

# Cross-discipline Interoperability

Info-Dynamics Research Associates Ltd (I-DRA) are engaged in a number of standards and interoperability activities, including a recently funded INSPIRE-GMES data harmonisation project within the European Union 6th RTD Framework Programme (FP6). Infrastructure for Spatial Information in Europe comprises a set of policy and standards activities promoting creation of a geospatial information infrastructure to assist diverse user communities to collect, share, access and exploit geo-referenced information resources across Europe. The joint EC-ESA (European Space Agency) GMES initiative (Global Monitoring for Environment and Security) focuses on six application fields: land cover, water resources, ocean/marine applications, atmosphere, risk management, and security. The INSPIRE infrastructure will facilitate implementation of services to achieve GMES goals.

The FP6 GMES-INSPIRE requires that projects develop deliverables using "non-proprietary standards such as ISO standards for geographic information and OpenGIS specifications" expected outcomes are Geospatial Data Implementation Specifications (e.g. feature catalogues, thesauri, European data models) including guidance documentation, examples, and open source software tools." Two projects selected for funding were RISE (Reference Implementation Specifications for Europe) and MOTIIVE (Marine Overlays on Topography for Annex II Valuation and Exploitation).

RISE is led by EuroGeographics, with OGC Europe and OGC member QinetiQ as key partners. The project focuses on producing geospatial data implementation specifications consistent with international standards encompassing the development of application schema and data product specifications to enable sustainable and interoperable functioning of INSPIRE and GMES. RISE is developing a geospatial data implementation specification that includes UML and GML application schema, a human readable feature catalogue, plus other relevant parts of a data product specification. The OGC-compliant verification and validation framework developed in RISE will be used by MOTIIVE.

MOTIIVE is led by HR Wallingford (Oxford, UK) and includes I-DRA as project manager, plus OGC members Social Change Online, EDINA (Univ. of Edinburgh, UK) and UK Hydrographic Office, using tools from Ionic Software SA (Belgium). MOTIIVE will provide a documented and tested methodology for implementing data harmonisation activities between INSPIRE elevation and marine/coastal datasets being used by GMES Service Element projects. The project follows the OGC Reference Model for interoperability, applying ISO 19xxx series of standards (including recent CEN/TC 287 profiles) with associated Feature Type Catalogues and marine ontologies. Standard OGC templates are used and MOTIIVE will liaise closely with OGC Europe via the RISE project. MOTIIVE will produce a cost-benefit assessment model for harmonisation applications that use INSPIRE core and thematic datasets via OGC-compliant standards and tools. MOTIIVE extends the work of the EC-funded MarineXML project and will produce a business case for establishing an OGC Working Group on Marine Data, based on project deliverables, i.e. marine ontology, UML marine data model, marine terminology thesauri, OGC feature-type catalogue and GML application schema. Marine/coastal community user engagement is a key feature of the project.

RISE and MOTIIVE will develop tools and methodologies to enable and facilitate cross-discipline interoperability.