



# PHOTOGRAMMETRIC DATA CAPTURE IN CATALONIA, SPAIN



## CREATING A DYNAMIC SOLUTION

As part of the Generalitat de Catalunya, the Autonomous Government of Catalonia, Spain, the Cartogràfic i Geològic de Catalunya (ICGC) supports efforts related to Geodesy, Cartography, Geology and Geophysics in the Catalonia region of Spain. Since its creation in 1982, the organization has been using Hexagon Geospatial and Intergraph products for its development of photogrammetric data capture workflows for the generation and updating of topographic databases.

In its earliest stages, vector data was collected using the Intergraph® Interactive Graphics Design Software (IGDS). Then, in the 1990s, ICGC began using Intergraph's MicroStation for these types of projects.

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However, with the increasing complexity of newer data models and the need to optimize more progressive data exploitations, the organization wanted to migrate its data capture workflows from a CAD to a GIS. Hence, the organization began using GeoMedia® and ImageStation Stereo for GeoMedia (ISSG) from Hexagon Geospatial.

The new ICGC GeoMedia-based data capture solution is a complete 3D production system using Oracle Spatial as Data Base Management System (DBMS), Geomedia as basic GIS and ISSG as photogrammetric software.

The ICGC wanted to create a new, streamlined application on top of these commercial products. Since ICGC has deep experience in implementing production workflows, they were able to customize the commercial off-the-shelf software to improve productivity.

The new system extends the functionalities of GeoMedia and ISSG, and enhances the 3D capabilities of GeoMedia and Oracle Spatial. It also integrates the CAD efficiency in data capture into GeoMedia and enhances vector data visualization capabilities.

In addition, the system optimizes data capture and management, improving several aspects of the feature catalog management capability. By design, this essentially provides tools for database management and ensures the data quality. The data capture application takes advantage of the combined 30 years of experience of the ICGC development and mapping teams.

The ICGC solution is now a highly productive system that takes advantage of the excellent performance and ergonomics of GeoMedia and ISSG. By extending the capabilities of these commercial products, the organization creates topographic data models with 3D aspects, unique identifiers, life cycle attributes and metadata at instance levels.

After one year of implementation, the results show that the ICGC GeoMedia-based data capture solution is an agile, accurate and efficient application that allows the organization to significantly enhance their overall 3D data capture capabilities.



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