FOREST MONITORING IN PORTUGAL

What it is about

The Portuguese pulp and paper industry processes great amounts of timber and plays an important part in the Portuguese economy. The major companies involved maintain and harvest several tree plantations (mainly eucalyptus) covering around 200k ha all over Portugal. To understand more effectively and on a country-wide scale the state of the tree plantations, the Portuguese industry association CELPA collaborates with Tesselo, an environmental technology company, to monitor the lifecycle of tree plantations (new plantations, harvest, burnt areas), tree age as well as national land use (change) on the basis of Sentinel-2 data augmented by AI. The forest managers of the member companies can access the Tesselo platform to check tree health remotely, prioritising their work according to urgency and need.

What we found

- Sentinel-2 data can provide information on tree health several days before the forest managers would have noticed issues giving them additional time to initiate any mitigation measures.
- The use of the application is estimated (conservatively) to reduce field inspections by c. 25% saving cost (the plantations are spread all over Portugal) and time that can be used in more productive ways.
- The use of Sentinel-2 data creates various benefits for the industry and its forest managers by providing them with a synoptic, frequently updated view of the tree plantations that would not be possible otherwise and at this cost.

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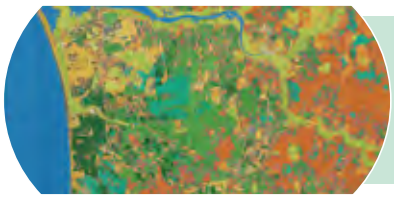
The Satellite Data

Copernicus Sentinel-2 provides free-of-charge frequent wide-swath, high-resolution multispectral imagery with 13 spectral bands over Portugal.



The Service Provider

Lisbon-based start-up Tesselo profits from Sentinel-2 data – without which the company would not exist – and AI techniques to develop an innovative, cost-effective approach for both monitoring and managing tree plantations throughout Portugal.

The Primary User

CELPA, the association of the Portuguese pulp and paper industry, benefits from frequent, country-wide updates on land use and land use changes all over Portugal.

Secondary Benefits

Forest managers of the pulp and paper industry companies can check tree health remotely from their desks and focus on those parts of the plantations where their attention is needed the most.

End User Beneficiary

A better and more effective monitoring and management of trees and forests benefits the general public.

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 "Assessing the detailed economic benefits derived from Copernicus Earth Observation data within selected value chains: a bottom-up study survey", under an assignment from the European Space Agency.

Download the full report from the project website

http://earsc.org/sebs