



# **SNS COLLEGE OF TECHNOLOGY**

**(An Autonomous Institution)**

**COIMBATORE-35**

**Accredited by NBA-AICTE and Accredited by NAAC – UGC with A++ Grade  
Approved by AICTE, New Delhi & Affiliated to Anna University, Chennai**



**DEPARTMENT OF ELECTRICAL AND ELECTRONICS ENGINEERING**

**COURSE NAME: 16GE301 Professional Ethics**

**IV YEAR / VII SEMESTER**

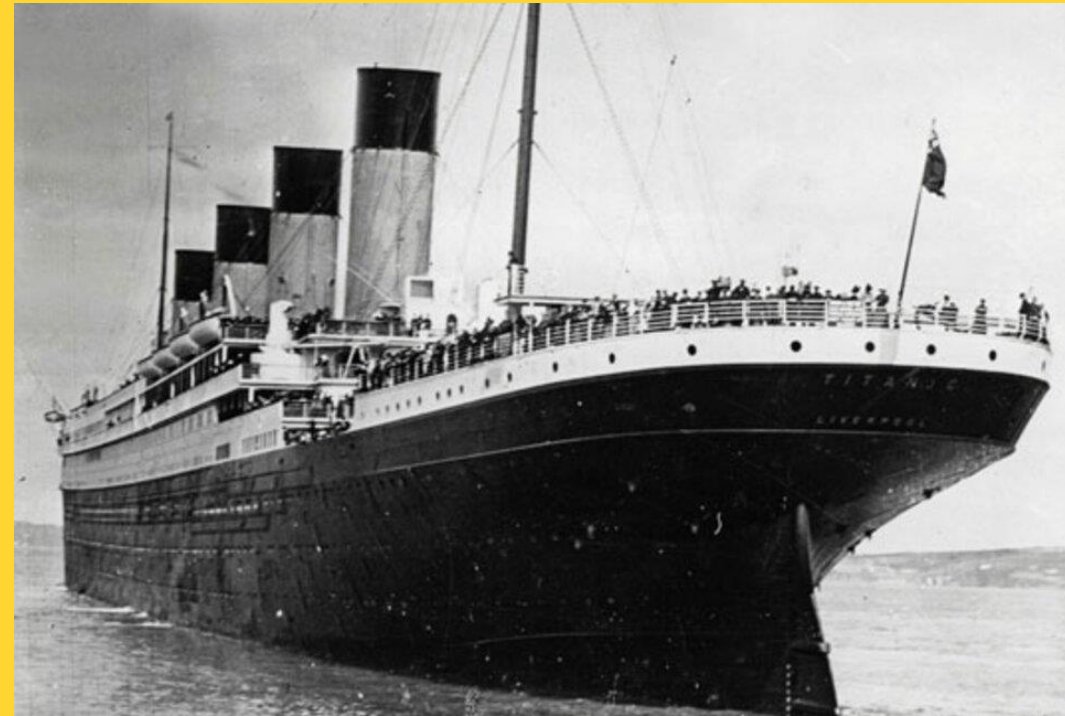
**“The Titanic Disaster” **CASE STUDY****





# What We'll Discuss

TOPIC OUTLINE



- Overview
- Incident
- Sequence
- Cause
- Response
- Counter measures
- Knowledge Comment
- Background





# The Titanic Disaster



**Date** April 15, 1912

**Place** East 1,610km of Boston, Massachusetts, the U.S.A

**Location** Saint Jones offing 604k, Newfoundland



| History   |   |
|---|---|
|  | United Kingdom  |
| <b>Name</b>   | RMS <i>Titanic</i>  |
| <b>Owner</b>  |  White Star Line   |
| <b>Operator</b>   | White Star Line   |
| <b>Port of registry</b>   |  Liverpool, England  |
| <b>Route</b>  | Southampton to New York City  |
| <b>Ordered</b>  | 17 September 1908   |
| <b>Builder</b>  | Harland and Wolff, Belfast  |
| <b>Cost</b>   | £1.5 million (£150 million in 2019)   |
| <b>Yard number</b>  | 401   |
| <b>Way number</b>   | 400   |
| <b>Laid down</b>  | 31 March 1909   |
| <b>Launched</b>   | 31 May 1911   |
| <b>Completed</b>  | 2 April 1912  |
| <b>Maiden voyage</b>  | 10 April 1912   |
| <b>In service</b>   | 1912  |
| <b>Out of service</b>   | 15 April 1912   |
| <b>Identification</b>   | UK official number 131428 <sup>[1]</sup><br>code letters HVMP <sup>[2]</sup><br><br>Wireless call sign MGY |
| <b>Fate</b>   | Struck an iceberg at 11:40 pm (ship's time) 14 April 1912 on her maiden voyage and sank 2 h 40 min later on 15 April 1912; 111 years ago  |
| <b>Status</b>   | Wreck   |





# Overview



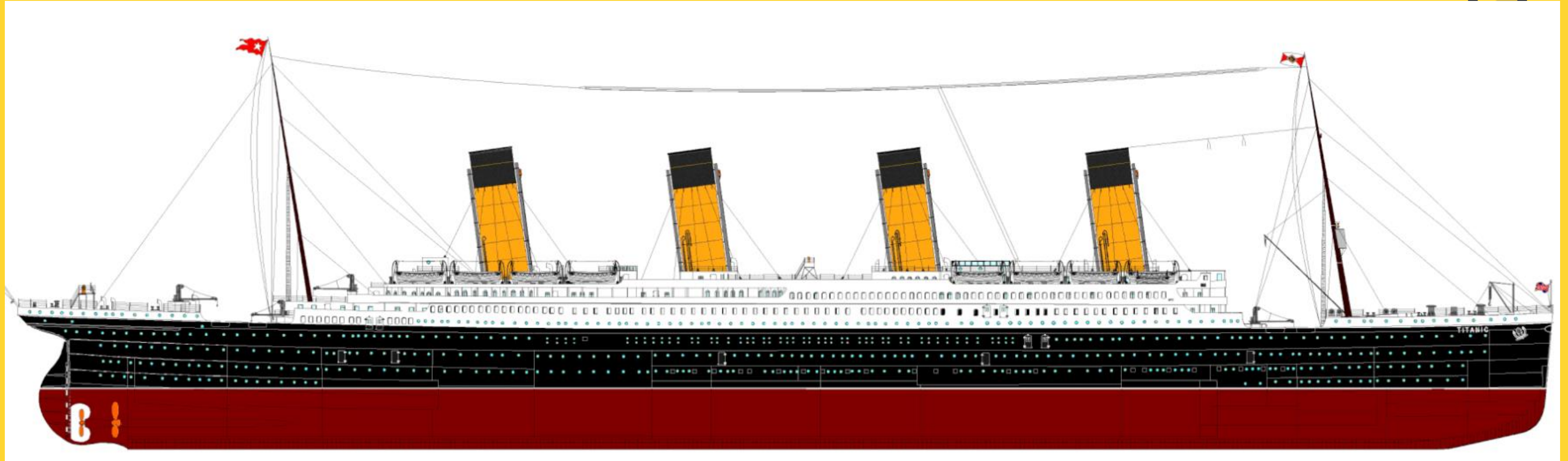
The luxury passenger liner Titanic, which was said to be unsinkable, on its way from England to New York collided with an iceberg and sank.

Titanic, despite of the multiple iceberg warnings it had received, she did not slow down.

When the crewmembers discovered an iceberg, they steered the ship to evade it, but the vessel could not avoid the collision.

A large quantity of seawater flooded into the ship due to damage to a major section of the hull and the ship sank.

Insufficient number of lifeboats and the late call for help led to 1,517 deaths.





Titanic, which the entire world was keeping its eye on, was thought to be an unsinkable ship. On April 10, 1912, it left the British port of Southampton toward New York in the US on her maiden voyage with about 2,220 passengers and crew on board a month after its original scheduled departure.



After starting on the voyage, Titanic received warnings that there was drift ice ahead from another ship twice, but she kept traveling at a high speed of 20.5 knots without slowing down, as the departure had been further delayed by an hour.



At 23:40 on April 14, the crew discovered an iceberg 450m ahead and steered the ship and slowed down, but could not prevent the ship from grazing the iceberg.

After colliding with the iceberg, they did not immediately ask for rescue via the wireless, and some passengers did not even know about the collision.



Titanic sent help through the wireless for the first time at 0:14. The nearest ship, the California, was at 19 NM (nautical miles, about 35km) from Titanic, had already turned off the wireless at midnight.



The Carpathia, which was 56 NM away, received it and headed its way to rescue.

Titanic launched a signal flare at 0:44, but the California that was traveling nearby did not take it as a rescue signal and left without stopping. Titanic sank at 2:20am.

The Carpathia finally arrived at 4:10, two hours after the ship had submerged.







## Cause for the Collision



The direct cause of this accident was a collision with an iceberg. The hull consisted of a large number of compartments, an unusually of building a ship at the time but the collision damaged the ship by a tear in the side and many compartments were destroyed upon contact.

The ship then could not depend on the momentum by other compartments that would have allowed her to correct its posture.

In addition, there were causes that Titanic ignored warnings of an iceberg twice, that the amount of drift ice was increased because the departure was delayed by one month, and crew did not use binoculars for monitoring even in the poor visibility at night.

Reasons for the large number of victims were insufficient the number of life-boats, the crew not sending a rescue signal immediately after the collision from the overconfidence in the hull with many compartments, and a nearby ship the California turning off their wireless and not knowing the meaning of the lamp signal.





## Response and Counter measures



Many safety measures enacted after the incident. For example, USCG (US Coastal Guard) came to offer data and information on icebergs for safe navigation.

The crew of the ship, of course, learned to catch warnings of icebergs seriously.

Titanic issued a rescue signal, but it was already late, way too late, due to overconfidence that the hull consisting of many compartments was safe.

In addition, there were not enough lifeboats and even some of them took off without reaching loading victims to their capacities.





## Knowledge Comment



A myth of safety easily gives people a faulty image of safety.

The people put too much confidence in the ability of people, machines, and systems. As for the particularly technical change, only improvements are emphasized, and a preparation for the worse case is overlooked.

In addition, it will lead to a large failure unless people listen to warnings without putting too much confidence and overlooking actual ability.

It is important to prepare sufficient safety measures and minimize effects in case of an accident. It may invite the worst situation when enough preparations are not taken.



# Background



Because Titanic aimed for the record of the shortest Atlantic crossing on her maiden voyage, and she was reluctant to slow down even upon receiving warnings of icebergs.



The reputation of "unsinkable ship," with its hull structure consisting of many watertight compartments, also led to no one even think that There was no weather forecasting or radar in those days and Titanic traveling at high speed at night, and foreseeing the accident was difficult.

It seems, however, that the number of victims could have been largely reduced if there were sufficient safety measures such as loading enough lifeboats.





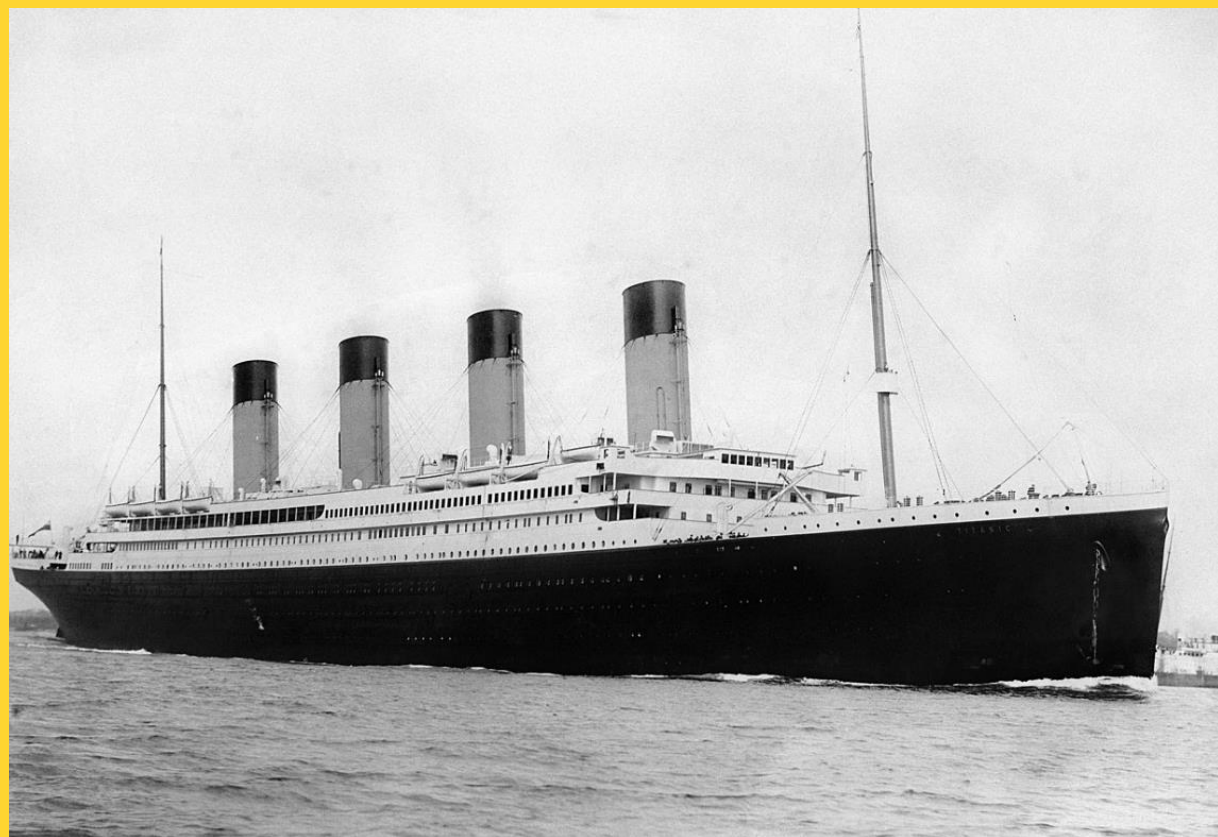
**RMS *Titanic*** was a British passenger liner, operated by the White Star Line, that sank in the North Atlantic Ocean on 15 April 1912 after striking an iceberg during her maiden voyage from Southampton, England, to New York City, United States.

Of the estimated 2,224 passengers and crew aboard, more than 1,500 died, making it the deadliest sinking of a single ship up to that time.



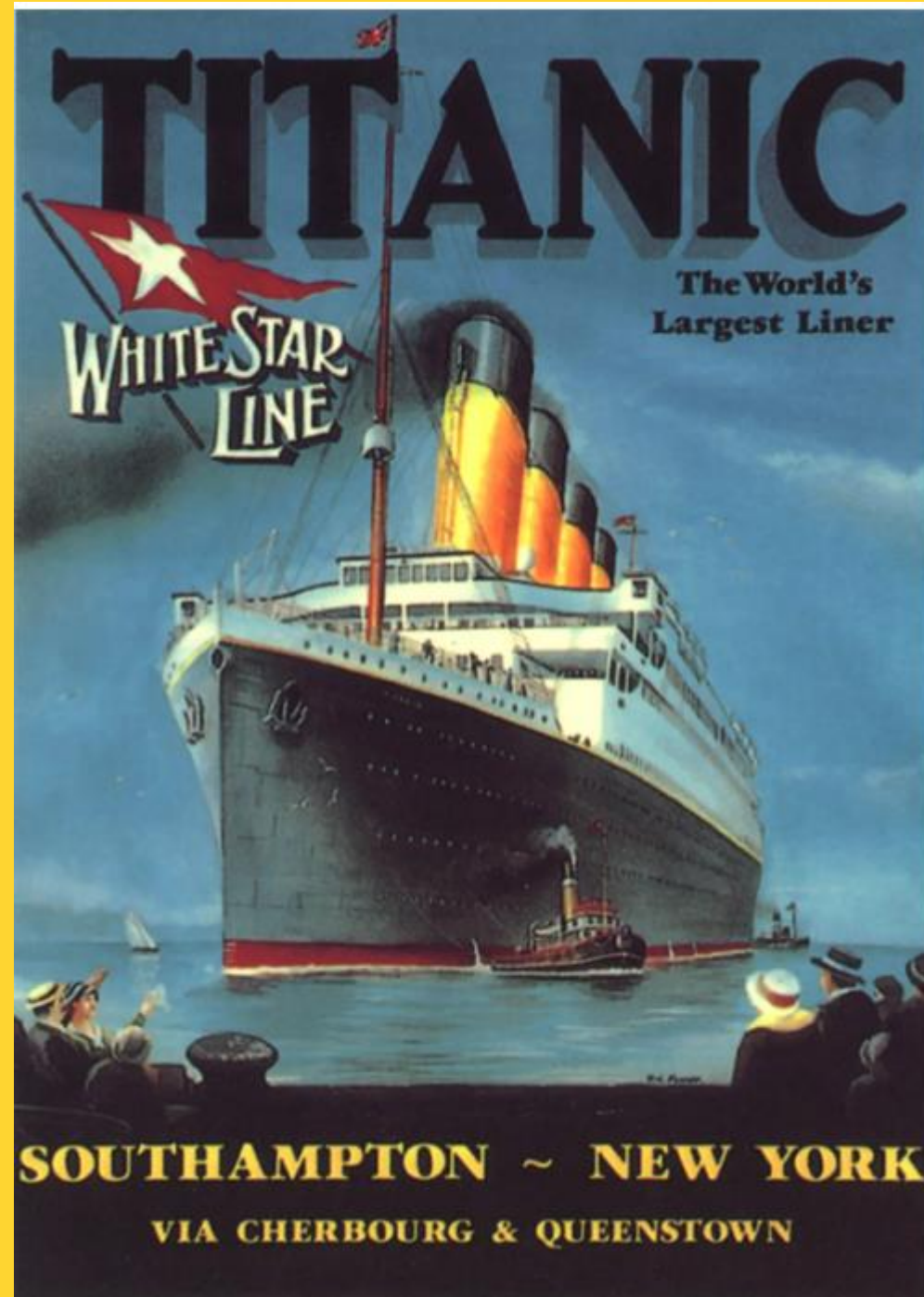
It remains the deadliest peacetime sinking of an ocean liner or cruise ship. The disaster drew public attention, spurred major changes in maritime safety regulations, and inspired many artistic works.

RMS *Titanic* was the largest ship afloat at the time she entered service and the second of three *Olympic*-class ocean liners built for the White Star Line. She was built by the Harland and Wolff shipyard in Belfast.



Thomas Andrews, the chief naval architect of the shipyard, died in the disaster. *Titanic* was under the command of Captain Edward Smith, who went down with the ship.

The ocean liner carried some of the wealthiest people in the world, as well as hundreds of emigrants from the British Isles, Scandinavia, and elsewhere throughout Europe, who were seeking a new life in the United States and Canada.



The first-class accommodation was designed to be the pinnacle of comfort and luxury, with a gymnasium, swimming pool, smoking rooms, high-class restaurants and cafes, a Turkish bath, and hundreds of opulent cabins.

A high-powered radiotelegraph transmitter was available for sending passenger "marconigrams" and for the ship's operational use. *Titanic* had advanced safety features, such as watertight compartments and remotely activated watertight doors, contributing to its reputation as "unsinkable".

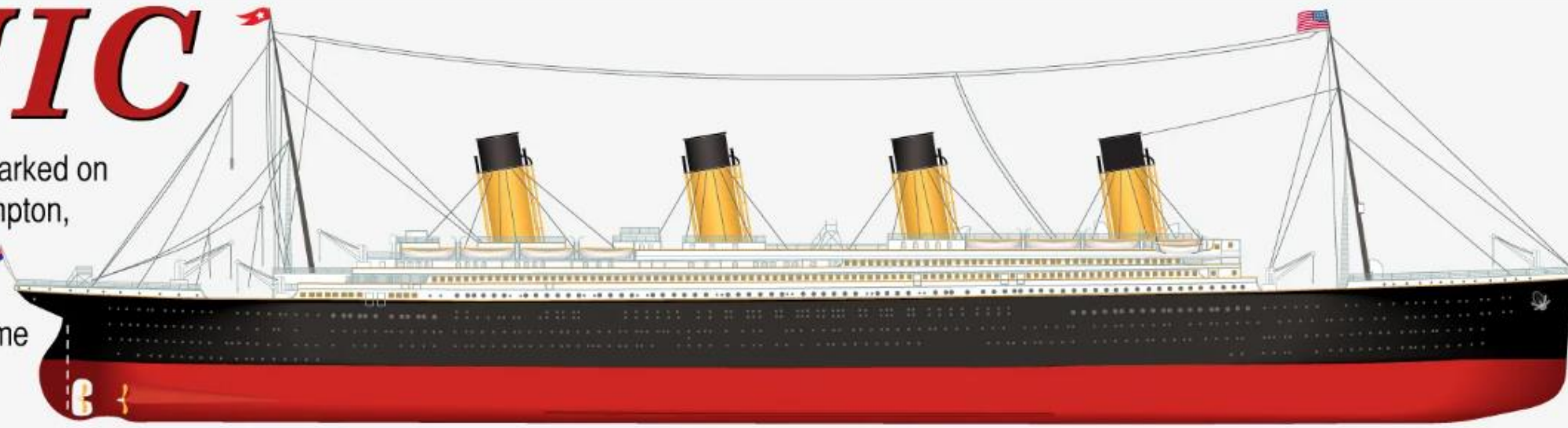
*Titanic* was equipped with 16 lifeboat davits, each capable of lowering three lifeboats, for a total of 48 boats. However, she actually carried only 20 lifeboats, four of which were collapsible and proved hard to launch while she was sinking (Collapsible A nearly swamped and was filled with a foot of water until rescue; Collapsible B completely overturned while launching). Together, the 20 lifeboats could hold 1,178 people—about half the number of passengers on board, and one-third of the number of passengers the ship could have carried at full capacity (a number consistent with the maritime safety regulations of the era). When the ship sank, the lifeboats that had been lowered were only filled up to an average of 60%.





# TITANIC

On April 10, 1912, the RMS *Titanic* embarked on its maiden voyage, sailing from Southampton, England, to New York City. Four days later the luxury liner struck an iceberg, and early the next day it sank, killing some 1,500 people. The tragedy captured the world's imagination and made the *Titanic* an enduring legend.

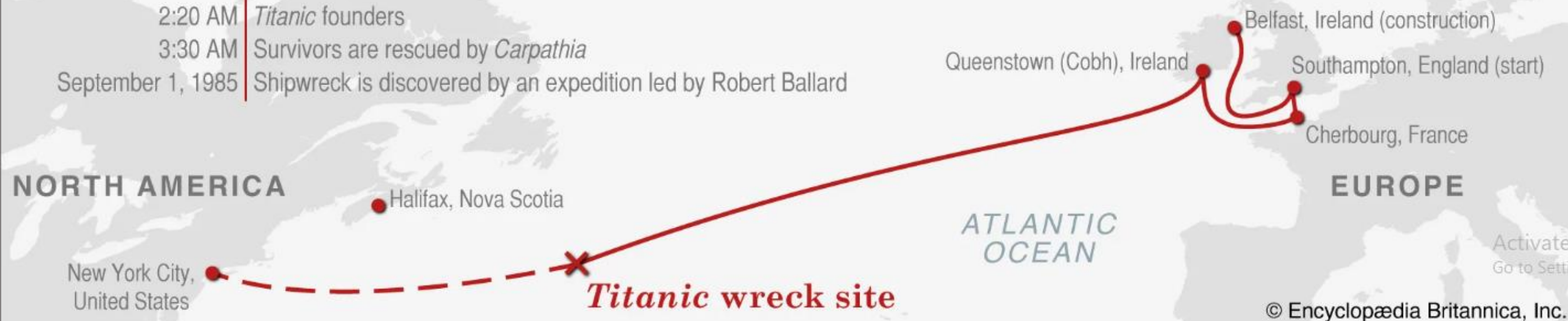
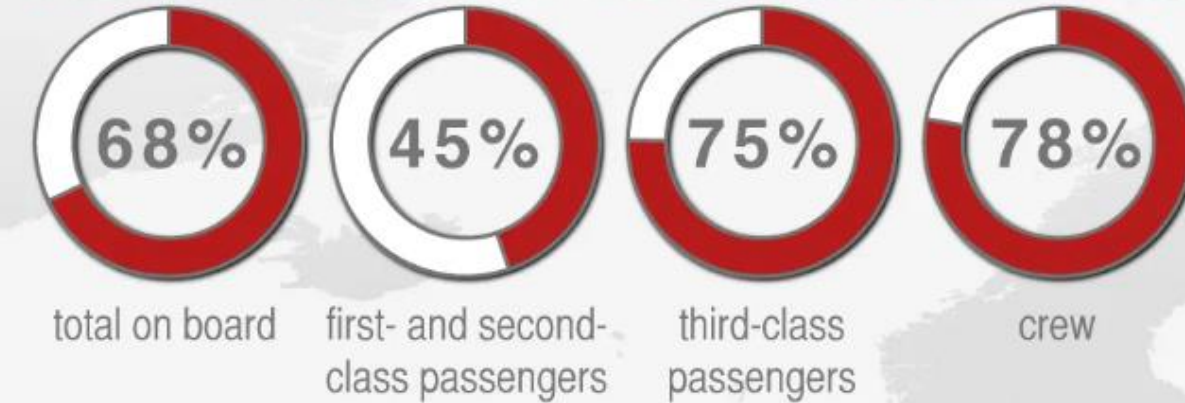


882 feet 6 inches (269 metres)

## TIMELINE

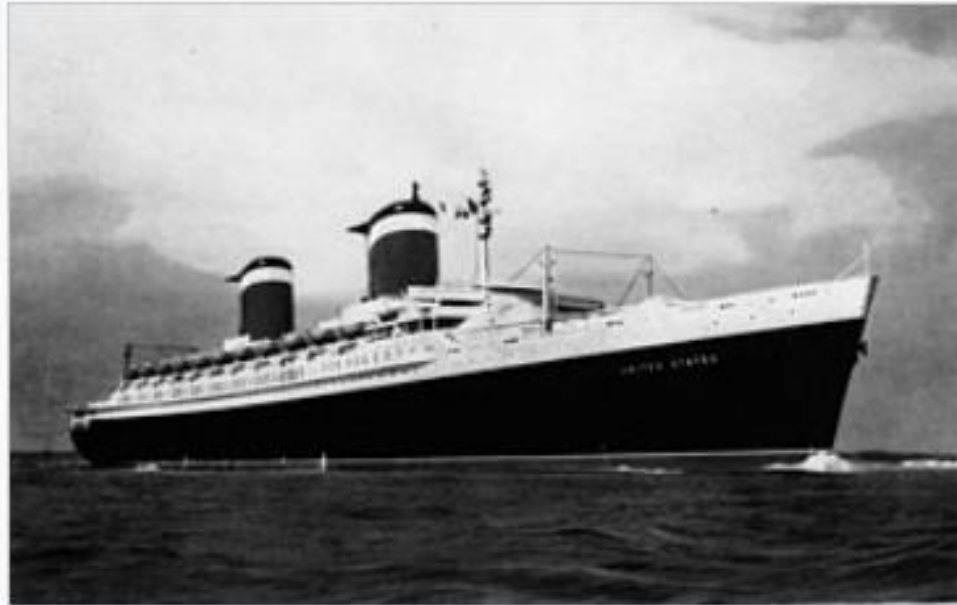
- March 31, 1909 Construction begins in Belfast, Ireland
- May 31, 1911 *Titanic* is launched, and later the fitting-out phase starts
- April 10, 1912 Maiden voyage begins as the ship leaves Southampton, England
- April 11, 1912 *Titanic* makes its final European stop, at Queenstown, Ireland
- April 14, 1912, 11:35 PM Iceberg is spotted, but too late to avoid a collision
- April 15, 1912, 12:15 AM First distress signals are sent
- 12:20 AM *Carpathia* rushes toward *Titanic*
- 12:45 AM First lifeboats are lowered
- 2:18 AM Bow sinks
- 2:20 AM *Titanic* founders
- 3:30 AM Survivors are rescued by *Carpathia*
- September 1, 1985 Shipwreck is discovered by an expedition led by Robert Ballard

## PERCENTAGE OF TOTAL FATALITIES

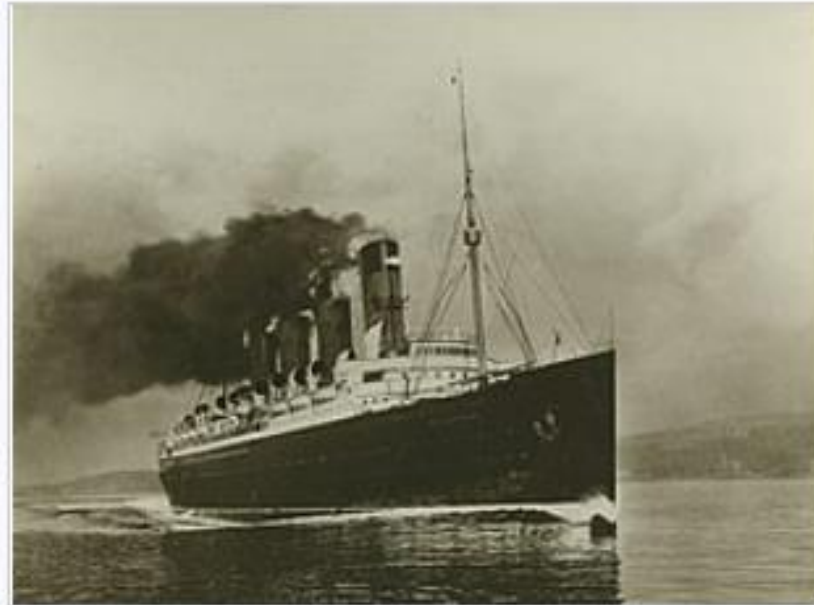


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*SS United States*, last winner of the Blue Riband. Formally, she still holds the title



Cunard's *Mauretania*. She held the Blue Riband for the second-longest period of any ship, for 20 years, from 1909 to 1929



# THANK YOU