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DEFORESTATION MONITORING FOR SUSTAINABLE PALM OIL PRODUCTION

What it's all about

Sentinel data is being used to monitor for deforestation activities associated with palm oil production. Satelligence, a remote sensing company have developed services using Sentinel-1 and Sentinel-2 data which help Bunge, a huge player in the food industry, to ensure the palm oil they source from Malaysia and Indonesia is coming from reputable sources. By utilising free and open Sentinel data, Satelligence and Bunge act as catalysts for the entire palm oil value chain to reduce its environmental impact. Ultimately, these kinds of initiatives are helping in the fight against deforestation, habitat loss and climate change.

What we found

- Satelligence use both Sentinel-1 and Sentinel-2 data to constantly monitor forested areas in Southeast Asia. The service creates what are known as "deforestation alerts", which let clients know that deforestation is occurring on or close plantations which clients are sourcing from.
- The Roundtable on Sustainable Palm Oil (RSPO) is an important industry-driven initiative. The RSPO has established the certification standards for sustainable palm oil and encourages the use of remotely sensed data as part of the certification process.
- One of the many economic benefits in this case involves companies such as Bunge securing access to sustainability-linked loans. Through these mechanisms, interest rates can be directly tied to a company's sustainability performance and monitored using the likes of remote sensing.

Copernicus Sentinels Benefits Study: A Show Case

Funded by the EU and ESA

Layout by ESA EO Graphics Bureau

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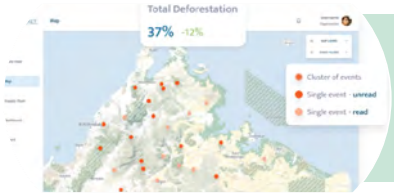
The Satellite Data

Copernicus Sentinel-1 provides free-of-charge frequent, all-weather, day-and-night C-band radar images. Copernicus Sentinel-2 provides free-of-charge frequent wide-swath, high-resolution multispectral imagery with 13 spectral bands over Southeast Asia.



The Service Provider

Satelligence, are a Dutch company who specialise in remote sensing-based deforestation monitoring services. They leverage Copernicus Sentinel-1 and Sentinel-2 data to help clients map, monitor, and detect potential deforestation activities on or close to palm oil plantations.

€1.5M – €6.3M pa

The Primary User

Bunge are a huge player in the global food industry. Using the Sentinel-derived system developed by Satelligence, Bunge aim to ensure the palm oil they source is sustainably produced, which helps in reducing deforestation and habitat loss.

€5M pa

Secondary Beneficiary

The secondary beneficiaries in this case include the plantations, mills, and refineries upstream of Bunge and the food manufacturers and retailers downstream. Thanks to Bunge's sustainability commitments, these actors can fetch higher prices for their certified sustainable palm oil while simultaneously maintaining a reputation for environmentally friendly activities.

€12.5M – €22.3M pa

End User Beneficiary

The customers and consumers of final products which have been made with sustainably sourced palm oil benefit by knowing what they are purchasing has a reduced environmental impact on the areas from which it is being sourced.

Total benefits

Economic | Environmental | Innovation | Regulatory | Science & Tech | Societal

Anticipated benefits: €19M – €33.6M pa

About the project

Through a series of case studies, EARSC aims to gather quantitative evidence that the usage of Copernicus Sentinel data provides an effective and convenient support to various market applications. These studies are undertaken in the frame of the project "Showcasing the benefits brought by the usage of Sentinels data to society, environment and economy: a bottom-up assessment based on traceable impacts along selected value chains", under an assignment from the European Space Agency (ESA) funded by the European Union as part of the Copernicus Programme.

Download the full report from the project website

http://earsc.org/sebs