



THE STATE OF PLAY AND PROSPECTS FOR THE MARITIME SATCOM MARKET

DIGITAL SHIP
THE MARITIME CIO FORUM MED

MARSEILLE
4 APRIL 2017

Presented by:
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EUROCONSULT 30+ YEARS OF EXPERTISE

- Leading global consulting firm specialized in satellite communications
- Privately-owned, fully independent firm
- Close to 600 customers in over 50 countries
- Missions conducted in all world regions on a yearly basis



CONSULTING

Business
strategy
support

Commercial
due
diligence

Executive
Training

Operations
managem
ent services



RESEARCH

Strategic
reports

10-year
market
forecasts

Proprietary
databases

Profiles of
leading
organization



SUMMITS

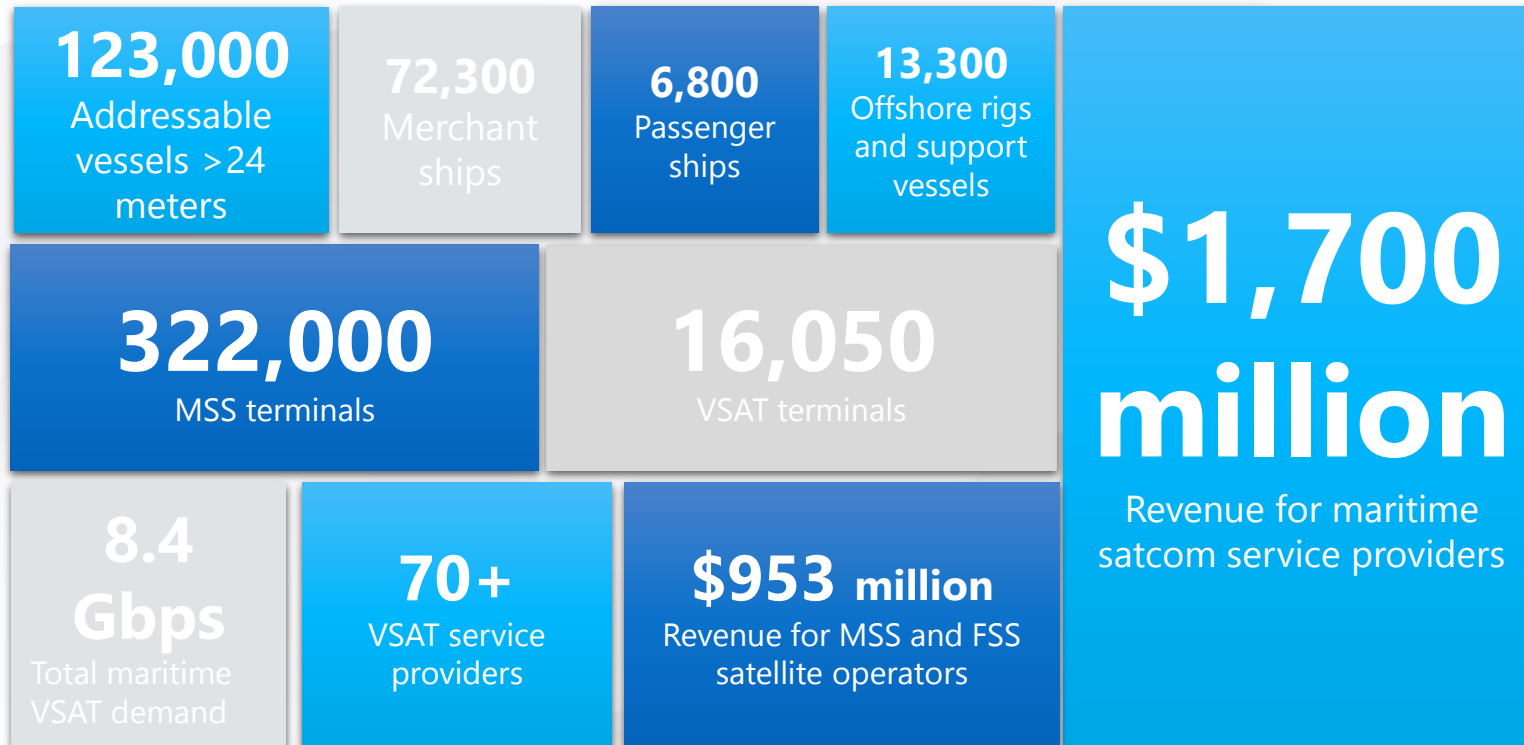
High-level
programs

Executive-
level
networking

Business
deals

Market
insights

OVERVIEW OF THE MARITIME MARKET



THE MARITIME ADRESSABLE MARKET

ADRESSABLE MARKET-2015

GLOBAL MOBILITY

BANDWIDTH REQUIREMENTS (Kbps)

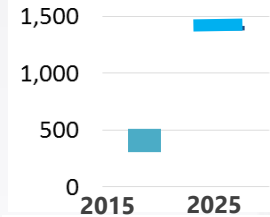
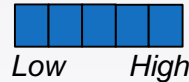
CHARACTERISTICS

ARPU/MONTH

MERCHANT SHIPS



72,300 vessels



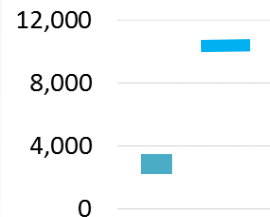
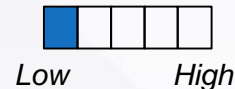
- Limited bandwidth requirements but global coverage requires
- Price sensitive

\$1,000- \$5,000
vs. daily operational cost of a merchant ship: \$5,000 - \$10,000

OFFSHORE



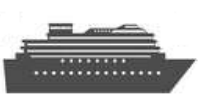
13,300 units



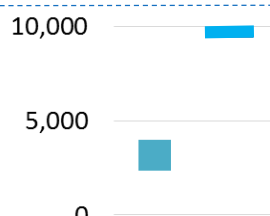
Very high quality of service and very high bandwidth requirements

>\$10,000

PASSENGERS



6,800* vessels



Very high bandwidth requirements in focused areas

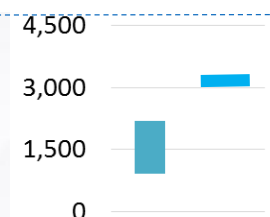
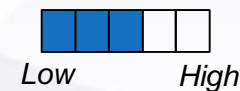
>\$10,000

* ~330 cruise ships > 1,000 GT

LEISURE



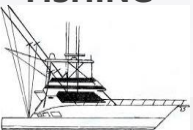
7,600 vessels



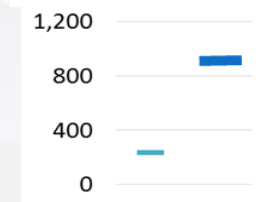
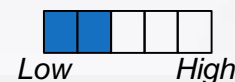
Very high seasonality

\$4,000 - \$30,000

FISHING



23,000 vessels



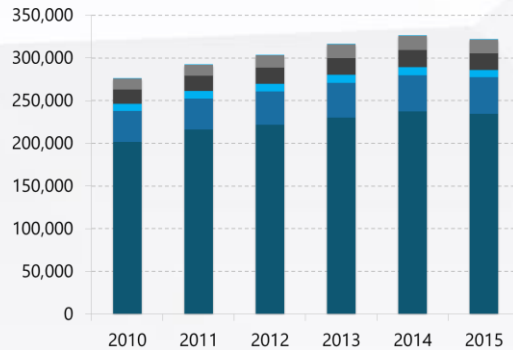
Extremely price sensitive

\$700 - \$2,000

THE MSS AND VSAT COMPETITION

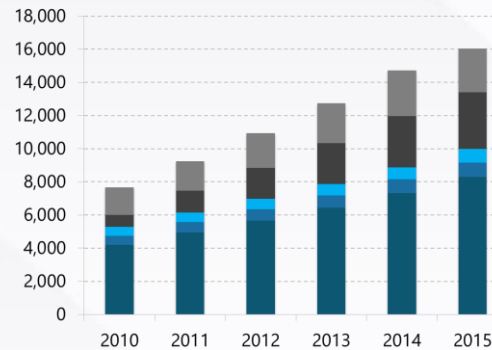
MSS TERMINAL GROWTH 2010 - 2015

No. of terminals



VSAT TERMINAL GROWTH 2010 - 2015

No. of terminals



■ Merchant shipping
 ■ Fishing
 ■ Passenger ship
 ■ Leisure vessel
 ■ Offshore



- Ubiquitous
- 100% Availability
- Light equipment



- Few kbps-500kbps
- Cost Effective only for low data users



- Few kbps to 10+ Mbps
- Variety of enabled Applications



- Availability
- Limited by frequency band
- Heavy equipment



MSS operators still control over 95% of the maritime satellite installation base



VSAT competition has significantly slowed down the MSS business



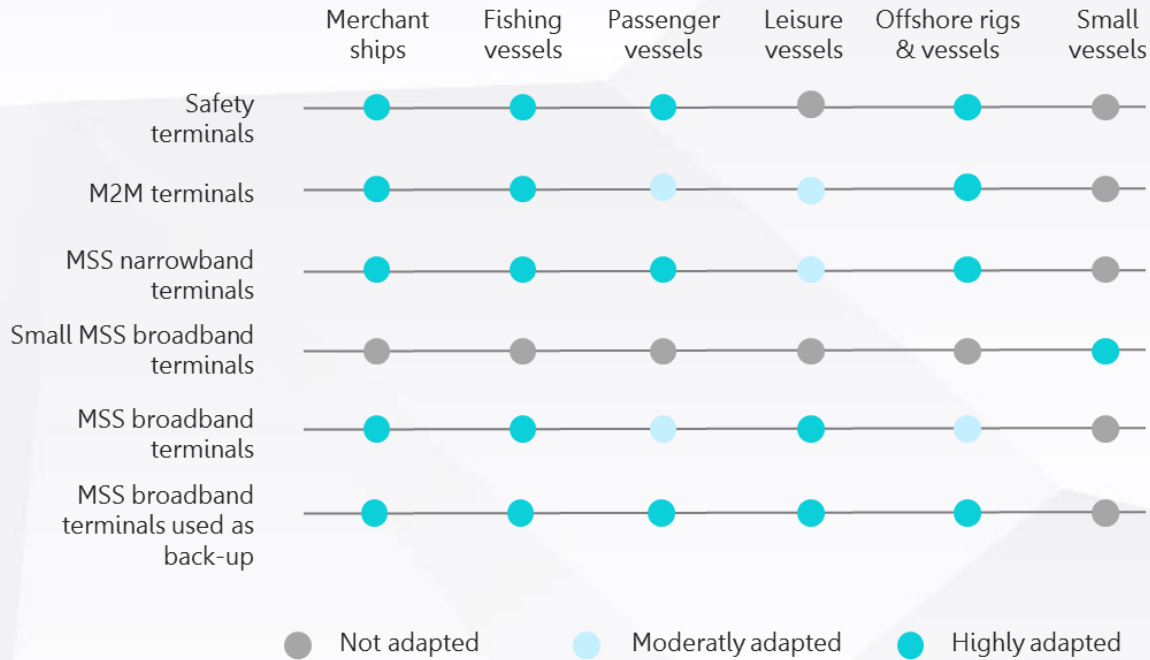
First maritime VSAT terminals in C-band due to larger coverage and higher resilience



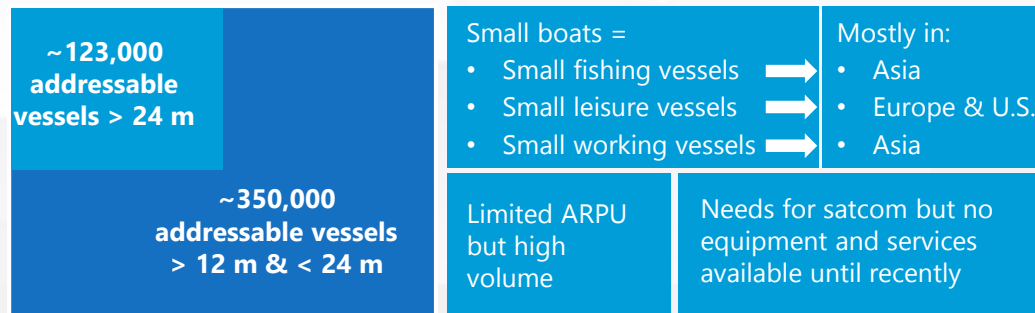
Users are now rapidly shifting toward Ku- and Ka-band

MSS: THE LEGACY OF MARITIME SERVICES

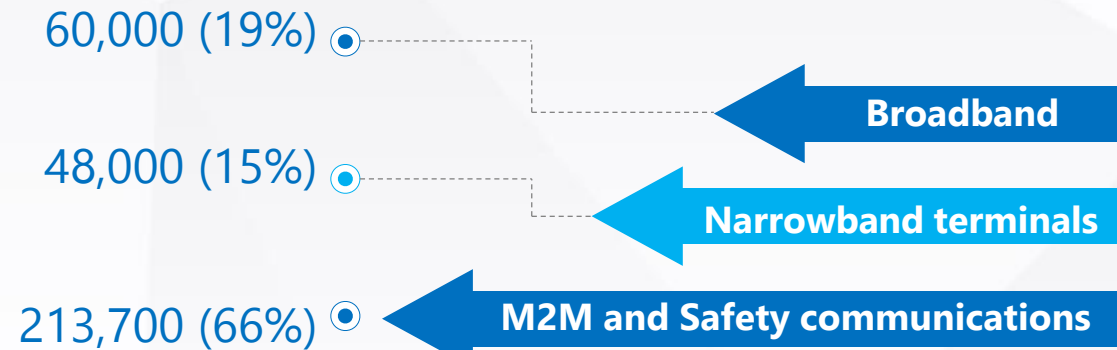
TYPE OF MSS TERMINALS VS. VERTICAL MARKETS



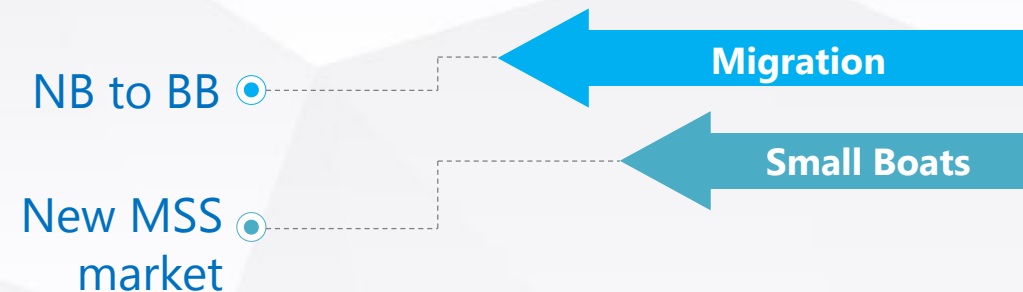
SMALL BOATS MARKET POTENTIAL



Among the 322,000 MSS terminals:

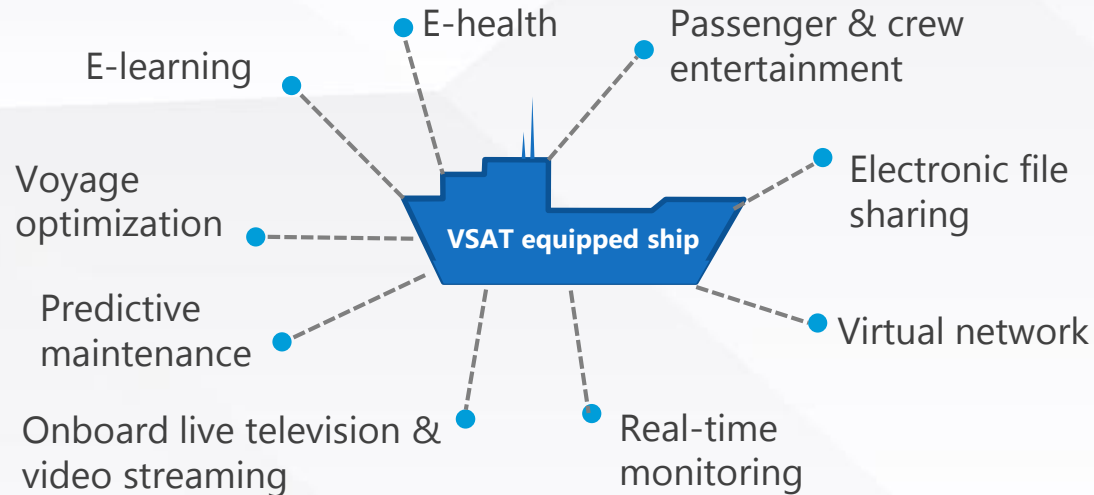


Market Trend



VSAT: A MAJOR GROWTH DRIVER

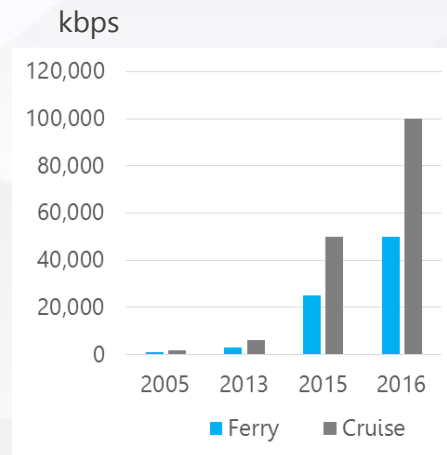
VSAT ENABLED APPLICATIONS



FUTURE VSAT GROWTH DRIVERS

DRIVERS	LEVEL OF IMPORTANCE
Increasing volume of HTS capacity at lower costs with coverage over maritime regions	Low High
Flat panel antennas	Low High
New generation of modems enabling higher speeds	Low High
Operational applications such as predictive maintenance, route planning, etc.	Low High
Video content streaming and live television	Low High

PASSENGER SHIP VSAT BANDWIDTH CAPABILITIES



Source: Telenor Maritime

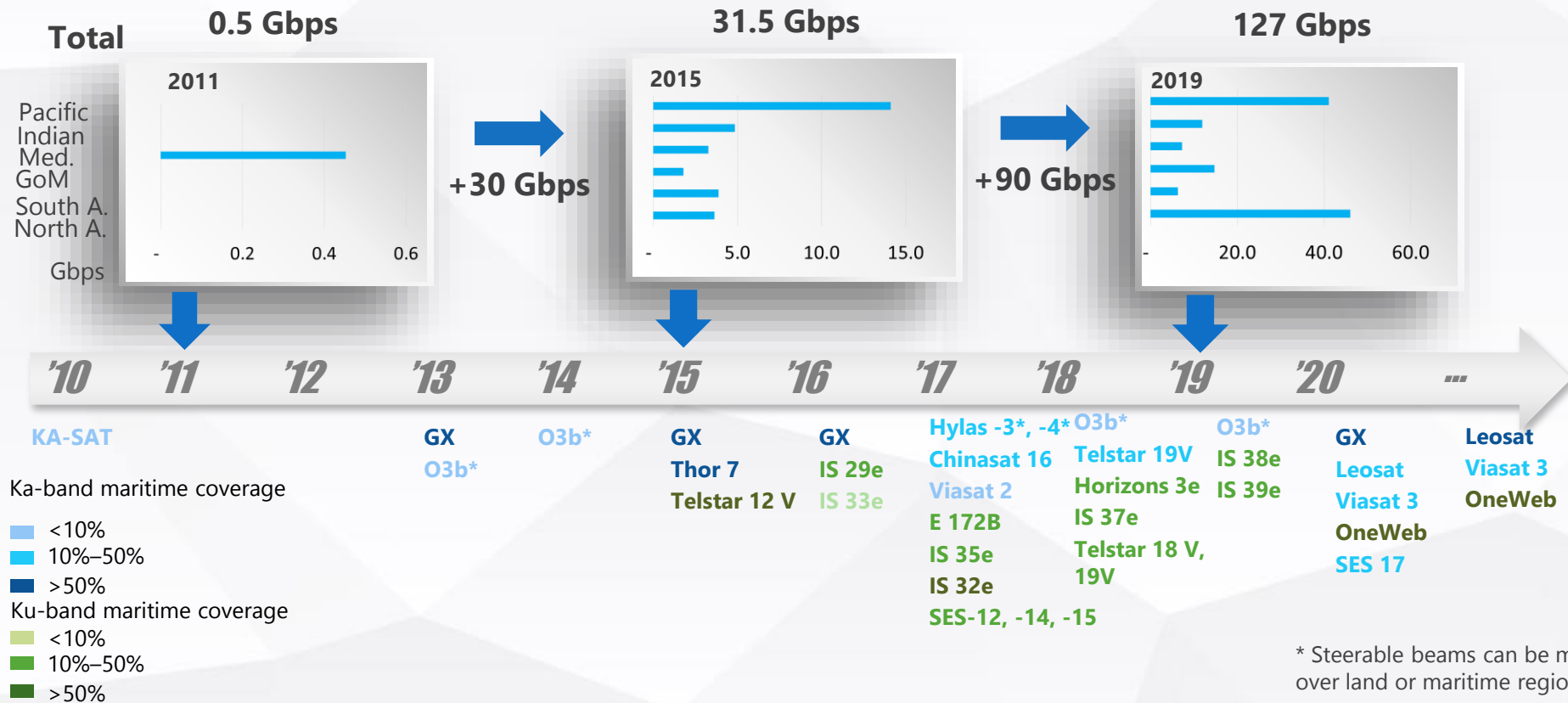
➤ The installation of broadband VSAT systems has become inevitable, especially for high-end vessels

➤ Mainly C-band and Ku-band until now

➤ The new-generation Ka-band systems recently entered service (O3b, GX)

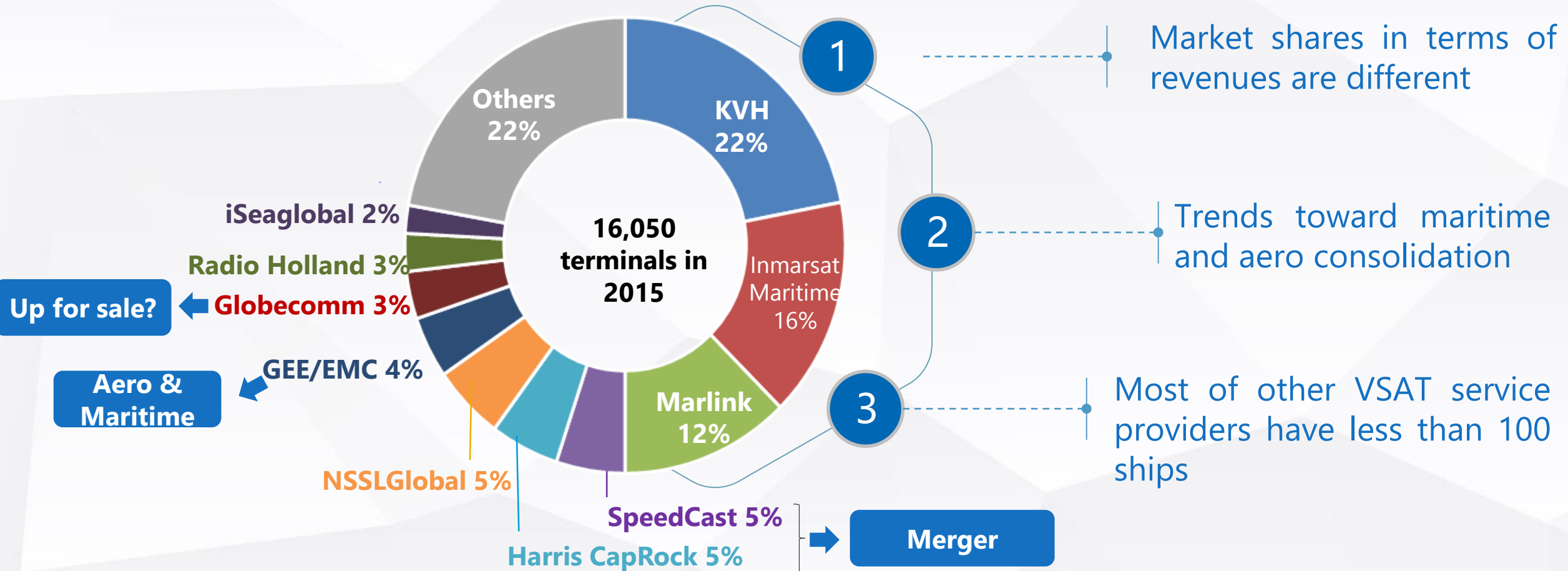
➤ Upcoming launched of HTS satellites with capacity over oceans will drive future VSAT growth

LARGE NUMBER OF MARITIME KU- AND KA-BAND HTS CAPACITY WILL COME ONLINE



- ✓ Total available HTS satellite capacity over oceans will grow from about 52 Gbps in 2016 to 127 Gbps in 2019. By then, Ka-band systems will stand for 61% of HTS satellite capacity over oceans
- ✓ New constellations (Viasat 3, OneWeb, Leosat) after 2020 might have a strong impact on the maritime market

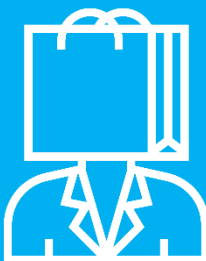
MARITIME VSAT SERVICE PROVIDERS' MARKET SHARE, 2015



4 TYPES OF APPLICATIONS TO DRIVE SATCOM USAGE IN THE FUTURE




Demand



Maritime communications have changed dramatically from basic voice and low-data applications used in safety applications to fully integrated IP applications providing Internet access, audio and video streaming.

Supply



Content and applications into the service portfolio could help satellite operators and service providers make a difference in competition, generate ancillary revenues, and drive more usage of connectivity.

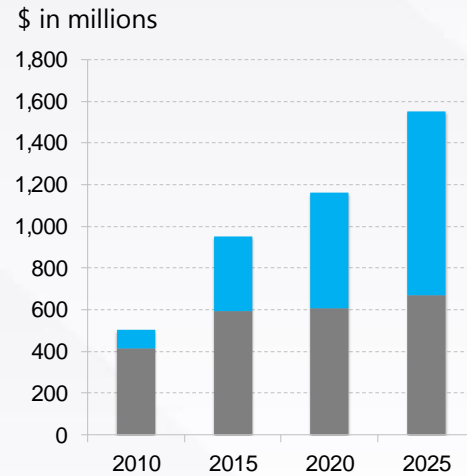
10-YEAR Market forecasts

MSS VS. VSAT

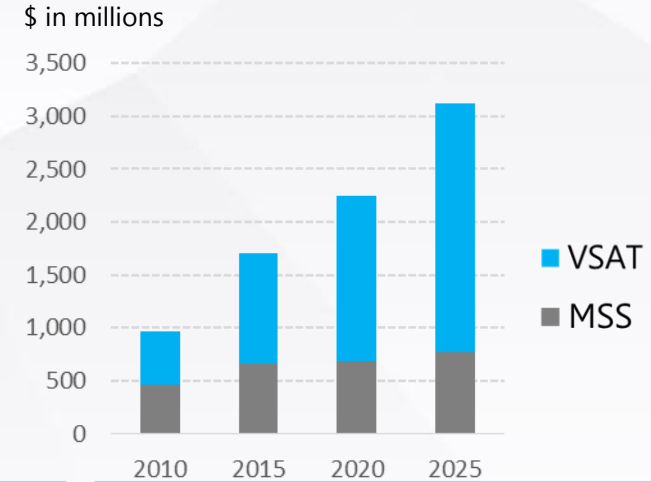
TERMINALS FORECASTS



WHSR CAPACITY REVENUE FORECASTS



SP REVENUE FORECASTS

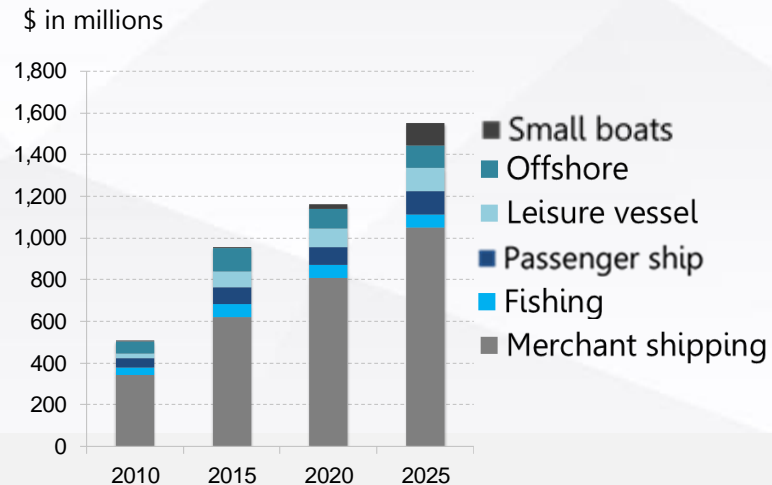


FORECASTS BY VERTICAL MARKET

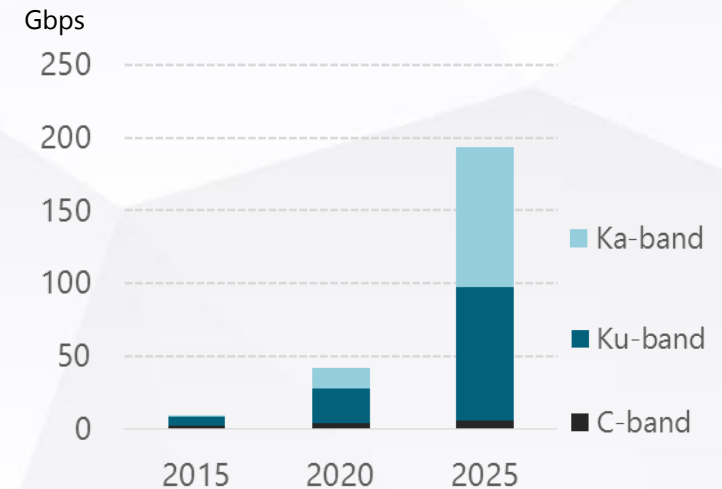
TERMINALS FORECASTS



WHSR CAPACITY REVENUE FORECASTS



VSAT CAPACITY DEMAND



THANK YOU



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France · USA · Canada · Japan