Arctic Shipping to the Republic of Korea

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1 Korea’s recent Arctic related activities
Korea’s recent Arctic related activities

1. Korea’s Perception changes on the Arctic

- In 2013
  - ‘From a frozen sea to an important new shipping route’
  - ‘The last reserve, providing a path to join in the Arctic development’
  - ‘Amidst scrambling for Arctic resources and new shipping route, Korea obtains Observer status’

- In 2015
  - ‘Domestically trained seafarer participates in NSR expedition’
  - ‘Signals of Climate Change, and long-term measures for the Korean Peninsula needed’
  - ‘Trust and capability, the way forward to becoming the best Arctic partner’
Korea’s recent Arctic related activities

1. Korea’s Relations with Arctic Council States

- S/T Agreements w/ 48 countries
  - 5 ASs (USA, RUS, SWE, DEN, FIN) and 11 OSs
- Shipping agreements w/ 23 countries
  - 4 ASs (USA, RUS, NOR, DEN) and 6 OSs (GER, UK, NET, SIN, CHN, IND)
- 15 FTAs w/ 54 countries cover 74% of global GDP, except RUS & JAP
  - 15% of total trade with 8 ASs, and 42% with 11 OSs
Korea’s recent Arctic related activities

1. Korea, as an observer state in the Arctic Council

• developing Arctic Policy Master Plan (2013) and Action Plan (2015)
  ✓ will develop annual action plan to evaluate and adjust direction of the Master Plan for the future cooperation with Arctic stakeholders
  ✓ designated Ambassador for Arctic Affairs in the Ministry of Foreign Affairs

• operating KAEN (Korea Arctic Experts Network) since 2014 to participate in the AC subsidiary bodies and to build capacity
  ✓ 44 experts from 17 orgs. such as national institutes and Universities
  ✓ participated to 21 WGs and TFs since 2014
  ✓ seasonal workshops to share the results of WGs and TFs

• seeking opportunities for direct cooperation with WGs
  ✓ invited CAFF to talk about participating of Korean experts to AMBI
  ✓ will publish core documents of WGs in Korean language
  ✓ developed portal system introducing WGs activities to Korean public
Korea’s recent Arctic related activities

• agreement between AIA and KMI to join project in PAME
  ✓ ‘Arctic Indigenous Marine Use Mapping’ by developing ‘Statement of Cooperation’ in June 2015

• establishment of ‘Korea Arctic Academy’ hosted by KMI & UArctic
  ✓ 11 students from 7 Arctic states and 19 Korean students from 12 Univ.
  ✓ 6 indigenous students from Nunavut Arctic College, Univ. of Greenland, Univ. of Lapland, Univ. of Oulu, NEF Univ., Baikal State Univ.
  ✓ 5 int’l lecturers from UArctic, UNBC, NOAA, USA and Finnish Embassy
  ✓ 4 Korean lecturers from KMI, KOPRI, DSME and JN Univ.
  ✓ 6 site visits including Maritime Museum, Maritime Univ., KR, KOPRI, DSME and BPA

• hosting the 1st International Seminar on Arctic Information and Knowledge (ISAIK) to exchange information with Arctic organizations
  ✓ PAME, CAFF, AIA, Arctic Portal, Arctic Center, The Arctic Institute, AINA, Nordregio, KOPRI and KMI
Korea’s recent Arctic related activities

- inviting Ambassadors of Arctic states in Korea to the icebreaker research vessel Araon and Korea Polar Research Institute
  - to celebrate 2nd anniversary of Observer status in the AC and to enhance cooperation with Arctic countries

- promoting Arctic research cooperation among in China, Japan and Korea to share experiences and develop joint researches by establishment of NPARC (North Pacific Arctic Research Community)
  - 18 universities and research institutes from CJK in 2015

- encouraging public awareness and providing exchange program
  - by jointly hosting Special Arctic Exhibition series with Arctic states on their Arctic Expedition, History, Cultures and Tradition
  - The 1st exhibition is scheduled in Nov. with Norway in Seoul and Busan
Korea’s interest in Arctic shipping
02 Korea’s interest in Arctic Shipping

1. Geographical, Environmental and Socio-Economic Connectivity

- Located in the region where impacts of the Arctic climate and environmental change could appear (AO, extreme weather, etc.)
- A potential sea route user of NSR/NWP (shipping share in trade volume: 99.7%)
- A trade-based economy (dependency rate on FT: 97%)
- Economic system highly dependent on energy and resource imports (oil/gas import: 96.5%)
- * import distance of resources: approx. Oil 11,500km, LNG 8,400km
- A leader in high-tech shipbuilding & offshore plant construction
- International responsibility as a global player
Korea’s interest in Arctic Shipping

2. Shipping situation in Korea

• Vessels information
  - The number of Korean-Flag Registered Fleets is 9,360 (Cargo Ship: 793, Passenger Ship: 224, Tanker: 734, Tug boat: 1,290, Barge: 2,024, Others: 4,295)
  - The number of Korean-Flag Ocean-going by Ownership type is 1,077 (bulk ship type: 304, General Cargo Ship: 194, Full Container Ship: 160, Oil Products/Chemical: 134 etc.
• Gross tonnage of Korea-flag Fleets is 13,585,000GT and Korea-Flag Ocean-going vessels is 4,012,000GT
• The number of person, who have Seamen’s Certificates, is 90,342.
Korea’s interest in Arctic Shipping

- Major ports in Korea

AT A GLANCE
- Capital: Seoul
- Location: longitude 127° 30', latitude 37° 00'
- Area: 100,032 km²
- Population: Approximately 48.54 million

<table>
<thead>
<tr>
<th>Destination</th>
<th>Distance</th>
<th>Time</th>
</tr>
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<tbody>
<tr>
<td>Pukuoka</td>
<td>-</td>
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<td>Nagasaki</td>
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<td>Okinawa</td>
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<td>Hakodate (Sapporo)</td>
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<td>Hong Kong</td>
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<td>Taipei</td>
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</tbody>
</table>

Incheon: Distance - 445, Time - 26
Busan: Distance - 107, Time - 6
Donghae: Distance - 215, Time - 12
Jeju: Distance - 222, Time - 13
3. Port Cargo volume in Korea

- General cargo volume in 2013 is 1,123 million ton
  - Import: 735 million ton
  - Export: 387 million ton
- Container cargo volume in 2013 is 23,470,000 TEU
4. Potential economic benefit from traffic via NSR

- The NSR is the shortest distance connecting Asia-Europe
- Shipping through Arctic Ocean via the NSR could save about 40% of the sailing distance from Asia to Europe compared to the traditional route via the Suez Canal
- Moreover, it could save transit time, fuel consumption and operating expenses of vessels
### Korea’s interest in Arctic Shipping

**List of NSR transits voyage using Korean port**

<table>
<thead>
<tr>
<th>Year</th>
<th>No.</th>
<th>Vessel’s Name</th>
<th>Flag</th>
<th>Cargo</th>
<th>Port of Loading</th>
<th>Port of Destination</th>
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<td>2011 (3)</td>
<td>1</td>
<td>Perseverance</td>
<td>Singapore</td>
<td>Naphtha</td>
<td>Yeosu, ROK</td>
<td>Le Havre, France</td>
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<tr>
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<td>2</td>
<td>Stena Poseidon</td>
<td>Finland</td>
<td>Gas condensate</td>
<td>Vitino, Russia</td>
<td>Incheon, ROK</td>
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<td>Norway</td>
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<td>Norway</td>
<td>Gas condensate</td>
<td>Murmansk</td>
<td>IncheonROK</td>
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<td></td>
<td>2~3</td>
<td>Marika</td>
<td>Norway</td>
<td>Jet Fuel</td>
<td>Yeosu, ROK</td>
<td>Porvoo, Finland</td>
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<td>Daesan, ROK</td>
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<td>8~9</td>
<td>Palva</td>
<td>Finland</td>
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<td>Murmansk</td>
<td>Daesan, ROK</td>
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<tr>
<td></td>
<td>10</td>
<td>Ob River</td>
<td>Marshall Island</td>
<td>Ballast dspl.</td>
<td>Yeosu, ROK</td>
<td>Montoir, France</td>
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<tr>
<td></td>
<td>11</td>
<td>Maribel</td>
<td>Norway</td>
<td>Gas condensate</td>
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<td></td>
<td>2</td>
<td>Yong Sheng</td>
<td>Hong kong</td>
<td>general cargo</td>
<td>Rotterdam, Netherlands</td>
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<tr>
<td></td>
<td>3~4</td>
<td>Vengery</td>
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<td>Murmansk</td>
<td>Busan, ROK</td>
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<td>5</td>
<td>Propontis</td>
<td>Greece</td>
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<td>Ulsan, ROK</td>
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<td>6</td>
<td>Stena Polaris</td>
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<td>naphtha</td>
<td>Ust-Luga</td>
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<tr>
<td></td>
<td>7</td>
<td>Zaliv Amurskiy</td>
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</tbody>
</table>

Source: Northern Sea Route information office
5. The growing importance of resources

- The dependence of Energy on Overseas (2013)

Source: Korea Energy Economics Institute
Korea’s interest in Arctic Shipping?

- Distribution chart of arctic resources and the NSR
3 Korea’s approach to the NSR
Korea’s approach to the NSR

1. Korea’s Arctic Policy Master Plan

• Korea established the first Arctic Policy Master in 2013
• The purpose of Arctic Policy Master plan is to contribution to the development of states and international society through cooperation with Arctic states and Arctic–related organizations
  1) Strengthening international cooperation with the Arctic region
  2) Strengthening scientific survey and research capacities
  3) Pursuing sustainable Arctic businesses
  4) Securing institutional foundation
Korea’s approach to the NSR

2. Enhancement for the R&D for sustainable shipping

- Development of domestic institutional arrangement for the Polar Code for securing safety for Arctic navigation
  - Enact related domestic law by 2016
  - Revision of Guideline for ice covered area by KR
- R&D investment for the innovative technology in Arctic weather condition
  - Safe, environment friendly technology including shipping
- Investigating Arctic Navigation Support System to address ice related risk in the route
  - Charting and navigating information support system
Korea’s approach to the NSR

3. Ice Navigation training for Koreans

• The Lloyd’s Register Marine Approved Training Provider Scheme has awarded approval of the Korea Institute of Maritime and Fisheries Technology (KIMFT) training centre and ice Navigation training courses

• KIMFT provided following major services:
  1) Education and Training of job Knowledge for Arctic navigation
  2) Education of international laws regarding Arctic navigation
  3) Education and Training of ship control, navigation and operating communication equipment in Arctic
Korea’s approach to the NSR

4. The cooperation in the development of Arctic ports

- Russia and Korea discussed cooperation in modernization and development of Russian Arctic ports in Korea-Russia economic Committee (2010)
- Korea is carrying forward a MOU with Russia for the cooperation in the development of Arctic ports

Source: www.mining.com
Source: s-material Handling co.,Ltd.
5. The diversification of business model with the NSR

• Korean government, port authority, related institutes have discussed the diversification of navigation route through NSR
• In this connection Korea Maritime Institute is working on the possibility of utilization of inland shipping which connects NSR
Korea’s approach to the NSR

6. Operation in the NSR

- In 2013 Hyundai Glovis, for the first time as a domestic company
- They shipped 44,000 tons of Naphtha and was imported by the Yeochun NCC in a ship chartered by the Stena Marine
- It took 35 days from Ust-Luga to Gwangyang
Korea’s approach to the NSR

- CJ Korea Express, commercial operation in NSR as a Korean flag carrier
- Shipping stevedoring facilities of 4,000mt for construction of offshore terminal, starting from Mussafah based in UAE to Yamal Peninsula
- 500 km passing through the NSR and 4 Korean navigation officers were certified under ‘Ice Navigation training’
Korea’s approach to the NSR

7. Shipbuilding

- DSME will build total of 15 ice-class Arc7 LNG carriers and the first vessel from batch is scheduled for delivery in 2016.
4 Comments
• Positions: Korea borders both the Pacific Ocean and the Eurasian continent, and is geographically located to affect and be effected by the Arctic. And Korea has
  ✓ no geopolitical ambitions in the Arctic region
  ✓ a democratic political and financial system connected to the global society
  ✓ an economic system based on free market principles
  ✓ advanced circumpolar science research facilities and experiences
  ✓ accumulated knowledge in ship building and shipping business, communications, and construction technologies
  ✓ demonstrated leadership as a Middle power

• Potential Value: The Korean government has displayed strong political willingness to foster cooperative ties with Arctic states with capacity as
  ✓ a provider for state of the art safe technology the Arctic needs
  ✓ a consumer for the Arctic resources and services the Arctic provides
Thank you

Note: The views expressed are the sole responsibility of the author and do not reflect the views of KMI or Korean government.