eNavigation
The Insurance Perspective
Agenda

- Safety and Insurance
- Worldwide tonnage
- Less space, bigger ships
- Statistics
- Technology and the Human Element
- IMO Role
- The Insurance Mkt concerns
CAPTAIN, I think I missed the turn
Safety and Insurance

- The foundations of both safety and insurance are risk.
- Safety is accomplished when we identify and minimize (or mitigate) every hazard and risk possible.
- The insurance industry provides the financial support for those occasions where unexpected events occur.
- Both customers and the insurance industry succeed when nothing happens.

Isn’t that what safety is all about?
IUMI International Union of Marine Insurance

Tanker, Bulkcarrier, Containership and Multipurpose Fleets

Source: Clarksons Research, August 2015
Note (1): Includes all vessels in these categories above 100 GT.
Note (2): All fleet totals are on the left-hand axis and deliveries and scrapping figures are on the right hand axis. Fleet totals are as at end year; deliveries and scrapping figures are full year totals.
Note (3): 2015 = year to date.
The navigable sea space for shipping is decreasing rapidly to allow for fishing, leisure, renewable energy and environmentally protected areas.

At the same time the number and size of vessels is increasing and the number of crew members required decreasing. Is automation enough?

It is not unusual to see large ships and small leisure crafts sharing the same space in a congested harbor.
Relaxing fishing day
Average Age of the World Fleet 2000-2015

Source: Clarksons Research, August 2015

Note (1): Includes all vessels in these categories above 100 GT.
Note (2): Average age is calculated using number of vessels. Calculations are based on year and month of build.
The last decades have seen major developments in technology applied to navigation and communication systems.
Electronic Chart Display Information System

Implementation schedule for mandatory carriage ECDIS

At the NAV-54 work group assembly in 2008, IMO has decided to make ECDIS mandatory for all IMO vessels >3,000 GT (passenger vessels >500 GT) with a transitioning period as shown below. The new carriage requirement is for one ECDIS with suitable back up arrangement.

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Newly built passenger ships</td>
<td>&gt; 500 GT</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Newly built tankers</td>
<td>&gt; 3,000 GT</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Newly built cargo vessels</td>
<td>&gt; 10,000 GT</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Newly built cargo vessels</td>
<td>&gt; 3,000 GT</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Existing passenger ships</td>
<td>&gt; 500 GT</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Existing tankers</td>
<td>&gt; 3,000 GT</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Existing cargo vessels</td>
<td>&gt; 50,000 GT</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Existing cargo vessels</td>
<td>&gt; 20,000 GT</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Existing cargo vessels</td>
<td>&gt; 10,000 GT</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Transitioning period

ECDIS carriage mandatory
Total Losses 2000-2014
By Cause, All Vessel Type
(vessels > 500 GT)

Source: LLI, total losses as reported by Lloyds List
Serious Losses 2000-2014
By Cause, All Vessel Type
(vessels > 500 GT)

Source: LLI, total losses as reported by Lloyds List
Climbing costs

The costs of groundings, collisions and pollution cleanup/prevention are increasing every year
Hull Claims Trends
HULL – ULTIMATE LOSS RATIOS*
EUROPE/USA**, UNDERWRITING YEARS 1996 TO 2014

Since 2009:
Repair cost relative stable. Volatility by major loss impact (strong until 2011).

2014: Record-low major loss impact. Technical profit for first time in years?

2013 also improved (USD effect, when repairs not in USD?)

* Technical break even: gross loss ratio does not exceed 100% minus the expense ratio (acquisition cost, capital cost, management expenses)
** Data: Belgium, France, Germany, (Netherlands), Italy, Spain (until 2007), UK, USA
What do we want to achieve as an Industry?

- Enhance berth-to-berth navigation
- Improved safety
- Improve environment protection
- Increase vessel efficiency
- Improve human resource management
IMO’s definition of e-navigation

E-navigation is the harmonised collection, integration, exchange, presentation and analysis of maritime information on-board and ashore by electronic means to enhance berth to berth navigation and related services, for safety and security at sea and protection of the marine environment.

Source: MSC 85/26/Add.1 ANNEX 20
Need for harmonization

- More than 90 percent of world merchandise trade is carried by sea.
- Global seaborne trade is expected to increase by 44 percent by 2020.
- Vessels of LOA > 400 Mts navigating at +25 Kt.
- Less space and more ships.

Source: Clarkson Research, August 2013.
Note (1): Includes all vessels in these categories above 100 GT.
Note (2): All fleet totals are on the left-hand axis and deliveries and scrapping figures are on the right-hand axis. Apart from 2013 data, fleet totals are as at end year; deliveries and scrapping figures are full year totals.
The Insurance Market concerns?

- Over Reliance on electronic means of Navigation // more time spent looking at a screen than looking out the window

- Lack of standardization onboard and ashore, incompatibility between vessel’s bridges and an increased and unnecessary level of complexity

- Use of e-Navigation without proper training of all stakeholders

- GPS as the unique/main source of positioning // Cyber attacks

- Implementation on an aged fleet
The Insurance Market concerns?

- Transitional period length and related risks
- Implementation plan
  - Regulatory framework
  - Technical requirements
  - New training requirements to be defined for mariners, including changes to existing Maritime Academies syllabus
  - Shore base personnel training standards/requirements
- Further reduction of crew size
Thank you

Capt. Jorge Pecci
EVP Global Marine
AIG