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## Mass processing of remote sensing data for environmental evaluation in Europe

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The European Environmental Agency (EEA) implements the pan-European Copernicus Land Service to produce five High Resolution Layers (HRLs) of different land cover types. The area involved covers 39 European countries, almost 6 million km<sup>2</sup>. To generate these HRLs, seasonal statistics of various vegetation indices obtained from remote sensing satellite data acquired several times within a season are used. The required multi-temporal coverage for this large area has been ensured by the establishment of a multi-sensor concept using images of three different sensors. Images were acquired by the LISS-III and AWiFS sensor from the Indian IRS-P6 satellite and the RapidEye constellation in spatial resolutions of 20, 60 and 5 m respectively. An automated processing chain, based on a geospatial database, allows the ingestion, pre-processing (atmospheric correction, resampling, co-registration and mosaicking), processing and delivery in 24 months. The processing chain is implemented using Open Source tools and is based on Python. Up to date, about 2050 IRS LISS-III and 670 AWiFS scenes were processed into this geospatial database. These data is complemented by about 17000 RapidEye tiles in resolution of 5 m to add texture information to the analysis. Once the seasonal statistics are calculated, they are distributed to partner companies to generate the final thematic products. The HRLs are finally verified using different auxiliary data to ensure that the 80% accuracy requested by the EEA was reached. After QA, the results are finally delivered to each of the 39 countries who will make the final verification using ground truth information.

### Biography

Adrian Gonzalez has completed his MSc in Computer Sciences at the University of Mendoza, Argentina. He is GIS and Remote Sensing expert, with more than 25 years of experience. He joined Blackbridge in 2006 and currently he is working in the Application Research as Senior Remote Sensing Application Developer.

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