

TOWARDS AN EFFICIENT, DIGITAL AND MODERN HO

SHOA on the Move

In 2002, the Hydrographic and Oceanographic Service of the Chilean Navy (SHOA) established a Research and Development Department. This was to provide an independent group devoted to the investigation, development and implementation of new technologies for the management of information and restructuring of Service productive and administrative processes, independent of productive bodies. The initiative would facilitate technological harmonisation of projects contained in the Seven Years Development Plan (2001-2007). It would also be in line with the governmental modernisation process launched by Presidential Instructions towards E-government and a National Territorial Information System (SNIT), intended to form a geo-spatial data infrastructure for the whole country.

The mission of this new department has contributed directly to changing SHOA into a modern and prepared organisation able to meet the information service requirements of the present world, both in terms of management of internal processes and in production development satisfying national and international communities. To carry out this mission, work is conducted in parallel and on several levels (Figure 1) to face the new challenges demanded by a global world requiring information and answers in real time.

Strategic View

The work strategy developed by the Research and Development Department to accomplish this mission includes development and implementation of a platform supported by the SHOA strategic vision. This is: "to constitute an efficient, effective, professional, modern, prestigious and reliable Hydrographic and Oceanographic Service recognised at the institutional, national and international levels as meeting the user's needs and contributing to the national development". To attain this and to maintain ongoing permanent development, this Department is devoted to consolidating a platform that forms the basis of five levels constituting as a whole a development structure for the achievement of an electronic, digital and intelligent Hydrographic and Oceanographic Service (e-SHOA).

Technological Infrastructure

Harmonious development of the different levels of the structure in support of "e-SHOA" requires an adequate computer infrastructure, reason why the network of servers, communications and other equipment are being updated (Figure 2). This will ensure suitable technological support. On the other hand, standardisation and adaptation of existing systems to meet security requirements established by the Navy are being undertaken. This will enable SHOA to maintain a permanent link with the Navy net.

Corporate Database

Another important stage in consolidation of the "e-SHOA" concept is the centralised management and control of hundreds of thousands of hydrographic, cartographic, oceanographic and management data archived and controlled by SHOA and constituting the country's invaluable patrimony. This labour is being undertaken through implementation of a Corporate Database Project (BDC), (Figure 3), including all the activities and processes developed in SHOA. The database considers, in its first stage, the development and implementation of an independent catalogue containing all digital independent existing files and a hydrographic - cartographic - oceanographic continuous information database for all the national territory in WEB form and S-57 format (international standard format for hydrographic data exchange).

The initial BDC objective will, in principle, be a consultative collection of certified and common information to be used by the various existent SHOA productive processes. System implementation will include availability of interfaces for the management of this information. The first stage of the project is aimed at maintaining unchanged the current electronic and paper production systems and all existing operating processes in general, placing all efforts on the creation of the SHOA corporate database. After completion of the collection process, other processes will be initiated. These will cover information control and efficient management and modelling and creation of a database to enable automatic update of existing products generated by the corporate database.

Restructuring Processes

This technological change requires not only deep computer and digital skills on the part of SHOA users, but also a permanent restructuring of management and productive processes in order to radically improve the results obtained at internal and external organisational levels. Thus reengineering of the following processes is under study: Paper Nautical Chart Production and Correction; Updating, Generation and Delivery of Navigational Information and supervision of external reviewing works (Figure 4).

This activity is resulting in gathering records and formulating present processes, to conclude at the end of this year with the establishment of the processes involved according to current requirements. Subsequently and depending on the results obtained, the implementation of changes suggested in the restructuring process report will be carried out. All this work is being done with the support of a private company of known re-engineering-process experience in Chile and other countries.

In parallel to this work and as a part of the process, SHOA processes are undergoing study and evaluation for quality certification in accordance with ISO 9000 Standard.

In addition to the particular work of restructuring processes and as an essential step towards e-SHOA, one important task developed by the Research and Development Department over its first year has been the creation of the SHOA Intranet. This has required the reengineering of several administrative processes and is intended principally to aid reporting back to each SHOA member on all the activities of the organisation, decreasing the volume of information flow and informative meetings. In this SHOA Intranet Portal called "SHOA.net"TM, internal processes have been technologically improved and innovated. Material purchasing, working orders, daily report, librarian searches, nautical chart catalogue, activity planning, hydrographic and cartographic planning, etc. are all covered, dramatically reducing the volume of documents and "people flow"TM between offices. This represents an important working change in SHOA and will soon become the portal to access the corporate database. Navy news and information and national and international news are also included. So too is necessary internal information such as personnel birthdays, daily, weekly and yearly activities, telephone numbers, weather forecast, staff data etc., all constantly updated, most in automated form and complemented by dynamic applications which interact with several related databases within the same Service.

Internet - Online Services

All this investment in technological infrastructure, process restructuring and automation and database management supports the development and implementation of online services provided by SHOA to the community through the website. This constitutes a permanent task and challenge for the Research and Development Department, that is daily studying, developing and testing new applications and services to be incorporated into the new webpage that was redesigned and launched on 1st May 2003.

Information management via the internet is work that requires timely and adequate action to keep users continuously informed. The new design of this webpage makes content access easier and ensures its growth, changing its orientation from an organic departmental structure to a service and product site offered to the community by SHOA. This change of orientation has required a considerable effort in dynamic application development, requiring a technological infrastructure and database management to support, ensure and improve over time the new services on offer.

Chilean Official Standard Time, at Stratum 1 level, which enables users to consult Chilean Continental and Insular Time and to synchronise the servers of public and private organisations, is among the most important services. Another important innovation has been the inclusion of a commercial electronic portal that allows the direct purchase of nautical charts and publications, control station parameters and tidal data of fixed stations. This took more than fifteen days under the old administrative procedure and the change is an important contribution for hydrographic/ cartographic and oceanographic product users.

As a complementary service for the maritime community, the system permanently provides available Notices to Mariners, NAVAREA XV and NAVTEX; a nautical chart searcher with a graphic display and a downloading option that includes sixteen technical and educational publications. The Department is also working in the implementation of "online applications"TM that will be included as part of a Portal to ease procedures, "tramitefacil"TM, which according to the national modernisation framework and the E-government development initiative will prove a useful tool for various users.

All these changes are included under SHOA policy of providing the national and international maritime community with a timely, high-quality service, making our sea closer, more useful and more navigable.

Conclusion

This new challenge assumed by the Research and Development Department to establish a suitable infrastructure for a reliable, secure, strong and electronic organisation consists not only in improving hardware and software equipment and application development but also in changing cultural and organisational behaviour. In this context, not only the study and restructuring process but also the participation and engagement of all Service members should be encouraged. This combination is the critical element in ensuring an efficient and modern Hydrographic Office, able to provide the products and services required by other national development projects, and particularly by the maritime community.