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Cadcorp and Port Authorities

Using geographic information for more than safe navigation

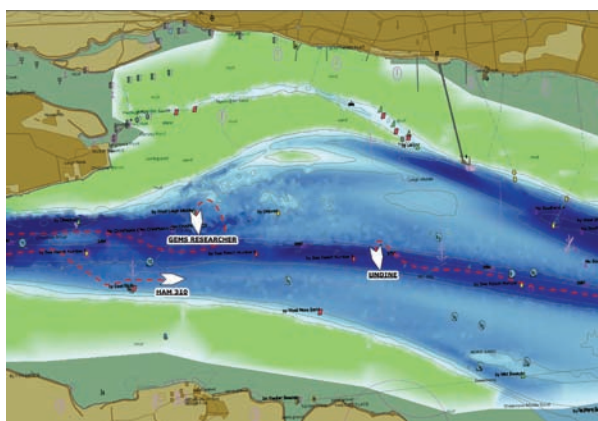
The Cadcorp SIS[®] – Spatial Information System[®] suite has long been used by port authorities to help them deliver accurate and up-to-date navigation maps and charts.

The need for paper maps still remains. However, the strengths of the Cadcorp SIS product – in capturing, importing, and sharing spatial data – are equally applicable to other GI applications such as real-time navigational monitoring. Many port authorities are expanding their use of geographic information systems technology as they recognise the central and coordinating role GIS can play in supporting their diverse customer base.

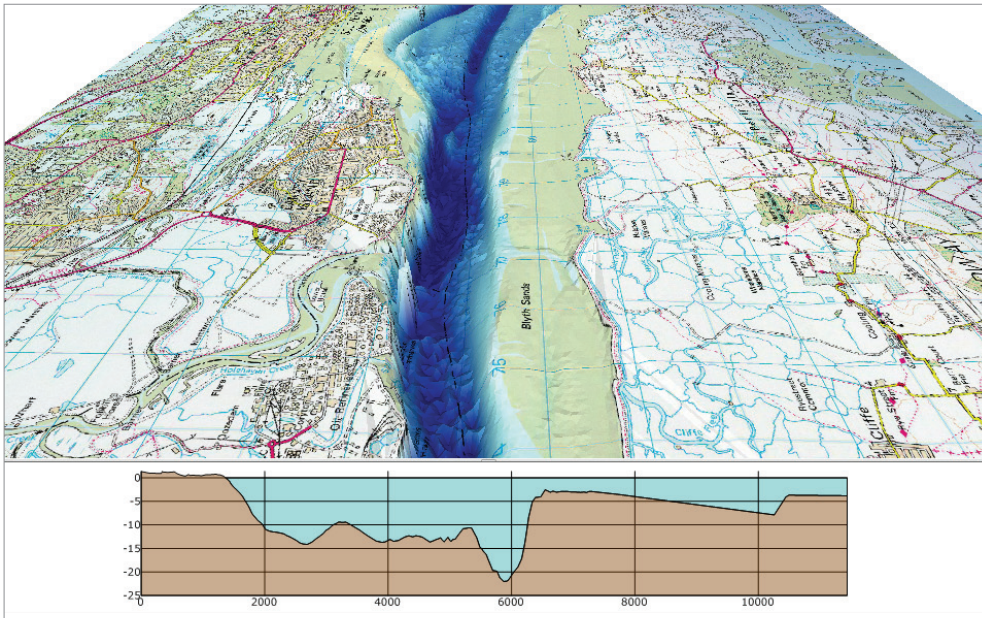
Port authorities face many interesting challenges in relation to geographic information. The primary role of a port authority is to ensure the safe management, movement and unloading of ships, containers and other cargo. This is only possible given accurate and up to date information on both physical geography and hydrography. It also entails having information on the man-made facilities under the control of the port authority such as piers, jetties, moorings and buoys. A port authority also has to deal with overlapping and often conflicting spheres of responsibility divided amongst agencies focusing on the environment, fisheries, transport, recreation, tourism and planning. Finally, a port authority's difficulties are compounded by the fact that the marine environment in which it is working is itself subject to temporal change; both seasonal and tidal.

Since hydrographers are constantly involved in on-going surveying and charting of the marine bed and shifting navigation channels, port authorities need GIS not only to aggregate and consume geographic information but also to assist them in its production.

The Cadcorp SIS suite of GIS and mapping products is well-suited to these demanding requirements. Cadcorp standalone and desktop products are used by port authority professionals in all phases of spatial data handling: preparation, creation, configuration and management, viewing, plotting, querying, editing, analysis and modelling. These are complemented by Cadcorp's range of web GIS and web mapping products which they use to share and distribute map data both within the authority and with external organisations and customers.



Channel depth monitoring



Dredged channels viewed as a cross section and in 3D. (Images reproduced with the permission of the Port of London Authority).

A combination of Cadcorp web and standalone products is helping port authorities in the following tasks:

- hydrographic surveying
- visualising and analysing hydrographic data in 2D and 3D
- identifying, recording, and managing assets such as moorings, buoys and lights
- environmental surveying and modelling
- integrating GIS and CAD data from diverse sources
- producing professional navigation charts
- map printing and plotting
- managing OS MasterMap® including COUs (Change Only Updates)
- managing the loading and display of S57 hydrographic data
- mapping Sites of Special Scientific Interest (SSSIs)
- identifying safe sailing zones
- creating pollution action plans
- managing oil spills
- sharing spatial data via the intranet
- visualisation and sharing spatial data with coastal zone stakeholders
- managing dredging programmes
- providing extranet support for dredging licence applications
- real time vessel management

Cadcorp at the Port of London Authority

The Port of London Authority (PLA) acquired its first Cadcorp systems in 1995. John Pinder, Port Hydrographer, PLA, explained why the authority selected Cadcorp over 15 years ago:

"Having looked at the different digital mapping and GIS products available, we chose Cadcorp SIS because it was the one product that enabled us to easily zoom into an area of map, place a grid and a title block on it and print it out at the required scale. That seems a simple enough task but at the time there were very few products that could do it easily, and there still aren't that many."

"Furthermore", he added "a standard facility in Cadcorp SIS is the ability to read and display Ordnance Survey GML data in its native form, as well as a wide variety of other GIS, CAD and graphic data and database formats, without translation. Other products require the purchase of a translator."

The PLA has gone on to use Cadcorp SIS in many other applications since 1995, many of which don't involve paper output. However, the initial overriding reason for using Cadcorp technology remains. *"We still have a legal requirement to keep our maps and charts up-to-date and to share current information with our customers – as we have always done. Owing to Cadcorp's strengths in spatial data sharing, we find we can now bring together many more data sets than we used to, and in a shorter time period. The lag between surveying and publishing geographic information is much reduced, to the obvious benefit of ourselves and our customers."*



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