MARINE CASUALTIES AND INCIDENTS

SUMMARY OVERVIEW 2011–2015

EMSA

TAKING A BROADER VIEW IN ACCIDENT INVESTIGATION

It is with great pleasure that I introduce this new publication based on EMSA's activities in the field of accident investigation. EMSA's role begins with support to the accident investigation bodies of the Member States, but it also goes much further. At the heart of EMSA's support role is EMCIP, the database of accidents that is populated by the accident investigation bodies which already contains details of over 12 000 incidents that have occurred since it was set up in 2011.

Learning from accidents is an essential part of any safety regime, but the value of looking across such a large fund of information, on a European scale, adds a context that can be used as a basis for sound decision-making.

Already data from EMCIP has contributed to studies on passenger ship damage stability and ro-ro vehicle deck fires that, within IMO's Formal Safety Assessment framework, will support on-going discussions at an international level.

As the database grows, by more than 3000 casualties and incidents per year, the future for EMCIP as a decision support tool is immense. The information contained in this publication, and in the more detailed overview of statistics that is available online, is just the start.

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Markku Mylly
Executive Director

Background

The framework for accident investigation in the EU is set out in Directive 2009/18 EC. The EU Member States each have accident investigation (AI) bodies which are established to be independent of potentially interested parties, including the maritime administration.

The AI bodies work within the Permanent Cooperation Framework (PCF) to establish common practices including a taxonomy for describing accidents and incidents. EMSA supports their work within PCF and the taxonomy has become the heart of the EMSA-run European Maritime Casualty Information Platform (EMCIP). In the short time since it was established, the Member States' accident investigation bodies have populated EMCIP with details of over 12 000 accidents and incidents and the conclusions of 584 investigations.

Every year EMSA uses the data in EMCIP, analysed according to the taxonomy, to publish the Annual Overview of Marine Accidents. The full overview is available for download from EMSA's website but a selection of the data has been extracted and is included in this brochure.

The scope of the AI Directive, and hence of the work of the AI bodies and of the data within EMCIP, covers all accidents and incidents that have an EU interest. This is described in the Directive as casualties and incidents that:

- involve ships flying the flag of one of the Member States
- occur within Member States' territorial sea and internal waters as defined in UNCLOS, or
- involve other substantial interests of the Member States (for example, involve EU citizens).

Around 85% of the ships involved in casualties and incidents recorded in EMCIP are EU Member States flagged.

Overview of key figures for 2015

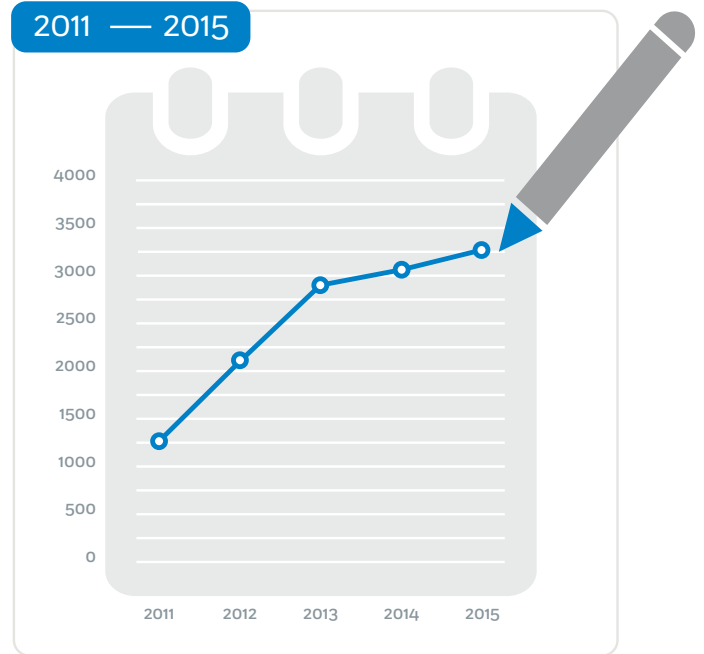|		
3296 ACCIDENTS AND INCIDENTS	**115** FATALITIES	**976** PERSONS INJURED
36 SHIPS LOST	**64** POLLUTION EVENTS	**125** INVESTIGATIONS LAUNCHED BY EU MEMBER STATE AI BODIES

Data overview

Comparisons with other data sources indicate that there is still some under-reporting as Member States' AI bodies progressively implement reporting to EMCIP.

However, the increase in numbers of casualties and incidents reported has become proportionally smaller each year, indicating that the system is approaching full implementation. Once that stage is reached, the true year-on-year trends will become more visible.
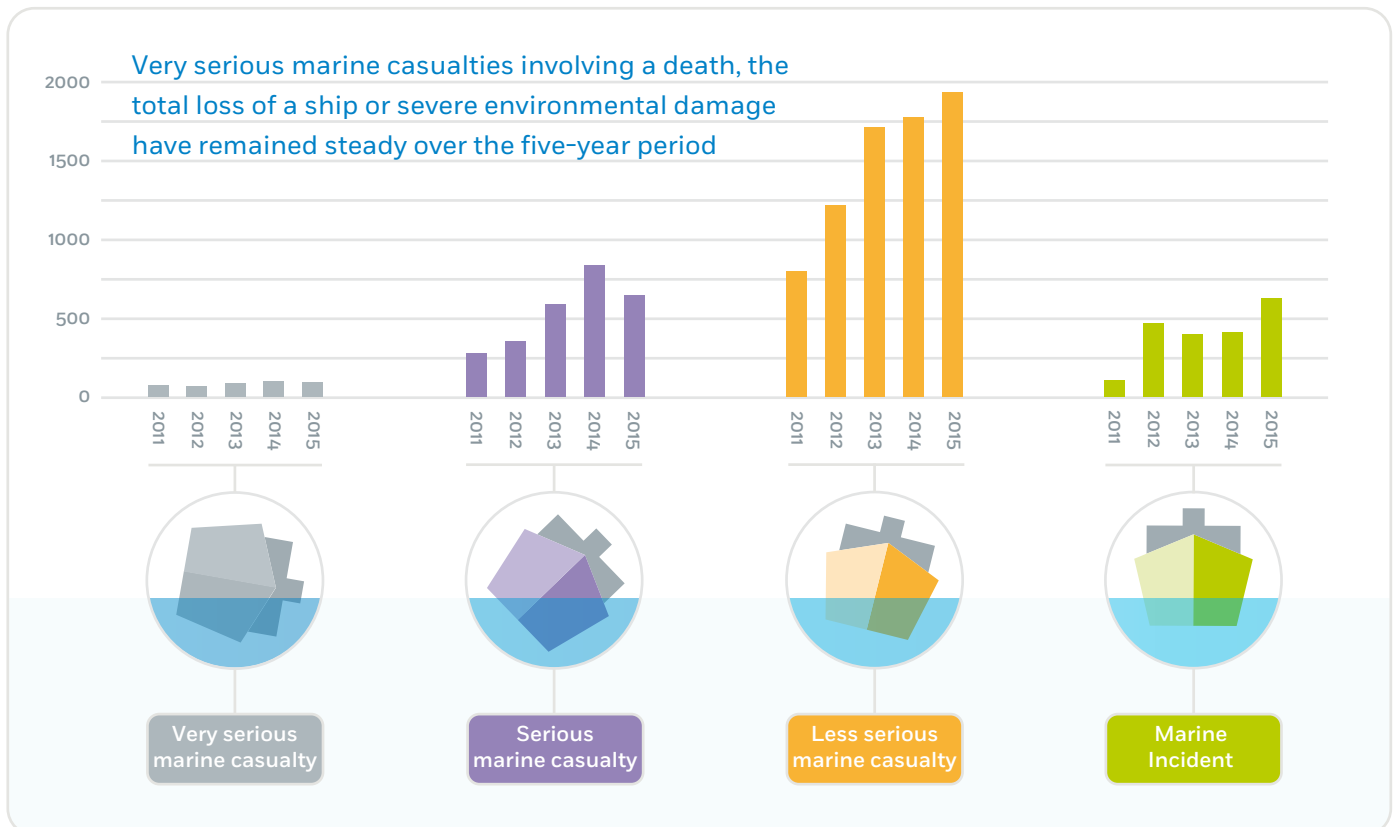
Under-reporting relates mostly to the less serious casualties and incidents, while more serious casualties remained at levels similar to previous years.

The chart illustrates this, while noting that the reduction of serious casualties is the consequence of a modification in the classification of injuries, as is the corresponding increase of less serious casualties and incidents.

Reporting of marine casualties & incidents

2011 — 2015

Number of marine incidents and casualties per severity

Very serious marine casualties involving a death, the total loss of a ship or severe environmental damage have remained steady over the five-year period

Very serious marine casualty

Serious marine casualty

Less serious marine casualty

Marine Incident

Casualties with ships

In EMCIP, marine casualties are separated into two different categories: a "casualty with a ship", where a ship, persons on board, equipment or cargo is affected by an accident, and an "occupational accident", where the accident affects only persons. Of the 3296 accidents and incidents recorded in 2015, 2198 were casualties with ships, and the remainder were occupational accidents.

While the year-on-year increase reflects the progressive implementation of reporting of the less severe accidents and incidents, the relative distribution between the main ship types remains similar. Of particular note are the 43 ships that were each involved in more than 10 casualties.

Over the period 2011-2015, half of the casualties with a ship were of a navigational nature, such as contacts, grounding/stranding or collision.

Casualty with a ship by ship category

- Cargo ship
- Passenger ship
- Fishing vessel
- Service ship
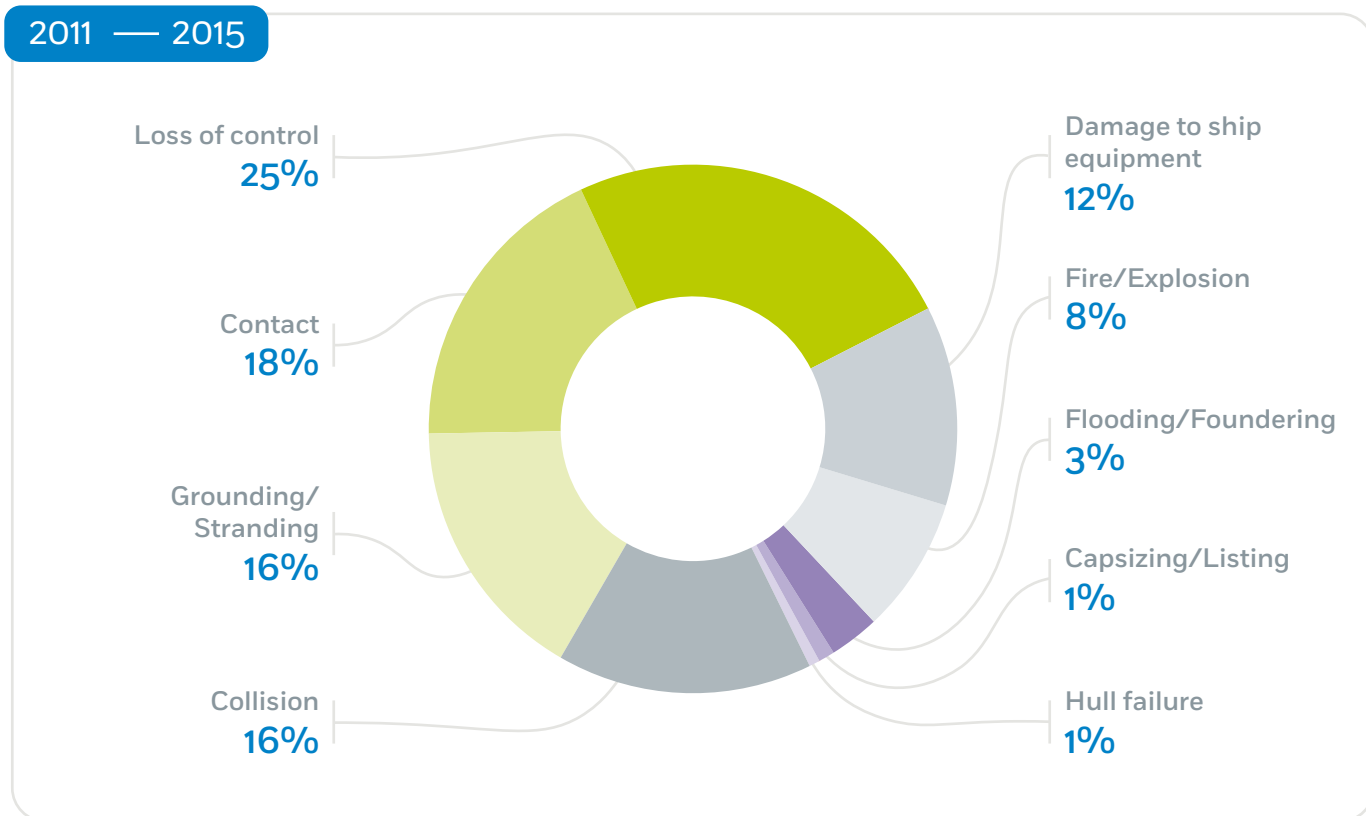- Other ship
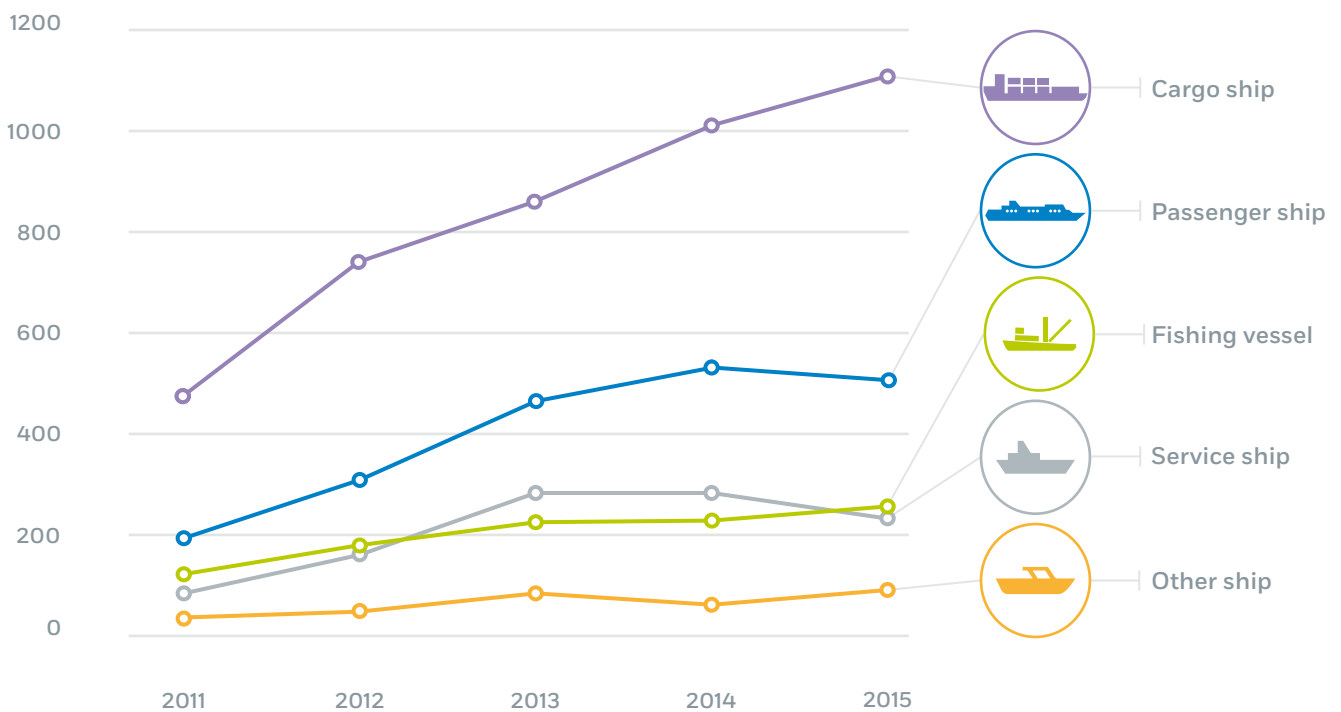
While transiting on a river in the south of Spain on 11/1/2014, the route of the MV CITADEL had to be diverted to avoid collision with a small boat and subsequently the MV CITADEL ran aground.

Casualties with ships (cont.)
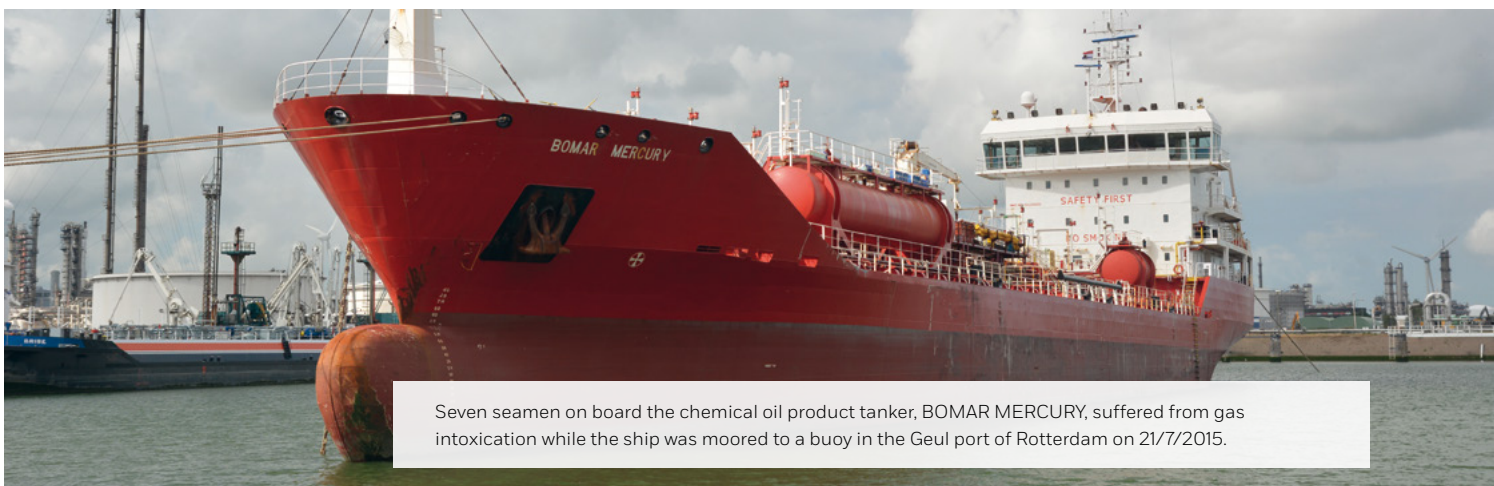
Main causes of accidents

2011 — 2015

- Loss of control **25%**
- Contact **18%**
- Grounding/Stranding **16%**
- Collision **16%**
- Damage to ship equipment **12%**
- Fire/Explosion **8%**
- Flooding/Foundering **3%**
- Capsizing/Listing **1%**
- Hull failure **1%**

Top 5 main causes of accidents in 2015

573	Loss of control
405	Contact
348	Damage to ship or equipment
297	Collision
177	Fire/Explosion

In the night of 29/4/2013, M/V CONSOUTH and M/V PIRIREIS collided in the south west end of the Peloponnese, Greece. The M/V PIRIREIS sank within a few minutes and ten crew members lost their lives.
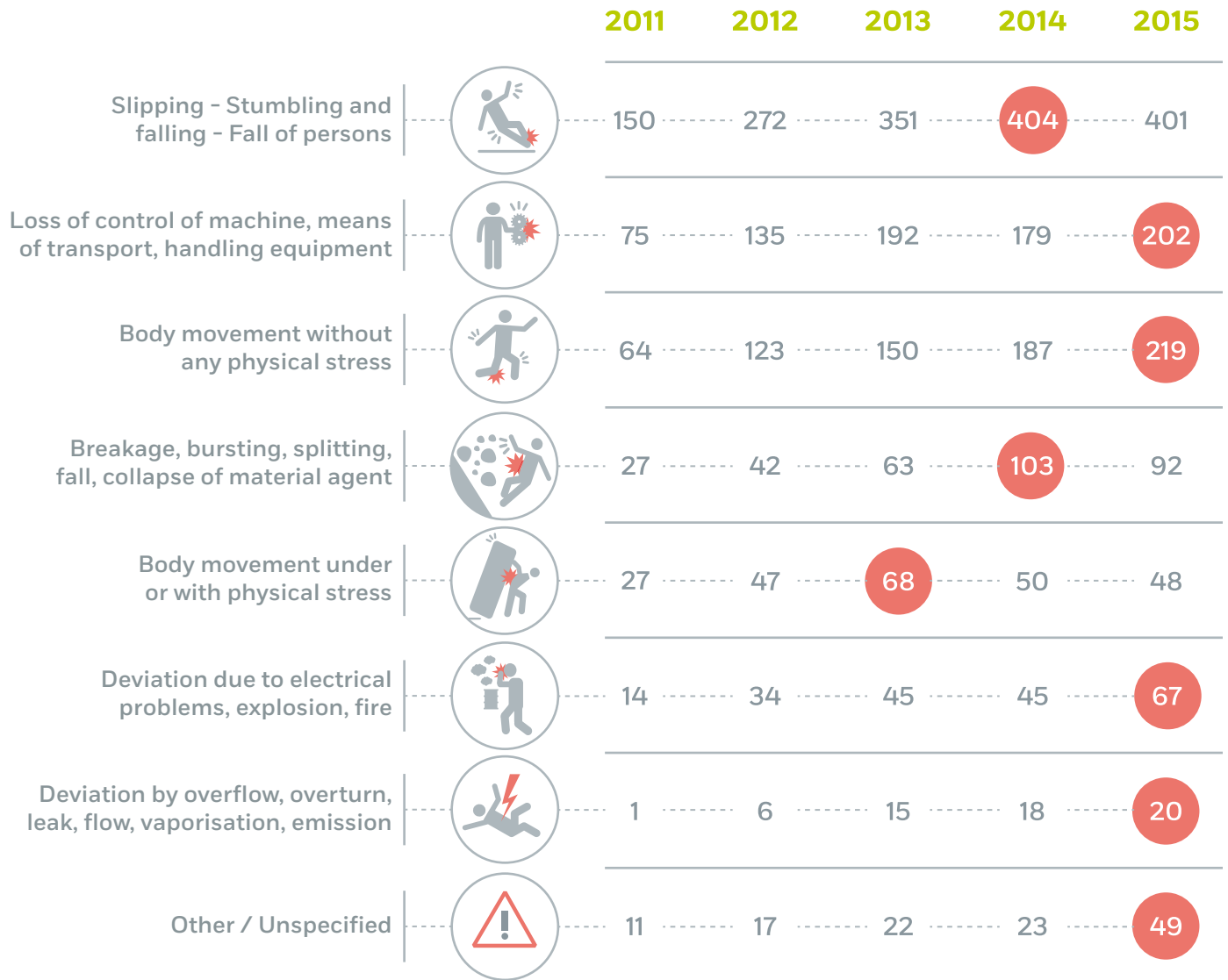
Occupational accidents

Around one third of all marine casualties and incidents are occupational accidents, i.e. affecting only persons. Of these, "stumbling and fall of persons" was the most frequent event (39%), followed by "loss of control" (19%) and "body movement without physical stress" (18%).

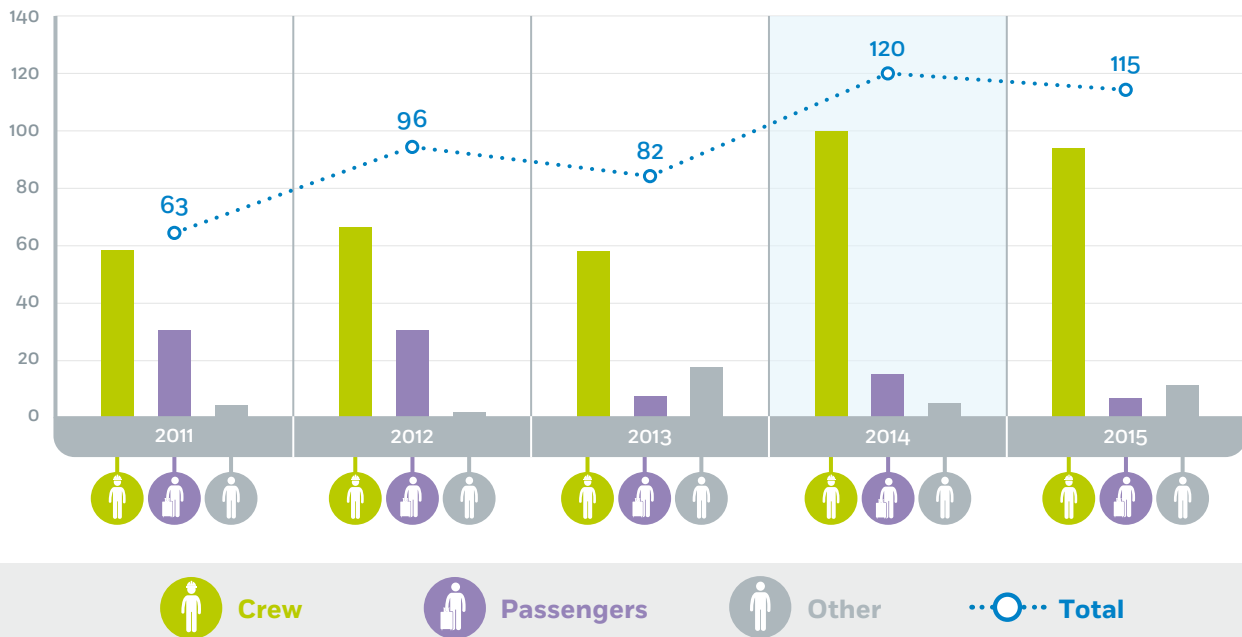|	2011	2012	2013	2014	2015
Slipping – Stumbling and falling – Fall of persons	150	272	351	404	401
Loss of control of machine, means of transport, handling equipment	75	135	192	179	202
Body movement without any physical stress	64	123	150	187	219
Breakage, bursting, splitting, fall, collapse of material agent	27	42	63	103	92
Body movement under or with physical stress	27	47	68	50	48
Deviation due to electrical problems, explosion, fire	14	34	45	45	67
Deviation by overflow, overturn, leak, flow, vaporisation, emission	1	6	15	18	20
Other / Unspecified	11	17	22	23	49

Seven seamen on board the chemical oil product tanker, BOMAR MERCURY, suffered from gas intoxication while the ship was moored to a buoy in the Geul port of Rotterdam on 21/7/2015.
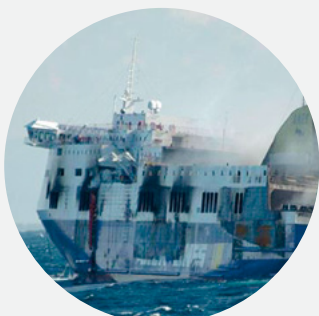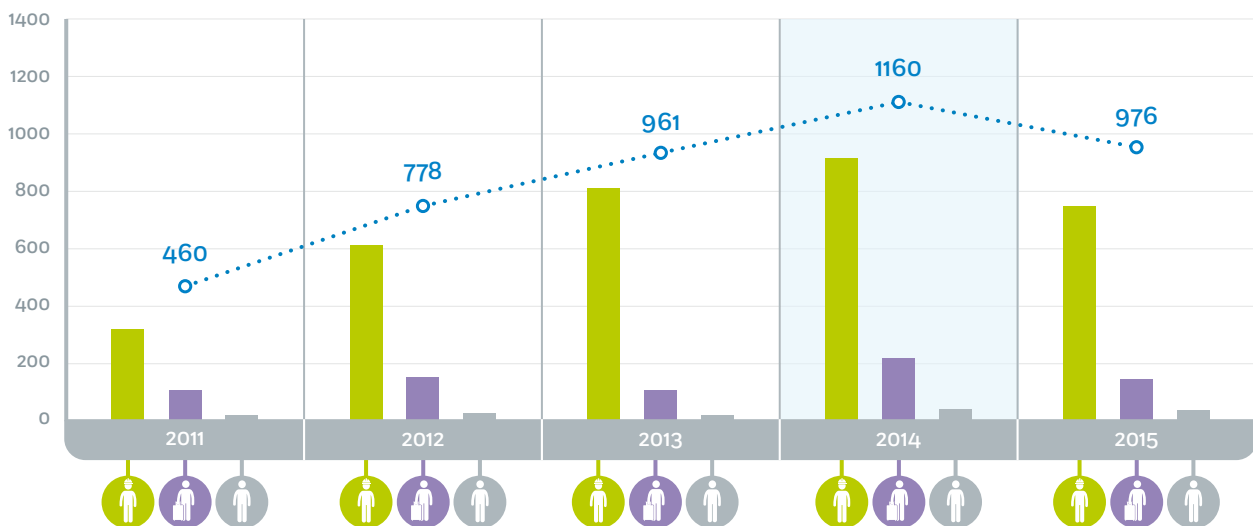
Consequences to persons

Fatalities as a consequence of a casualty with a ship mainly occurred following a collision (15%), a flooding/foundering (15%) or capsizing/listing (12%). Slipping/falls of persons was the main cause of fatalities due to occupational accidents. Similar patterns were seen with injury statistics.
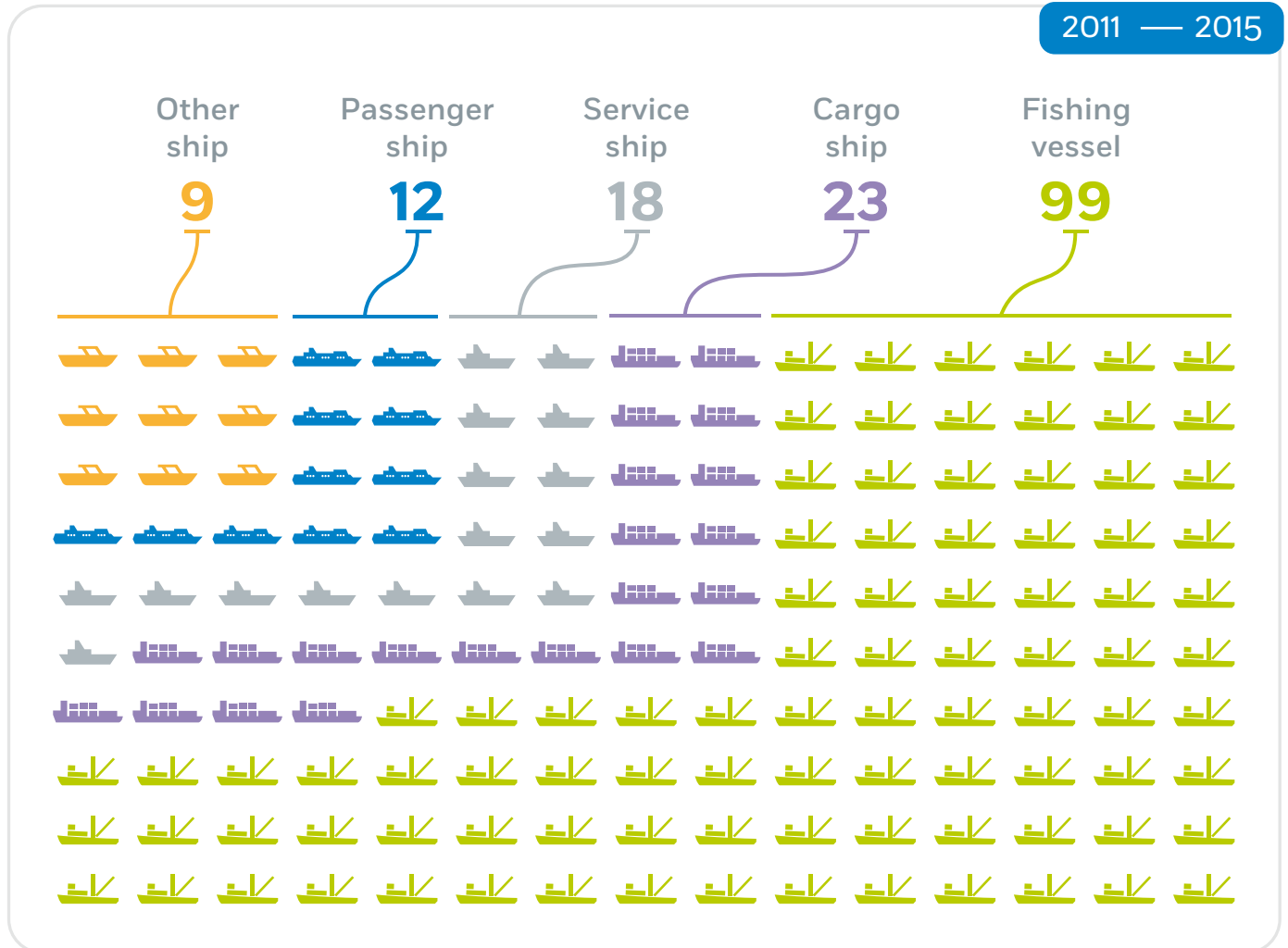
Fatalities

	2011	2012	2013	2014	2015
Total	63	96	82	120	115

Legend: Crew · Passengers · Other · Total

Injuries

	2011	2012	2013	2014	2015
Total	460	778	961	1160	976

11 persons died, 12 went missing and 31 were injured after a fire broke out on board the NORMAN ATLANTIC on 28/12/2014
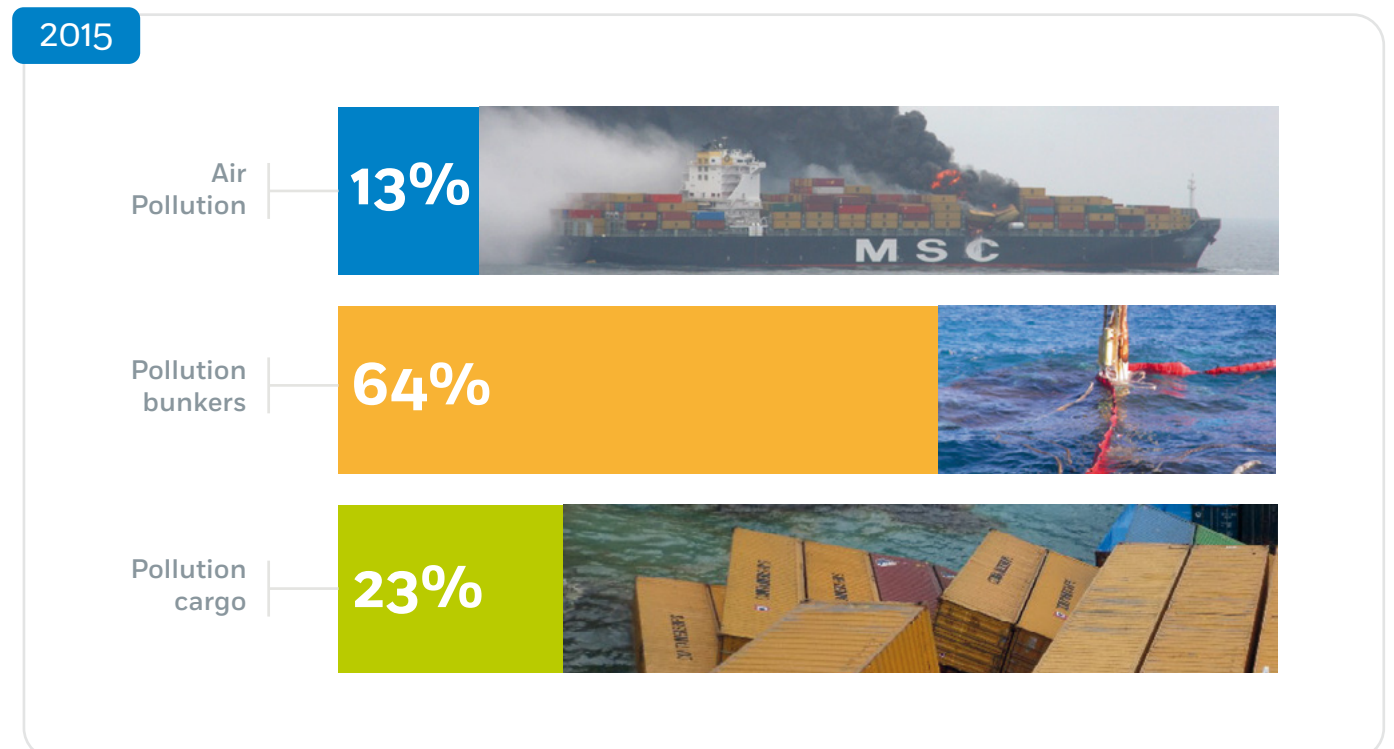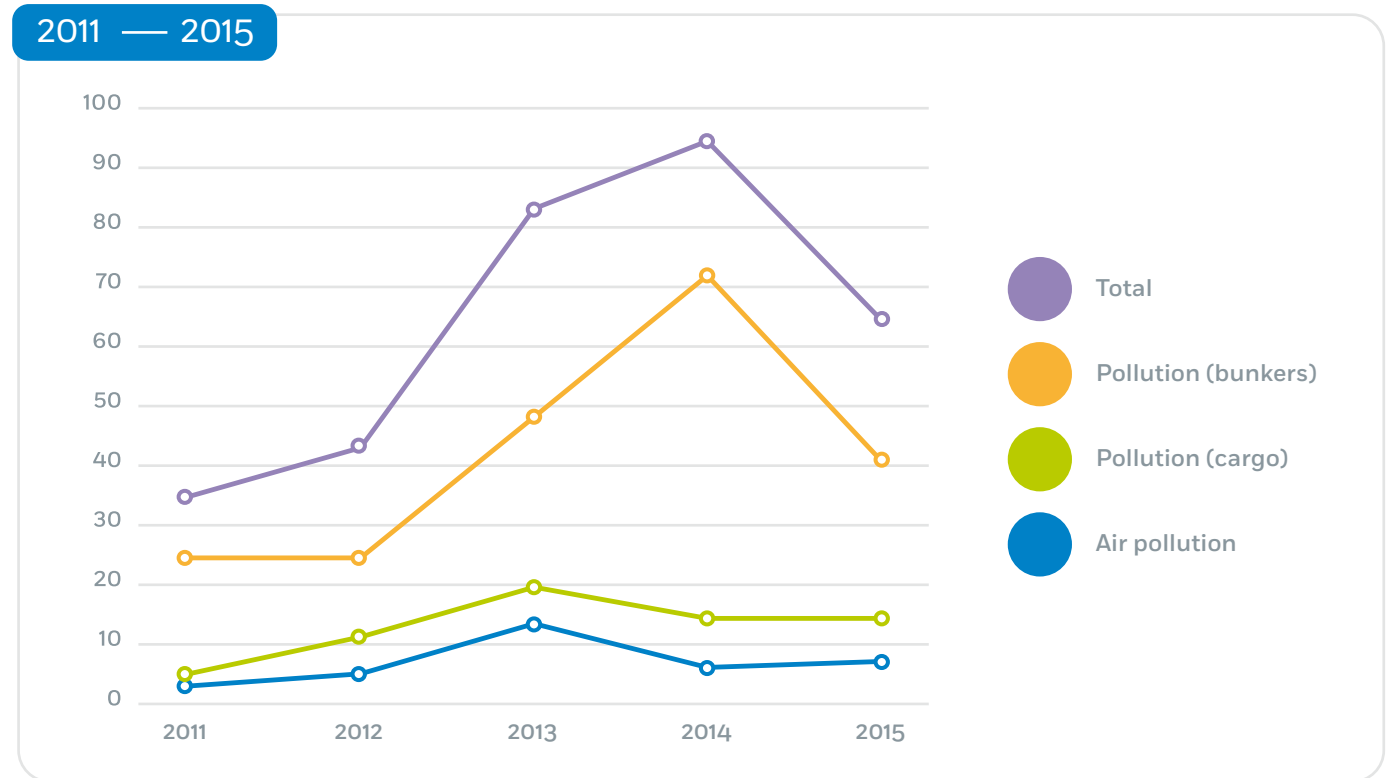
Loss of ship

With a total of almost 100, fishing vessels were the category of ship that had the highest number of ships lost over the period.

2011 —— 2015

Other ship	Passenger ship	Service ship	Cargo ship	Fishing vessel
9	12	18	23	99

During the night of 24/8/2015, the fishing vessel ST APOLLO grounded on a rocky shelf of the eastern entrance to a narrow sound. Its skipper and crew member abandoned onto a liferaft and were recovered by a lifeboat.
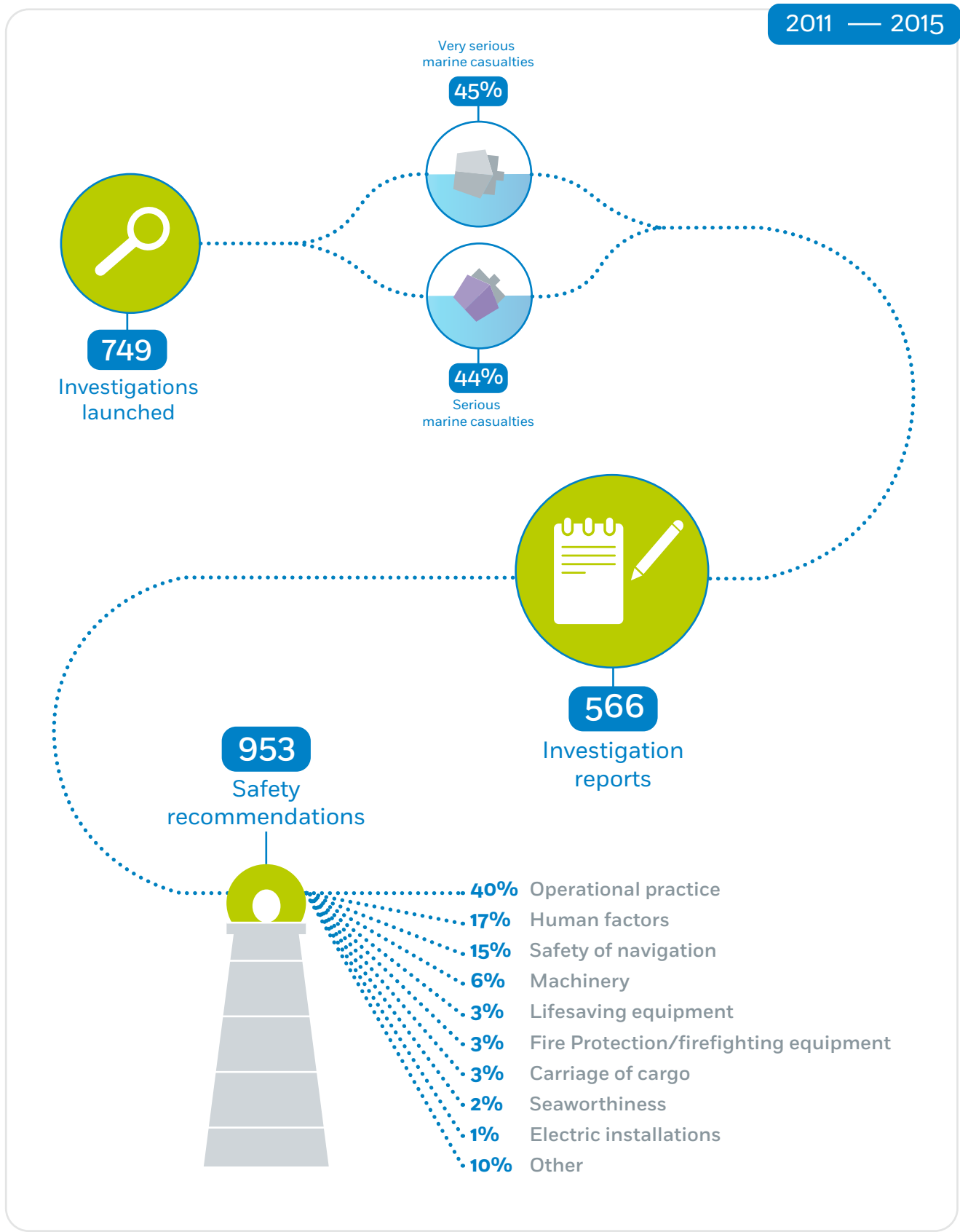
Environmental pollution

The majority of cases of environmental pollution were caused by the release of ship bunkers and other pollutants (e.g. cargo residues, lubricating or hydraulic oils). A decrease of such pollution was noted in 2015. Oil pollution response was mainly deployed following grounding/stranding or collision between ships.

Incidence of pollution by type

2011 — 2015

- Total
- Pollution (bunkers)
- Pollution (cargo)
- Air pollution

2015

Air Pollution **13%**

Pollution bunkers **64%**

Pollution cargo **23%**

Investigations launched and recommendations

A total of 749 investigations were launched by the AI bodies during the five-year period, 45% of these being related to very serious casualties and 44% to serious casualties. The 584 investigations that have concluded have issued a total of 953 safety recommendations. Investigation reports are published on the EMCIP Portal.

2011 —— 2015

Very serious
marine casualties
45%

749
Investigations
launched

44%
Serious
marine casualties

566
Investigation
reports

953
Safety
recommendations

40% Operational practice
17% Human factors
15% Safety of navigation
6% Machinery
3% Lifesaving equipment
3% Fire Protection/firefighting equipment
3% Carriage of cargo
2% Seaworthiness
1% Electric installations
10% Other

ABOUT THE EUROPEAN MARITIME SAFETY AGENCY

The European Maritime Safety Agency is one of the European Union's decentralised agencies. Based in Lisbon, the Agency's mission is to ensure a high level of maritime safety, maritime security, prevention of and response to pollution from ships, as well as response to marine pollution from oil and gas installations. The overall purpose is to promote a safe, clean and economically viable maritime sector in the EU.

emsa.europa.eu

Get in touch for more information

European Maritime Safety Agency
Praça Europa 4
1249–206 Lisboa Portugal

Tel +351 21 1209 200 **/** Fax +351 21 1209 210
emsa.europa.eu **/** Twitter EMSA_Lisbon