EO-FIN PROJECT

EO-FIN (**Earth Observation** Best Practice for the **Financial Management** sector) is a European Space Agency (ESA) funded activity. The EO-FIN project aims to promote and expand the use of Earth Observation (EO) within the financial management sector, through standardisation, best practices, awareness-raising, and developing high-quality EO services. The best practices are expected to lead to better products, greater customer trust and a more competitive advantage in the market. The financial management sector was assessed across four primary domains: **investment management**, **green finance**, **risk analysis**, and **insurance management**.

The objectives of the EO-FIN project are as follows:

- **Identify** and **consolidate** the geoinformation needs and priorities within the domains of concern.
- **Identify** and **characterise** EO-based products and services meeting the needs of the domains of concern, now and in the future.
- **Implement** and **test** a Virtual Platform with an EO use case prototype of an identified EO-based service.
- Define a **roadmap** for building EO industry guidelines for the commonly accepted best-practice use of EO-based information by companies within the Financial Management sector.
- **Disseminate** the analysis results via key international associations and bodies representing the sector including EARSC (on the EO side) and financial institutions involved in the project.

EO-FIN

Remote Sensing & Geospatial Analytics

A product by:

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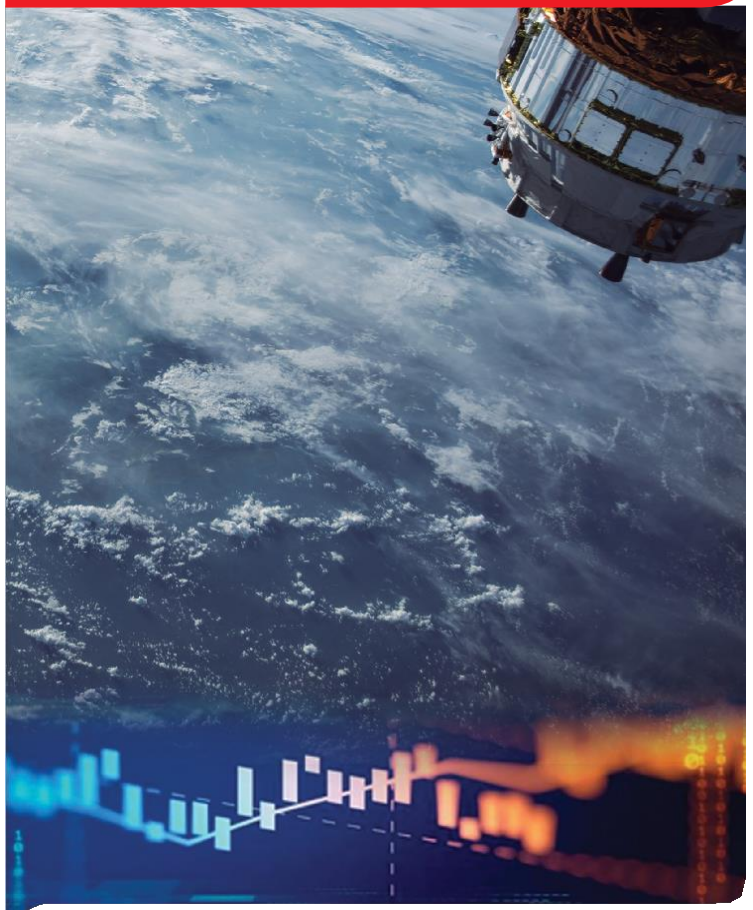
EO-FIN



Earth Observation Best Practice for the Financial Management Sector

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Earth observation capabilities have become essential tools to provide accurate, timely, and objective information on economic, environmental, and geopolitical factors in the financial management sector. Financial professionals can benefit from satellite imagery and remote sensing processing and analysis techniques to make more informed decisions, manage risks effectively, and adapt to the dynamic and interconnected nature of today's global markets.

Geoinformation needs for financial management

Geoinformation is increasingly viewed as one alternate data source to drive further improvements across the sector. There is huge potential in the financial management sector for using geospatial data in their business practices. The geospatial needs of financial management were gathered and consolidated through synthesis tasks including desk-based research, workshops, questionnaires, and semi-structured interviews. In total **53 user requirements** were collected.

Current EO capabilities and gaps

As a next step, the existence of mature EO products and services were identified and characterised for each user-need through a synthetic approach containing desk-based research, online surveys, workshop discussions, and questionnaires.

Synthetic approach to gather and consolidate geoinformation

38 EO products were identified and evaluated based on the assessment of response and maturity level. A comprehensive quantitative and qualitative gap analysis was conducted and gaps were categorised into 'guideline', 'utilisation', and 'R&D'. Most of the gaps were in the 'utilisation' category, meaning the financial management sector is not effectively leveraging the most relevant and accurate EO products. The next most significant gaps were in the 'guideline' category.

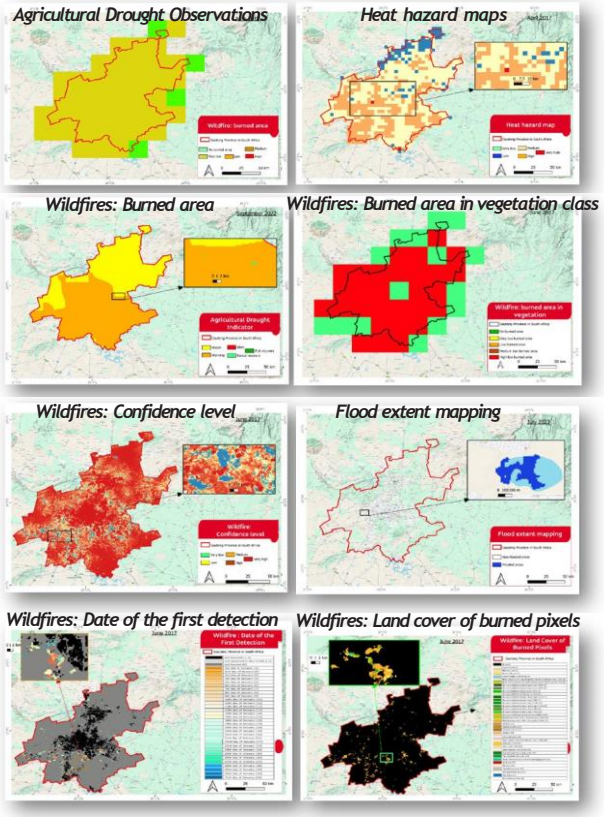
Subsequently, **18 services** were derived from 38 consolidated EO products to address the financial management needs across the four primary domains.

ID	Service name
1	Asset Accessibility Assessment
2	Natural hazard risk analysis
3	Security risk analysis
4	Client risk mapping
5	Monitoring crop productivity
6	Natural assets time series analysis
7	Assessing crop types' impact on sustainable and environmental investments
8	Assessing tree's health condition and forest carbon sequestration
9	Measuring the growth of carbon stocks: in forests
10	Natural hazard prediction
11	Geohazards prediction
12	Historical asset data analysis
13	Business activities' impact on ecosystems and biodiversity
14	Sea level risk monitoring
15	Monitor temperature increase on assets
16	Climate resilient flood management
17	Urban properties geolocations map
18	Crop damage map

18 services tailored to meet the financial management needs.

Development of EO service use case

A **multi-physical risks observation** EO service was identified as the most in-demand among stakeholders due to its ability to provide valuable insights into various physical risks. This service contains the following:



Note: The methodologies of these services are spatially transferable, and these products can be derived globally.

The EO-FIN multi-physical risk observation service has been developed on a **GMV web platform** (known as **Prodigi**) with a user-friendly interface tailored for non-technical users, facilitating easy access to EO data and analysis tools. This GIS-based service allows users to easily select an area of interest and choose the types of EO products they require, with options to order and download the desired data. The EO-FIN multi-physical risk service incorporates post-processing functionalities like temporal aggregation and spatial extraction at district and province geographical scales, aiming to enhance user experience and usability for non-technical stakeholders. These functionalities streamline data interpretation and analysis, enabling stakeholders to extract actionable insights efficiently.

Barriers and solutions towards commercialisation of EO in the financial management sector

High cost of EO data, processing, integration, and analysis. Solution: leveraging public-private partnerships and open data policies can significantly reduce costs. Showcasing successful examples of EO products that have demonstrably improved financial management practices and yielded a return on investment can help build a strong case for their adoption.

Lack of direct communication channels. Solution: Create platforms or forums where both sectors can interact, share insights, and address specific needs.

Lack of geospatial skills in the financial management sector. Solution: This skills gap requires dedicated training and development efforts.

The complexity of IT systems of larger financial institutions. Solutions: Collaborative efforts between EO providers, IT experts, and financial managers are essential to streamline integration and ensure seamless data flow.