



# Sonangol Kizomba

FleetBroadband case study



## Quick facts

### The vessel

Name: Sonangol Kizomba  
Gross registered tonnage: 81,230  
Length: 274 metres  
Width: 48 metres  
Type of vessel: Oil tanker (Suezmax)  
Route: Global  
Ownership: Sonangol Shipping Ltd  
Management: Wallem Shipmanagement Ltd  
Previous satcoms: Inmarsat B and C

### MFE partners

Manufacturer: Japan Radio Company (JRC)  
Distribution partner: Stratos

## Setting new standards

### FleetBroadband impresses Wallem Group

➔ In 2007, Inmarsat launched FleetBroadband, the first maritime communications service to provide cost-effective broadband data and voice, simultaneously, through a compact antenna on a global basis. Fully compatible with internet protocol (IP), it also supports the core ISDN data and voice capabilities of our existing maritime services.

### Meeting customer expectations

Inmarsat always works to high technical standards. Before launching FleetBroadband, we tested it under operational conditions to ensure it fully met market expectations.

Since launch, we have been collaborating with our global partners to run a series of Maritime Field Evaluations (MFEs) on numerous vessels from different regions, in all the major maritime markets. These MFEs enable us to study how professional mariners use FleetBroadband in their everyday lives at sea and to gather detailed feedback from them. We also look at how the service performs with a variety of third-party applications. This case study is a summary of the MFE conducted onboard the merchant oil tanker Sonangol Kizomba, which is managed by Wallem Shipmanagement Ltd.





## Assessing new technology

Wallem Shipmanagement is part of the Wallem Group and is one of the world's largest ship management companies. Based in Hong Kong, the group provides ship management, agency, broking and IT services to its clients worldwide. The company was established in 1903 as a ship broking company in Shanghai by Norwegian founder Haakon Wallem. Today the company has 49 offices in 20 countries and territories, employing more than 8,500 people.

Wallem has a reputation for investing in new technologies that will enhance the safety and efficiency of its vessels. So, when Inmarsat distribution partner Stratos suggested it take part in a field evaluation for FleetBroadband, the company was happy to propose the Sonangol Kizomba as a participant. Wallem Innovative Solutions Director and Chief Information Officer Patrick Slesinger said: "The FleetBroadband MFE enabled us to trial a number of technologies that we had wanted to use in the past, but just didn't have the bandwidth for. FleetBroadband gave us bandwidth on demand, allowing us to re-engineer business processes that in the past would have been too bandwidth hungry."

### → About FleetBroadband

Inmarsat's latest maritime service offers broadband internet protocol (IP) data capability, backed by the power of the Inmarsat-4 satellites. For the first time with FleetBroadband, users can make voice calls while simultaneously maintaining one or more data connections.



### 🖥️ Standard IP

For email, internet and intranet access via a secure VPN connection, at speeds up to 432kbps over a shared channel.

### 📶 256 Streaming IP

Guaranteed data rates on demand up to 256kbps. Choose the data rate on a case by case basis, depending on your application.

### 📞 Voice

Make voice calls at the same time as accessing your data applications. Voicemail is also available.

### 📠 ISDN

Supports ISDN at 64kbps for your legacy applications\*. Group 3 and 4 fax supported.

### ✉️ SMS

Send and receive text messages – up to 160 characters.

\*Only available on FB500

With a deadweight (DWT) of 159,165 – equivalent to just over one million barrels of crude oil – the Sonangol Kizomba is a mid-range tanker in the ‘Suezmax’ class, so named because she has the maximum width and draft to pass through the Suez Canal. During the two-month MFE in 2008, she was operating in the north-east Pacific Ocean, mainly off the coast of California.

JRC installed a JRC FB250 FleetBroadband terminal on the Sonangol Kizomba while docked on the US west coast. According to Ian Parkes, Wallem Group Information Systems Manager, installation of the equipment and integration with existing onboard systems went smoothly.

Wallem had two principal objectives for the MFE:

- To assess how FleetBroadband could enhance the operational efficiency of the vessel, particularly by enabling closer integration with the Group’s onshore network and business communications
- To evaluate the impact of the system on crew welfare. Ian Parkes said: “We wanted to look at how it would improve our business communications onboard, but equally, we are always looking for ways to improve the lives of our crew.”

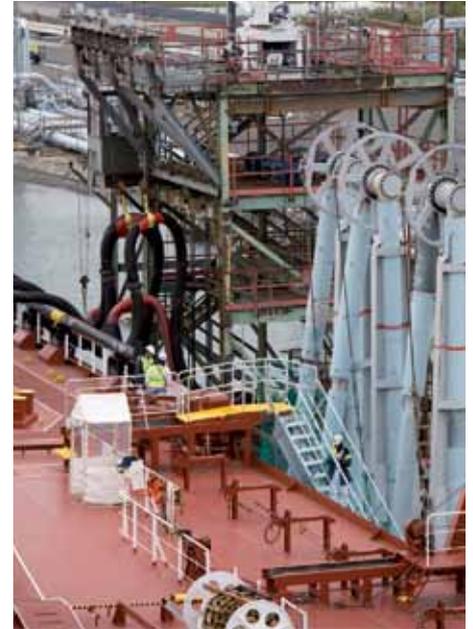
“The long-term goal of everyone in the maritime industry is to make life on board as close to life at home as possible for the crew, so whenever a vendor comes up with something new like this, we are always interested.”

Ian Parkes,  
Information Systems Manager

## Calm seas

Like all large ocean-going vessels, the Sonangol Kizomba can save time and fuel by avoiding bad weather at sea. To do this effectively, the Master requires up-to-date forecasts that allow him to plot routes that take advantage of calm seas and light headwinds. This is increasingly important when the price of bunker fuel is high.

Stratos supplied its AmosConnect communications suite with FleetBroadband. This included a MAPI (messaging application programming interface) that supports the SPOS weather forecasting software package from Meteo Consult. SPOS automatically checks the Amos network onshore for the latest weather forecasts and emails any that are relevant to the vessel’s AmosConnect inbox. The files generated contain a complete weather forecast with high-quality data, including atmospheric pressure, wind direction, ocean currents and swell. While the standard charts are less than 1MB, larger forecast sets are also available on request. If the Master prefers not to receive charts by email, he can use FleetBroadband to access them manually from a FTP site on the internet.



## About AmosConnect

AmosConnect is recognised as the maritime email standard, seamlessly integrating vessel and office applications deployed on more than 10,000 vessels worldwide. It is optimised for ship-to-shore communications over FleetBroadband, so messages are sent in the fastest and most cost-effective format, using specialised satellite protocols and compression to make the most efficient use of bandwidth.



## Real-time messaging

FleetBroadband is a powerful and flexible communications system that supports a wide range of messaging options, including email, SMS and MSN. However, Wallem wanted to evaluate it with its own corporate messaging system, which is widely used across its shore offices. This takes the form of a screensaver, used to display corporate information on employees' PCs. It's powered by an application that sits on the Wallem network, broadcasting new messages in near real time.

Inmarsat and Stratos worked with Wallem to make this messaging system available onboard the Sonangol Kizomba via FleetBroadband, enabling crew members to receive the messages at the same time as their colleagues on shore. Parkes said this was a great success and has real potential to enhance operational efficiency.

*"Normally, when you have large volumes of data coming on to a vessel, it is in the form of an email attachment, which has limitations in terms of timing, with people only checking their email a few times a day. With the FleetBroadband solution, if we receive an alert or some guidance we need to pass on, rather than burying it in the normal email traffic, we can push it out to the screens on the vessel."*

Ian Parks,  
Information Systems Manager

Wallem also successfully tested Yahoo Messenger as a tool for communicating in real time with crew on the Sonangol Kizomba. Used as a system of 'presence alerting', this enabled managers on shore to be up-to-date on which crew members were on duty at any given time.

## Remote maintenance

Another area in which Wallem evaluated the ability of FleetBroadband to integrate vessels with onshore systems was the updating of anti-virus software for the ship's computers. The company has rigorous standards for PCs in its shore offices, with frequent and regular scheduled anti-virus updates. However, these are difficult to apply onboard a vessel at sea due to the difficulties of transferring relatively large updates over wireless links. This is not a problem with FleetBroadband, because files of several megabytes can be transferred in just a few minutes. Wallem used the MFE as an opportunity to deploy its standard anti-virus software – Kaspersky – on the Sonangol Kizomba's IT network, scheduling regular software updates via FleetBroadband.

Online support and diagnostics for the Sonangol Kizomba's IT network were also provided via FleetBroadband. The Inmarsat team in London used the UltraVNC (virtual network computing) remote control and support tool to maintain onboard IT systems and software, configure WiFi routers and access points, and provide

upgrades for the FleetBroadband terminal. In the past it would have been necessary to send an IT engineer onboard to perform these kinds of tasks.

Remote maintenance for onboard IT systems has been possible for a number of years, but is impractical over low-bandwidth connections. However, several factors make remote maintenance much more viable over FleetBroadband:

- Higher bandwidth means that large volumes of data are exchanged more quickly between the VNC program and the onboard PC
- The option of on-demand Streaming IP ensures guaranteed bandwidth and a reliable connection throughout the remote-maintenance operation, if required for certain time-sensitive applications
- FleetBroadband is based on IP (internet protocol) and so is fully compatible with all standard PCs and networks, providing seamless and instant connectivity
- FleetBroadband supports multiple IP connections, so other data and voice channels can remain in use while remote maintenance is undertaken.

## Video breakthrough

Wallem tested several other applications with FleetBroadband, and was particularly interested in the potential of video. It used Polycom PVX over Streaming IP to test the system's ability to support videoconferencing between the vessel in the Pacific and Stephen Yip, Wallem's communications specialist, in Hong Kong. Yip said he could clearly hear and see the Master on the vessel and described it as "a leap forward in the application of this technology, particularly for commercial shipping."

The company also tested the potential of the Frontline Communicator as a tool for inspecting damage to equipment or cargo on the vessel. It enables a crew member to use a head-mounted video camera to transmit live images with audio commentary to a wireless access point on the vessel. The data is then streamed to shore in real time via FleetBroadband, enabling technicians there to review the images and commentary and provide immediate feedback on the problem.

*"Remote video diagnostics have the potential to reduce operational costs by helping us to minimise down time. In this market we need to make sure that the vessel is available for operational use at all times."*

Patrick Slesinger,  
Director and CIO

## Meeting the crew welfare challenge

A priority for Wallem was to use the MFE to explore the potential of FleetBroadband to provide flexible and cost-effective ship-to-shore communications for crew. This is particularly important in the operational environment of an oil tanker, which demands a high degree of skill and commitment from crew members to ensure the safe and efficient running of the ship. The ability to communicate regularly with family and friends can create a happier and more productive working environment. As a result, it can also help Wallem to recruit and retain high-quality employees.

Wallem first made email and SMS messaging available to crew members in March 2006, with free email and inbound SMS, and low-cost outgoing SMS. Within a year, demand for the service had grown dramatically. This led the company to

predict that broadband access would prove just as popular – if it were possible to make it available to crew cost-effectively.

The MFE was an opportunity to test the theory. Crew were given access to PCs connected to the internet via FleetBroadband, replicating the unrestricted access that is now commonplace ashore. As expected, Internet browsing was welcomed with webmail, chat, news, sport, entertainment and self-improvement sites all proving popular.

This type of feedback has proved extremely useful as Wallem has been able to respond with an improved Wallem Crew Connect email solution, Video-on-demand technical training onboard, and a subsequent trial of the GSM "mobile phone" solutions coming in to FleetBroadband in 2009 that address the needs for personal and private crew communication channels while onboard.

*"The system was very user-friendly and the crew was particularly grateful for the extra contact they enjoyed with their families. FleetBroadband has given us the opportunity to be closer to our families on this voyage, which boosts crew morale."*

Captain R Kararia

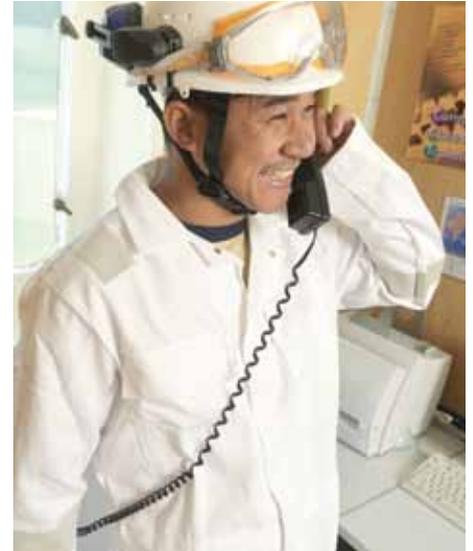
## Key uses and benefits

### Weather routing to enhance operational efficiency

The SPOS weather application within AmosConnect enabled the Master of the Sonangol Kizomba to access up-to-date forecasts. It can also be used to plot the optimum route to save fuel and avoid potential damage to the vessel, and to provide more accurate estimates of arrival times in port.

### Remote support

The Inmarsat engineering team used FleetBroadband to provide regular updates for the Sonangol Kizomba's anti-virus software, to remotely configure the vessel's IT network and to upgrade the FleetBroadband terminal.



## Messaging options

FleetBroadband supports all standard messaging options, including email and SMS. It enabled Wallem to deploy its corporate screensaver messaging application on the Sonangol Kizomba while at sea, and supported a presence alerting service over Yahoo Messenger.

## Excellent voice quality

The Master made use of FleetBroadband's dedicated 4kbps voice channel and was impressed by its clarity and reliability. "FleetBroadband's voice quality is far superior to anything Inmarsat has offered before and we are very pleased with it," said Patrick Slesinger.

## Global coverage

With the third Inmarsat-4 satellite operational over the Pacific Ocean, FleetBroadband coverage is now global. Patrick Slesinger said: "Inmarsat global coverage is very important to us. It's not just a question of not being able to speak to a vessel's crew that is an inconvenience, we actually can't carry out business properly without that coverage."

## Video applications

Wallem tested both videoconferencing using Polycom PVX and video using the Frontline Communicator inspection tool. The Master and shore-based employees were impressed by the quality of the live video images over Streaming IP.

## Ensuring crew welfare

Wallem is committed to providing communications that help seafarers stay in contact with family and friends. During the MFE onboard the Sonangol Kizomba, FleetBroadband improved communications and was welcomed by the crew.

*“The crew commented very positively and said they felt far closer to their families and friends on shore. Obviously this has a very high impact on crew morale – and crew morale is linked to performance.”*

Patrick Slesinger,  
Director and CIO

## A perfect fit for the oil industry

FleetBroadband provided a powerful and flexible communications solution for the Sonangol Kizomba, demonstrating that it can ably support the operational and crew welfare requirements of a modern oil tanker.



## How to buy FleetBroadband

FleetBroadband is available through Inmarsat's worldwide network of partners. Contact your existing Inmarsat service provider or visit our website to find the right partner for your company.

[inmarsat.com/merchant](http://inmarsat.com/merchant)

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