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# The end of the paper age

As ships become increasingly complex, asset management with printed manuals becomes an efficiency issue. Computerized Maintenance Management Systems (CMMS) can handle the task faster and cheaper, but need open minds and collaboration. By *Felix Selzer*

Keeping control of operations and documentation in planned and predictive maintenance, spare parts management and purchasing is essential. Not only to ensure safety and reliable operation of equipment, but also to avoid unnecessary costs and downtime. »When a ship is built, it comes with five copies of the technical manual for each piece of equipment on board. Multiply this for a fleet of 50 ships and try to keep all these manuals updated with the service bulletins over a period of 20 years. Finally, imagine to be on the bridge of a vessel and you need a technical manual which is in the Machinery Control Room«, Giampiero Soncini, Director of Volaris Marine Division illustrates.

Soncini is the former CEO of SpecTec, a software company that offers Computerized Maintenance Management Systems (CMMS) to the maritime energy and defence markets, now part of Volaris. His philosophy is to make information available »where it is needed, not where the information is stored« by organizing and processing it digitally via SpecTec's Asset Management Operating System AMOS.

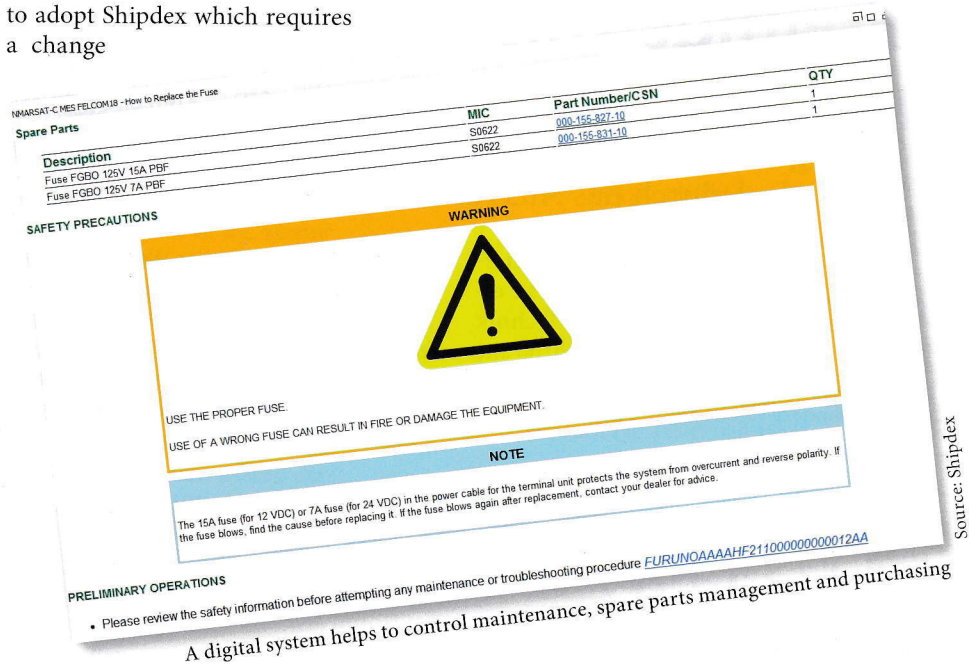
To make a Computerized Maintenance Management System work the equipment manufacturers' cooperation is needed. Data of all equipment has to be fed into AMOS. Thus, makers have to adopt paperless documentation, too. This is why the Shipdex protocol was developed by Marco Vatteroni, today director of Shipdex Consulting. Vatteroni had worked for five years in the military market with the S1000D specification (»International specification for technical publications utilizing a common source database«). When SpecTec was asked during the shipping boom in 2005/2006 to develeop an easy and efficient planned maintenance system, Soncini hired Vatteroni, who customized the S1000D for shipping. Developed in a non-profit consortium of maritime suppliers and ship-owners, such as Alfa Laval, MAN Diesel, McGregor, Yanmar and Grimaldi Group, Shipdex was released as an open standard that can be adopted by every shipping player, including CMMS providers who wish to become Shipdex compliant.

The protocol is based on the markup-language XML and standardizes manual structure and content, making it useable in the CMMS. Every information – technical descriptions, lists of spares, maintenance job descriptions etc. – is allocated in a number of so-called Data Modules, which are given standardized and unique codes. Data Modules can be understood by AMOS and any other IT application and imported into the relevant databases.

Manufacturers still are a bit reluctant to adopt Shipdex which requires a change of internal documentation production. »Some makers in the military market declared they were saving up to 40 % of time and money producing their manuals in accordance with the S1000D specification«, Vatteroni says. Man Diesel and some other important makers have already switched their document production processes to be Shipdex compliant. Considering the number of ships with AMOS or a similar product, Soncini thinks there are probably only 12.000 vessels with an ERP system. »As I consider that there are between 24,000 and 28,000 ships needing such a system, you can see how 50 to 60 % of the world's fleet is still without a proper system to manage vessels effectively,« Soncini says.

Soncini observes an increasing willingness on the owners' side to adopt digital asset management, for one reason: »AMOS allows a strict cost control on all technical aspects of fleet management.« The equipment makers on the other side are not ready to invest yet, Vatteroni explains.

As digitalisation and automation are becoming major issues for the maritime industry, Soncini has a clear vision of the role of asset management:




Source: Shipdex

A digital system helps to control maintenance, spare parts management and purchasing

»AMOS since 1988 connects to any automation plant or predictive tool such as Mimic, SKF, SPM etc. It will be integrated in automation systems, maybe also at firmware level. Data collecting, pre-analysis and integration of data with a business intelligence system will be the tool of the future. Shipping will become more and more a crewless affair, people who are against it are destined to lose.« In his view the future is data collection, analysis and maintenance by exception. His tip for manufacturers: prepare for offering post-sale service management: »When you own a BMW and you get an alert of your dashboard, you go to BMW. Here they connect their computer and read the story of the engine. This is exactly where shipping will have to go and where AMOS will go.« ■