



Albatun Dos

FleetBroadband case study



Quick facts

The vessel

Name: Albatun Dos

Gross registered tonnage: 3,200

Length: 116 metres

Type of vessel: Tuna fishing
(purse seine)

Route: Indian Ocean

Ownership: Albacora Group

Previous satcoms: Fleet 77, Mini M
and Iridium

MFE partners

Manufacturer: Japan Radio
Company (JRC)

Distribution partner: Stratos Global

Service provider: Satlink

Net Gain

FleetBroadband speeds up fish finding

➔ 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 the service 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, and in all the major maritime industries, including fishing, merchant and leisure. 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 tuna fishing vessel, Albatun Dos, owned by the Albacora Group.



The race to find tuna

Tuna is a staple food eaten by hundreds of millions of people, and tuna fishing is a global industry worth billions of dollars to the world economy. About 4 million tonnes of the main market species (skipjack, yellowfin, bigeye, albacore, and bluefin) are caught each year, which places significant pressure on stocks in the main fishing grounds of the Atlantic, Pacific and Indian Oceans. The finite stocks of tuna in some waters, and its popularity as a food, combines to make tuna fishing one of the most competitive industries in the world. Therefore, the key to profitability for any tuna fleet is to find ways to locate large shoals of fish before other vessels can find them.

The migratory behaviour of tuna is another significant factor affecting the success of fishing fleets. In 2005, a bluefin tuna tagged with an electronic tracking device was shown to have crossed the Pacific three times during the previous 20 months – a total distance of 25,000 miles. While this is an extreme example, it is common for shoals to migrate thousands of miles to and from spawning sites, moving at speeds of up to 45mph. This level of mobility makes it very difficult for fishing fleets to predict where to find large shoals and, having located them, to steer a fuel-efficient course to head them off.

→ About FleetBroadband

Inmarsat's latest maritime service offers a genuine broadband internet protocol (IP) data capability, backed by the power of the Inmarsat-4 (I-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.

📶 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. Group 3 fax is supported via the voice channel.

📠 ISDN

Supports ISDN at 64kbps for your legacy applications.

✉️ SMS

Send and receive text messages – up to 160 characters.

Over the last two decades, Inmarsat has played an increasingly important role in the finding of tuna shoals. Buoys equipped with electronic sensors are now commonly used by fishing companies to record data about the location of fish. This data is typically transmitted to an onshore server via Inmarsat C or D+, and are then passed via other Inmarsat services to the fishing fleet. Some of the Inmarsat-enabled buoys are equipped with sonar to detect large shoals, and many are also used with fish aggregating devices (FADs). These come in different forms, but typically FADs are made of artificial fibres trailing under the surface of the water and can attract large shoals, which can then be detected by sonar.

As well as leading the vessels to valuable fish, these electronic systems can save time and help their masters use fuel more cost-efficiently, because they reduce the need to waste expensive fuel 'chasing' fast-moving shoals.



A faster route to fish

Spain's Albacora Group is widely recognised as a forward-thinking and technically well-equipped fishing company. Its modern fleet is supported by the latest electronic aids to finding tuna in the main fishing grounds of the Pacific, the Atlantic and Indian Oceans.



Built in 2004, the Albatun Dos is one of Albacora's newest tuna vessels, operating in the Indian Ocean and equipped to refrigerate and store each catch of skipjack and yellowfin tuna while at sea. She was selected for the FleetBroadband MFE because her captain and crew are experienced at using Inmarsat Fleet 77 to download data for use with fish-finding applications. However, one of the main questions to be answered by the MFE was, would the broadband speed and greater functionality of FleetBroadband help them locate tuna more efficiently?

"The critical thing is to locate fish and to get to them fast. Then you need to be certain that you are casting your nets in the right place at the right time, because otherwise you waste time and money and the voyage becomes less profitable."

Juan Ramón Dávila,
Fishing Master

For the MFE the Albatun Dos was fitted with a FleetBroadband 250 terminal manufactured by JRC, which was integrated with the vessel's LAN (local area network). Pablo Abaroa, captain of the vessel, said: "The installation was very easy because the antenna was so small and light. The whole job took about two hours."

The system was configured to create a dedicated IP connection to a PC used solely

for MFE-related tasks, such as scheduled videoconferences, applications testing and operational use of the voice channel. Three more PCs were given their own independent connections for use with fish-finding applications.

The two most important PC-based applications used onboard the Albatun Dos for finding tuna are:

- CatSat (Thalos) – for oceanographic data, such as sea temperature, direction of currents and plankton levels, and also weather reports
- SeaStar (GeoEye) – this is used to create detailed oceanographic maps on the vessel's PC. These multi-layered maps are based on near-real-time ocean data about factors such as thermocline – a layer of water at a different temperature from the surrounding ocean – which can influence the movements of tuna. The composite maps are created from multiple data-sets, and are used by fishing crews to predict the probable location of tuna shoals. The program is also used to monitor the numerous Inmarsat D+ buoys that are attached to FADs.



Fed by data downloaded to the Albatun Dos via Inmarsat, these applications combine to provide a powerful suite of tools for the location of tuna shoals. However, the data files downloaded are often several megabytes in size, so even using Fleet 77 some could take up to an hour to download. When several files were needed to create a composite map of a large area of ocean, it might take several hours to download all the data required.

During the MFE, the captain and fishing master found that FleetBroadband could download the same type of data files four or five times faster than was previously possible with Fleet 77. This enabled him to react much more quickly to indications that tuna were present in a particular area of ocean.

"The data transmission speed over FleetBroadband is very fast. It is also constantly connected, which allows us to download information in real time. And we can do this while making several simultaneous connections, such as using the internet or making a telephone call. The boat's operations have definitely been enhanced by FleetBroadband, because we can now download fishing data more quickly, and thus save fuel and time."

Juan Ramón Dávila,
Fishing Master

More efficient operations

While out of radio contact in mid-ocean the Albatun Dos relies on Inmarsat to remain in contact with shore. This is important for security and safety reasons in the Indian Ocean where piracy is still fairly common, but also for routine operational tasks that involve communication with agents and port authorities.



When the vessel is coming into port to discharge its catch, the captain needs to be certain that all entry documents are in order, that he has a guaranteed berth, and that a shore team will be ready to help unload. He also needs to know that fresh provisions and fuel will be available for

immediate loading, and that maintenance tasks can be completed quickly. Up-to-date port-entry documents can be accessed from the internet and submitted online. If new crew members are needed at short notice, recruitment or transfer from another vessel can begin while the Albatun Dos is still at sea.

These arrangements can be made using a combination of voice calls, emails and other messaging options such as fax. This will ensure that time spent in port is kept to a minimum, and will enable the vessel to return to sea as soon as possible to catch more fish and maximise her profitability.

Captain Abaroa has previously used Inmarsat Fleet 77 and Mini M for all these tasks. However, the MFE was an opportunity to explore how FleetBroadband could enhance operational efficiency. He was impressed by how easy FleetBroadband is to use.

"It is just like using a broadband-enabled computer at home," he said. "The ability of FleetBroadband to allow us to make several data connections at the same time, while also sending emails and making calls, was something that impressed us and helped us to work more efficiently. The quality of voice calls was also much better than with previous systems."

Pablo Abaroa,
Captain

Maintaining crew morale

The Albatun Dos often stays at sea for up to four months at a time, docking only occasionally in the Seychelles to unload its refrigerated catch. This can be hard on crew members, who have limited leisure options when they are not working and may feel cut off from their family and friends at home. One of the objectives for the MFE programme was to explore how FleetBroadband can help maintain morale by providing a flexible and cost-effective communications link to shore.

Jean-Paul Geelen, International Sales Manager for Stratos, said: "As part of the MFE, we equipped the Albatun Dos with our AmosConnect Crew product, which operates independently from the vessel's operational communications. This gave crew members a convenient way to send and receive emails in private mail boxes, and also allowed them to use our pre-paid ChatCards."

According to Geelen, the crew members who were involved in the MFE appreciated the ease and flexibility with which they could send messages and make calls using FleetBroadband. "I actually had the opportunity to speak with some of them onboard, and they were very happy with FleetBroadband. Being able to stay in touch with shore makes your life a little bit better, especially when you're far away from home for so many months."

"I was able to use it to make a few webcam calls with home, for which I was grateful after so much time at sea. We also ran scheduled videoconferencing tests as part of the MFE and they were of extremely high quality."

Pablo Abaroa,
Captain

Summary of key benefits

Locating tuna more quickly

The faster download speeds of FleetBroadband enabled Captain Abaroa to download large fish-finding data files much more quickly. This helped the Albatun Dos to make the most efficient use of fuel while reaching good fishing grounds, and to cast her nets sooner than was previously



possible. Faster download was also an advantage when accessing port documents on the web and receiving data files by email from Albacora's shore office.

Operational efficiency

With excellent voice quality and the ability to support multiple simultaneous data connections, FleetBroadband represented a significant step up in operational capability for the Albatun Dos. Internet access delivers up-to-date port-entry documentations and access to the latest piracy threat information.

Remote support

Inmarsat demonstrated how FleetBroadband can be used to provide remote technical support while vessels are at sea. During the MFE, engineers in Dubai and London were able to access the MFE PC on the Albatun Dos to correct an issue with the firmware of the FB250.

Cost control

Voice and data traffic and costs were managed remotely by Stratos Dashboard.

"The Stratos Dashboard has been designed for FleetBroadband and other Inmarsat services. It can be used for provisioning and monitoring from the shore side, including limiting credit risk by adjusting the credit-control and high-volume monitoring functions. The vessel's Captain can also use Stratos Dashboard to monitor usage in near-real-time throughout the voyage."

Michiel Meijer,
Maritime Marketing Manager of Stratos

Crew welfare

FleetBroadband combined with AmosConnect Crew from Stratos to give crew members a flexible and cost-effective platform for sending emails, SMS and making calls.

About Stratos Dashboard

Stratos Dashboard is designed to remotely manage FleetBroadband communications. For example, customers can set traffic usage alerts, manage firewall settings, limit credit risk by adjusting credit-control functions and change voicemail options.

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.

A perfect fit for fishing vessels

FleetBroadband directly helped the Albatun Dos in its primary mission of locating and catching tuna. It also demonstrated how it can improve operational efficiency and support crew welfare. In an industry where speed and precision are essential to maximise profits, FleetBroadband offers a valuable and flexible communications solution.

“The FleetBroadband trial was extremely good, and I think it is highly suitable equipment for our work. We have recommended to the owner that it is fitted on our vessels.”

Juan Ramón Dávila,
Fishing Master

“Albacora seem very happy with how FleetBroadband has performed. They have made extensive use of it and have proved to themselves that all the applications have been running very fast. Actually, it was when we stopped the MFE that they really noticed how well things had gone with FleetBroadband compared to their previous systems.”

Jean-Paul Geelen,
International Sales Manager for Stratos

“Currently the FleetBroadband terminal onboard the Albatun Dos is on commercial terms under specially restricted cost control rules using the flexibility of Stratos Dashboard and it’s meeting all the customer’s requirements. It is a fact that currently the vessel is transmitting higher data volumes than before at the same spending levels.”

Faustino Velasco,
Director of Satlink



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/fleetbroadband

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