

Copernicus App Lab — Result In Brief

Project ID: 730124

Funded under: H2020-EU.2.1.6.3.

Coordinated in: Germany

Mobile app developers can now easily integrate Earth observation data

A novel platform acts as an interface between mobile app developers and freely accessible Earth observation (EO) data, analysis, forecasts, and maps. Innovative use is already paving the way to greener cities.



Assimilating, distilling, and analysing large amounts of data is critical to making informed decisions in virtually every field of endeavour. The amount of data available has grown exponentially over the years and user interfaces have improved to help us take advantage of it.

Now, the EU-funded [Copernicus App Lab](#) project has enhanced the interoperability of application program interfaces (APIs) with the EU's [Copernicus Earth Observation Programme](#) data services. The semantically enriched data structures will enable mobile developers to streamline development of novel apps for a myriad of purposes.

Inspiring a new generation of mobile app developers

Using dedicated satellites and in situ sensor systems on the ground, at sea, or in the air, Copernicus assimilates [near-real-time data](#) on a global level. [Copernicus services](#) transform that data into value-added information.

Since 2012, [AZO](#) and [RAMANI](#) have been organising the annual [ESA Space App Camp](#) to help mobile developers utilise Copernicus data and services to enrich their mobile apps. Copernicus App Lab was borne out of the desire to extend the existing API with enhanced semantics that make the use of Copernicus Services data easier. This will foster new business opportunities for potential new downstream service providers.

The sky is not the limit with the Copernicus App Lab

Copernicus App Lab targets mobile developers interested in using EO data in their apps but lacking expertise in accessing and processing the data. Project coordinator Ulrike Daniels elaborates, “The platform streams EO data in formats that mobile developers are familiar with. It also has analytics functionalities that allow non-experts to interpret satellite data and satellite derived data products and integrate them into mobile apps in a timely manner. Finally, it enables easy integration of Copernicus data with a broad range of cross-domain datasets through advanced data access protocols.”

The project [website](#) supports users with extensive online tutorials and explanations of how to [locate](#), [analyse](#), and [link](#) data. The tools are showcased in the [URBANSAT use case](#) that demonstrates their value to urban planners and city municipalities in determining the ‘greenness’ of a city and the role linked data plays in that context. For the use case, Daniels explains, “More than 40 Copernicus services datasets have been semantically enriched, published on the Streaming Data Library (SDL) of the Copernicus App Lab, and made available as linked data.”

Satellites revolve and Copernicus App Lab evolves

The team is quite excited about the results of their anonymous survey of beta users. Among the very positive responses, one developer commented, "I was thrilled by the analytics component of the tool – intuitive and very convenient to use. These tools do not exist in commercial off-the-shelf software... One would have to write several Python scripts to do what the App Lab analysis performs with a few clicks."

Copernicus Lab App is now working to become part of one or more [Copernicus Data and Information Access Services \(DIAS\)](#) through which all Copernicus data are now being made available. The team has conducted benchmarking and analysis activities, laying the groundwork for future integration. In the meantime, check out the [video tutorial](#) and get started on your next EO data-inspired mobile app today.

Keywords

Copernicus App Lab, data, Copernicus, app, Earth observation (EO), mobile developers, analysis, services, Streaming Data Library (SDL), tools, linked data, application program interface (API), use case, application

Last updated on 2019-10-25

Retrieved on 2019-11-14

Permalink: https://cordis.europa.eu/article/id/411412-mobile-app-developers-can-now-easily-integrate-earth-observation-data_en.html

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