INTERNATIONAL MARITIME ORGANIZATION

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Arctic Shipping Best Practice Information Forum
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SEAFARERS TRAINING FOR POLAR WATES OPERATIONS

Well-trained seafarers are essential for safe navigation in polar waters and the International Maritime Organization (IMO) has been playing its part in the training of seafarers on ships operating in polar waters.

The safety of ships operating in polar waters and the protection of the marine environments of the Arctic and Antarctic regions have always been important matters on IMO's agenda. Accordingly, **chapter 12 of the International Code for Ships Operating in Polar Waters (Polar Code), on manning and training**, provides that companies must ensure masters, chief mates and officers in charge of a navigational watch on board ships operating in polar waters have completed appropriate training, taking into account the provisions of the **STCW Convention and its related STCW Code**.

The mandatory minimum requirements for the training and qualifications of masters and deck officers on ships operating in polar waters were adopted by the Maritime Safety Committee in November 2016 and have become mandatory under **chapter V of the STCW Convention** from 1 July 2018

Context of Polar Code

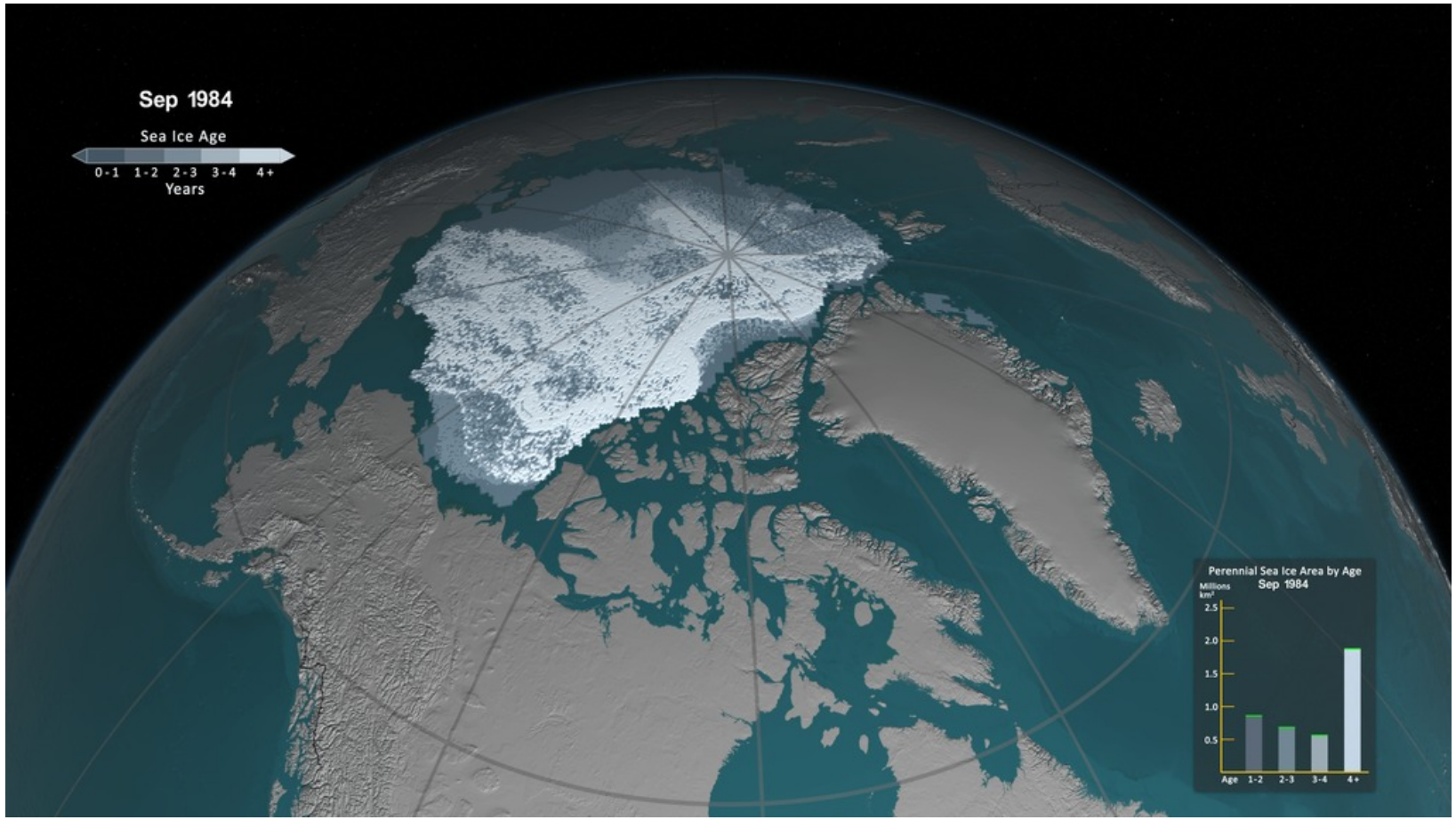
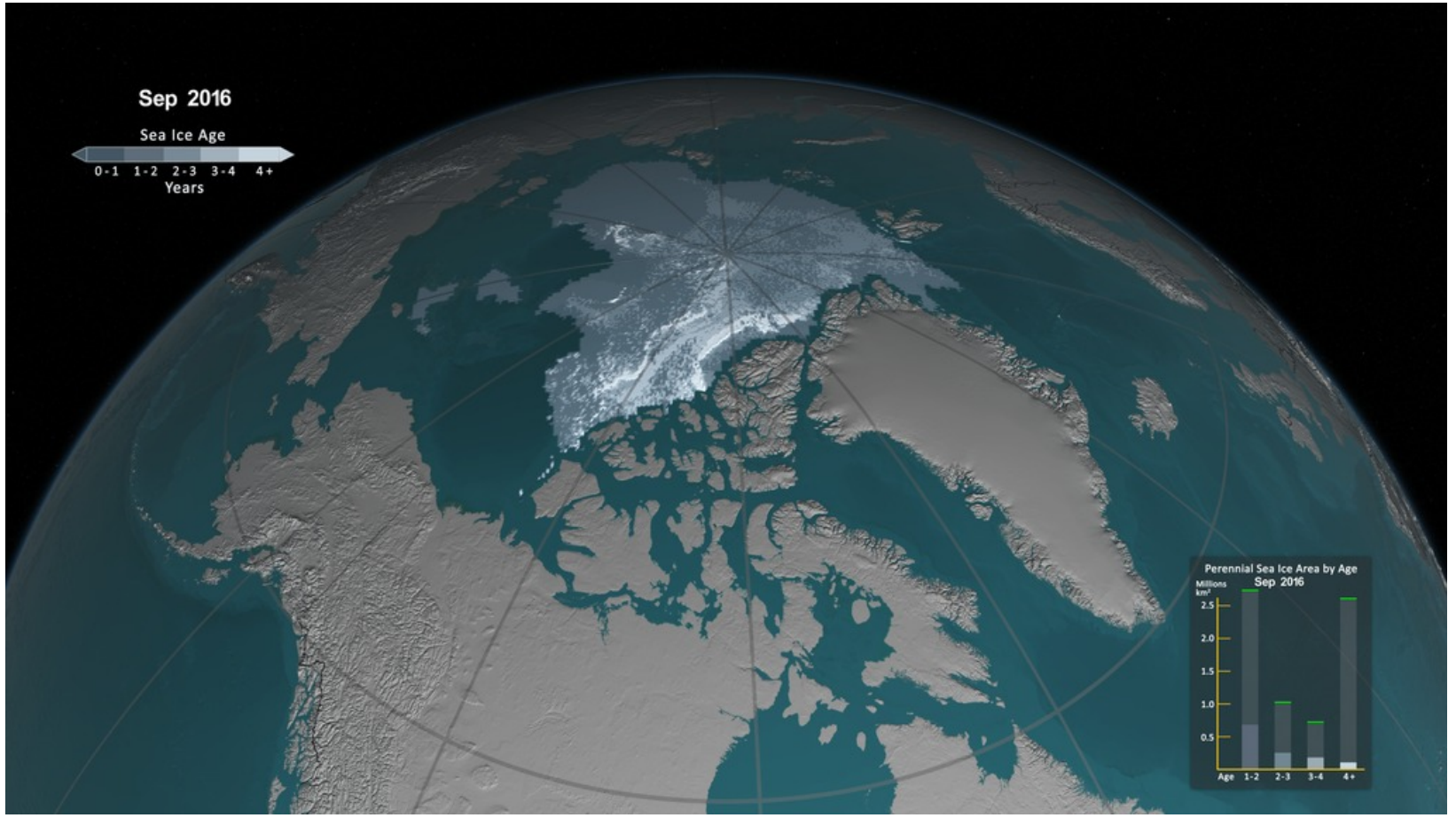


Image from NASA Scientific Visualization Studio

Context of Polar Code



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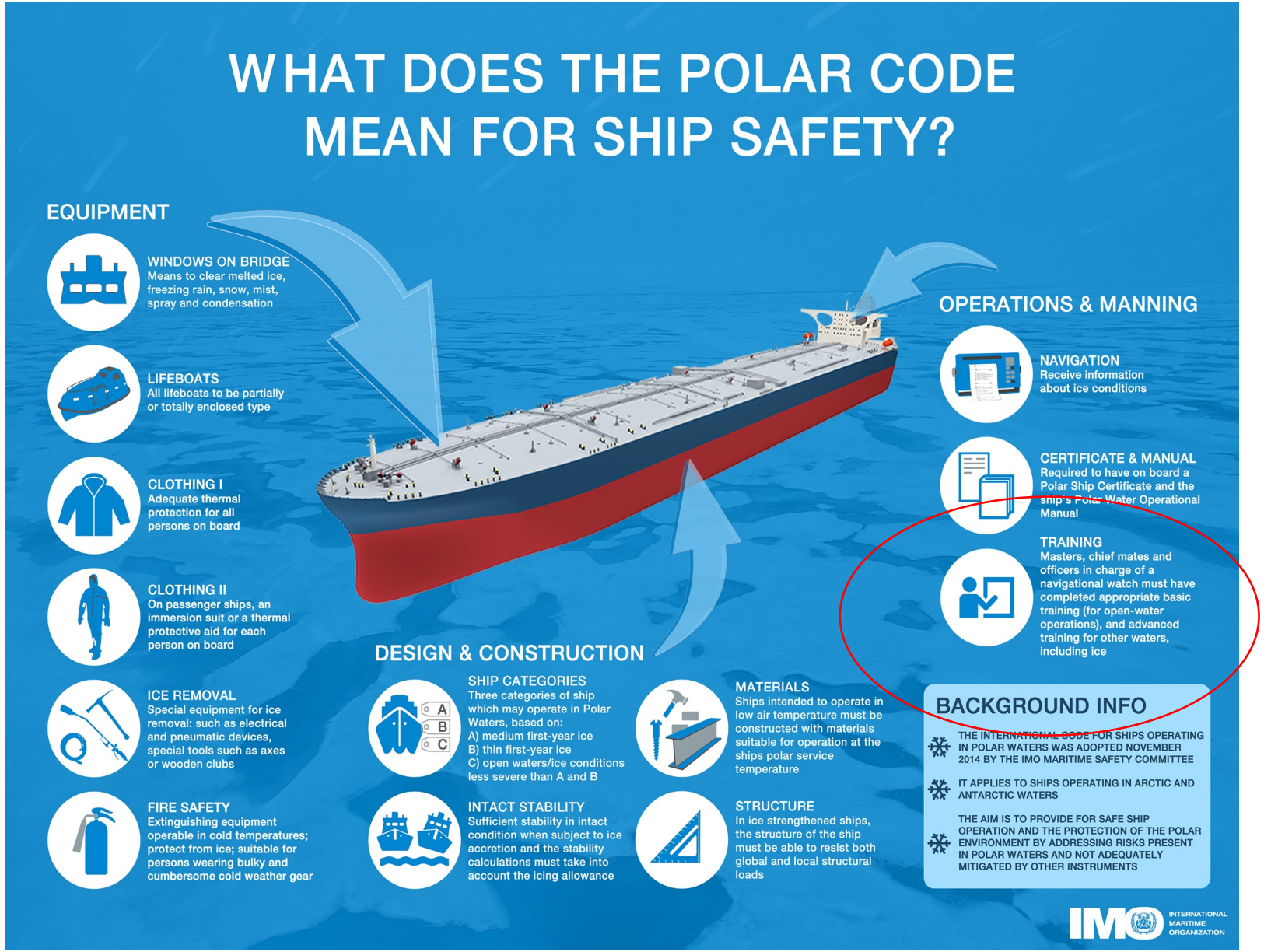
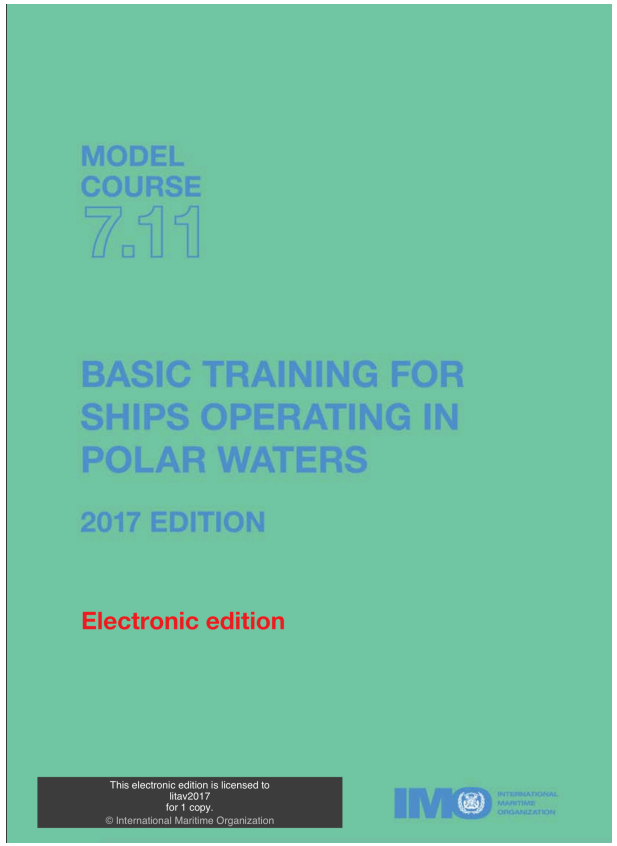
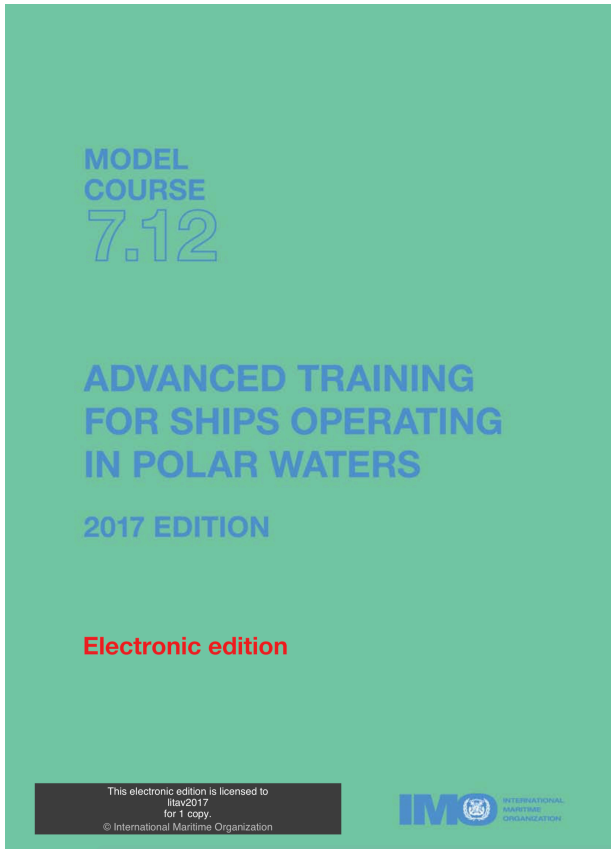

WHAT DOES THE POLAR CODE MEAN FOR SHIP SAFETY?
EQUIPMENT
WINDOWS ON BRIDGE
Means to clear melted ice, freezing rain, snow, mist, spray and condensation
LIFEBOATS
All lifeboats to be partially or totally enclosed type
CLOTHING I
Adequate thermal protection for all persons on board
CLOTHING II
On passenger ships, an immersion suit or a thermal protective aid for each person on board
ICE REMOVAL
Special equipment for ice removal: such as electrical and pneumatic devices, special tools such as axes or wooden clubs
FIRE SAFETY
Extinguishing equipment operable in cold temperatures; protect from ice; suitable for persons wearing bulky and cumbersome cold weather gear
OPERATIONS & MANNING
NAVIGATION
Receive information about ice conditions
CERTIFICATE & MANUAL
Required to have on board a Polar Ship Certificate and the ship's Polar Water Operational Manual
TRAINING
Masters, chief mates and officers in charge of a navigational watch must have completed appropriate basic training (for open-water operations), and advanced training for other waters, including ice
DESIGN & CONSTRUCTION
SHIP CATEGORIES
Three categories of ship which may operate in Polar Waters, based on:
A) medium first-year ice
B) thin first-year ice
C) open waters/ice conditions less severe than A and B
MATERIALS
Ships intended to operate in low air temperature must be constructed with materials suitable for operation at the ships polar service temperature
INTACT STABILITY
Sufficient stability in intact condition when subject to ice accretion and the stability calculations must take into account the icing allowance
STRUCTURE
In ice strengthened ships, the structure of the ship must be able to resist both global and local structural loads
BACKGROUND INFO
THE INTERNATIONAL CODE FOR SHIPS OPERATING IN POLAR WATERS WAS ADOPTED NOVEMBER 2014 BY THE IMO MARITIME SAFETY COMMITTEE
IT APPLIES TO SHIPS OPERATING IN ARCTIC AND ANTARCTIC WATERS
THE AIM IS TO PROVIDE FOR SAFE SHIP OPERATION AND THE PROTECTION OF THE POLAR ENVIRONMENT BY ADDRESSING RISKS PRESENT IN POLAR WATERS AND NOT ADEQUATELY MITIGATED BY OTHER INSTRUMENTS
IMO
INTERNATIONAL MARITIME ORGANIZATION

IT APPLIES TO SHIPS OPERATING IN ARCTIC AND ANTARCTIC WATERS

Ice conditions	Tankers 	Passenger ships 	Other 
Ice free	X Not Applicable	X Not Applicable	X Not Applicable
Open waters	Basic Basic training for master, chief mate and officers in charge of a navigational watch	Basic Basic training for master, chief mate and officers in charge of a navigational watch	X Not Applicable
Other waters	Basic Advanced Basic training for officers in charge of a navigational watch Advanced training for master and chief mate	Basic Advanced Basic training for officers in charge of a navigational watch Advanced training for master and chief mate	Basic Advanced Basic training for officers in charge of a navigational watch Advanced training for master and chief mate

In 2017, IMO also developed two new model courses on Basic and Advanced training for ships operating in polar waters to support maritime training bodies in organizing and developing competence-based training programmes and updating existing programmes.





Basic and Advanced training for ships operating in polar waters

- Basic Course Design Philosophy
- Core competencies
  - Contribute to Safe Operation of Vessels in Polar Waters
  - Apply Safe Working Practices & Respond to Emergencies
  - Comply with Pollution Prevention Requirements & Prevent Environmental Hazards
  - Monitor and Ensure compliance with Legislative Requirements

- Advance Course Design Philosophy
- Core competencies
  - Plan and conduct a voyage in Polar Waters
  - Manage the safe operation of vessels operating in Polar Waters
  - Maintain safety of ship's crew and passengers and the operational condition of lifesaving, firefighting and other safety systems

Port Of Ushuaia

IMO/CANADA TRAINING FOR SEAFARERS OPERATING IN POLAR WATERS PROJECT

IMO and Transport Canada have signed a Memorandum of Understanding to deliver regional capacity-building workshops to provide training for trainers to deliver training programmes for seafarers operating in Polar waters and on the implementation of the Polar Code.

The project harnesses IMO's competence as the United Nations specialized agency responsible for setting global standards for the safety, security and facilitation of international shipping and the protection of the marine environment, and benefits from Canada's financial support and expertise in supporting the effective implementation of the Polar Code.

The regional **train-the-trainer workshops aim** to assist Governments and their maritime training institutes in enhancing the skills and competence of maritime instructors to develop competence-based training programmes, update existing programmes and improve the delivery of specific IMO model courses (**Basic and Advanced training for ships operating in Polar waters**).

Under the project, four regional capacity-building workshops will be delivered:

- **Canada (September 2019);**
- **Chile (November 2019);**
- **Republic of Korea (planned for 22 to 26 Nov 2021);**
- **Russian Federation (planned for 6 to 10 Dec 2021).**

IMO/CANADA TRAINING FOR SEAFARERS OPERATING IN POLAR WATERS PROJECT

Canada - Regional train-the-trainer workshop for seafarers on ships operating in polar waters, 9 to 13 September 2019, St. John's, Newfoundland, Canada

- 11 participants from 7 countries: Canada, Bahamas, Chile, Denmark, Iceland, India, Jamaica with representatives from Governments and maritime academies.
- The aim of the workshop was to assist maritime training institutes in enhancing the skills and competence of maritime instructors to develop competence based training programmes, update existing programmes and improve the use of the IMO model courses on Basic and Advanced training for ships operating in polar waters.
- The training focused on how to effectively implement key IMO instruments (Polar Code and STCW Convention) containing provisions for ships operating in polar waters, with particular focus on the **Arctic**.
- It included technical presentations, case studies and table-top exercises, simulations on navigation simulator, regional regulations and the required training and certification for seafarers on ships operating in polar waters.

Training group of participants in Canada

The activities carried out for the Canadian Polar waters project have been disseminated in our website under the following links:

Canada workshop (9 to 13 Sep 2019)

https://www.imo.org/en/MediaCentre/HotTopics/Pages/polar-default.aspx

IMO/CANADA TRAINING FOR SEAFARERS OPERATING IN POLAR WATERS PROJECT

Chile - Regional train-the-trainer workshop for seafarers on ships operating in polar waters, 18 to 22 November 2019, Valparaiso, Chile

- 19 participants from 8 countries: Argentina, Brazil, Chile, Colombia, Ecuador, Mexico, Panama, Peru with representatives from Governments and maritime academies.
- The training focused on how to effectively implement key IMO instruments (Polar Code and STCW Convention) containing provisions for ships operating in polar waters, with particular focus on the **Antarctic waters**

Training group of participants in Chile

- The activities carried out for the Canadian Polar waters project have been disseminated in our website under the following links:
- Chile workshop (18 to 22 Nov 2019)
- https://www.imo.org/en/MediaCentre/Pages/WhatsNew-1424.aspx

IMO/CANADA TRAINING FOR SEAFARERS OPERATING IN POLAR WATERS PROJECT

Remaining two workshops

Two workshops were scheduled to be delivered in March and June of 2020, in the Republic of Korea and the Russian Federation, respectively. However, due to the COVID-19 pandemic, these workshops were postponed.

Taking into consideration the current situation, We have explored the possibility of delivering the workshop using distance learning techniques and the original workshop materials, has been converted into an eLearning/virtual format.

The remaining two regional workshops will be conducted remotely on eLearning/virtual format, and we have scheduled it the following dates:

eLearning/virtual regional train-the-trainer workshop for seafarers on ships operating in polar waters, to be held remotely from 22 to 26 November 2021, in the region coordinated by the Republic of Korea.

- participants from 9 countries (Australia, India, Indonesia, Japan, Malaysia, New Zealand, Philippines, Republic of Korea, Singapore), including representatives from Governments and maritime academies;

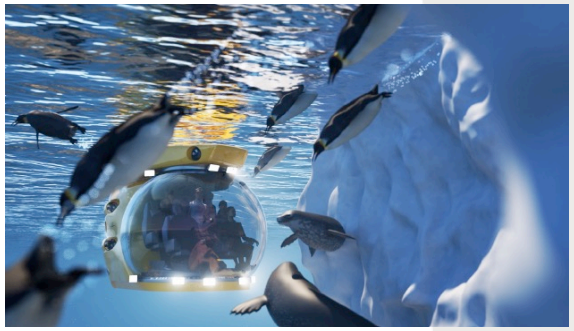
eLearning/virtual regional train-the-trainer workshop for seafarers on ships operating in polar waters, to be held remotely from 06 to 10 December 2021, in the region coordinated by the Russian Federation.

- participants from 11 countries (Estonia, Finland, France, Germany, Lithuania, Netherlands, Norway, Poland, Sweden, Russian Federation, United Kingdom), including representatives from Governments and maritime academies.

eLearning/virtual workshop structure

The eLearning/virtual workshop will be delivered using the following structure:

- 13 self-paced eLearning Lectures delivered through a **Learning Management System**
- 3 interactive class discussions (each 3 hours long) delivered using a video/telephone conferencing platform. The first discussion would focus on the Basic Course, the second on the Advanced Course while the third would focus on discussing the outcomes from the practical exercises
- 4 self-paced eLearning assignments delivered through a **Learning Management System** and arrangements made to participate as observers to ice navigation simulation exercises
- 2 simulation exercises developed by the participants as a workshop activity. The participants would witness 2 simulations (one basic and one advanced) prepared in advance by the consultant to be delivered through a videoconferencing/webinar platform for the purpose of validating the exercise



THANK YOU

SHIPPING IN POLAR WATERS

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