Market dynamics and prospects for maritime satellite communications

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Digital Ship, Hamburg,
February 5th, 2014
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THE MARITIME SATCOM MARKET TODAY

Maritime satcom overview:

- Narrowband satellite terminals still dominant with ~270K units
- Satellite broadband (~50K units) driving revenue growth both on capacity and service level
- Total satellite wholesale capacity revenue for maritime services at ~$760 million in 2013
- Over 50% of wholesale revenues from broadband services (MSS & VSAT)
- Europe remains largest region generating 30%-35% of revenues
- Strong growth recently in Asia

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Maritime satcom terminals:

- MSS broadband
- VSAT
- MSS narrowband

Total terminals: ~350,000

Maritime satcom capacity revenue:

- MSS broadband
- VSAT
- MSS narrowband

Total revenue: ~$760m

*As of year end 2013*
KEY TRENDS AND GROWTH DRIVERS

- Strong migration to new generation broadband services
- Regulatory requirements keep supporting satcom growth
- Average data consumption growing rapidly
- VSAT taking a larger share of the market
- Improving VSAT coverage and capacity supply
- Combined Ku/L band packages become popular
- New MSS products entering the market addressing large lower-end markets
- Prices competition in the VSAT market is heating up
- MSS pricing experienced significant changes
- Service providers are investing in both satellite capacity and ground infrastructures
NEW APPLICATIONS DRIVING SERVICE REQUIREMENTS

- **Operational Communications**
  - ECDIS, engine diagnostics, Intranet, emails, etc.

- **Crew welfare**
  - Calling, messenger, social media, streaming, etc.

- **Administrative & regulatory Communications**
  - Crew payment, E-logging, LRIT, GMDSS, etc.

Mission critical
Purchase decision factor
Can drive up to 80% of the total vessel traffic
Low ARPU, low traffic while large installation base

- The bandwidth requirement is increasing across all the maritime vertical segments
- For VSAT services, the average CIR currently ranges from 64 kbps to 128 kbps
- Evolution of ARPU is however by far not comparable to bandwidth growth as end users generally expect stable or decreasing spending per vessel in the coming years
Coverage of ocean regions can address multiple market segments, notably maritime and aero markets.

In particular Northern Atlantic and Pacific Ocean regions are key market for shipping and aero.

Also coastal maritime regions highly attractive.

Caribbean, Alaska and Mediterranean Sea, see growing demand driven by leisure and passenger ship, also strong growth in Asia.

Strong offshore activity in Northern Europe, Pacific region, Gulf of Mexico, Brazil as well as East and West of the coasts of Africa.
- Increases of regular C- and Ku band capacity over Ocean regions in recent years

- In particular large global operators see business opportunities from these regions now

- Intelsat has invested ~10 beams on seven satellites (IS-14, IS-18, IS-19, IS-20, IS-21, IS-22, and IS-27) for global maritime and aeronautical mobility coverage.

- SES, Eutelsat and Telesat also have maritime beams on multiple satellites

- Ku-band coverage is getting close to global in 2013; gaps complemented by L- and C-band
Between 2013 and 2016 a number of new HTS systems are being launched with Ocean coverage.

Inmarsat’s Global Xpress will provide global Ka-band spotbeam coverage and >50Gbps of capacity.

O3b has steerable beams providing up to 1Gbps each that could provide capacity to off-shore rigs and cruise ships.

Intelsat EPIC will provide multispotbeam Ku- and C-band coverage; a total of 5 satellite is planned over 2015-2019.

Viasat-2 planned for 2016 will cover the Northern Atlantic with Ka-band.
HTS systems to increase capacity over oceans to over 65Gbps by 2016

The Northern Atlantic and the Pacific Ocean with strongest capacity increase

Ka-band to grow from ~1Gbps in 2012 to over 40Gbps by 2016

Ku-band to almost triple over the next 5 years

Inmarsat (GX) and Intelsat (EPIC) leading operators, but lots of new entrants

Due to multispotbeam approach there is however a difference between overall capacity and capacity at a given point in the ocean
SERVICE PROVIDER’S POSITIONING

MSS
- Large number of service provider and resellers providing standardized services
- Few of the players provide VSAT services
- Differentiation mainly through price with pressure on margins

VSAT
- Fragmented market of ~70 SPs with top 4 accounting for ~50% of the market
- Many small, regionally focused and specialized niche players
- Level of sophistication and value added services a key differentiator
- Consolidation to increase due to economies of scale & scope

Move towards VSAT
Customers want one-stop-shop solutions
Need for MSS services
TRENDS IN THE ADDRESSABLE MARKET

- Key maritime satcom market with >60K addressable vessels
- All ships have regulatory required MSS communications today; will remain key for safety and security
- MSS broadband installations have significantly increased in recent to over 50%
- VSAT penetration levels still low at ~10%, with strong upside in the coming years
- New applications to improve ship operations as well as crew welfare drive capacity demand and lead to strong growth for satellite broadband
- Trend of multiple terminals onboard a vessel providing opportunities for both VSAT and MSS; MSS broadband increasingly used as VSAT backup
$750 million revenue at operator level at YE 2013
12% growth per year in the last 3 years
24% growth per year for VSAT, with the majority being Ku-band ones
By the end of the decade VSAT revenue should exceed MSS (L-band) revenue
2% CAGR for MSS and 13% CAGR for VSAT for the 2013-2021 period, reaching ~$ 1.2 billion
WITH MSS REMAINING VOLUME LEADER

Active Maritime VSAT terminals, 2008-21

Maritime MSS broadband terminals, 2008-21

No. of active terminals

No. of active VSATs

Active Maritime VSAT terminals, 2008-21

Maritime MSS broadband terminals, 2008-21
HTS SYSTEMS TO BOOST CAPACITY USAGE

Maritime VSAT capacity usage by frequency band, 2008-21

- C-band
- Ku-band
- Ka-band

Gbps

Despite the adverse economic environment, satcom growth in the maritime sector remains driven by needs to optimize ship operations and crew retention.

A rapid migration from legacy MSS services to new generation systems should continue in the coming years.

MSS broadband services will continue to be installed in large quantities, especially on low and medium-end vessels, and as VSAT backup for high-end users (incl. Ku/L-band packages).

MSS data rates of 128kbps-500Kbps remain sufficient for the majority vessels.

VSAT services should see strong growth driven by bandwidth-intense user applications, and more and more become the primary communications system.

Capacity that will come online from HTS systems should give a boost to the market allowing for more affordable high data rate services; Both, Ku- and Ka-band solutions expected to coexist and grow.

Competition in the service sector will continue with pressure on prices and likely lead to some consolidation.
THANK YOU

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