

HCA National Report

Republic of Korea

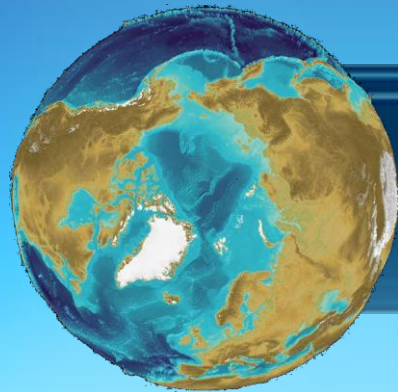
A decorative graphic in the bottom left corner shows a globe with a map of the Republic of Korea highlighted in white. The globe is surrounded by glowing blue lines and dots, suggesting a global or technological theme.

CONTENTS

The background of the slide features a large, curved, metallic structure on the left, likely the hull of an icebreaker ship. To the right, a massive, jagged iceberg floats in the water. Two people in red survival suits are visible in the water near the base of the iceberg, one standing and one sitting. The sky is overcast and grey.

1 Introduction of KOPRI

2 Korean Icebreaker *ARAON*



Introduction of KOPRI



Brief History

- 1987. Polar research lab. Established at KORDI
- 1988. The Antarctic King Sejong station inaugurated
- 1989. Korea joined AT as a consultative party
- 2002. The Arctic Dasan station inaugurated
- 2002. Korea joined IASC
- 2004. KOPRI expanded as an affiliated institute to KORDI



Inauguration ceremony of
King Sejong Station /
Dasan Station

Function



Science

Conduct a world-class scientific research, survey and observations in polar region

Public

Raise public awareness on polar affairs as well as support overall national science strategy

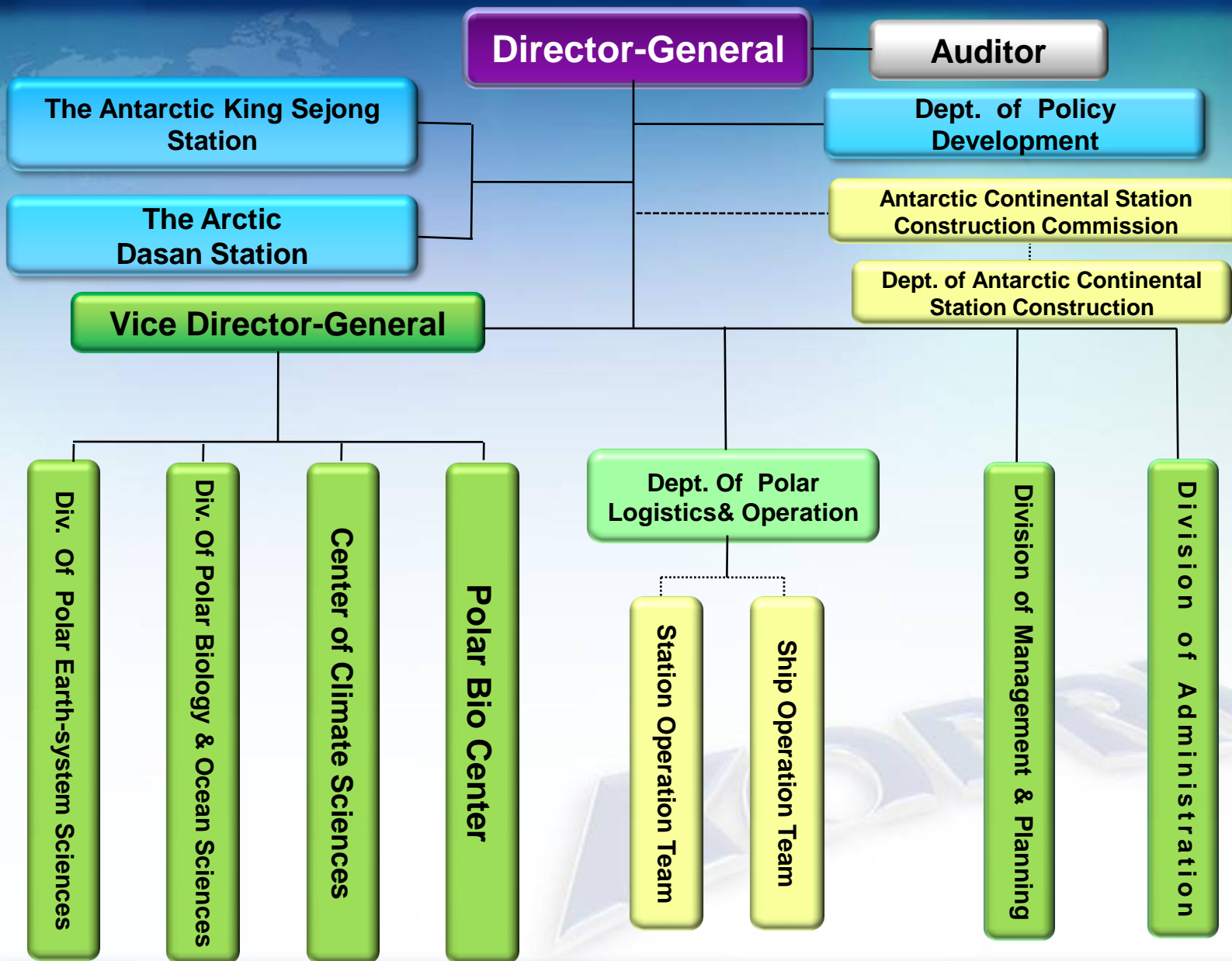
Government

Provide reliable advice to the Korean government and other stakeholders on polar affairs

International

Cooperate with overseas institutes for multidisciplinary polar research programs

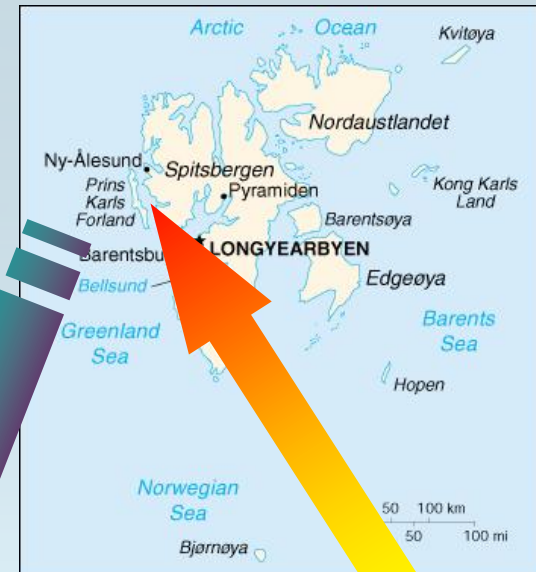
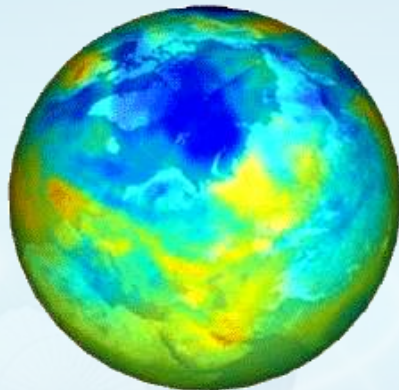
Organizing Chart



Dasan Station in the Arctic

The Status of the Dasan Research Station

- **Location: Ny-Alesund, Spitsbergen Island (78°55' N, 11° 56' E)**
- **Establishment: Apr. 29, 2002**
- **Lease building space for laboratory**



Dasan Station in the Arctic

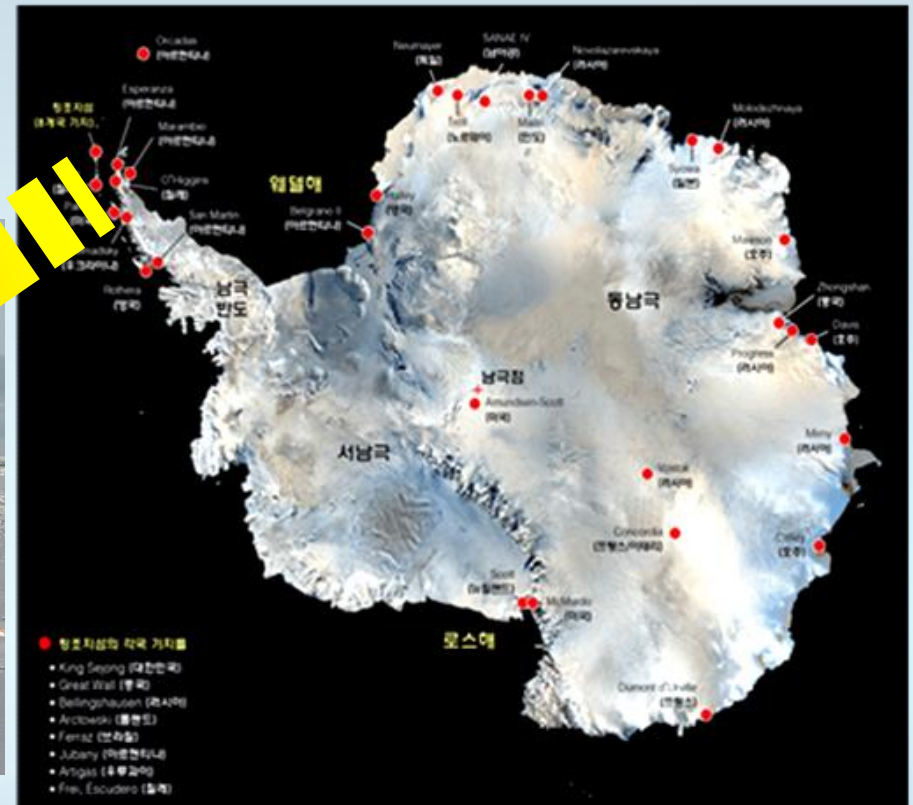


King Sejong Station in the Antarctica



The Status of the Dasan Research Station

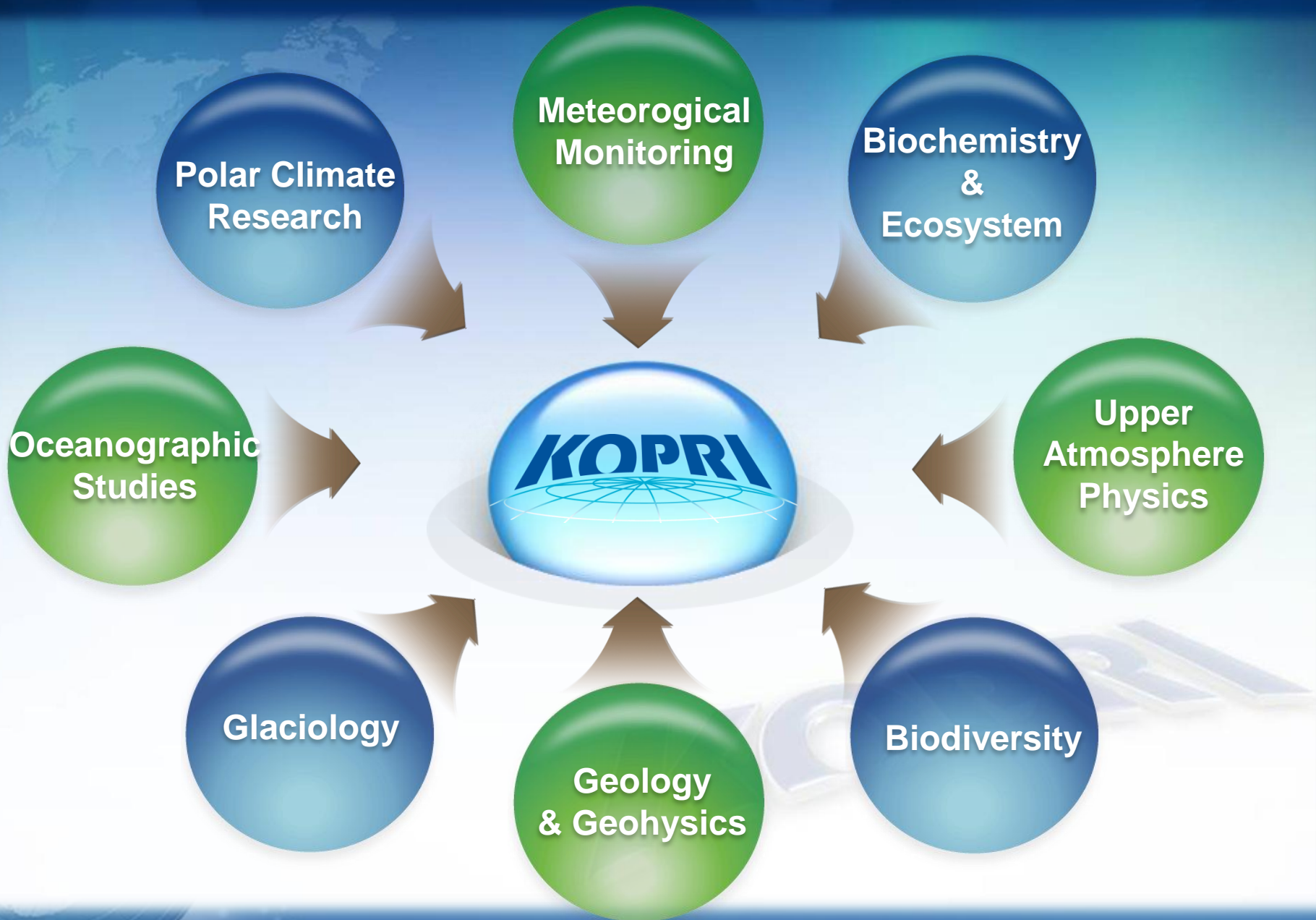
- Barton Pen., King George Island (62°13' S, 58° 47' W)
- Establishment: Feb. 17, 1988
- 22th Overwintering party is on duty

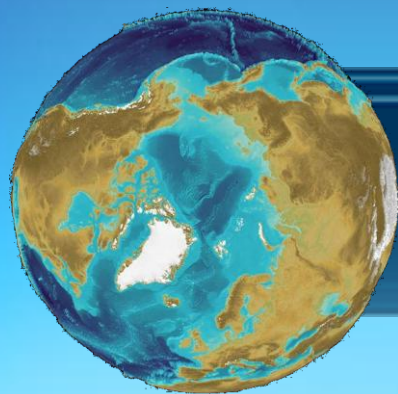


King Sejong Station in the Antarctica



Major Research Fields





Korean Icebreaker *ARAON*



- **Period** : 2004~2009 (6 yrs)
- **Budget** : 100 mil USD



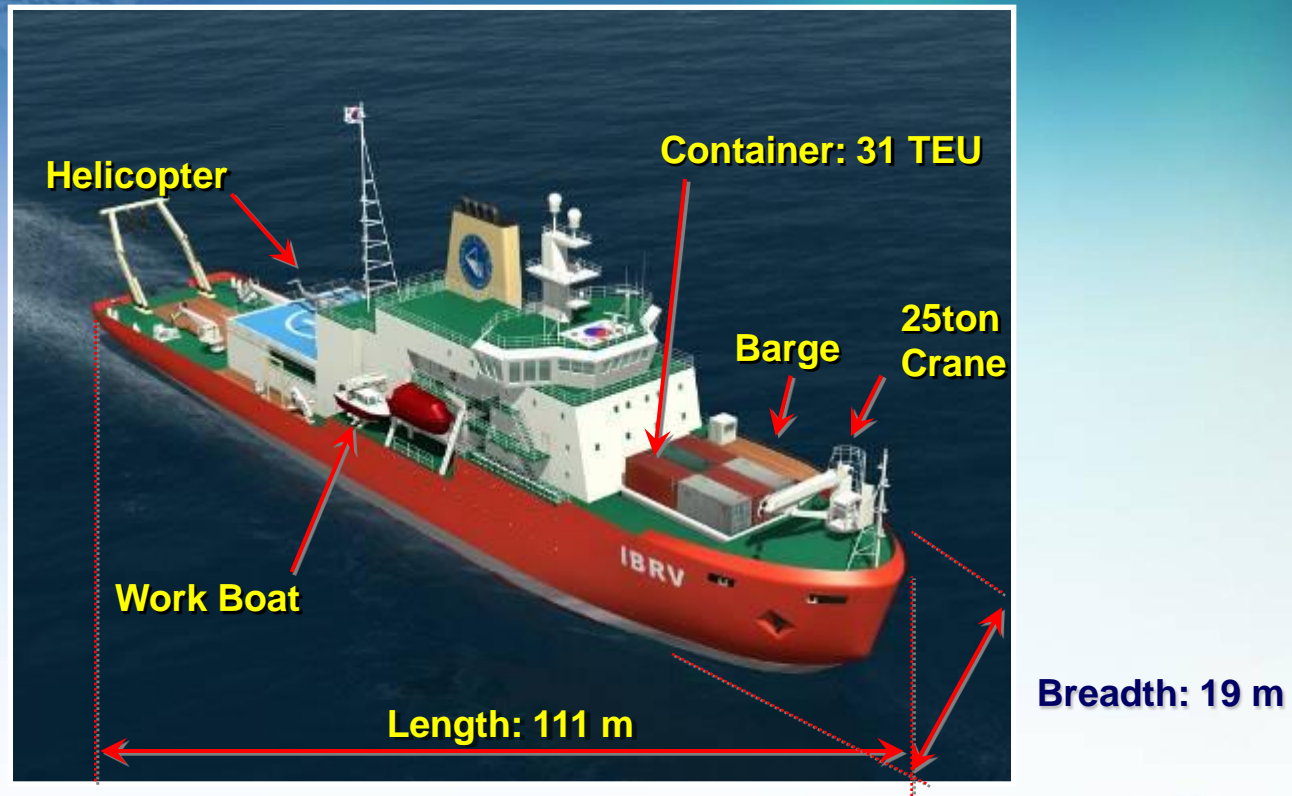
'Ara' (sea) + 'On' (all) = All the sea



● Purpose

- To execute multidisciplinary research survey in the both polar regions
- Logistics support for the Antarctic station

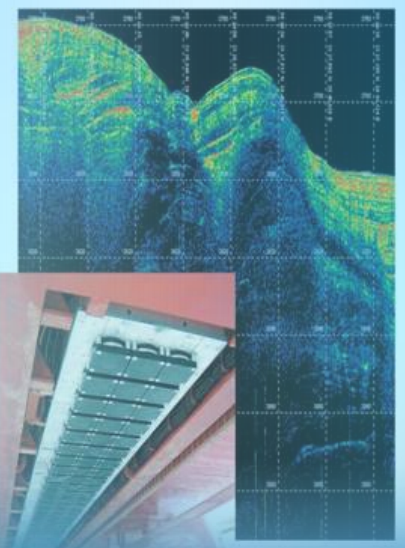
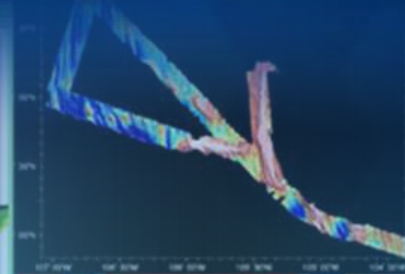
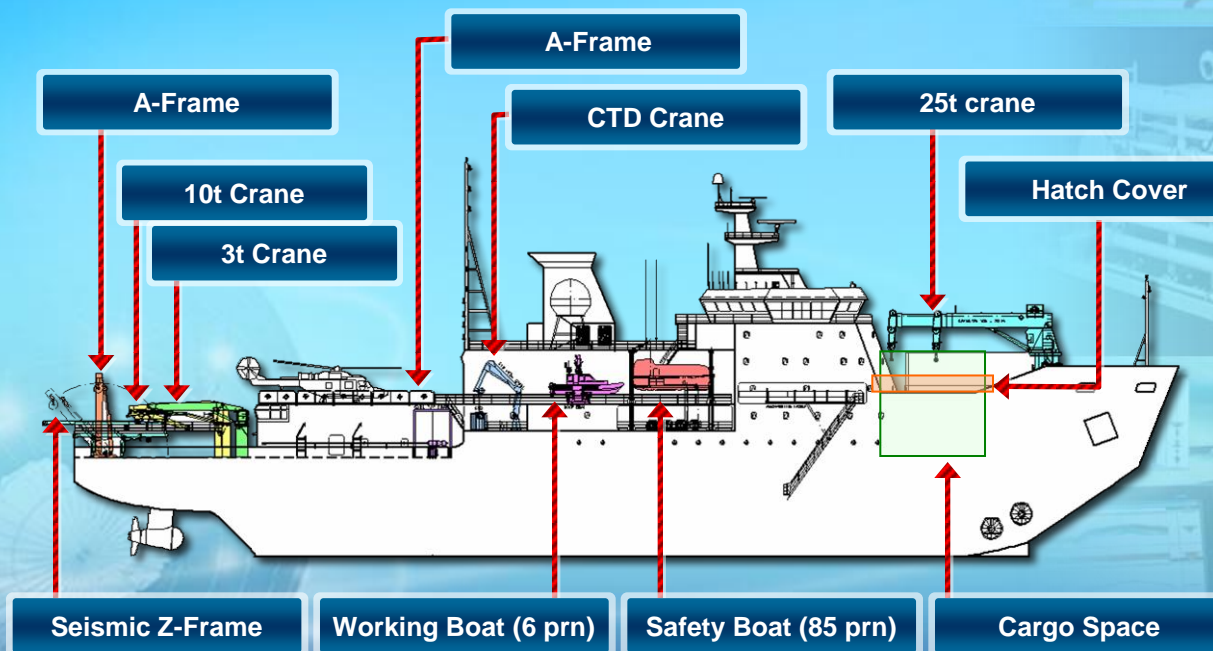
Korean Icebreaker, 'ARAON' - 1



- **Tonnage** : 7,847 GRT
- **Manning** : 85 persons (25+60)
- **Service Speed** : 12 knot
- **Endurance** : 20,000 nm (70 days)
- **Classification** : KR PL-10
(1 m depth icebreaking in 3 knot, Dnv Polar 10)
- **Propulsion** : Azimuth Thruster
- Diesel electric plant : 10 MW (5 MW x 2)
- **DP-2 System**

Korean Icebreaker, 'ARAON' - 5

- **Oceanography** : CTD with water sampler, etc.
- **Geophysics** : Multi-channel seismic system, etc.
- **Marine Geology** : Multi-beam echo sounder, etc.
- **Biology** : MOCNESS, Sea soar, etc.
- **Monitoring, Analyzing equipment** : Weather Station, etc.



Korean Icebreaker, 'ARAON' - 8



2003 : Feasibility Study

2004 ~ 2005 : Concept & Basic Design

2007 : Shipbuilding Start
KOPRI/**HANJIN**/KMS

Jan. 2008 : Steel Cutting

May 2008 : Keel Laying

Jun. 2009 : Launching

Oct. 2009 : Delivery

Jan ~ Feb. 2010 : Ice trial



Korean Icebreaker, 'ARAON' - 9



Major Research Field(draft)

"in each area international cooperation is actively sought"

Monitoring in the Arctic ocean
Bering sea, Arctic sea (abt. 40 days)

Pacific meridional transect program

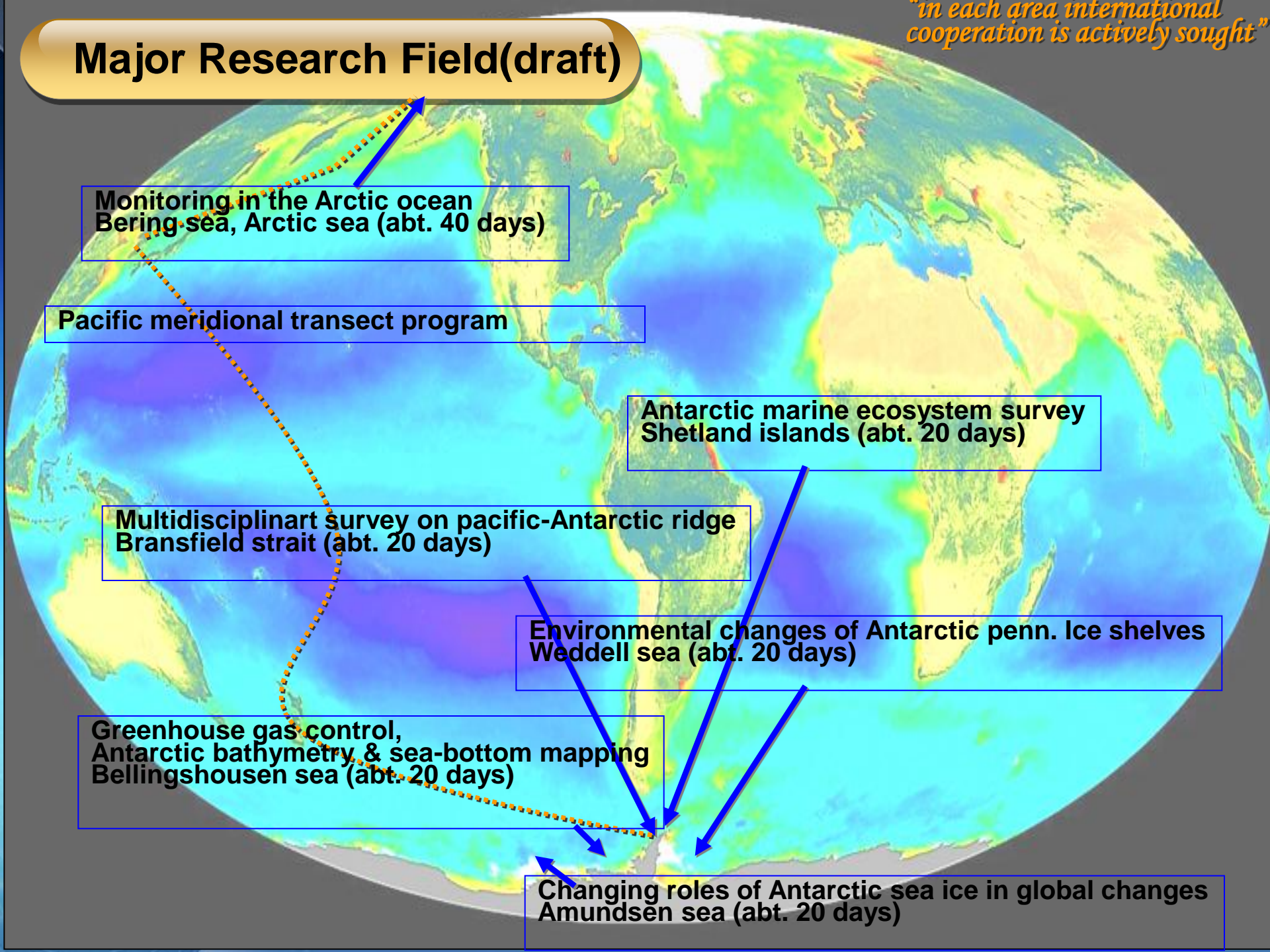
Multidisciplinary survey on Pacific-Antarctic ridge
Bransfield strait (abt. 20 days)

Antarctic marine ecosystem survey
Shetland islands (abt. 20 days)

Environmental changes of Antarctic penn. Ice shelves
Weddell sea (abt. 20 days)

Greenhouse gas control,
Antarctic bathymetry & sea-bottom mapping
Bellingshausen sea (abt. 20 days)

Changing roles of Antarctic sea ice in global changes
Amundsen sea (abt. 20 days)

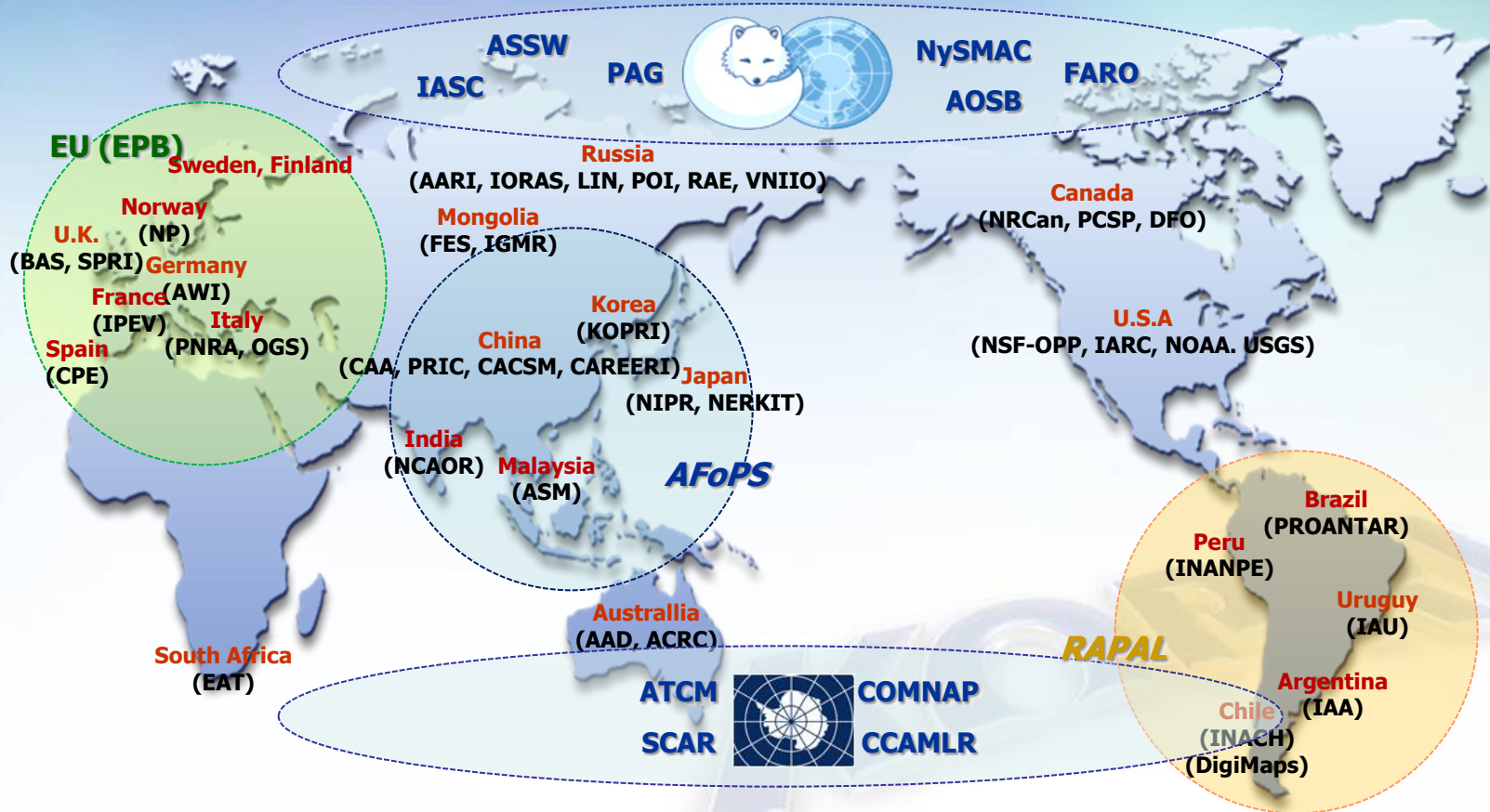


International Cooperation & Collaboration



International Network for Cooperation

- KOPRI has been running the International Network for Cooperation



Thank you

