Presentation of the CANDELA project coordinator Jose Lorenzo (ATOS Spain).

Jose Lorenzo works for Atos Research & Innovation (ARI) in Madrid. He joined the ATOS former, Sema Group sae, in April 2001 as a Consultant. Since then, he has been involved in the technical development, management, and coordination of EU funded projects, in the areas of Environmental Risk Management, Future Internet, Smartgrids, and more recently under the Earth Observation topic of the Space theme.

How has been your experience coordinating the CANDELA project?

Indeed, a great experience. The project helped us to keep the positioning of Atos, and me personally, in projects related to Copernicus and Space, which started with EO4wildlife in January 2016, a platform for wildlife monitoring, and continued with CANDELA and EO4AGRI, a Support Action assisting the implementation of the CAP (the EU Common Agricultural Policy).

What are the main goals and achievements reached during this period?

CANDELA was born with the aim of providing services that facilitate and exploit the usage of Copernicus data, building on top of the DIAS.

The project is providing 4 promising analytics tools deployed successfully in CREODIAS, where it is effectively referenced as a third-party partner.

Four main blocks of tools are being developed in CANDELA:

- Earth Observation data mining for classification, allowing users to refine their query by iteratively specifying a set of relevant and non-relevant images.

- Deep Learning for Change Detection on time series for optical and radar Earth observation data. The tools provide generic change detection maps for every couple of respectively optical and SAR images.

- Semantic search and indexation on the output of the Earth observation

library and non-image data, to allow users to make requests using multi-criteria.

- Data fusion techniques to merge data that came from various sources, enabling to combine multiple image sources for classification.

How your stakeholders will benefit from the CANDELA platform?

I think the best examples are already the user scenarios that have been tested in CANDELA to validate the tools, such as estimating the effect of natural hazards such as frost on vineyards, forest damage due to fire, or to explore the change of land cover especially urban expansion and agricultural land, by identifying the differences in satellite images before and after the occurrence.

One of the main advantages provided by a platform like CANDELA is being connected to a computational and analytical platform where the data sources (for instance Sentinel-1 and Sentinel-2 images) are directly available. Still, the user must have some technical background to run the tools and also to conduct some post-processing analysis, since the Jupyter lab is the main environment to interact with the platform.