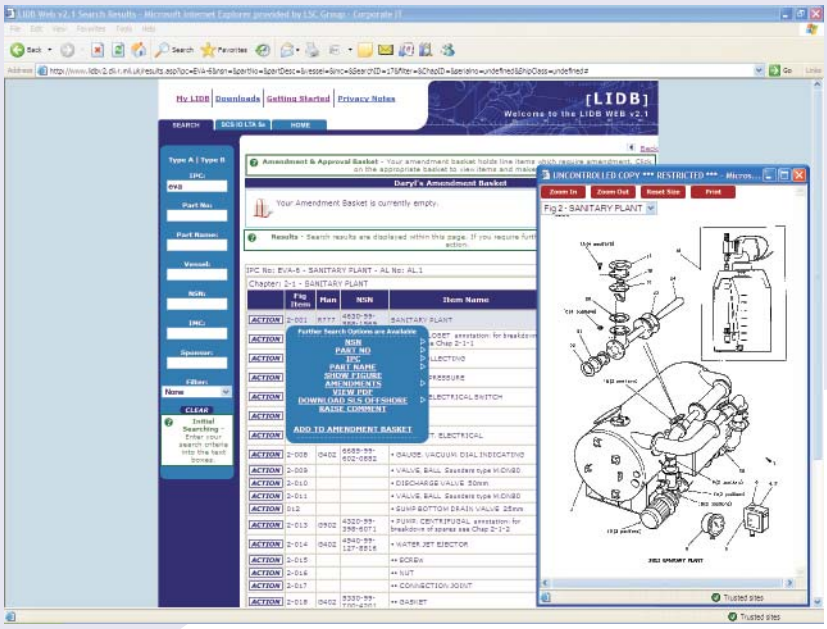
Preparing the Navy for On-line Spares Support

Launching the Royal Navy's Line Items Database.



The problem

As in many organisations operating high value capital equipment, the Royal Navy needed to transform its working practices to take advantage of the benefits afforded by electronic documentation. With the transfer of vital information onto electronic databases, maintenance and engineering support activities can be released from the constraints of printed material and microfiche.

To achieve this the Royal Navy needed to transfer some 7,000 paper documents, comprising 1.2 million line items of data, to an electronic format that allows speedy access to essential engineering information.

Solution

LSC Group adopted a three-stage approach; document conversion, data cleansing and the access/retrieval system.

Conversion

The initial roll out of the line-item database covered the loading of 750 Marine Engineering Documents. This was followed by a rolling programme of conversions in which another 6,250 documents have been installed.

The schedule required the conversion of some 15,000 pages a week that's more than seven pages a minute for seven months, equal to around 1.2 million line items. No small task!

Cleansing

LSC Group encountered many discrepancies in the original information, often caused by the lack of a precise means of cross-reference. For example, cases were found where the same item of equipment fitted on two different ships had been allocated different NATO Stock numbers.

Business rules were applied during the transfer process to strip out all duplications and errors. The result was a refined data set providing a single source of reference for spare parts.

The six-month development programme involved the analysis, capture and transfer of data into a temporary database. During the transfer process, metadata was added to the parts information to assist in classification and retrieval.

The Challenge

Converting legacy paper based information into electronic format that enables greater search and retrieval facilities.

Solution

A three part solution including document conversion, data cleansing and a Web-enabled central database.

Customer benefits

More efficient and effective search capability

Greater flexibility in terms of generating and storing information

Retrieval

A key element of this process has been the creation of a Line Items Database (LIDB), produced by LSC Group. The LIDB is a cleaned-up and distilled electronics parts catalogue, covering equipment that is owned and maintained by the Royal Navy. This system provides the basis for managing best practice, through the use of multimedia electronic storage and on-line access, ensuring that information is both accurate and current.

LSC Group designed an intuitive and familiar Web browser user interface to the database. A key to the rapid acceptance by users was the similarity of the database to the existing paper documentation.

Being a web-based system, the LIDB is now available to some 60,000 users in shore-based establishments. For sea going ships, the relevant information can be transferred to removable media for access during deployment.

Benefits

The LIDB significantly reduces the costs involved in printing and distributing volumes of bulky documentation to the ships. Where required, information is supported by illustrations, showing where parts are fitted and how they are assembled. If necessary they show the equipment broken down to the lowest level, including bolts, screws, nuts and washers.

An important benefit of using electronic storage devices is that specialised maintenance personnel will be able to tailor the information stored in personal devices to suit specific tasks.

As well as the advantages for maintaining the currency of the information source, benefits also include the inter-linking of parts information so that whenever an item is updated all the data referring to that part are automatically updated.

The LIDB also makes data access more efficient. Previously, users would have to make separate visits to different databases before reconciling the full answer to a query. The information presented in response to all user queries is now taken from a single source of reference with all reports accessing the same electronic information to deliver virtually any data enquiries, whether they are from engineering, logistic / commodity managers, equipment project managers or service support personnel. Ultimately this has helped improve the overall efficiency of stock control and reduce operating costs.

Savings have also been made through integration of the LIDB into the Submarines IPT Collaborative Working Environment, where a user can now identify an anomaly and have required changes fast-track approved through the CWE.

Summary of Benefits

As well as the direct benefits to users, electronic working has impacted the entire support community, including maintenance personnel responsible for upkeep and management of the parts catalogues.

- For users a single query instead of separate visits to different database sources – an efficiency gain to the Royal Navy.
- Document information is available immediately to the desktop; no waiting for library copies, giving better customer service and efficiency gain.
- Cross -referenced queries available immediately.
- Users - Item applicability easily obtained.
- Users Applicability (which Platform it is fitted to) of General Naval Stores available on demand.
- Users - Interrogation of special needs - available by easy database queries.
- Users & Management - Updating of Documents will be much quicker (in development) the Better and Faster elements of Smarter Acquisition..
- For Document Management a single entry change updates all the applications of that entry a major efficiency gain to the Royal Navy.
- Document Management - No paper to store or distribute for shore-based users a major contribution to the environment.
- Users are able to find information without library delays, safe in the knowledge that the data on screen is as up-to-date as possible.

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