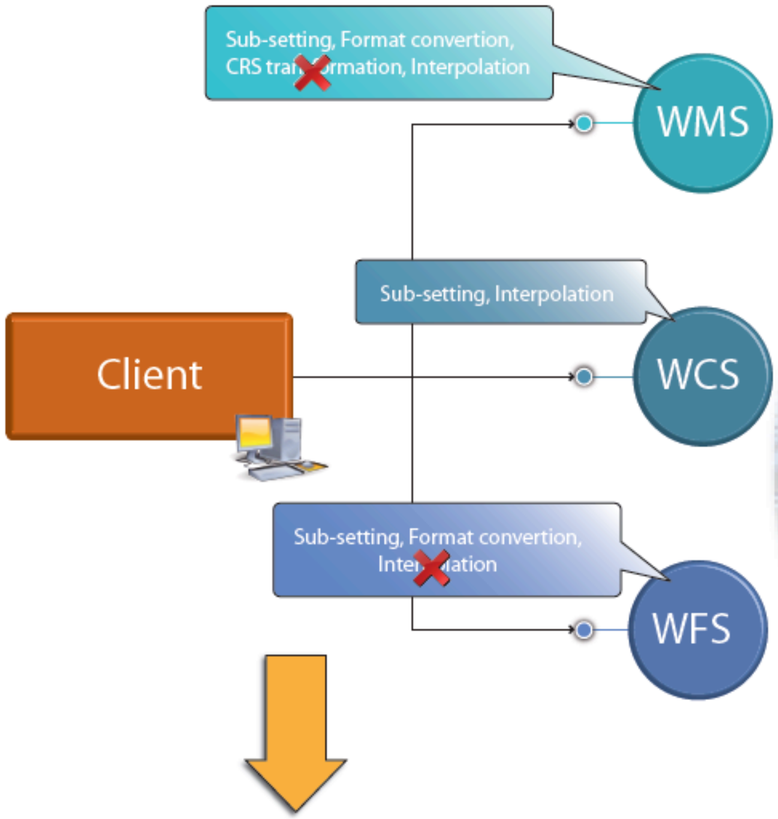
GI-axe – an ICT Solution for Sensor Data Processing

M. Santoro (1), F. Papeschi (1), E. Boldrini (1), L. Bigagli (1)

(1) CNR-IMAA, Prato, Italy

National Research Council of Italy

Traditional Approach



***GI-axe** is a distributed, a Web-based information system for improved geospatial (including sensor) data processing.*

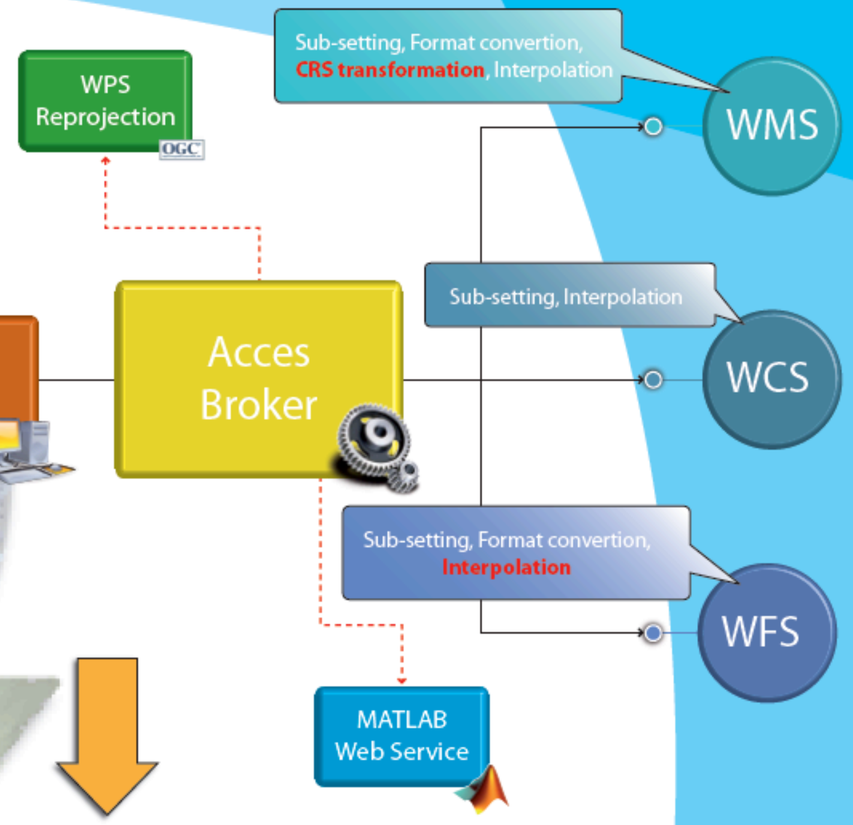
GI-axe is able to transparently perform the appropriate intermediate steps which sensor data processing very often requires:

- ***Sub-setting (i.e. trimming, slicing)***
- ***Format conversion***
- ***CRS transformation***
- ***Data Interpolation***

ISTIMES Layered Architecture

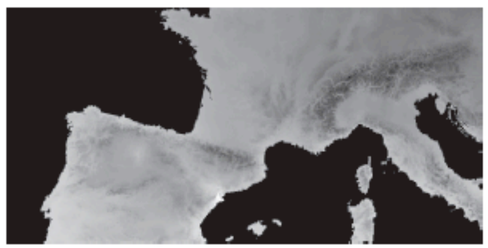
GI-axe is part of a distributed system for generating, publishing, cataloguing, and processing spatial remote-sensing data for sensor-based transport infrastructure monitoring applications, under investigation in the framework of the FP7 ISTIMES project (Integrated System for Transport Infrastructures Surveillance and Monitoring by Electromagnetic Sensing).
The architecture of ISTIMES introduces a four-layered set of services, progressively abstracting the low-level acquisition of data to the production of synthesized meaningful notifications. One of the layers provides peculiar value-added mediation services and includes the processing middleware solution that is the object of this work.

Mediated Approach



Output

Only one of the three requested datasets can be retrieved with the needed parameters



Output

All the three requested datasets are retrieved with the needed parameters