



## HULL INSURANCE



## ROGUE WAVES



Here is what can happen:  
31-1-2008, a ship beached  
at Blackpool (England),  
after being hit by a freak wave.



(adapted from "The Review" - Sept 2004)

In March 2001, within seven days of each other, the cruisers "**Bremen**" and "**Caledonian Star**", in the South Atlantic, had their bridge windows smashed by two 30-metre (trough-to-crest) high waves.

The MaxWave project was set up, to investigate the occurrence of "rogue" waves. The European Space Agency images gave an idea of the wave distribution.

**In only 3 weeks they identified 10 rogue waves.**

The biggest wave used as a test in **ship design** is only 15 metres.

Rogue waves average around 25 metres.



## INSTITUTE TIME CLAUSES - HULLS - 1



(the best known “all risks” Hull clauses)

They cover (Clause 6) :

- a) perils of seas, rivers, lakes or other navigable waters
- b) fire, explosion
- c) violent theft by persons from outside the vessel
- d) piracy



- e) contact with land conveyance, dock or harbour equipment or installation
- f) earthquake, volcanic eruption or lightning
- g) accidents in loading, discharging or shifting cargo or fuel



They also cover (at certain conditions) :

contact with aircraft, helicopters or similar objects, or objects falling therefrom



## INSTITUTE TIME CLAUSES - HULLS - 2

- n) contact with aircraft, helicopters or similar objects, or objects falling therefrom

From a magazine dated 21 Feb 2000: ... the Japanese Coast Guard responded to an SOS call from a sinking ship in the middle of the Sea of Japan.



... they found the crew of a trawler clinging to the hull of their overturned ship.

... each member of the crew told the same tale: their boat was struck by a large cow that had fallen out of the cloudless sky, leading the authorities to suspect the story had been concocted to cover up foul play.

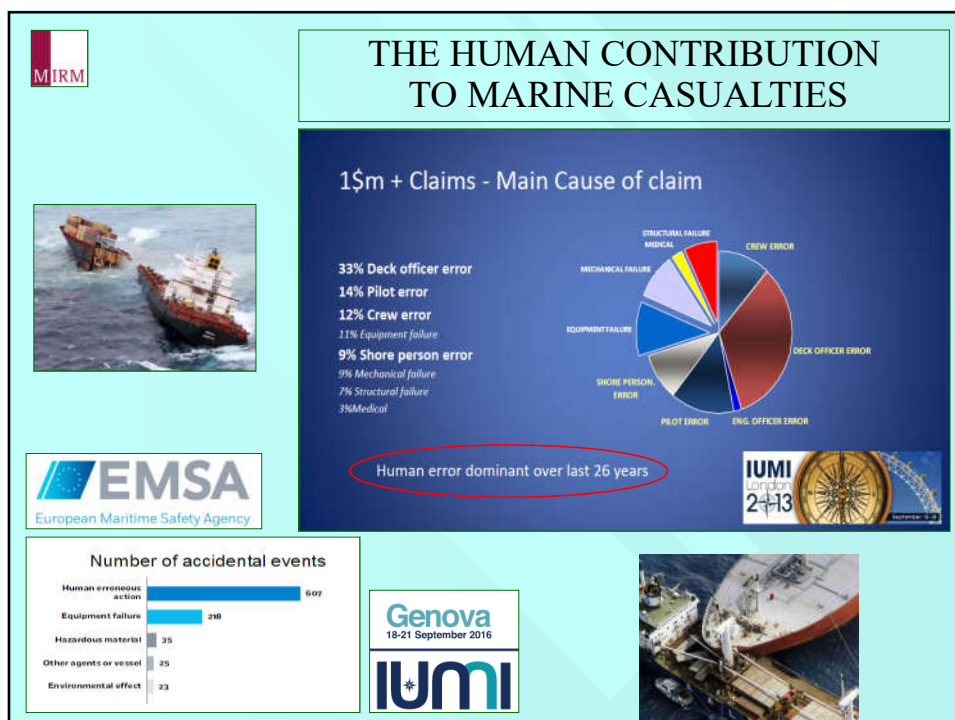


A call came in from the Russian Air Force, that could solve the mystery. On the same day a Russian cargo plane was preparing for take off in Eastern Russia. The crew of the plane noticed a cow grazing beside the runway. Hungry for the expensive meat, they dragged the cow into the cargo hold and took off, intending to have a feast at their destination.

Once in the air, the disoriented cow went berserk, kicking at anything and anyone within reach.

Before the cow could do any serious damage, the crew opened the cargo hatch and pushed the cow out at 10,000m over the Sea of Japan.





## RIVIERA PRIMA - VIKING PRINCESS - 1



“***Riviera Prima***”, Italian flag, owned by CO.MA.P. (Monta & Magliveras), entered service in November 1962, chartered to Caribbean Cruise Line, using the vessel on 2 to 14 day cruises from US East Coast ports, including New York, Boston, Baltimore, Charleston, Jacksonville, Fort Lauderdale, and Miami.



In 1964, the ship was sold to Norwegian Owners. As the “***Viking Princess***” (Norwegian), with Italian crew (for passenger service) and Norwegian deck and engine crew,

She soon went back to cruising and she continued until 8th April 1966, when she caught **fire** 70 miles south of Cuba.



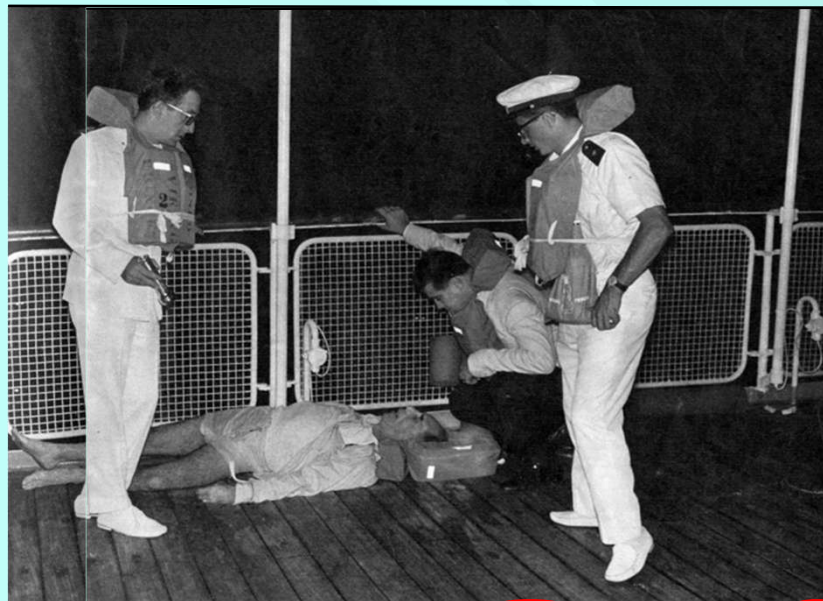
Two passengers were lost in the blaze (heart attack), and the ship was later towed and scrapped in Spain.

From “THE CRUISE SHIP PHENOMENON IN NORTH AMERICA”

Voutsinas aboard *Yarmouth Castle*, Captain Thoreson and his crew were widely praised for their courage and seamanship in the face of this disaster, and while 2 people did lose their lives in the fire, the more important fact is that 494 people were safely evacuated, taken first to the United States Naval Base at Guantanamo Bay, Cuba, and then quickly air-lifted to Miami.



## RIVIERA PRIMA - VIKING PRINCESS - 2



geri stremati da infarto. Uno di questi, Alexander Brook, è stato adagiato sul ponte della “Viking Princess”. Lo asserivano i due commissari Cusiman e Salcioli

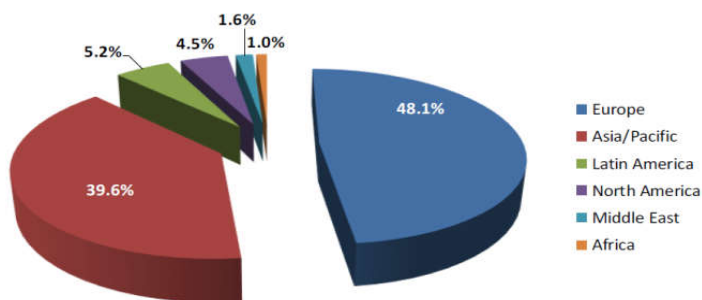


## HULL INSURANCE REGIONS



### Hull Premium 2016 – by region

Total estimate: 7 USD billion / Change 2015 to 2016: -10%



23



## MAIN HULL MARKETS



From IUMI 2017  
The largest Hull markets  
- 2016 (2015).  
In US \$ million



London	\$	<b>1,578</b>	(1,719)
Singapore	\$	<b>824</b>	(704)
China	\$	<b>755</b>	(888)
Nordic	\$	<b>565</b>	(655)
Japan	\$	<b>539</b>	(564)
Italy	\$	<b>265</b>	(286)
USA	\$	<b>257</b>	(286)
France	\$	<b>281</b>	(271)
Korea (Rep. of)	\$	<b>193</b>	(232)
Mexico	\$	<b>144</b>	(120)
Netherlands	\$	<b>128</b>	(151)
Spain	\$	<b>108</b>	(126)
Germany	\$	<b>96</b>	(108)



## TANKERS - 2

### Liquefied Gas Tankers

Lake Charles, La, is the largest LNG terminal in the USA, controlled by **BG** (British Gas).

The terminal is connected to the Gulf of Mexico by an 80 km ship channel.

The Lake Charles facility can handle the world's largest LNG vessels, which reach up to 975 feet long.



LNG carriers have made 40,000 ocean voyages over the course of almost 40 years without a single loss of life or cargo.

**SNAM** - LNG Terminal of Monfalcone  
Sept. 1996 Referendum : 62% voted NO

... so we continue using coal instead ...



## TANKERS - 3



### Tankers are good ships

During the Iran - Iraq War (1980 - 1988) over 500 tankers were bombed or “Exoceted”: 62 became CTL, but not one actually sank.



Tanker “***Knock Nevis***”  
260,851 GRT - 564,763 DWT  
458 m long

She was the world’s biggest mechanically propelled moving object.

She was demolished in 2010.



## TANKERS - 4

Iranian oil tanker “***Sanchi***” (Panama, GRT 85,462, double hulled, built 2008), carrying natural-gas condensate,

caught fire in the East China Sea, in the mouth of the Yangtze River Delta, about 160 nm off the coast of Shanghai, on **January 6th 2018**,

after colliding with Hong Kong-flagged Chinese bulk carrier “***CF Crystal***” (41,073 GRT, built 2011), carrying grain from USA to China.

None of the tanker's 32 crewmembers survived.  
The 21 crewmembers of the bulk carrier were rescued.



## BULK CARRIERS - 1



### An Underwriter's observations

- They are the most common ships (35% of world's fleet)
- average tonnage GRT 75,000
- large, long up to 250 m.
- specially suitable for transport of minerals
- mineral powders : easy corrosion
- after 15 years : problems of safety
- structural damages
- breaking up
- no problems of pollution
- maintenance very important
- moral risk



Double-hulls are supposed to be mandatory for new bulk carriers from July 2006



From IUMI Newsletter April 2004 :

Fatigue related side structure defects in bulkers are more than **twice** as frequent on double hulls than on single hulls, a report on LR defects records reveals.

## BULK CARRIERS - 2



**"New Carissa"**  
Wood chip  
carrier  
Flag: Panama  
44,527 dwt

1999: she stranded and then broke up off the coast of Oregon. The fuel aboard the vessel was set afire.

The bow section was towed out to sea. After 70 artillery rounds from a Navy destroyer, a US Navy nuclear submarine had to be called in to fire a torpedo that provided the knockout blast.



## VEHICLES CARRIERS - 1



**"Hual Europe"**  
56835 grt  
Yokohama - Jamaica  
3885 cars - \$ 80 million



1 Oct. 2002 : runs aground in Japan during a typhoon.

All crew saved.



One year later ...





## VEHICLES CARRIERS - 2



14/12/2002 - 30 miles off SE England.  
Ro-Ro Car Transporter "**Tricolor**" (NIS-NV-1987-49,792 grt), carrying 2862 cars (BMW's, Volvos and Saabs, insured for US\$ 40m), **collides** in thick fog with Containership "**Kariba**" (BHS-BV-1982-20,829 GRT) and sinks.



Insurers for the "**Kariba**" (the ship had the Tricolor on her starboard side and failed to give way) could find themselves facing a substantial bill.



16/12/2002 - Cargo carrier "**Nicola**" (NA-LR-2000 -2,998 grt) **collides with the wreck** and remains stuck on top of the capsized hull for several hours, before being pulled free by tugs.



2/1/2003 Bulk-oil Carrier M/V "**Vicky**" (Tu-NV-1981- 43,487 grt), with 70,000 tons of kerosene, **collides with the wreck**.

Salvage operation (cut into 9 pieces by the diamond wire-cutting system) will cost \$40m.

## CONTAINER SHIPS - 1

The "**Alva Star**" penetrated the island of Zakynthos to a depth of 25 metres.

"**Alva Star**" - 1994  
38,400 GRT - m.235 - 2,987 TEU  
Oct. 3, 2002  
She runs into a cliff of Zakynthos Island (cause: human error)  
**At full cruising speed.**



## CONTAINER SHIPS - 2

Ultra large containership “*Maersk Honam*”,  
GRT 153,153 - 15,262 TEU, built 2017,  
Singapore flag.

6th March 2018 - sailing from Singapore to  
the Mediterranean, via Suez.

In the Arabian Sea (900 nm south of Oman):  
serious fire in a cargo hold.

Of the 27 crewmembers 5 died.

Towed to the port of Jebel Ali (UAE)



## PASSENGER SHIPS - 1

### Features may include

- additional forward holds for the carriage of cargo, access to which is by lift-on/lift-off.

### Passenger Ships include

- Ferry

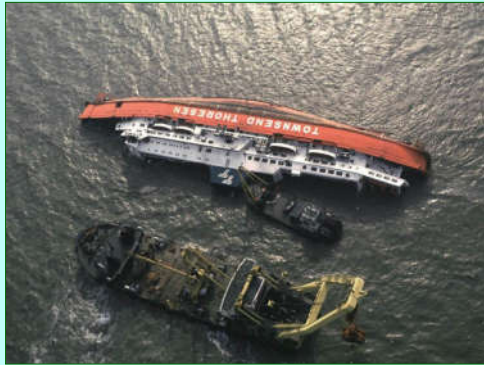


A ship designed to carry passengers, with limited accommodation, on a short-haul service. Because of frequent port visits, they must be very manoeuvrable, usually being fitted with twin screws, variable pitch propellers and bow thrusters.



## PASSENGER SHIPS - 2

Ro-ro ferry “Herald of Free Enterprise” was working the route between Dover and the Belgian port of Zeebrugge.



The court suspended the certificate of Captain David Lewry for 1 year and the certificate of the Chief Officer for 2 years.



On the evening of the 6th March 1987 the ship left Zeebrugge with its **bow-door open**. There were 459 passengers and 80 crew members

The sea immediately flooded the decks, and within minutes it was lying on its side in shallow water. **193** passengers and crew died.

The bosun’s assistant was asleep, when he should have been closing the bow-door.

**BBC Home**

### Hundreds trapped as car ferry capsizes

Forty-nine people have been confirmed dead - and dozens are missing - after a car ferry capsized just outside the Belgian port of Zeebrugge.



## PASSENGER SHIPS - 3

### About Ferries

In some areas, where security measures leave much to be desired, ferries are not a good risk.



Philippines - 20th Dec. 1987 - Ferry “Doña Paz” (1963), overcrowded, collides with tanker “Vector” (carrying gasoline and other oil products, which started to burn). **4,374** (plus 11 from the “Vector”) are estimated to have died (only 24 survivors): **the deadliest peacetime maritime disaster of the 20th century** (Time Magazine)



Philippines - 11th April 2002 - 65 m SE of Manila. “Maria Carmela” catches fire and sinks  
246 people rescued, at least 23 died.



Caspian Sea - 22nd October 2002 - Storm, with waves up to 6m  
“Mercuri 2” (built 1985 - 11,450 GRT) sinks.  
Out of 51 people, 43 died.



## PASSENGER SHIPS - 4

### About Ferries



“Le Joola” (built in 1990 - 2087 grt)  
After one year of repair work, she sails again  
on 10th September 2002.  
She is the only vessel trading between No.  
and So. Senegal. She is run by the Army.  
Max. No. of passengers : **550**

On 26-9-2002 she sails with **797** listed (official) passengers, plus a crew of 52.

At the intermediate port of Carabane **at least 1034** people  
are on board, **plus** those without ticket and **plus** many  
children up to 5 years, who do not pay.

The vessel develops a heavy list.



The same day,  
during a storm,  
off the Gambian coast, the vessel capsizes in less  
than 5 minutes. People saved : **104**.



Some sources referred to the vessel as a “river vessel”. She was  
actually designed for “shortsea shipping” (up to 50nm off the coast).



## PASSENGER SHIPS - 5

### About Ferries

“Rabaul Queen”, built  
in Japan in 1983,  
bought in 1998.  
Estimated 350  
passengers (probably  
more than 500 ...)

No life jacket drills  
demonstrations.

Life jackets were stored  
in locked cabinets.



2nd Feb 2012: hit by 3 large waves in the Solomon Sea (Papua New Guinea).  
Capsized and sank.

Dead: unknown, but estimated at 146 to 165.





## PASSENGER SHIPS - 6

### About Ferries



Tanzanian ferry "Skagit"

18th July 2012

Carrying about 281 passengers and 6 crewmembers, she ran into high winds and heavy seas. She sank near the island of Zanzibar.

146 passengers were rescued.

Mv "Skagit", a former Washington State Ferry



## PASSENGER SHIPS - 7

### About Ferries



16 August 2013, off the Cebu province in the Philippines.  
Cargo ship  
"Sulpicio Express Siete"  
collides with ferry  
"St. Thomas Aquinas" (1973).

Many people jump into the sea.

The ferry sinks 30 minutes after the accident.

61 died in the sinking  
59 missing.





## PASSENGER SHIPS - 8

## About Ferries



Ferry "**Sewol**"  
built 1994 GRT 6825  
**16-4-2014** Incheon - Jeju  
Island (South Korea)



The Third Officer on duty on the bridge is a 26 years old woman with 1 year's experience.

After - a very tight turn which may have dislodged some heavy cargo,  
or - a collision with a rock, the ship **sinks**.



476 people are believed to have been on board, including 352 High School students.

The passengers are instructed to "stay inside and wait, because the cabins are safer", as the ship leans to one side and begins to sink.

In 2½ hours the ferry capsizes and is submerged.

**150 passengers die, 152 are missing** and 174 are rescued.

On Friday the school's vice principal, rescued from the ferry, is found dead, **hanging from a tree**, on a nearby island, where many of the relatives of missing passengers are staying.



## PASSENGER SHIPS - 9



**Passenger/Ro-Ro Cargo**

**"Estonia"**

Tallinn - Stockholm  
28 September 1994



- ❑ Visor-style bow door torn off by heavy seas
- ❑ accumulation of water on the car deck
- ❑ resulting loss of stability
- ❑ she sinks in 5 minutes

= **989 people die**

**Europe's worst passenger  
maritime disaster since  
the Second World War.**



## PASSENGER SHIPS - 10

From “ISU Salvage World” (Dec. 2010)

(my underlining)

### United States

More than 3000 passengers and 1000 crew on the “Carnival Splendor” were stranded offshore California after an engine room fire led to loss of power. The US Navy airlifted crates of supplies onto the stricken vessel from the carrier USS “Ronald Reagan”. The ship was sailing from Long Beach to Mexico on a 7 day cruise. The vessel was towed to San Diego by tugs.



Evacuating passengers from a mega cruise ship in a serious incident is a major concern for ISU members.



## PASSENGER SHIPS - 11

We were just saying that evacuating passengers from a mega cruise ship in a serious incident is a major concern for ISU members.

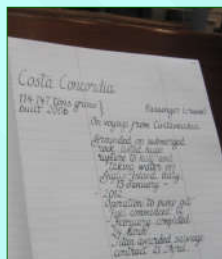
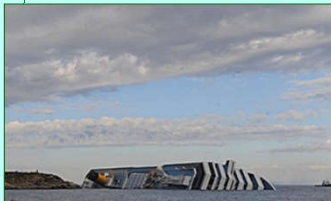
“Costa Concordia” (built 2005)

Giglio Island, Italy - 13th January 2012

3206 passengers - 1023 crewmembers

Struck a rock and grounded

32 died (mainly drowned) (\*)



(\*) that's 0.75% of the people onboard.

An old American Captain put it this way:  
**99.25% were saved.**

Will they ever listen? (ships are too big)



ISU executives have expressed concern for some years about the challenges presented by the salvage of massive cruise ships and containerships.

## PASSENGER SHIPS - 12

### "Costa Concordia"

This will be a big loss for Marine Insurers.

#### Lloyd's of London

will pay most of the loss: they are the main reinsurers of the companies on the Italian policy.

Lloyd's List is still "the newspaper of Lloyd's".



This is what Lloyd's List thinks of this accident:



... genuine examples of bravery and professionalism displayed by members of the crew ...



### COSTA CONCORDIA CREW VOTED BEST "SEAFARER OF THE YEAR" AT LLOYD'S LIST GLOBAL AWARDS 2012

Hong Kong, September 28th 2012 - Costa Concordia crew has won the "Seafarer of the Year" award at the "Lloyd's List Global Awards 2012".

"Lloyd's List Global Awards" include 14 different categories; winners are voted by a judging panel of 10 international shipping experts (<http://awards.lloydslist.com/global-awards-2012>)

The awards ceremony was held last night at London's Lancaster Hotel at a gala evening attended by international shipping industry leaders. "Seafarer of the Year" award 2012 was officially delivered to a delegation of Costa Concordia crew - composed by Sheila Canlas, Assistant Bar Manager and Janice Aguda, Waitress - together with Pier Luigi Foschi, Chairman of the Board of Costa Crociere S.p.A., Alessandro Centrone, Vice President Corporate Human Resources of Costa Crociere S.p.A., Marlon Roño, President of Meranti Magsaysay Institute, and Alexandria Maxwell Cicala, Head of Innovation Department of Meranti Magsaysay Institute. Meranti Magsaysay Institute is the leading human resource provider of the global cruise lines and hospitality industries, managing 2 Costa Cruises training schools, one in Indonesia and one in the Philippines.

"Seafarer of the Year" award was assigned for 2012 to all Costa Concordia crew members for the following reasons: "When the cruise ship Costa Concordia struck a reef off the island of Giglio on January 13, international attention inevitably focused on the actions of the master. But what was largely missed in the media storm that ensued were the genuine examples of bravery and professionalism displayed by members of the crew. There were 4,229 people on board the vessel at the time of the casualty and while the tragic loss of life caused by this regrettable incident will rightly be the subject of forensic investigations for some time to come, it should not be forgotten that without the skilled response of the majority of the crew, the loss of life could have been far higher. Our judges this year concurred with the view of Filipino crewing suppliers Magsaysay who nominated their crew aboard but also wanted to acknowledge the bravery of others, that the actions of the professional and honorable seafarers that night should be publically recognised".

## PASSENGER SHIPS - 13

### CBSNEWS

AP - September 28, 2012, 9:25 AM

### Costa Concordia crew gets "Seafarer of the Year" award



ARCHIV: Das havarierte Kreuzfahrtschiff "Costa Concordia" liegt in Schräglage vor der Küste der Insel Giglio in Italien (Foto vom 05.02.12). Die Ausweisung des Stimmzettelklosters des Unglückschiffes "Costa Concordia" nimmt nach Angaben der dailiensischen Staatsanwaltschaft bis zu drei Monate in Anspruch. Vor einer ersten Anhörung am Samstag (03.03.12) in Grosseto ersuchte Staatsanwalt Francesco Versuso im Rundfunk, bei der Aufarbeitung der Katastrophe vom 13. Januar naheliegender vermiedlich "verfahrenstechnische Beispiele" des gesamten ersten Tages ein. (zu dapo-Ted) Foto: Pier Paolo Cito/AP/Adp

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MILAN - The crew of the Costa Concordia has been awarded the "Seafarer of the Year" award at the Lloyd's List Global Awards ceremony for "the courage and professionalism" demonstrated by crew members when the ship hit rocks and capsized last January.

### The Telegraph

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### Costa Concordia wins Lloyd's 'Seafarer of the Year' award

The crew of the Costa Concordia, the huge cruise liner which capsized off the coast of Italy in January killing as many as 32 people, has won the Lloyd's List 'Seafarer of the Year' award.



The Costa Concordia sank in January. Photo: ALAMY

By Our Foreign Staff

5:44PM BST 27 Sep 2012

The citation for the award said the crew provided "true examples of courage and professionalism" during the dangerous night evacuation of the ship after it was fatally holed by a rock off the Tuscan island of Giglio.

A statement on the Lloyd's List website said: "When the cruise ship Costa Concordia struck a reef off the island of Giglio on January 13,

international attention inevitably focused on the actions of the master. But what was largely missed in the media storm that ensued were the genuine examples of bravery and professionalism displayed by members of the crew.

!!! 16 year of jail for the Captain !!!





## PASSENGER SHIPS - 14

### THE FUTURE



***“The World”*** (2002)

Company: ResidenSea - Flag: Bahamas

“Travel the World . . . without leaving home”

Part of the capital is from - CNA (US insurance company) and  
- Silver Cruises (Italian family Lefebvre D'Ovidio)

Cost \$280m - GRT 43,000 - Length: 196 m - 12 decks - Speed 19 knots  
- 165 private luxury **onboard residences** - Crew 320.

Typical 40,000 ton ship: 1,500 passengers

***“The World”*** (including “guests”): 656 passengers



Residents have a say in the ever-changing itinerary

Prices: US \$2,255,000 to US \$6,840,000

Annual maintenance fees: \$61,000 to \$241,000

some flats are still available !