harvesting and identify, in real time, the existence of animals through the capture of thermal images. Such a Galileo field check protects not only the fauna of the area, but also the interests of the farmer. Copernicus provides the necessary baseline information on agricultural production to support food-security decision makers.
- Agricultural yield forecasting in combination with Copernicus-based mapping allows for general monitoring of the growing season, early warning of impending crises and supporting of crop and food supply assessment activities.



REAL-TIME LAND AND LIVE ASSET MONITORING TO SUPPORT BIODIVERSITY

EU Space makes it possible to monitor crop and vegetation health parameters such as crop type and area, leaf area index and the normalised difference vegetation index.

The Copernicus land monitoring service monitors land-cover and land-cover changes over long periods. It provides extensive information on the overall dynamics of agriculture.

Thanks to Galileo and EGNOS, livestock monitoring is possible and provides information on animals' exact position and changes in behaviour. This information can be used to improve their protection.

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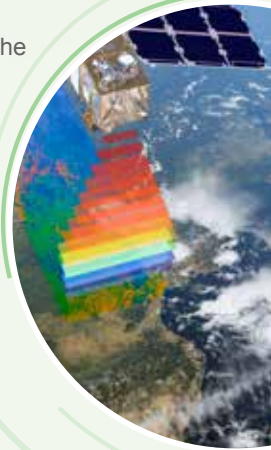
IMPROVED FOREST AND MAN-MADE IMPACT MANAGEMENT

Copernicus provides forest images that make it possible to identify forest types, detect changes, map and monitor clear-cuts and assess forest density and health.

EU space data and images help the fight against deforestation and support the identification of illegal logging activities.

EU SPACE data can make a difference. In cases of emergencies like wildfires, Copernicus maps assist civil protection authorities and rescue teams.

Galileo and EGNOS enable quick reactions by identifying the emergency's exact location and showing the shortest routes to the affected area.



ABOUT EU SPACE PROGRAMME

Space applications play key roles in our daily life activities. The EU space programme enables solutions to tackle global challenges such as sustainability and climate change, safety and security, emergencies and mobility. The EU's flagship space programmes foster innovative services that meet the needs of users worldwide.

COPERNICUS is the EU's Earth Observation system: free, full and open access satellite data used to provide services in six areas: land monitoring, marine environment monitoring, atmosphere monitoring, climate change, emergency management and security.

GALILEO is the EU's global navigation satellite system, providing accurate positioning and reliable timing information. Galileo services are widely used by people and businesses, for example in transport, agriculture, health, finance and energy networks, search and rescue and emergency response.

EGNOS is the EU's regional navigation system. EGNOS services are used in safety-critical applications in aviation, maritime and land-based uses in most of Europe.



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#EUSpace #CopernicusEU #UseGalileo #EGNOS