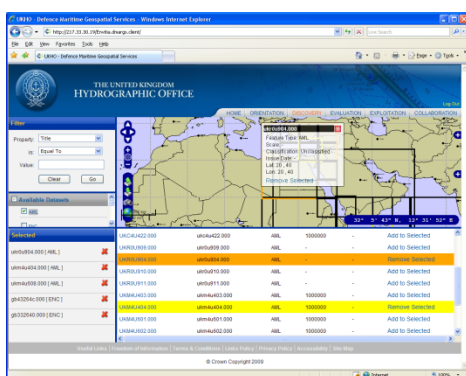
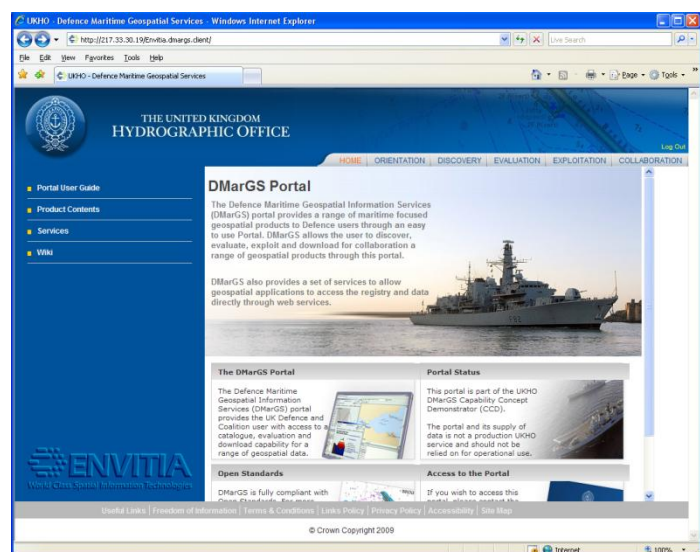


## Delivering geospatial data for UK Hydrographic Office

The United Kingdom Hydrographic Office (UKHO) is one of the world's foremost producers of Hydrographic Information and Charting. The volume of Maritime Geospatial and Environmental data held in their systems and databases is vast. As part of their operational mandate the UKHO provide Maritime Charts and services to UK Defence customers including all three services.

Over the past few years, the operational focus of the UK Ministry of Defence and particularly the Royal Navy has evolved from the cold war scenario into more small/medium scale operations, whether military, humanitarian or peacekeeping operations, in smaller and more remote areas of the world.

The UKHO have a large amount of information available for its military customers. However it is not readily available at short notice, nor is information pertaining to the extent and content of such data. The rapid and dynamic nature of today's operations along with the availability of the internet and military network infrastructure, have raised expectations on the availability of information and timescales for delivery. The UKHO have thus been investigating various approaches to the delivery of information through networked services. A number of capabilities for the delivery of Maritime Charts have been developed, but improvement has been limited to standard products only.

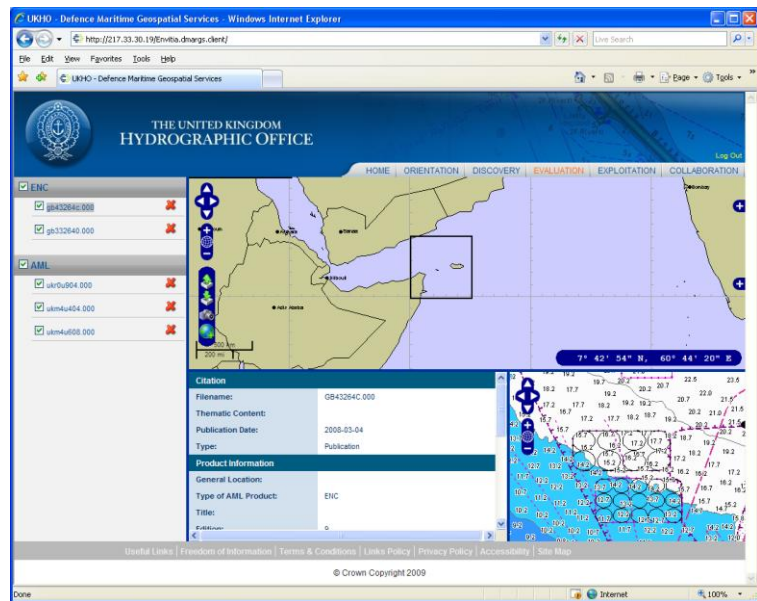


To meet the demands of the defence community UKHO at Taunton requires a more sophisticated and integrated capability that provides access to all Defence Maritime Geospatial information through a single portal. Through such a portal the user should be able to select an area of interest through

gazetteer or map, discover which data is available, preview selected data and query as to suitability through inspection of metadata and attributes, and finally download or dispatch that data ready for exploitation either by human or deployed systems.

Through a series of workshops with Envitia, the experts in geospatial data modelling and solutions, UKHO defined a preliminary implementation phase for this delivery system that would provide immediate advantage to commanders in theatre. Using open standards in a spatial data infrastructure the Envitia team have delivered an initial system which is open and extensible. Envitia delivered a series of web services based upon the Open Geospatial Consortium (OGC) standards.

Envitia's automated data import facilities harvest information from available geographic data sets and populate a catalogue with their relevant details, their provenance, accuracy, format and location. The catalogue provides the central access point for data searches instigated through the thin client web interface, located either by geographic extent or location name via a gazetteer.



UKHO have a number of independent gazetteers which have been harmonised to provide a comprehensive access mechanism using addresses and place names. A list of available datasets is returned from the catalogue and displayed in the Browser. The users can then select the data, preview as thumbnails and review the metadata. Having made a selection, the information is visualised using Web Map and Feature Services and when agreed, exported as downloadable files or a suitably formatted transfer set for a deployed system. Where the destination service is also based upon a standard Spatial Data Infrastructure, the portal can export a Web Map Context which can be interpreted by any standard SDI to build the exact same product from the same data sources, saving volume data transfer, time and potential errors. As this capability evolves the whole range of Defence Maritime Products will be catalogued and made available.

This project has shown that it is possible to deliver the enhanced services demanded by the modern defence user, both through a human consumable portal and via direct web services into deployed systems using open standards.