



MARITIME SERVICES

**INMARSAT GLOBAL GOVERNMENT
COMMUNICATIONS MADE CERTAIN**





FLEET

Our flagship seamless voice and broadband data service that provides cost-effective operational and crew communications, real-time weather updates, port information, email and internet access and video conferencing.

BROADBAND

THE INMARSAT FLEETBROADBAND SERVICE

FleetBroadband is the first truly global maritime communications service offering simultaneous broadband data and voice via a compact antenna - allowing unprecedented connectivity between vessels and shore and even up to flying aircraft should you operate across all paradigms.

FleetBroadband provides a cost-effective, fast, reliable, and easy-to-use "always-on" solution for e-mail, Internet, corporate network access, and voice services. Based on the BGAN network using 3G standards, FleetBroadband delivers data rates up to 432 kbps utilizing Inmarsat's I-4 satellite constellation.



IMPROVING EFFICIENCY AND WELFARE

DELIVERING COMMERCIAL ADVANTAGE

CREW COMMUNICATIONS

Vessel owners and operators can benefit from business and crew communication separation with Crew Calling cards; flexible, pre-paid calling cards which gives crew the freedom to stay in touch with family and friends while at sea.

These calls are not charged to the vessel, can be topped-up anytime and crew only pay for the airtime they use.

RELIABLE PERFORMANCE

FleetBroadband gives you faster, more cost-effective access to data services. Besides constant, real-time weather and ECDIS updates, you can use more complex applications with confidence. Its simultaneous voice and data capability means that while operational systems are running online, you can still access email, get online and make voice calls – all via a single terminal. So the Master can get on with managing the vessel, while the crew are calling or emailing home.

COMPLETE SECURITY

Inmarsat has vast experience in

providing secure communications to military and government customers, as well as multinational businesses. If required, our network can support additional security products, such as VPNs and ISDN cryptos.

ALWAYS-ON CONNECTIVITY

You can depend on Inmarsat, whatever the weather. We provide the toughest communications links in the business, with average network availability exceeding 99.99%. FleetBroadband terminals are designed specifically for use within the maritime environment and are rigorously tested to our exacting standards. The whole system is supported by our worldwide network of partners.

EASY INSTALLATION AND NETWORK INTEGRATION

FleetBroadband can be rapidly deployed across your entire fleet and, as a standard IP service and seamlessly integrated with head office networks. Terminals operate globally and the user interface is

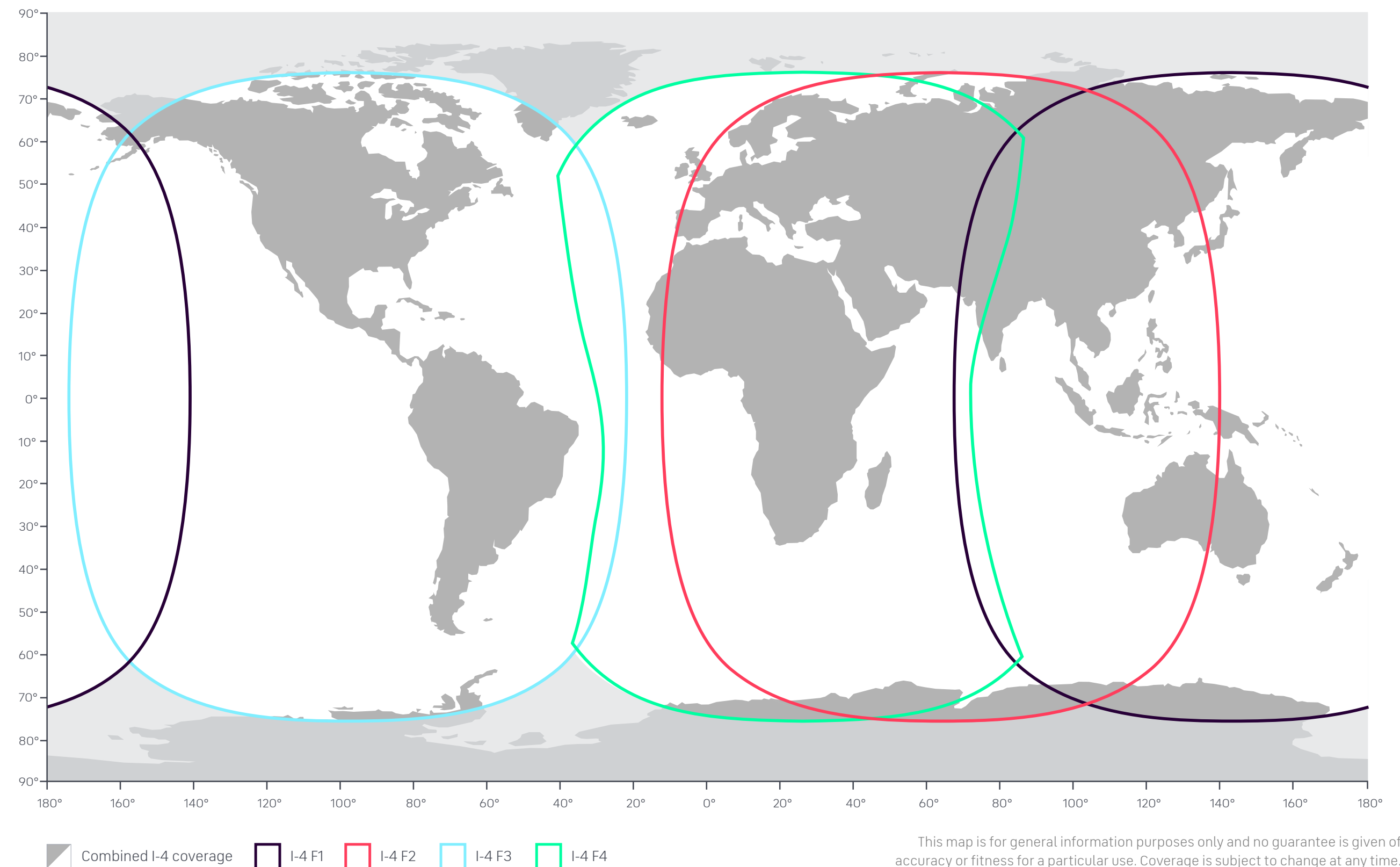
standard across all manufacturers' products.

TOTAL FLEXIBILITY

FleetBroadband supports the latest IP services, as well as traditional circuit-switched voice and data for your legacy applications. You can choose between a standard, contended IP service and guaranteed data rates on demand – with the ability to select the rate according to your application. Three types of terminal are available, which offer different performance capabilities via standard hardware.

COST-EFFECTIVE

With FleetBroadband, performance and flexibility don't come at a high price. Terminal costs are relatively low, with a choice of airtime pricing packages to best suit your needs. It makes global voice and broadband data services more accessible than ever before, enabling you to achieve greater operational efficiencies and improve the morale of the crew.



ENHANCED CONNECTIVITY

THE GLOBAL BROADBAND FLOATING OFFICE

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 up to four simultaneous 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

FLEETBROADBAND APPLICATIONS:

FleetBroadband supports a complete array of the latest IP services for maritime users:

- E-mail and webmail – sent and received without delays
- Real-time weather and ECDIS updates - for optimal routing
- Remote Internet and company Intranet access
- Secure communications
- Large file transfer
- Vessel/engine telemetry
- Crew communications - including web, GSM, VOIP
- SMS and instant messaging
- Videoconferencing
- Store and forward video

TERMINAL COMPARISON



	FB150	FB250	FB500
DATA			
STANDARD IP	Up to 150kbps	Up to 284kbps	Up to 432kbps
STREAMING IP	-	8, 16, 32, 64, 128kbps	8, 16, 32, 64, 128, 256kbps
ISDN	-	-	64kbps
VOICE	4kbps AMBE+2	4kbps AMBE+2 and 3.1kHz audio*	
FAX	-	Group 3 fax via 3.1kHz audio, access to efax applications	
SMS	Standard 3G (up to 160 characters)		
ANTENNA			
DIAMETER FROM	27.5cm	32cm	60cm
Height from	22.1cm	28cm	63cm
WEIGHT FROM	2.5kg	3.9kg	16kg



L-TAC MARITIME



INMARSAT L-TAC - UHF AND VHF

Beyond line of sight communications.

MOBILE COMMUNICATIONS IN THE FIELD

Designed with Government and Military in mind, Inmarsat's L-TAC service combined with Spectra's SlingShot™ enables existing in-service tactical radios to transparently access Beyond Line of Sight communications (BLOS) without the need to modify the radio hardware or the cryptos. The service can be leased for a fixed period (minimum 1 month) and provides a complementary service to existing UHF/VHF Satcom channel availability.

SlingShot™ combined with Inmarsat's L-TAC lease service is fully flexible and designed to meet security and reliability requirements

cost-effectively. Once deployed, remote management and support is provided through a 24/7 network operation centre. The service offers a combination of reliable voice and data connectivity that is available globally, independently of local infrastructure. It is also quick to set up, providing a fully configured solution which needs minimal user intervention before deployment. Comms on the Move (COTM) solutions are available for vehicles and the dismounted soldier.

FEATURES

- Designed to support in-service radios
- Supports UHF & VHF military and commercial frequencies
- Approved for Inmarsat I-4 constellation
- Omni-directional antennas
- Complements existing military capacity
- Utilises Narrow Beams, Regional Beams, Customised Beams and Relocatable Beams
- Lease airtime for a minimum of 1 month
- Standard lease provides 25kHz Channel
- Data enabled
- 1 x Wideband or 5 x ANDVT channels
- HPW and ViaSat proven up to 56kbps

MARITIME SAFETY

When it comes to safety at sea, no other satellite network can match Inmarsat's global reach and availability.

We are proud both of our heritage as the cornerstone of the Global Maritime Distress and Safety System (GMDSS) and the knowledge that every day mariners all over the world put their trust in us.

WHY SEAFARERS RELY ON INMARSAT

Safety is in our DNA - we were set up in 1979 by the International Maritime Organization (IMO) to provide reliable satellite safety communications.

When disaster strikes - a catastrophic storm, a collision, a medical emergency - mariners know that they can rely on our safety services to get help fast.

We've continued to ensure our safety services go above and beyond the IMO's Safety of Life at Sea (SOLAS) and Global Maritime Distress and Safety System (GMDSS) requirements - by, for example, exceeding the demand for satellite and ground network availability of 99.9 per cent.

Today, over our L-band network, we support both SOLAS and non-SOLAS vessels and some 1.5 million seafarers depend on us for a communications lifeline that is reliable and unaffected by bad weather.

Inmarsat shore-to-ship Maritime Safety Information urgency and distress priority communications are free of charge.





WHAT IS THE GMDSS?

The GMDSS is an international safety system, which uses satellite and terrestrial technology and ship-board radio systems to prevent accidents from happening and to automatically alert the rescue authorities and nearby vessels quickly in an emergency.

Under the Safety of Life at Sea (SOLAS) convention, cargo ships of 300GRT and upwards and all passenger ships on international voyages must be equipped with satellite and radio equipment that conforms to international standards.

Inmarsat is currently the only provider of GMDSS-approved satellite communication services. Our Inmarsat C service has been keeping 1.5 million seafarers safe at sea every day since the inception of GMDSS in 1999.

In May 2018, Fleet Safety, our next

generation satellite safety service delivered over FleetBroadband and Fleet One, received formal GMDSS recognition by the IMO, marking the most significant advance in maritime safety for a generation.

ONE-TOUCH DISTRESS ALERTS

Ships with GMDSS-compliant Inmarsat terminals can send an alert by pressing a Dedicated Distress Button (DDB). This gets the highest priority over the Inmarsat network and is automatically routed to an on-shore Maritime Rescue Co-ordination Centre (MRCC). Ships can also send prioritised distress messages, with more details.

Our satellite communications systems make it possible for an MRCC to contact the ship sending a distress alert to verify that it is not a false alarm before they trigger a search and rescue operation.

Our FleetBroadband Voice Distress service provides priority call access, interrupting all non-emergency calls as soon as the Dedicated Distress Button is pressed. The ship is connected to an operator at one of four MRCCs strategically located around the globe. This service is enabled by fitting an equipment add-on to Cobham SATCOM's SAILOR FleetBroadband terminal or JRC FleetBroadband systems. Urgency priority calls to an MRCC for medical advice, medical assistance and maritime assistance can also be made via our 2-digit dial codes free of charge.

All FleetBroadband terminals support as standard the free 505 Emergency Calling service, which routes a call to the appropriate MRCC but does not have priority over other voice traffic. To be put straight through to search and rescue, mariners simply dial 505 (just think SOS).

SAFETYNET II

SafetyNET II is the new generation international broadcast and automatic reception service for Maritime Safety Information (MSI), released in November 2017. SafetyNET II allows Maritime Safety Information Providers (MSIPs) worldwide to transition to web-based messaging and provides the critical link to upgrading Global Maritime Distress and Safety System (GMDSS) capability.

SafetyNET II is an enhancement to the existing SafetyNET system and provides an interactive web interface for Maritime Safety Information Providers (MSIPs) to create their Maritime Safety Information (MSI) messages and deliver them over multiple systems simultaneously, including Inmarsat C, Mini C, and Fleet Safety.

SO WHAT'S NEW?

- Easy to use web-based user interface
- Transmitted over the Inmarsat-4 satellite constellation
- Broadcast over Inmarsat C, Mini C and Fleet Safety terminals
- Optional MSI message monitoring and cancellation
- Enhanced broadcast scheduling
- Internal application and geographical redundancy built in Maritime Safety Servers (MSS)
- Single billing
- No extra equipment needed

RESCUENET

Our new custom web application, specifically designed for Maritime Rescue Coordination Centres (MRCCs), brings current and new MRCC functions into one interactive platform to enable easier co-

ordination of a Search and Rescue operation.

RECEPTION OF DISTRESS ALERTS

Simultaneous broadcast of Distress Alert Relay to Inmarsat C, Mini C and Fleet Safety

Broadcast Search and Rescue co-ordination messages to rectangular/circular area to Inmarsat C, Mini C and Fleet Safety

- Priority Messaging ship-to-shore and shore-to-ship
- Innovative Distress Chat
- MRCC and vessel lookup functions
- Nearby vessel search
- Secure web application – no specialist equipment required

Distress Chat enables an MRCC to control a Search and Rescue incident

using the facilities available on RescueNET. By accessing Distress Chat, the MRCC can communicate in real time with multiple vessels and multiple MRCCs using FleetBroadband while having complete control over who joins and leaves the operational chat session.

RescueNET is available free of charge to all authorised, certified and GISIS (Global Integrated Shipping Information System) registered MRCCs.

FLEETPHONE

Our low-cost, maritime satellite phone service is designed for use when you're beyond the range of land-based networks.

FleetPhone is a global, fixed solution for vessels where the primary requirement is for voice communication or where additional voice lines are needed.

FEATURES

There are two models of FleetPhone on the market, both from Beam Communications.

Oceana 400 is a slimline terminal where the simplest access to reliable voice and data communications services is required. The Oceana 800 is an all-in-one maritime communications terminal designed with a IP54 rating enclosure.

VOICEMAIL:

FleetPhone has a voicemail facility that allows messages to be left if calls cannot be taken.

MULTI-USER CAPABILITY

The RJ-11/POTS interface enables connection of up to five standard corded/cordless phones or integration with a PABX system.

505 EMERGENCY CALLING

Our 505 Emergency Calling facility puts vessels directly in contact with a maritime rescue co-ordination centre (MRCC) free of charge.*

LANGUAGE SUPPORT TERMINAL

FleetPhone supports English, Arabic, Spanish, French, Japanese, Portuguese, Russian and Chinese.*

GPS TRACKING TERMINAL

FleetPhone has an built-in GPS receiver for instant tracking functionality.*

DATA CAPABILITY

Send simple text emails with small attachments using the 2.4kbps circuit-switched data service.

SMS

Text-to-text, text-to-email, plus free web messages to a FleetPhone service.

SATELLITE TELEPHONY

Make crystal clear phone calls to terrestrial and mobile networks, as well as other satellite terminals, anytime.

GENERAL APPLICATIONS

- Telephony and SMS
- GPS location data look-up-and-send
- Crew Welfare - chat
- Crew welfare prepay / post-paid
- Email
- Internet and intranet access
- Notice To Mariners
- Anti-piracy / citadel deployment
- Government / regulatory / control
- Optimised social solutions
- Weather forecasts

Note:

*Available on FleetPhone Oceana 800 only.



G2X SEA

Built for Government



GLOBALXPRESS FOR MARITIME

Global Xpress is Inmarsat's new generation network of global, high capacity satellites operating in the Ka-band and serving as a perfect compliment to the existing range of Inmarsat services provided in the L-band.

Maritime crews must be prepared to go anywhere, at a moment's notice. To conduct their missions, military forces at sea, Coast Guard operations, special operations vessels and other maritime units depend upon consistent satellite performance that is unaffected by geographic changes.

From its very beginning in 1979, Inmarsat has sought to improve communications at sea. That's why the company is strongly positioned to support today's vessels.

These ships often head into adverse weather environments, which means they require a dependable failover system should a powerful storm prove disruptive, or even if a signal gets blocked by a part of the ship. Thanks to Inmarsat, crews stay connected regardless of conditions.

Built from the ground up as a worldwide satellite service, Global Xpress provides the best coverage in the industry. This allows government customers to quickly and cost-effectively augment the WGS system whenever and wherever needed, through Inmarsat's leased or subscription service.

Using Global Xpress' high-capacity, steerable spot beams, vessels on the move pass beam-to-beam completely seamlessly, establishing continuous connections during mission-critical maritime operations. Additionally, only a minimal amount of time is required for satellite-to-satellite handoff.

Users access Global Xpress using a variety of existing and planned government and commercial maritime SATCOM terminals, including WGS terminals that can take advantage of the service immediately. This gives government customers the flexibility of having a broad selection of terminals.

Ka-band is especially well-suited for optimal coverage and consistent performance along heavily travelled sea routes. Inmarsat's Global Xpress Ka-band service is backed up by FleetBroadband L-band over the Inmarsat-4 (I-4) satellite constellation, further guaranteeing global portability and consistent performance with high throughput and the industry's leading all-weather availability.

The redundancy introduced into Inmarsat's ground infrastructure ensures robust terrestrial links to support government communications. Global Xpress network infrastructure is built to the highest security standards, meeting the U.S. Mission Assurance Category (MAC) level III and correlating National Institute of Standards and Technology (NIST) accreditation standards, with secure gateways and encrypted satellite commanding. Our value-added partners make available further enhancements up to MAC level 1. Inmarsat employs a dedicated cyber security team; lands and routes traffic only through allied countries; and encrypts data and signaling to the highest standards.



Global, Secure, Robust 'at sea' communications

Inmarsat's Global Xpress high-speed data service enables Government Maritime users to access the same data speeds and reliability anywhere in the world via our Fleet Xpress and G2X services.

With a network purpose-built for mobility, your only decision is to choose the package that best suits your operational requirements and budget.



Data Speeds

G2X



Download

8mbps (MIR)



Upload

4mbps (MIR)

Fleet Xpress



Download

4mbps (MIR)



Upload

2mbps (MIR)

Capabilities



C4ISR



Ship-to-Shore
and Ship-to-Ship



Crew Welfare



Platform
management and
maintenance



Video
Conferencing



Large File
Transfer



Multiple
Voice



VPN



Web

Key Features

- **Global Network** provides same price and same experience, wherever you operate in the world.
- **Unlimited Data** means no rationing of usage required
- **Steerable beams** allow for enhanced capacity
- **Fully interoperable** with national and MilSat networks, augmenting operational capability
- **Flexible pricing** and data packages cater to your requirements
- **Proven capability** by the trusted name in maritime communications for over 30 years

Applications



Peacekeeping



Search and
Rescue



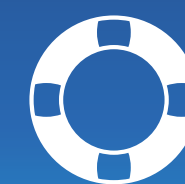
Naval
operations



Training
and
exercises



Border
protection



Coast
Guard



Amphibious
Operations



Fisheries
Protection



Law
Enforcement



Scientific
Research &
Exploration





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