

Mini-VSAT at Vadero Ship Management

Having examined a range of new options to upgrade its satellite communications, Vadero Ship Management has installed a mini-VSAT system from KVH onboard one of its tankers, with an antenna of less than 70cm. Eddie Kristensson of Vadero told *Digital Ship* about his experience with mini-VSAT

Vadero Ship Management, based in Sweden, recently decided to upgrade its communications system through the installation of a new broadband connectivity service.

The first step in this process involved an initial installation of a new satellite system onboard the *M/T Primula*, a Vadero 17-tank vessel carrying a wide range of petroleum and chemical products.

The *Primula* has a diverse communications suite onboard that includes Inmarsat C, mini-M, and GSM systems. However, Vadero was looking for a supplementary system that could be configured to provide telephone service in all areas of the ship while also capable of providing business communications between the ship and the office on shore.

Following discussion with its existing satellite communications provider, Vadero chose to install the TracPhone V7 with mini-VSAT broadband service from KVH to provide this connectivity.

Based on its experiences so far with the technology the company says that it has been pleased with what broadband can offer, and is looking into the possibility of expanding this capability to further vessels in its fleet.

"We had thought about VSAT for some time and received a mailing from (satcom provider) Cordland Marine AB on this product, performance, size, and so on," explains Eddie Kristensson, personnel/purchase manager for Vadero.

"After discussions, we knew that we could get delivery quickly and that the equipment would be running and clear at the time of delivery. The installation was so simple to carry out that we could do it ourselves in a normal port peak."

The KVH TracPhone V7 mini-VSAT system features a reduced size antenna, measuring 69.5 cm in height and 66.5 cm in diameter, and weighing 27 kg, which was useful in reducing the amount of time required for installation of the communications.

KVH notes that this makes the antenna 85 per cent smaller by volume and 75 per cent lighter than most standard Ku-band VSAT antennas.

The broadband service available with the system offers data rates up to 256 or 512 kbps (dependent on location) for ship-to-shore uploads and 2 Mbps for shore-to-ship downloads, on a regional basis. Vadero has been using the system for routes in and around Europe, while coverage is also available around North America, and in the North Atlantic and North Pacific.

Set-up

One of Vadero's criteria in choosing mini-VSAT was to have a system that could be installed and operational as quickly as possible, with minimal vessel downtime and disruption, so the 'mini' nature of the antenna appealed in this regard.

"We chose the TracPhone V7 based on the size of the antenna, simplicity of installation, and competitive price for both equipment and airtime," said Mr Kristensson.

"The installation was performed by the vessel's chief engineer and electrician. Since the antenna is so small, we were able to install and commission it during the vessel's normal operation. We had it delivered and activated onboard in less than 48 hours."

Working with its communications supplier, Vadero was then able to get the system running to an operational level almost immediately.

"Cordland Marine was very quick in setting up and testing our equipment (and) KVH arranged a speedy activation," said Mr Kristensson. "Less than a week after the equipment was ordered, it was up and running onboard."

"The phone and internet connections have been working to our satisfaction, (and) our regular supplier of computers, software, and so on, has reviewed our virus protection in connection with that."

Vadero also worked with Cordland Marine to integrate the TracPhone V7 with the ship's other systems in a way that would satisfy the need for a telephone service that is available from any place on the *Primula*.

"The IP phone is a DECT (Digital Enhanced Cordless Telecommunications)

with a slave sender in two positions in the vessel's staircase," Mr Kristensson explained.

"This makes it possible for the Master to always stay in contact, even if walking around in the superstructure. It does not matter if he is on the bridge, in the mess room, or even in the engine control room."

The company has used this system to move away from its reliance on GSM roaming when within reach of shore-based mobile phone networks, which were not always reliable when called upon.

"Earlier, we had only GSM and it never works, for example in the control room. With a standard cordless phone, we can now telephone via the VSAT facility regardless of where we are on board," said Mr Kristensson.

"This gives us a very flexible system that can also be used by the chief engineer to obtain technical assistance via telephone from the control room, where no GSM phone will ever work."

As well as the IP telephone set-up, all business e-mail and data communications are carried over the new link, and may in the future also be incorporated into a crew calling service.

"We use it to (transmit) the VPN traffic and (for all of the needs) we have today," said Mr Kristensson.

"We are also looking into installing a card phone system, so that the crew can call home at all times, knowing that they are charged correctly, and they can easily follow their own costs."

Costs

The KVH mini-VSAT system is available with a number of different airtime packages, with varying costs based on bandwidth speeds and voice and data usage.

The most basic fixed rate package features 128 kbps, for both upload and download, for \$1,270 per month, where the user can have unlimited data usage and 2 VoIP lines. These packages increase in cost as speeds increase, up to \$5,270 for 512 kbps ship-to-shore and 2,048 kbps shore-to-ship.

'Pay per usage' plans are available for \$4.99 per megabyte, for 512 kbps upload



The antenna is 69.5 cm in height, 66.5 cm in diameter, and weighs 27 kg

and 1,024 kbps download speeds, or for \$1,495 for a 500 MB package and \$2.99 per MB after that. A 12-month contract is required in all cases.

The hardware cost is probably the most financially prohibitive aspect of installing the system, coming in at between \$30,000 and \$40,000 for the antenna, modem and all associated equipment, so a company would certainly need to do a thorough calculation of its own communications spending before deciding if this was a cost effective system for its needs.

In Vadero's case, it is currently using a fixed rate package with speeds up to 128 kbps, but notes that this may be increased in the future if the system is to support both official use and crew communications.

The company says that it has managed to decrease its monthly communications costs by implementing the system. With this in mind, Vadero is currently looking into the possibility of extending the service to further vessels.

"We have already made our second installation on one of our other ships, *Vadero Linnea*, and everything has worked in the same simple way," Mr Kristensson told us.

"The single biggest advantage was that we could easily install in a normal port and not have to do it at a shipyard. It came completely plug and play, with cables, and then the antenna is so small and light, it was easy to do."

"We have our new vessels being built, with expected delivery dates in late 2008 or 2009, and we are also considering equipping each of them with mini-VSAT broadband."



The mini-VSAT has only limited coverage at present (left), though KVH intends to expand this over the next 18 months (right)