

# Hosted database eliminates burden of IT upkeep

While fleet management systems can play a deciding role in containing operational costs and improving efficiency, their upkeep often results in more work; MEC examines a solution designed to relieve owners of this task

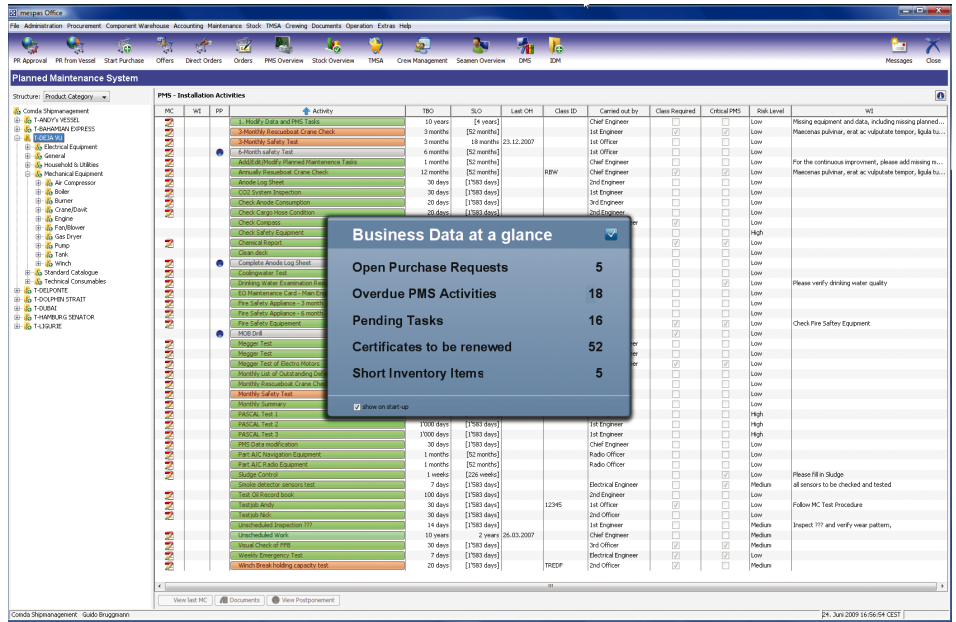
Even today, when the world reels from one of its most painful economic crises, many companies are focusing their energy not only on how to come through the hard times, but equally on how to prepare for the eventual upswing. In times of overcapacity, both in terms of human as well as capital resources, it makes sense to allocate some of these resources to programs that sustainably improve efficiency and enhance competitiveness.

The use of fleet management systems has a long tradition, but new solutions are needed to tackle the ever growing proportion of resources, which are expended on tasks that are non-core, such as data management, finding suppliers, managing manuals and OEM data.

One company that has recognised this issue and is leading the way in finding an answer is Zurich-based Mespas. Its class-approved software, Mespas R5, covers all major functionalities of modern marine fleet management. The unique feature, however, is a centralised database which is based on hosted or 'multi-tenant' architecture.

"To develop a more efficient way for managing marine fleets was the overarching goal when establishing the company," says Mespas' managing director, Peter Fah. "Shipmanagers should now be able to concentrate on their core business again, while counting on a system that allows them to monitor their fleet in an efficient and cost effective way."

Increased operational efficiency was one of the main reasons why the German company, Reederei Karl Schlüter, chose to install Mespas R5. This operator's technical director, Oliver Hennes, reports that the system has been particularly helpful in reducing complexity and facilitating information flows. He explains: "It is no longer necessary to contact a ship to obtain information (such as part specifications or serial numbers) by making a call. Instead, details can be retrieved from the system. This saves a great deal of time and effort in managing individual



Ship operators such as Reederei Karl Schlüter want class-approved easy to use software

vessels or a whole fleet, especially in planning maintenance work."

Reederei Schlüter sought class-approved software that is easy to use, offers a clearly structured user interface, provides outstanding functionality in terms of managing maintenance work, and offers data and system security.

Regarding this last point, Mr Hennes says: "We have profited more than once from being able to restore data from the central server. System failures or damaged hard drives can occur, but thanks to architecture used in Mespas R5 we were able to restore the data easily and quickly, and thus preserve the vessel's history."

Ease-of-use was of course a crucial factor in the development of Mespas R5. The company realised that personnel using the system, whether on board ship or ashore, should be doing so because it makes their roles more straightforward, not because they have to.

Today, Reederei Karl Schlüter has installed the software on 22 vessels, with six newbuilds to follow. Until now, it has been primarily used for planned maintenance, task lists, stock control and document management, but the operator is currently implementing the Noon Report module (see box).

So how do traditional fleet management systems and one based on a multi-tenant architecture differ and why do more and more companies implement the latter system? There are two main features that distinguish a multi-

tenant system:

- a server infrastructure for a large user base is managed centrally and in parallel, instead of separately for each user
- a comprehensive database contains generic information on machinery specifications, supplier information, manuals and other documents.

This generic data exists once only in the database, regardless of how often that information (eg, a part or a manual) is linked to various users or vessels. Furthermore, master data are absolutely congruent with their original diction, meaning no variations of spelling can occur due to incorrect data entry. This is important for data analysis across a fleet, integrated procurement and seamless communication within a company, as well as with suppliers.

When adding a client – whose equipment is not already stored on the system – to the database, Mespas contacts the relevant manufacturer to obtain this information, which can include spare part lists, manuals, maintenance plans and other documents. This process is carried out before the customer actually starts using the system.

Mespas states that, for the most part, OEMs are very co-operative in providing this information. Firstly, it is in their favour too if their equipment is well maintained. Secondly, OEMs benefit from improved communication with their owner or manager customers. Customers no longer have to enter data manually or copy it from some

other source; instead, they can simply choose the correct data from a drop-down menu.

This ensures, for example, seamless handling of purchase requests, particularly since both supplier and customer use the same software. Mespas makes its system available for free to suppliers, with over 6,000 currently using it.

Thirdly, OEMs prefer their customers to work with data that is completely synchronised with their own data. Furthermore, it provides them comparable data from a large customer group on equipment wear and tear behaviour. Mespas states that because paper documentation is already digitised and shared between user and supplier, the system effectively fulfils the main aims of the ShipDex standard (*MEC* April/May 2008).

Benchmarking and data analysis by individual vessel or across the whole fleet are core features of most fleet management systems, and Mespas R5 is no exception. However, the company has paid considerable attention to making the process as intuitive and straightforward as possible in order to minimise training. Says Mr Hennes: "Although the software is easy to operate, initial training is still important so that the crew can use the system to maximum advantage for planning and carrying out their daily work, as well as communicating with shore-based personnel."

Registering a new vessel on the system is designed to be straightforward and to require little time. The process entails linking the new vessel's parts and products to the data within the master database (which currently contains more than 774,000 parts) and where necessary entering new parts/products to the master database; inputting vessel specific information (eg, running hours); and defining the most important maintenance tasks, for which maintenance forms are then established.

These forms not only provide each ship's chief engineer and the responsible people ashore with the information about whether and when a task has been carried out, but also who carried out the work, how it was carried out and which measurements were taken. Armed with this information, operators can generate reports, for example, on liner wear, and to determine future tasks, for example, when a liner needs to be replaced. Having such information readily available is invaluable for spare parts management and defining the right time for ordering parts in advance and in bulk to obtain better purchasing conditions.

However, one of the greatest sources of cost savings results from outsourcing IT related tasks such as performing regular back-ups, hosting servers, providing security, implementing software updates and entering master data. This means that shipping companies are finally free to allocate resources away from non-core tasks and able to concentrate on what they do best: managing their fleet. **MEC**

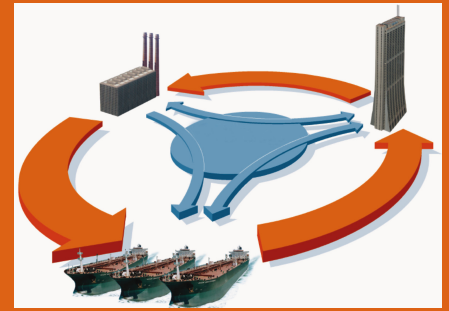
## Mespas R5: how it works

Mespas R5 comprises a set of modern fleet management software modules that work in unison with a comprehensive database that makes use of a hosted 'multi-tenant' architecture.

The centralised database encompasses two types of information: generic master data such as supplier information, OEM data and machinery specifications, which are accessible by all system users; and company/vessel specific data. Each vessel of the customer is replicated in the system built up using the thousands of parts and products stored in the master database. This second type of data is customer specific and only available to the client.

This central database is then linked to a set of fleet management software modules that reflect the tasks of ship operators, including tools for planned maintenance, stock control, TMSA, procurement, budgeting, document management and noon report.

Overheads for IT operation and maintenance can be reduced significantly by running server infrastructure for a large customer base centrally and in parallel, as against for each customer separately. These savings result from economies of scale and more efficient use of the infrastructure.



*Mespas R5 links vessels to their shore-side headquarters and parts suppliers*

Under a 'multi-tenant' architecture, individual customers do not need to maintain their own hardware and software but access a single, common infrastructure and code base that is centrally maintained. Boundaries for individual customers are still maintained; indeed, it is pivotal that data is securely managed and clearly delineated from the data of other users.

Because all users in a multi-tenant architecture share the same code base, the provider/host can distribute software updates and releases as well as new generic data with minimal effort. Therefore, individual customers no longer have to worry about implementing new software releases or keeping generic data (such as updates from OEMs) current.

## New modules rolled out for v5.12

The latest release of Mespas R5 contains four new modules: TMSA II, Form Manager, Noon Report and Crew Management Light. Additionally, it now offers a special interface for exporting data into major accounting packages.

Mespas chief technology officer Daniel Gsponer says that all the new functionalities were developed in close collaboration with shipowners and affiliated businesses, and fully complement the existing modules.

The accounting interface was developed in response to customers' needs for a flexible, secure data interchange between their operations data stored on Mespas R5 and their accounting software. The data interchange can be integrated, or scheduled, according to a shipmanager's needs.

Incorporating details from guidelines issued by the Oil Companies International Maritime Forum (OCIMF) last year, the TMSA II module enables tanker operators to determine their

TMSA score over the entire company.

The form manager provides a solution for forms that are not included as part of the planned maintenance module. These include, among others, incident reports, non-conformity reports or port reports. Data entered via the new form manager is 'machine-readable' and therefore can be exploited for reporting purposes. Furthermore, once the module has been installed, customers are free to create their own forms, according to their individual needs.

As its name suggests, the Noon Report module facilitates the daily transfer of customer-specific, predefined information to charterers or other defined users. Crew management Light helps ensure that all vessels in a fleet are manned with a competent crew featuring the required skills and licences. Operators are able to record personnel data and implement crew planning well in advance.