FURUNO BROADBAND SERVICE CENTER (FBS)

FURUNO BROADBAND SERVICE CENTER (FBS) was established in Denmark in 2009 with the vision to spread broadband network infrastructure amongst the worlds ocean-going fleet. The core missions of FBS are:

▶to provide satellite communication services, ▶to provide technical support, and ▶to handle airtime billing and settlement

for the customers in EMEA countries and North America. FBS will handle satellite communication services including Ku-band VSAT, and a wide range of Inmarsat services, including FleetBroadband.

While FURUNO national distributors continue to act as the points of contact, FBS will provide expert support to the FURUNO national distributors in order to deliver the best-suited airtime solutions at all times.

For the regions outside the sphere of business operation of FBS, FURUNO Japan will be in charge of handling satellite airtime in close cooperation with the FURUNO national distributors.

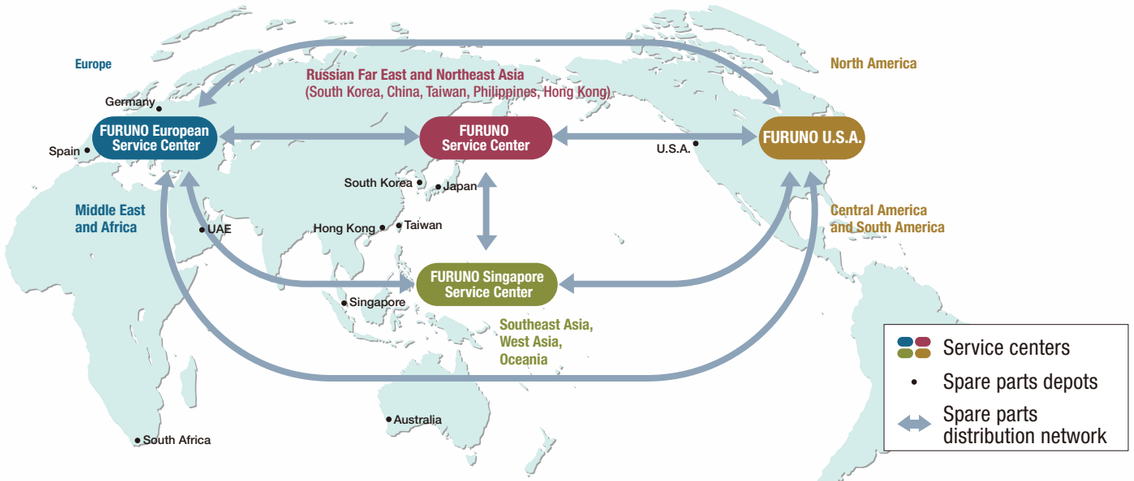
Sphere of business operation of:

FURUNO ELECTRIC CO., LTD.

FURUNO BROADBAND SERVICE CENTER

FURUNO Worldwide Service and Support

FURUNO strives to enhance the availability of inspection, repair and other technical services and supports from service bases around the world. FURUNO has specialist service centers in Japan, Germany, the U.S. and Singapore. Based on these service centers, FURUNO manages a worldwide service network that covers more than 40 countries with authorized service agents and spare parts depots scattered around the world. This service network enables FURUNO to rapidly respond to customer demands for technical supports. Consequently, FURUNO is able to provide extensive services at the main ports around the world with minimum delay.



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SafeComNet™
FURUNO Mobile Satellite Services

General Introduction to SafeComNet

About FURUNO

Since its inception in 1948, when the world's first fishfinder was commercialized, FURUNO ELECTRIC CO., LTD. has developed to meet the needs of the maritime industry by delivering world class navigation and communication equipment. FURUNO ELECTRIC CO., LTD. now offers equipment to suit a wide variety of vessels, ranging from large merchant fleets to smaller recreational craft.

SafeComNet

SafeComNet is FURUNO's new satellite-based broadband communication solution using Inmarsat FleetBroadband and Ku-band VSAT.

In recent years, Information Technology has grown and developed in the marine sector and vessel owners have requested greater access to communications, email and Internet facilities aboard their ships.

In response to this trend, satellite technology providers have developed FleetBroadband and VSAT as components of their network infrastructure to facilitate the link between vessels and onshore. FleetBroadband delivers a broadband service of up to 432 kbps around the globe with moderate communication fees, while VSAT delivers a broadband service with speeds up to 1 Mbps. This is comparable to the communication speed we enjoy every day at the office or at home. While the hardware costs are higher, VSAT offers a flat monthly rate, "Always-on" network onboard, bringing the vessels network environment up to speeds comparable to what we are accustomed to onshore.

Safety and efficiency of navigation have become increasingly dependent upon IT-based communication and with increasing demands to enhance crew welfare onboard the vessels, the need to bring the IT network environment onboard the vessels has risen. Our answer to these market needs is a broadband network infrastructure onboard the vessels, provided through SafeComNet.

Through SafeComNet, FURUNO will not only supply a wide range of navigation products but will also deliver airtime, applications and worldwide service and support as an all-inclusive solution package.

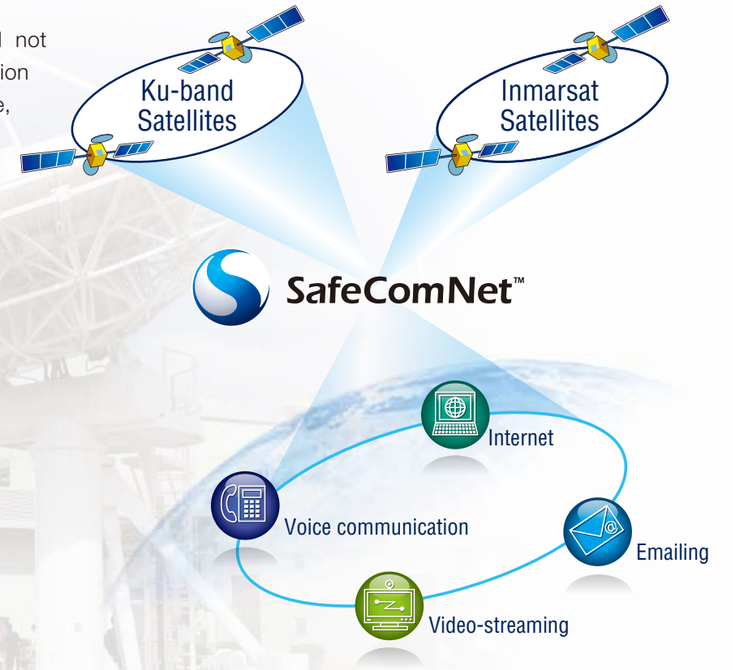

Photo credit Courtesy of AsiaSat

FURUNO

www.safecomnet.com

SafeComNet™
FURUNO Mobile Satellite Services

Solution Overview

Stay connected through SafeComNet™:
Seamless broadband communications
for ocean-going fleets

VSAT
Ku-band VSAT

General overview of Ku-band VSAT

Data rate (shared service)	up to 1024 kbps downlink up to 512 kbps downlink
Data rate (desicated service)	available on special arrangement
Voice	available (VoIP)
Service area	regional (seamless roaming possible)
Billing	fixed monthly fee

For making use of VoIP service, extra fee will be charged.

inmarsat FleetBroadband

General overview of FleetBroadband

Data rate (shared service)	up to 432 kbps (FELCOM500) up to 284 kbps (FELCOM250)
Data rate (desicated service)	up to 256 kbps (FELCOM500) up to 128 kbps (FELCOM250)
Voice	available (3.1 k audio)
FAX	available (3.1 k audio)
SMS	available
Service area	global
Billing	pay-as-you-go

LCR (Least Cost Routing)
Traffic Control
Firewall
IP Routing
VPN
IP PBX

Onboard LAN Network

IP phone
Internet / email
Pre-paid call
Kiosk PC
Surveillance camera
Hotspot
Monitoring system

LCR (Least Cost Routing)

LCR is the process of selecting the path of communications traffic based on cost, allowing for automatic selection of the most cost-efficient communication line available. It is possible to set VSAT, which is charged by monthly fixed flat rate, as the default communication means, and switch over to "pay-as-you-go" FleetBroadband whenever the VSAT line is out. This way, total cost for communicatoin can be reduced.

Traffic Control

Traffic control is the control of computer network traffic to optimize performance of communication. This can be achieved by setting order of priority for data to be handled (Quality of Service: QoS), and restricting the volume of communication at a time, applications to be used as well as access to certain contents.

Firewall

A firewall is designed to permit or deny network transmissions to protect networks against unauthorized access by malware from the public Internet, i.e., computer viruses and keyloggers, while permitting legitimate communications to pass.

IP Routing

IP routing is a set of protocols to facilitate IP connection between onboard network and the public Internet.

VPN

VPN (Virtual Private Network) is a secure way of connecting to onshore office network from a remote location, using the Internet. Since encryption is applied to the communication, the network data packets can be transported privately, preventing unauthorized users from reading the private network packets. This way, the same network environment as onshore offices can be constructed onboard vessels. Compared with using exclusive circuit services to construct secure network between vessels and onshore offices, VPN has the advantage of reducing communication cost.

IP PBX

IP PBX is a PBX for IP telephones utilizing IP network, unlike PABX commonly used for analog telephone network. The system is designed to interoperate with the conventional PABX, onboard public addressor system as well as VoIP of Inmarsat and VSAT.