KOREAN ICEBREAKING RESEARCH VESSEL

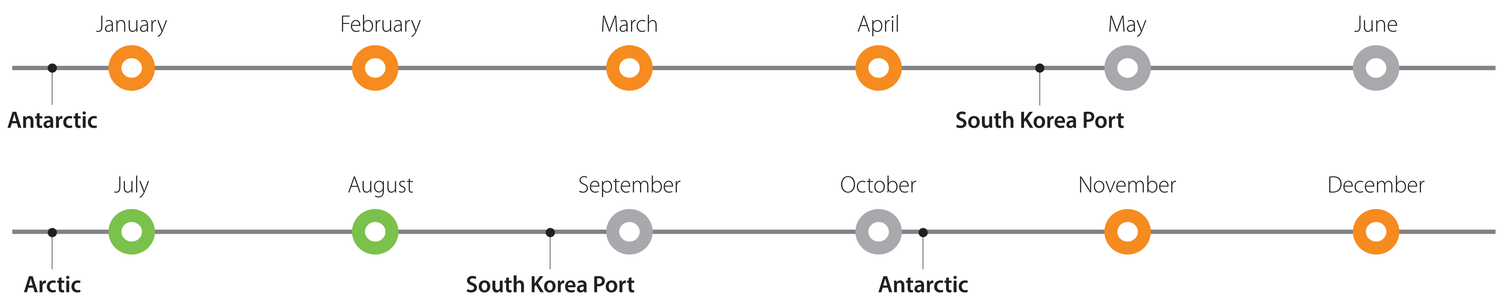
ARAON

INTRODUCTION

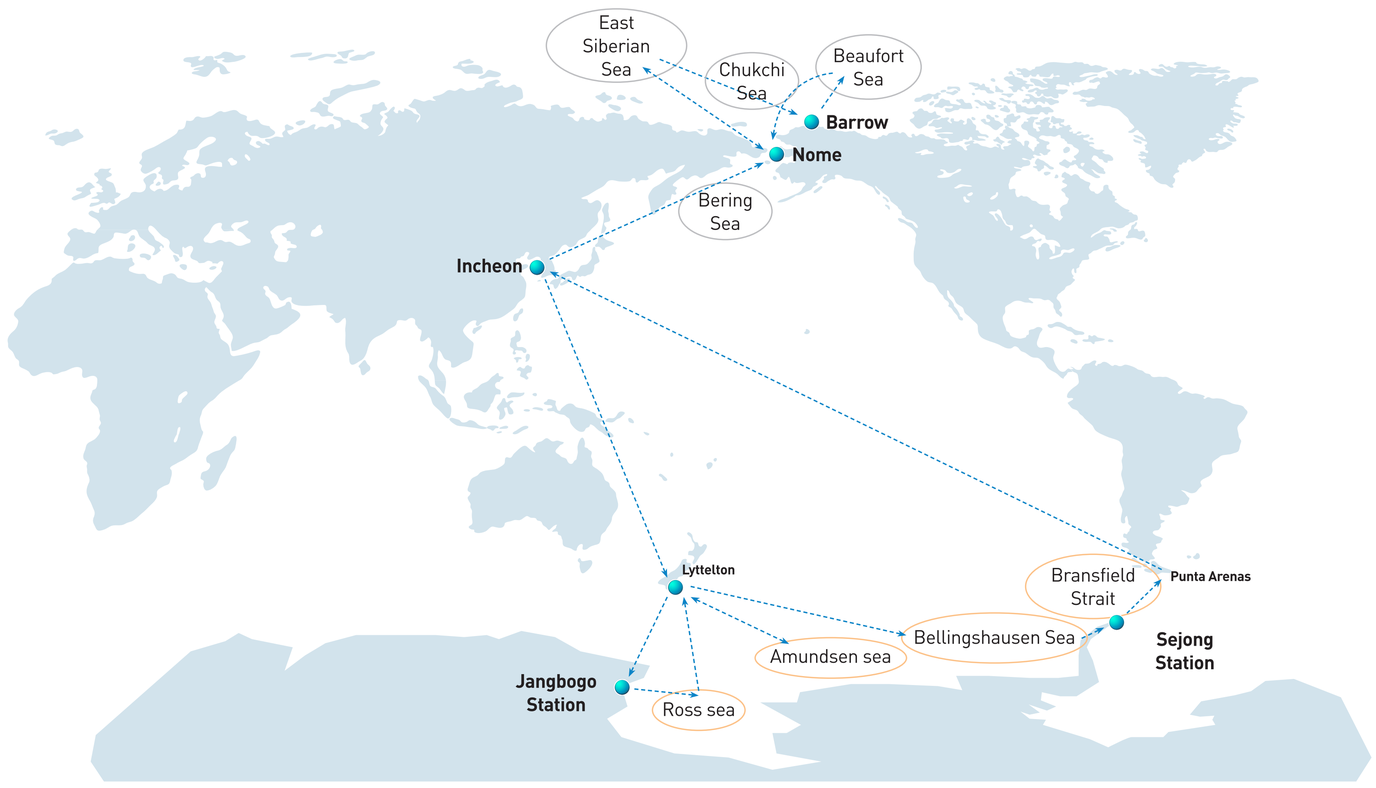
Araon is an icebreaking research vessel built by Hanjin Heavy Industries and Construction. After commissioning, the vessel was delivered to the Korea Polar Research Institute (KOPRI) and has been operated by the Institute so far.

After delivery, Araon was tested for its basic capabilities and the operation status of its research equipment on the East Sea, and went through an icebreaking performance test in the Antarctic Ocean. Since then, the vessel has been in operation as an icebreaking research vessel, carrying out numerous missions including research, supply, and support activities in the Arctic and the Antarctic Oceans.

YEARLY OPERATION PLAN



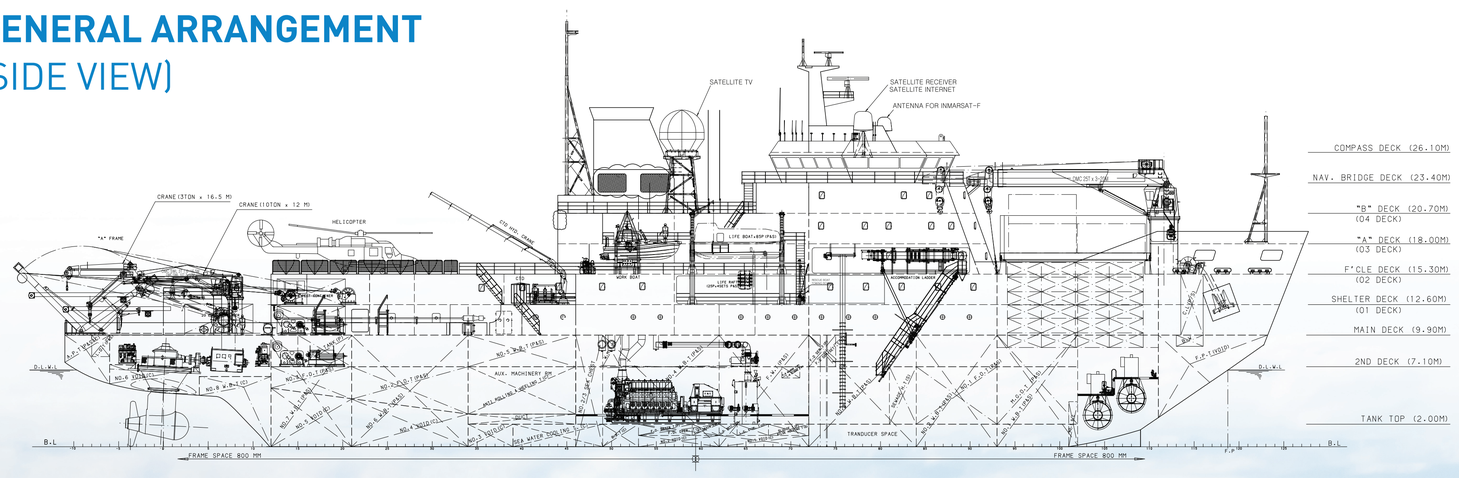
ARAON BASIC COURSE



RESEARCH EQUIPMENT

Oceanographic Lab	X-BT, ADCP, MOCNESS, Scientific Fish Finder, Low Fre. Omni-Directional Fishery Sonar etc
Acoustic & Geophysic Lab	Muti-Beam Echo Sounder, Acoustic Synchronizer, Precision Depth Recorder, Multi-Channel Seismic System, Marine Magnetometer, Attitude and Positioning System etc
Analytical Chemistry Lab	GC/MS, Sea Water Analyzer, Thermo-salinograph, pCO2 System etc
Baltic Room	CTD, LADCP etc
Observation & Monitoring	Weather Station, Satellite Receiver, Underway Measurement System, etc.
Others	Marine Gravity Meter, Aerosol Sizing Instrument, Gravity Corer, Box Corer, Multiple Corer, Wavemeter etc

GENERAL ARRANGEMENT (SIDE VIEW)



GENERAL SPECIFICATIONS

Call sign	DSQL7
Vessel classification	KR
ACCU (Automatic control system certified for unattended eng. Room)	UMA3
Date of delivery	November 2, 2009
Contractor	Hanjin Heavy Industries and Construction, Yeong-do, Busan
Vessel length	111 m
Length between perpendiculars	95 m
Breadth molded	19 m
Depth molded	9.9 m
Design draft	6.8 m
Scantling draft	7.6 m
Mast height	38.25 m
Gross tonnage	7,507 T
Net tonnage	2,252 T
Light load displacement tonnage	6,001 T
Deadweight tonnage	3,070 T

FEATURES

- Outer hull thickness: Approximately 40 mm
- Made of RE36 steel: This type of steel is capable of withstanding impact at -40℃. Moreover, it is 1.5 times more durable than regular steel.
- The vessel is equipped with an impact moment monitoring device that detects impacts, alerts, hull stress, and fatigue across various sections of the vessel during icebreaking.
- The vessel is also equipped with an ice heeling device, which creates 3.5° heels left and right within 3 min, allowing the vessel to escape from ice.

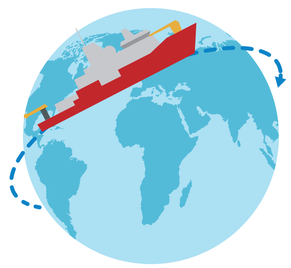
ICE CLASS

- Ice class: KR PL 10(-30℃) Capable of breaking through 1-m thick level ice at a speed of 3 knots or faster.

MISSIONS

"Support research activities"

IN THE ARCTIC



IN THE ANTARCTIC

"Support research activities"

"Support supply missions to King Sejong Station"

"Support supply missions to Jangbogo Station"