Connected Shipping

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Business Development
Transport & Automotive

Digital ship Hamburg Feb 6 2014
Ericsson At a glance

#1

MOBILE INFRASTRUCTURE
OSS&BSS
SERVICES
MEDIA DELIVERY & IPTV

33,000
Patents 2012

24,000
Employees in R&D 2012

Top 5
Largest software company

SEK 33 b.
In R&D in 2012

1 billion
Subscribers managed by us

2.5 billion
Subscribers supported by us

114,000
Employees

50%
LTE Smartphone traffic through our networks in 2012

180
Countries with presence

1 billion
Services professionals

184,000
Employees in R&D 2012
To realize Intelligent Transport Systems is a vital part of Ericsson’s vision.
Anything that benefits from a network connection will be connected
Future Wireless access

A set of integrated radio-access technologies jointly enabling the long-term Networked Society

4G (LTE)
- High bandwidth
- Low latency
- Wifi Integration
- QoS Prioritization
- LTE Broadcast

5G
- Device to device communication
- Ultra-reliable communication
- Massive machine communication
- Supporting low power devices

5G is an integrated set of technologies addressing a wide variety of use cases and requirements.

http://www.ericsson.com/res/docs/whitepapers/wp-5g.pdf
## Key concerns

### What are the biggest challenges for the global shipping industry

<table>
<thead>
<tr>
<th>Issue</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fuel costs</td>
<td>45%</td>
</tr>
<tr>
<td>Price pressure</td>
<td>32%</td>
</tr>
<tr>
<td>On-ship staff skills</td>
<td>30%</td>
</tr>
<tr>
<td>Security / piracy</td>
<td>27%</td>
</tr>
<tr>
<td>Staff recruitment &amp; retention</td>
<td>21%</td>
</tr>
<tr>
<td>Environmental regulation</td>
<td>19%</td>
</tr>
<tr>
<td>On-shore staff skills</td>
<td>10%</td>
</tr>
<tr>
<td>Other regulation</td>
<td>9%</td>
</tr>
<tr>
<td>Insurance costs</td>
<td>6%</td>
</tr>
<tr>
<td><strong>All respondents</strong></td>
<td><strong>6%</strong></td>
</tr>
</tbody>
</table>

*Source: 2011 Informa Lloyd’s List Connected Ship Survey*

### Our observations on ICT related concerns

- Strong interest in enabling ICT solutions and technology
- Uncertainties in technology (future) requirements
- Lack of comprehensive ICT strategy
- The business situation and competitiveness is creating a momentum for change
The Connected Vessel

**Goods Mgmt**
- Goods Tracking
- Goods Condition Mgmt
- Customer Interaction
- Customs Declaration
- Goods Security

**Vessel O&M**
- Remote Surveillance
- Remote Alarm Handling
- Remote Fault Resolution Support
- Engine Performance Indicators

**Route Management**
- Planning & Optimization
- Decision Support
- Real Time Tracking
- Cost & Quality Control

**Crew Welfare**
- Remote Health Care
- Internet Access
- Personal Information Mgmt
- Voice & SMS

**Safety & Security**
- Surveillance
- Access Control
- Command & Control
- Save & Rescue

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The connected vessel framework

Customer Experience Management

Service and Information Management

Device Management

Connectivity Management

ICT infrastructure (private/public)
The connected vessel

Applications

- Engine & Route Optimization Communications
- On-board IT as a Service
- Crew Communications
- Critical Infrastructure Protection
- Crew Communications
- Remote Patient Monitoring
- Goods Management Automation
- E-Learning

Real Time Connectivity enabler

Connected Vessel
Solution concept

Business Systems

Back end Systems

Devices

Mobile Network

Satellite

Services

Prime responsible

Solution Design
Solution integration
Solution deployment
Life Cycle Management
Managed Services

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For Maersk it was crucial to build a system that could monitor and manage all their vessels and the connected devices onboard.
Customer challenge
› The shipping industry is experiencing pressure on return on capital
› Maersk innovative and creative in their efforts to improve margins

Ericsson’s technology & services
› Ericsson delivered a total vessel end-to-end communications solution
› Combined expertise in mobile and satellite technology with global reach in professional services and strong partnerships with global service providers

Customer value
› Cut fuel costs and increased the value of Maersk’s logistics
› Improved control and speed on each vessel
› Boosted fleet management capabilities
› Reduced CO2 footprint
› Enabled Maersk customers to monitor cargo delivery times
summary

› Technology development is continuing

› The Shipping industry has an untapped potential to exploit the technical possibilities to tackle the industry challenges

› An open and layered model for communication and service management based on standards is key for technology deployment and scale of economies

› Design and deployment of effective e2e solutions require solution providers with integration and services skills and capabilities