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Rickmers signs 102 vessel satcom deal

The Hamburg-based Rickmers Group has embarked on a comprehensive communications upgrade that will involve installation of FleetBroadband 500 terminals and completely new computer networks on every ship in its 102-strong fleet. Bjoern Sprotte, Rickmers, told *Digital Ship* about this revolution in operations

The Rickmers Group is to install broadband satellite systems across its fleet of more than 100 vessels, after agreeing a deal with the Telemar Group, through its German subsidiary Telemar GmbH.

The contract will feature the delivery and installation of a customised hardware solution including Thrane & Thrane FleetBroadband 500 terminals, as per Rickmers' specifications.

Satellite airtime will be provided through Telemar's partner Vizada, until the end of 2014. Telemar also notes that it has been supporting Vizada to co-develop new value added services and an enhanced network application platform, to optimise the use of the communications network on the ships.

The deal is the culmination of a long-term project whereby Rickmers has decided to pursue a wide-ranging overhaul of its communications infrastructure, and introduce the latest IP technologies to its fleet of ships.

"We started approximately two years ago, with some testing on some of our vessels with various types of equipment," explained Bjoern Sprotte, manager operations, Rickmers Reederei.

"At that time the idea was to see what the new generation of satellite communications systems had to offer. So it's been quite a long preparation period for this."

"We looked at a few alternatives, looking at what we are using for present communications

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The Rickmers Antwerp (left) and Rickmers Singapore, like the rest of the company's fleet, will deploy a completely new communications infrastructure under the project. Photo: Marko Stampehl

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and looking at what the future communications might be."

The new FleetBroadband will replace a range of different existing Inmarsat terminals aboard Rickmers' fleet.

"About half of the fleet were running Inmarsat-B systems, so they need to be replaced anyway, and the other half were using Fleet 77 terminals, a bit more advanced but still the bandwidth is quite limited," said Mr Sprotte.

"So the satcom systems were reaching the stage where they needed to be upgraded, but there was also the need to meet the demand for increasing e-mail communications, and communications for the crews."

Motivation

The motivation to pursue the project has come from a gradual change in the operations of the company, with the way it keeps in contact with the ships having altered dramatically since it installed its previous generation of satellite systems.

"In the past we had quite a substantial amount of fax being sent, but that has almost completely ceased nowadays, it's all e-mail," said Mr Sprotte.

"E-mail is now the primary means of communication, where in previous times we had faxes, telephone, and so on. With the e-mail, we introduced it quite early compared to a lot of other companies many years ago, but now we had reached a stage where we felt we needed to update and upgrade our systems to a system that would allow our crews to communicate more efficiently."

"We wanted to avoid having the master, or whoever was in charge of the communications, sitting in front of a computer or the satcom equipment for hours waiting for e-mails to download, as it was with the old systems. It was also important to add value for our customers, namely the charterers, since we might be able to offer them the benefits of the new infrastructure as well."

Another area the company has identified as potentially creating a positive return is remote access to IT systems aboard the ships.

"We wanted to cut down on our travel costs for IT maintenance, with the other systems you can have a lot of travel costs dealing with broken hardware, software, planned maintenance and so on. Part of the project was to reduce this," said Mr Sprotte.

"If you have any problems with the e-mails or whatever, you just log on to the computer and can clarify what's going on. A remote access session may cost a little bit extra but if you can save on courier charges, air freight, travel cost, then it's much less."

"It depends on how you configure the remote session, like whether you need a colour screen or can you use black and white, and you can avoid fancy extra Windows things. There are lots of options, but if you just have to log on to the computer and do a few mouse clicks it will be less than 5MB."

Offering additional options for crew communications was also considered while choosing the new systems, though Mr Sprotte notes that these aspects of the project are secondary to the operational aims.

"With a conventional terminal it's not so easy to fit another handset here or there and allow the crew to talk to people at home," he said.

"This also is of interest when you start talking about the Maritime Labour Convention [by ILO], where you need proper means of communication onboard which the crew can use."

"However, this is not the main target at the moment, the main target is to improve the business communications and get that up and running, but once that's in place it's simple to just add these services, so it's an extra benefit."

Broadband network

Rickmers has already identified a number of specific areas where it intends to utilise its new communications capabilities, particularly in increasing the efficiency of its e-mail system and automating chart and weather updates to increase the safety of the vessels by providing them with more accurate information – however, one of the most important factors was to introduce a scalable system that would leave room for further expansion.

Design and installation of the new communications network has been managed by Telemar

"The communications bandwidth makes you faster and more efficient, but the motivation was also there to be able to implement new services in the future," said Mr Sprotte.

"Many charterers are now asking for more and more reporting forms, you have more ISM documentation to be completed, you have planned maintenance systems onboard."

"With the planned maintenance system, before you had to send DVDs or CD-ROMs around the globe from the head office to update the databases, now you can easily do it via satellite. You have updated information on a daily basis, and that's much better – you're simply more up to date with what's happening."

New ISM and crewing applications have already been earmarked for introduction following the roll-out of the broadband service, all of which will be completely linked to the vessel.

"With older systems you had to develop special ship clients to use with them, but with the new communications you can forget about that and just connect them online using an IP channel," said Mr Sprotte.

"In the end we want the vessel to become a remote office location, just like the people working ashore. Communications should not be a barrier anymore."

The goal of bringing the vessels into the organisational structure has also led the company to broaden the scope of its communications upgrade to include the construction of a completely new computer networking infrastructure onboard the ships, allowing for better communication between computers on the vessel while also being linked into the overall corporate network.

"We will install new networks on all of the vessels," said Mr Sprotte. "With the previous systems our vessels were dialling in on modems, and we had a couple of modems here in the office, whereas with the new systems they are just users on a network, logging on like any other user on shore would do."

"This requires some extra investment in the infrastructure ashore too, but it should make things easier as the ships should be able to be maintained as easily as any other user can be maintained ashore."

"On some of the newer vessels we had computer networks on the ships, but on the older ones we didn't – we'll be taking this opportunity to install networks on 15-year old vessels now. It's a big job, but if you do the right planning then it's possible."

Under the terms of the companies' agreement, Telemar has been charged with responsibility for management of the introduction of the new vessel network systems, from design through to installation and implementation.

The networks will be created on a ship-by-ship basis by Telemar based on the particular specifications of each vessel, as Gennaro Faella, director of corporate operative coordination and business development at Telemar, explains.

"At the beginning of the project we received from Rickmers the ship plans for each ship in the fleet," he told us.

"Together with our technical department, product and network developers, we studied these plans, and came up with drawing booklets, including specifications and instructions, mechanical and electrical drawings, for each ship."

"This involves a network on board connecting six or seven PCs, and several hundred metres of cabling. Based on each individual ship plan we made CAD (computer aided design) drawings and did analysis and assessments on how to construct the network."

Extra security for the higher bandwidth satellite communications systems being introduced will also be part of this network infrastructure, with elements operating both on ship and on shore.

"It will partly be managed on the ship

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and partly in our network operations centre in Hamburg," said Mr Sprotte.

"Whenever the vessels communicate they will be routed through Hamburg. Things like compression and those things are all part of this package, you need the right tools for all of this."

Implementation

Mr Sprotte is confident that operation on this new infrastructure will proceed relatively quickly, given that Rickmers already has experience in integrating remote sites into its operations.

"It would have taken a lot of work, but we gained some experience from the trials and we have quite a modern IT infrastructure anyway since we have a number of remote locations that are already linked and connected to our Hamburg office," he said.

"So we've drawn a lot on what we've already done, and treat the vessel like just another office. The systems for connecting other locations to the office are proven, and are working, and we already know them."

Installations of the antennas and the new computer networks will be jointly performed by Rickmers and Telemar, with the scheduling dependent on equipment availability.

Three vessels having already been fitted under the deal, and Mr Sprotte says that he expects half of the fleet to be equipped by the end of 2010, with the rest of the fleet to receive the equipment during the first six or seven months of next year.

The installation process is carried out in a number of steps, with crews onboard the ships doing as much of the work as possible to help the process to be completed quickly.

"First we ask the crew to do some preparations, they will receive some other equipment before they receive the antenna and do some pre-installation. Then they get the antenna and follow some further steps we give them," said Mr Sprotte.

"When everything is ready from the crew side we will send some Telemar engineers onboard to make the final connections and do the final commissioning. We do as much preparation as possible with the crew to avoid idling vessels and so on, and as this reduces the time we have to send people to the vessels then it pays back in that way."

"Those engineers will do the network installation and configure the software, that is all done by the suppliers. We've told them how we want to connect the vessels to our network on shore and they will follow the installation procedure to do that."

The installation procedures have been organised by Telemar, as part of their remit to create these onboard networks, and have included the creation of detailed instructions as to how the work should be carried out.

"We shared this information with Rickmers, with our technicians, and with the installation teams around the world, and developed the implementation and roll-out plan vessel-by-vessel," said Telemar's Mr Faella.

"We issued guidelines explaining what had to be done and by who. It's a complex arrangement, but it's something we are very proud of, to deliver this complete integrated package including the design, the equipment, the network, and all of the support and maintenance."

Speed and efficiency were the key focus for the Rickmers and Telemar project teams in their approach to the installations, to minimise disruption to ship operations.

"As we all know, vessels typically only have one or two days in port, so the challenge for Rickmers and ourselves was to optimise everything and create a process where it would be possible to do everything in that couple of days," said Mr Faella.

"The crews have to know exactly what they have to do, which activities at what stage, what to do with the different parts of the hardware solution package that we have agreed on with Rickmers. That is delivered to the ships around the world, with the Thrane & Thrane Sailor satcom units, cables, handsets, and other materials."

"The process is coordinated to avoid any mismatch between the materials and the teams from different areas and companies that will be involved in installing them, this is managed by Telemar. We intervene at the beginning, with the design and preparation and creating the instructions, and then complete the activity onboard in the end."

Future evolution

In the long run Rickmers sees this communications project as just the first step in a continuing evolution of its use of technology, which it hopes will continue to expand as more and more of the onboard systems can be fully integrated into the corporate network.

Telemar's Mr Faella says that this concept has been integral to the design of the onboard networks that are currently being installed.

"Part of the goal with the cabling is also to make sure that Rickmers is what we call 'broadband evolution ready', so the system architecture is integrated and scalable to be able to meet future needs of the fleet and the network," he told us.

Mr Sprotte also notes that Rickmers has invested additional resources into the system with this in mind, to prepare for further advances in its operations.

"We have not opted for the cheapest terminal, we chose the FB500 instead of the FB150 or FB250 terminals which both offer lower bandwidth, because that gives us more scope in the future to use the extra bandwidth we will have available," he said.

"Our idea is to connect other equipment to this system, like VDR, like automation systems, electronic chart systems, and so on. Then whenever we have a problem with anything we can use that connection for maintenance or we can ask someone to check the system before we send out a service technician. We want to have access to everything on the ship."

"That's all in the future. At the moment our target is to get the systems replaced on board, which we are doing, and to get the new system installed, established and working. Once that's done we will start with the next improvements." DS

60cm C-band VSAT launched by Schlumberger

www.slb.com/seaconnect

Schlumberger has announced the launch of a new 60cm C-band VSAT service called SeaConnect, in what the company is describing as a "world first".

The system is initially to be targeted at vessels working in the offshore and oil and gas industries, and will be offered on a 'fixed-fee, unlimited data access' basis.

C-band VSAT antennas have usually traditionally been available in large sizes, often in the 2.4m diameter range.

However, Schlumberger says that its design, based on a marine stabilised antenna, has combined spread spectrum and CDMA technologies to enable the use of 60cm equipment, while still assuring compliance with the required specifications.

Development of the system focused on C-band as Sclumberger says that it will be more reliable in rain fade areas such as South East Asia, where the SeaConnect service has been trialled for the last six months on a number of vessels.

The company says that the compact and port-able SeaConnect technology can be dep-loyed on ship in approximately 30 minutes.

"We are very enthusiastic to be thefirst to offer a 60cm VSAT service on C-Band. I don't think anyone else is offering it," said Paul Khayat, marketing manager, Schlumberger Global Connectivity Services.

"With its high portability, mobility and small footprint, the SeaConnect service will enable connectivity to any type of offshore vessel or to any service company on a rig."

"This unique service has been engineered to meet the industry's needs while providing vessel owners and service companies freedom to have their own secure communication systems."

Schlumberger says it has successfully trialled the SeaConnect service for the last six months on a number of vessels operating in South East Asia.

The service is being made available now in South East Asia, and will expand to South Asia, Africa and Latin America in the coming months.

"We will be rolling the service to West Africa and Brazil, again two locations where rain fade is important and affects the Ku-band availability," said Mr Khayat.

Schlumberger says that the long term intention of the 60cm C-band system is to eventually move to global coverage for the service.