

3rd Top of the World Arctic Broadband Summit

· June 27(Wed) ~ 28(Thu), 2018

· Japan Hokkaido University

Cooperation Ways of Korea for utilizing NSR

2018.6.28

Dr. Sung-woo LEE, Director General, Port and Logistics Division

Dr. Minsu KIM, Director, Polar Policy Research Center

Korea Maritime Institute(KMI)

Contents

I What is happening in Arctic?

II Russia's approach toward 'NSR' : A Priority

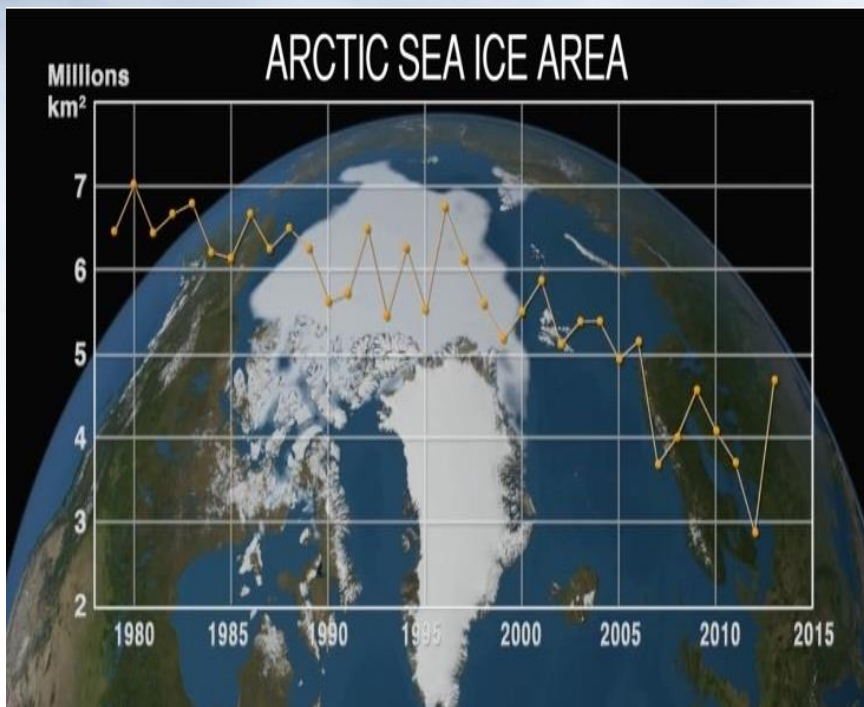
III New Approach toward 'NSR' : Business & Cooperation

IV Cooperation Ways of Korea

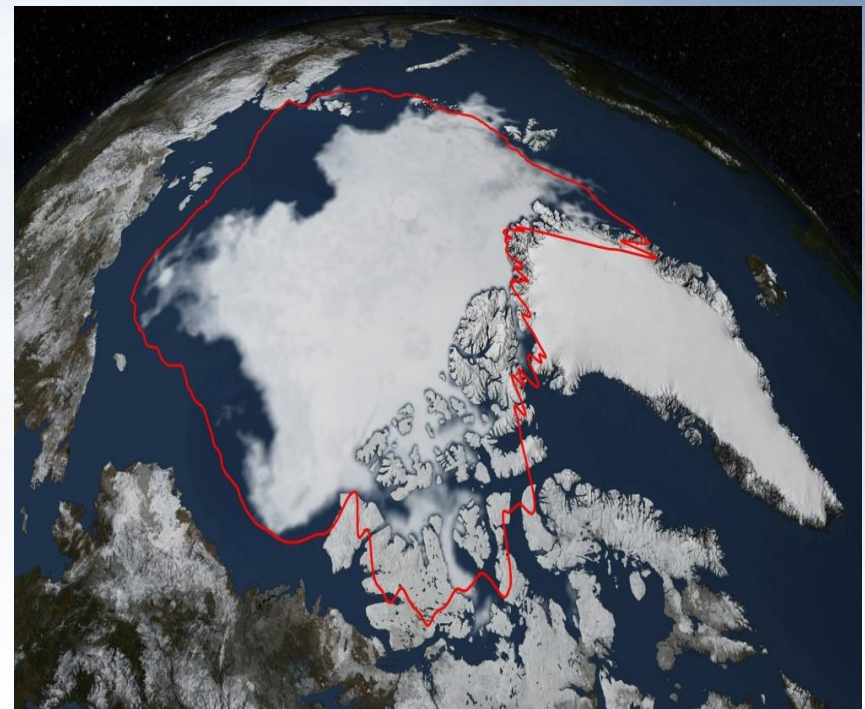
I What is happening in Arctic?

On Melting Arctic Ice

- Ice on NSR by Global warming is gradually disappearing. It is fueling the possibility of the route being used for commercial purposes.



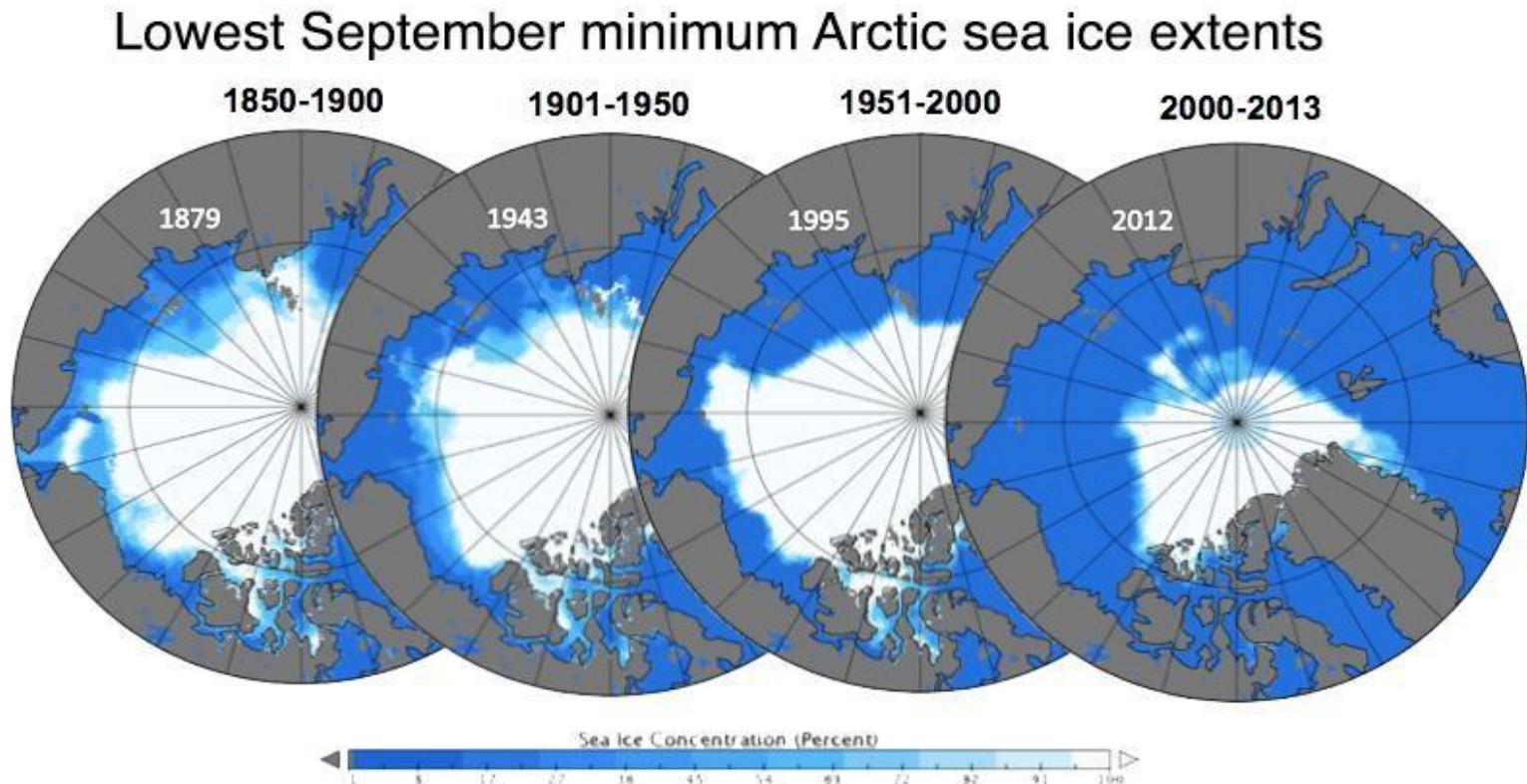
Source: NASA, Arctic Sea Ice Reaches 2014 Minimum Extent



Source: NASA, Goddard Scientific Visualization Studio, 2016

On Melting Arctic Ice

- These sea ice concentration maps compare the lowest Sep. minimum Arctic sea ice extents for the periods 1850 to 1900, 1901 to 1950, 1951 to 2000, and 2000 to 2013



Source: F. Fetterer/National Snow and Ice Data Center, NOAA

On Melting Arctic Ice

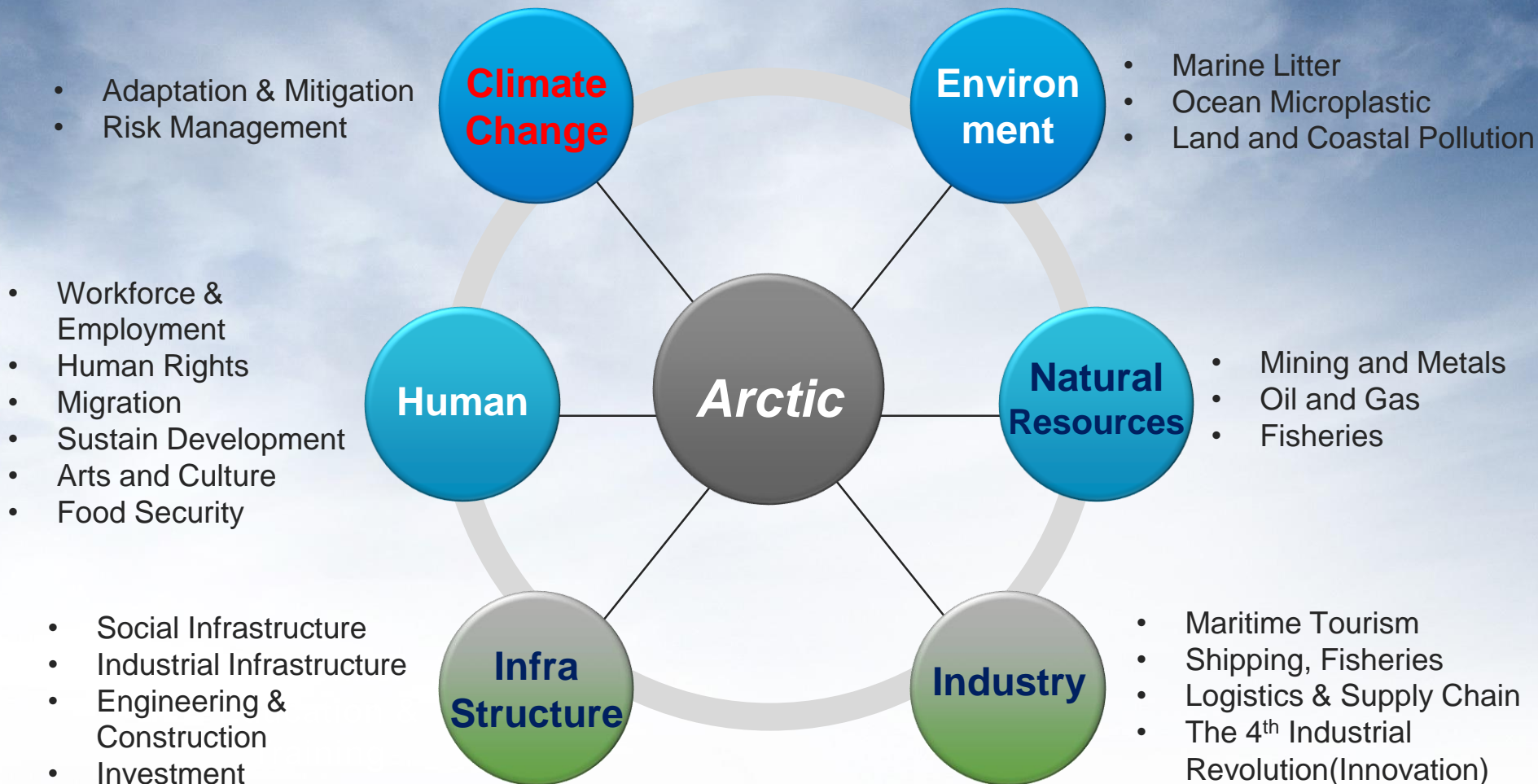
I Southern routes(Suez canal route) vs Northern route(NSR route)

- Using Northern Sea Route will shorten maximum of 10 days compared to that of Suez Canal route to Rotterdam from Korea
- If ice conditions improve and the profit margin of NSR transit increases, some shipping companies are willing to switch to the NSR seasonally

(H. Wang et al, How will the opening of the Northern Sea Route influence the Suez Canal Route? And empirical analysis with discrete choice models, Transportation Research Part A, Vol. 107, 2018, p.75-89).



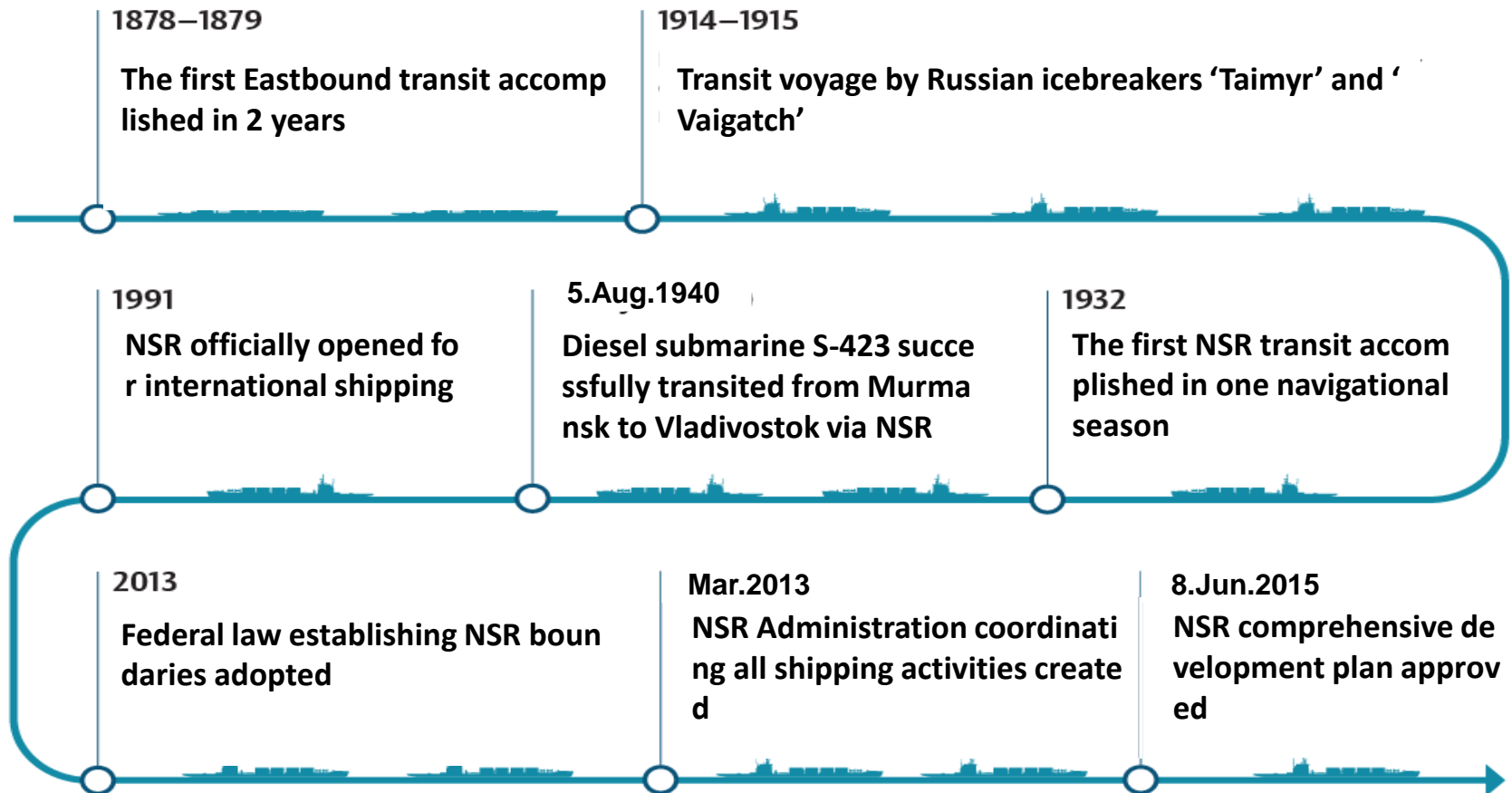
Opportunities and Challenges



II Russia's Approach toward NSR : A Priority

History of Russia Arctic

NSR History



Russian Arctic Policy & NSR

I Russian Federation Policy for the Arctic to 2020(2009)

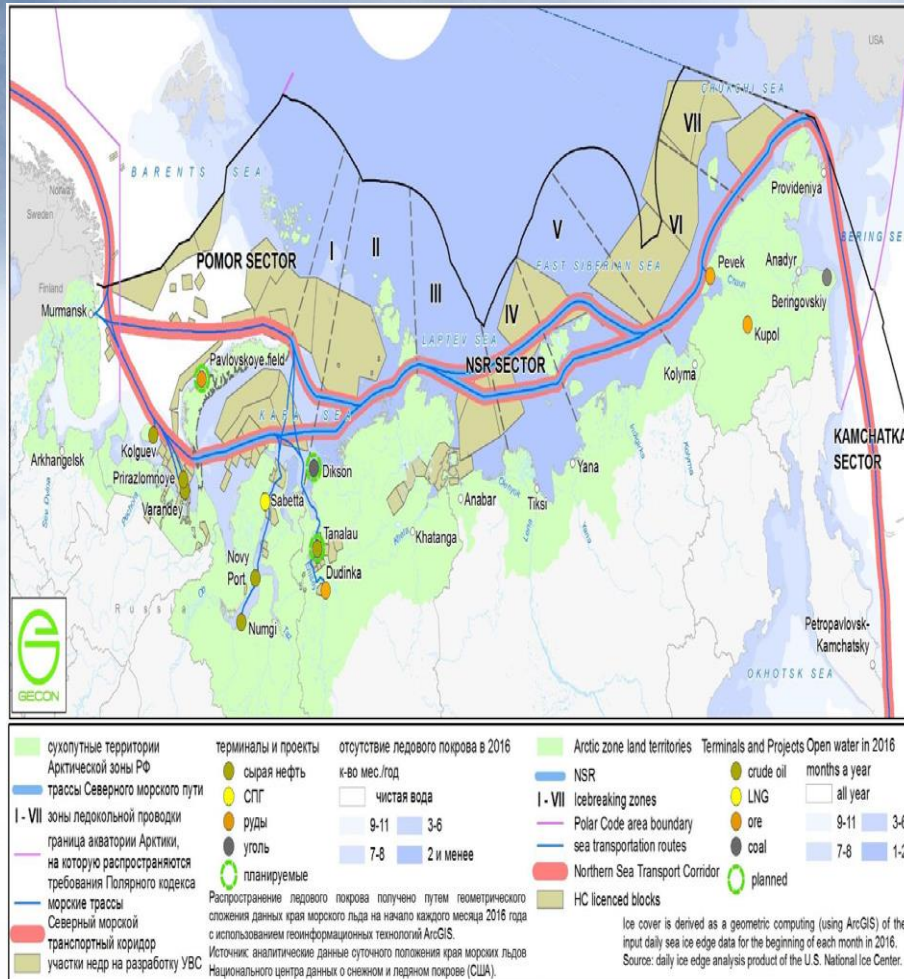
- 1st Stage (2008~2010) : Securing external border Arctic zone
- 2nd Stage (2011~2015) : Exploitation and exploration of natural resources Creation and Development of the Infrastructure and control system of communications of NSR for maintenance of the Eurasian Transit.
- 3rd Stage(2016~2020) : leading Arctic Power. Transforming of the Arctic Zones into a leading strategic resource base. Consolidation of international security, maintenance of peace and stability in the Arctic region

I Significance of NSR

- Maritime transport corridor to North-Atlantic and North-Pacific
- Integral part of Russia's overall transportation and logistics system
- The development of Arctic natural resources, socio-economic opportunities
- Security and safety

Significance of NSR

Sectors of NSR



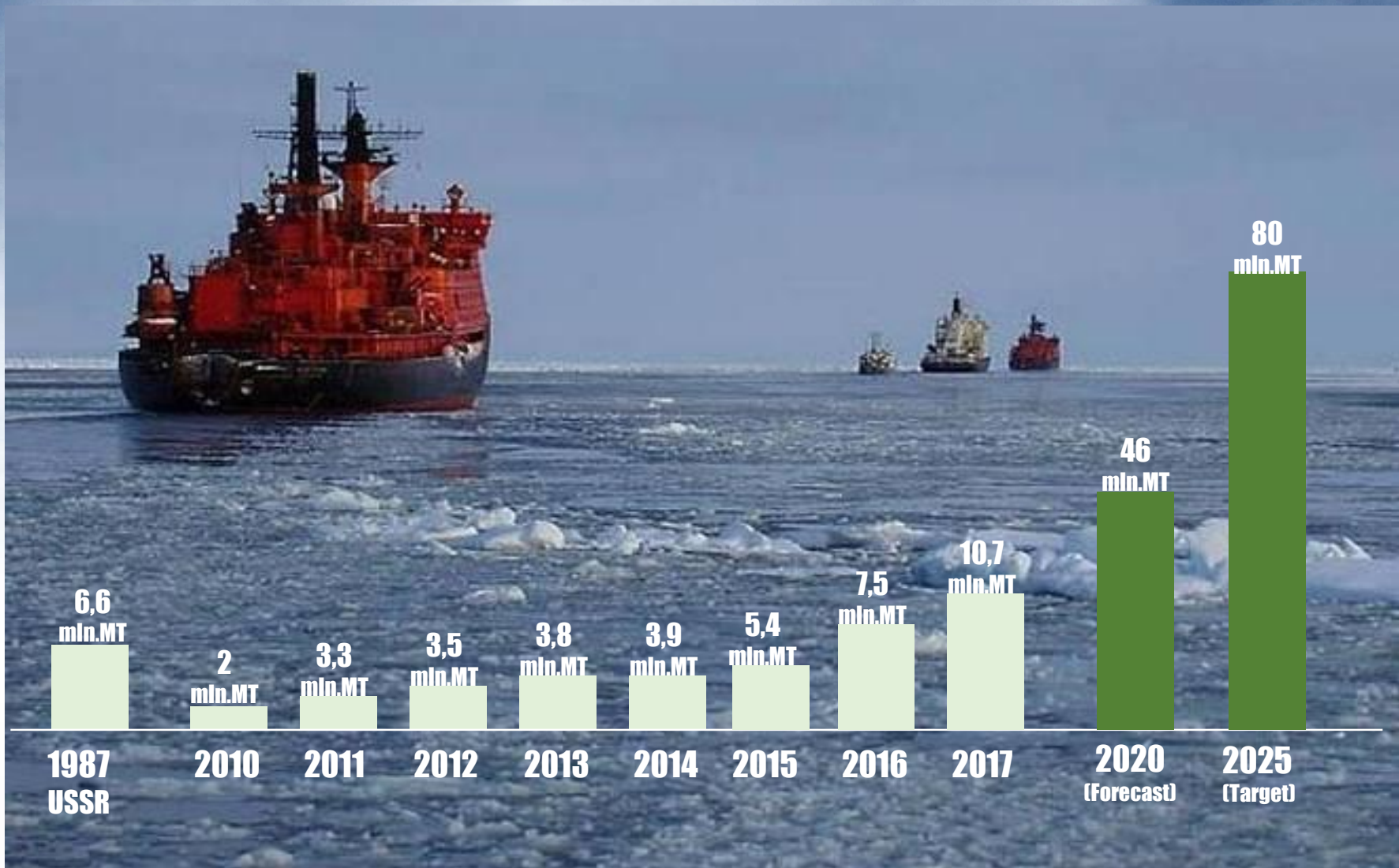
Source : <http://www.nsra.ru>

Transit of NSR in 2017 (661)

| State | No | State | No |
|-------------|-----|----------------------------------|----|
| Russia | 558 | Antigua & Barbuda | 12 |
| Finland | 2 | Isle of Man | 1 |
| Cyprus | 8 | Marshall Islands | 2 |
| Malta | 3 | Sierra Leone | 1 |
| China | 11 | Luxembourg | 4 |
| Curacao | 4 | United Kingdom | 1 |
| Netherlands | 11 | St. Kitts & Nevis | 1 |
| Panama | 11 | Belize | 1 |
| Bahamas | 1 | Norway | 9 |
| Liberia | 6 | Saint Vincent and the Grenadines | 1 |
| Portugal | 8 | Saint Kitts and Nevis | 1 |
| Hongkong | 1 | Gibraltar | 2 |
| | | Singapore | 1 |

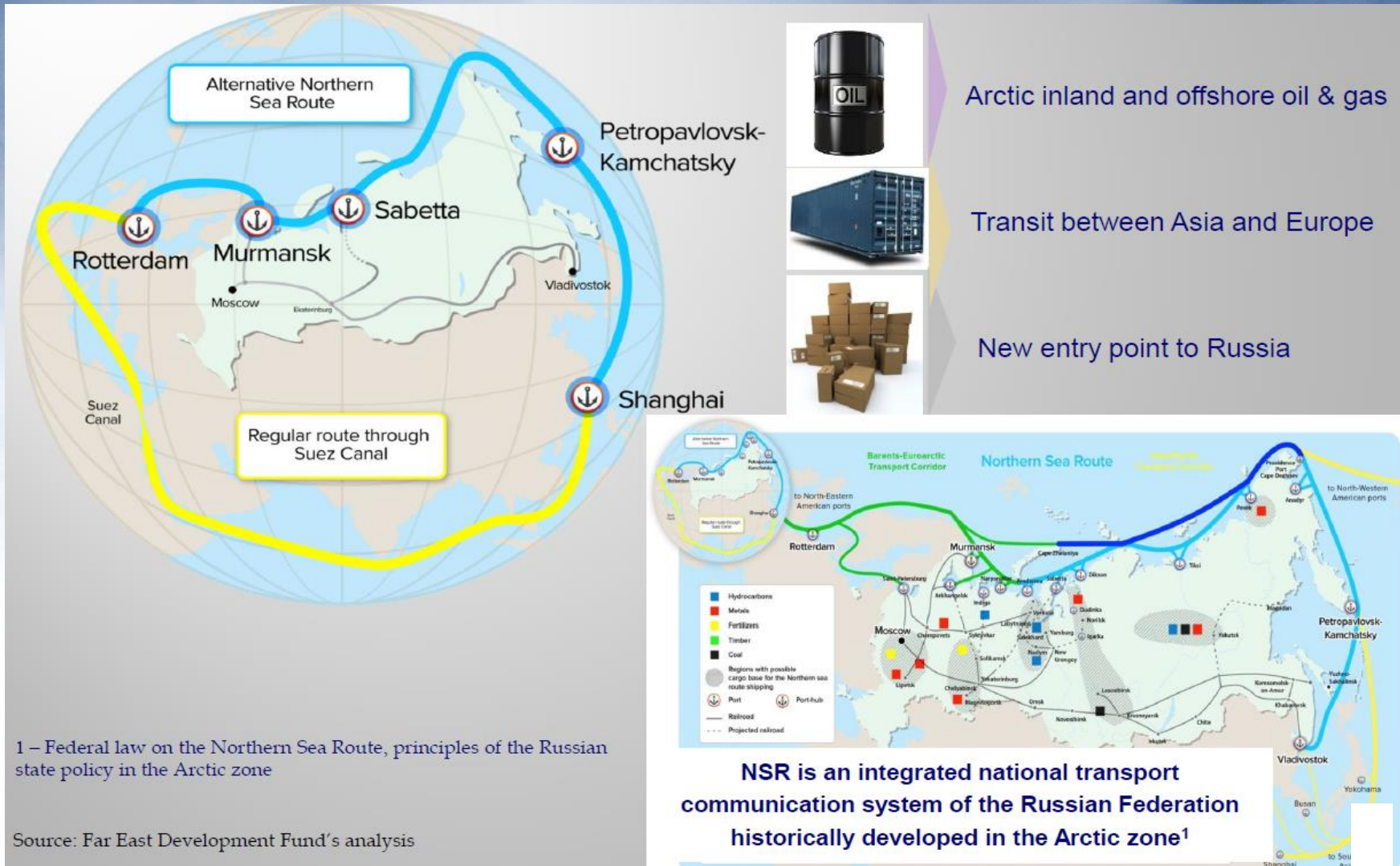
Source : <http://www.nsra.ru>

Target of Throughout in NSR



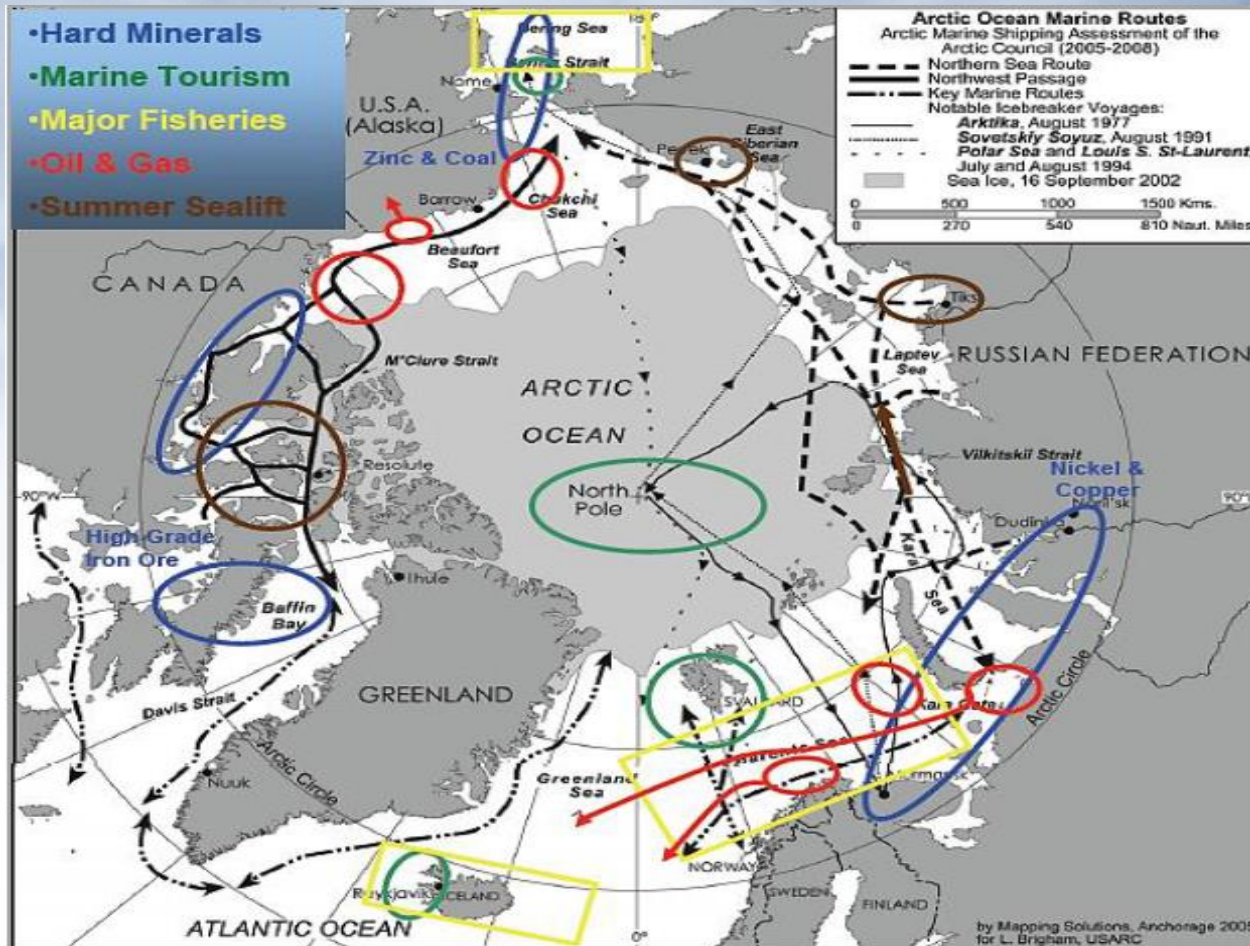
III New Approach : Business & Cooperation

Approaching Ways to NSR



1) Development of Natural Resources & NSR

<Distribution chart of arctic resources and the NSR>

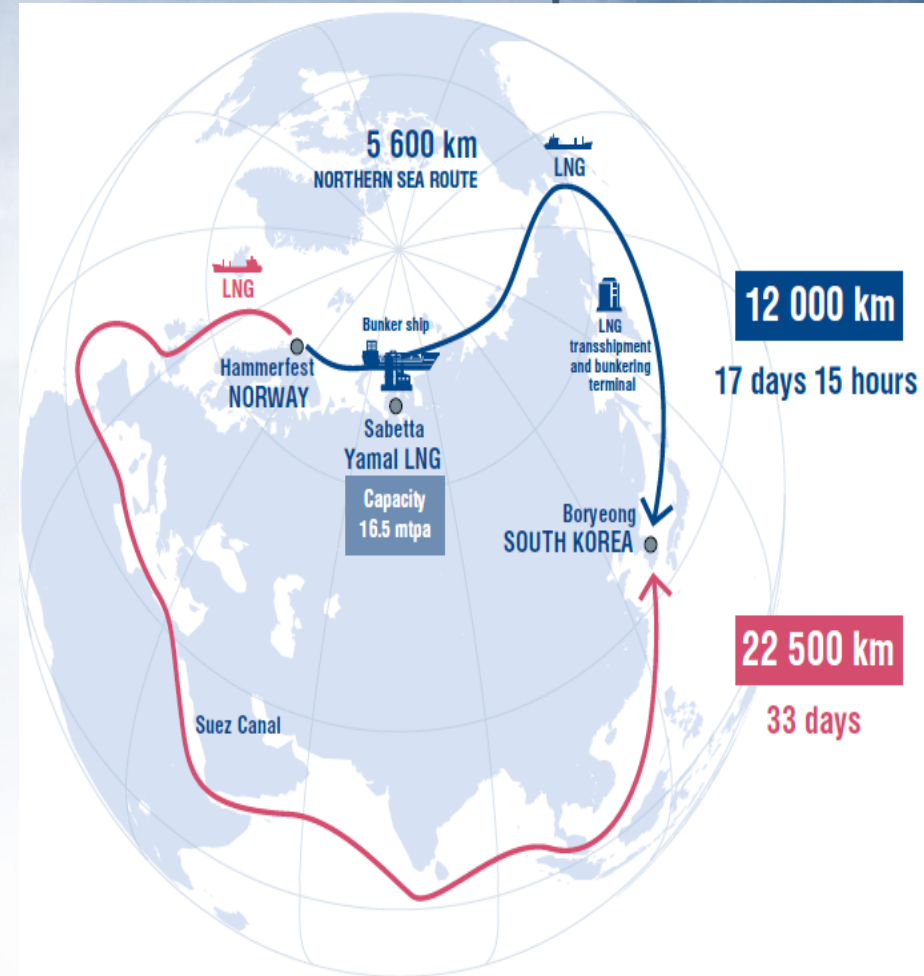


1) Development of Natural Resources & NSR

LNG Development Plan of Russia



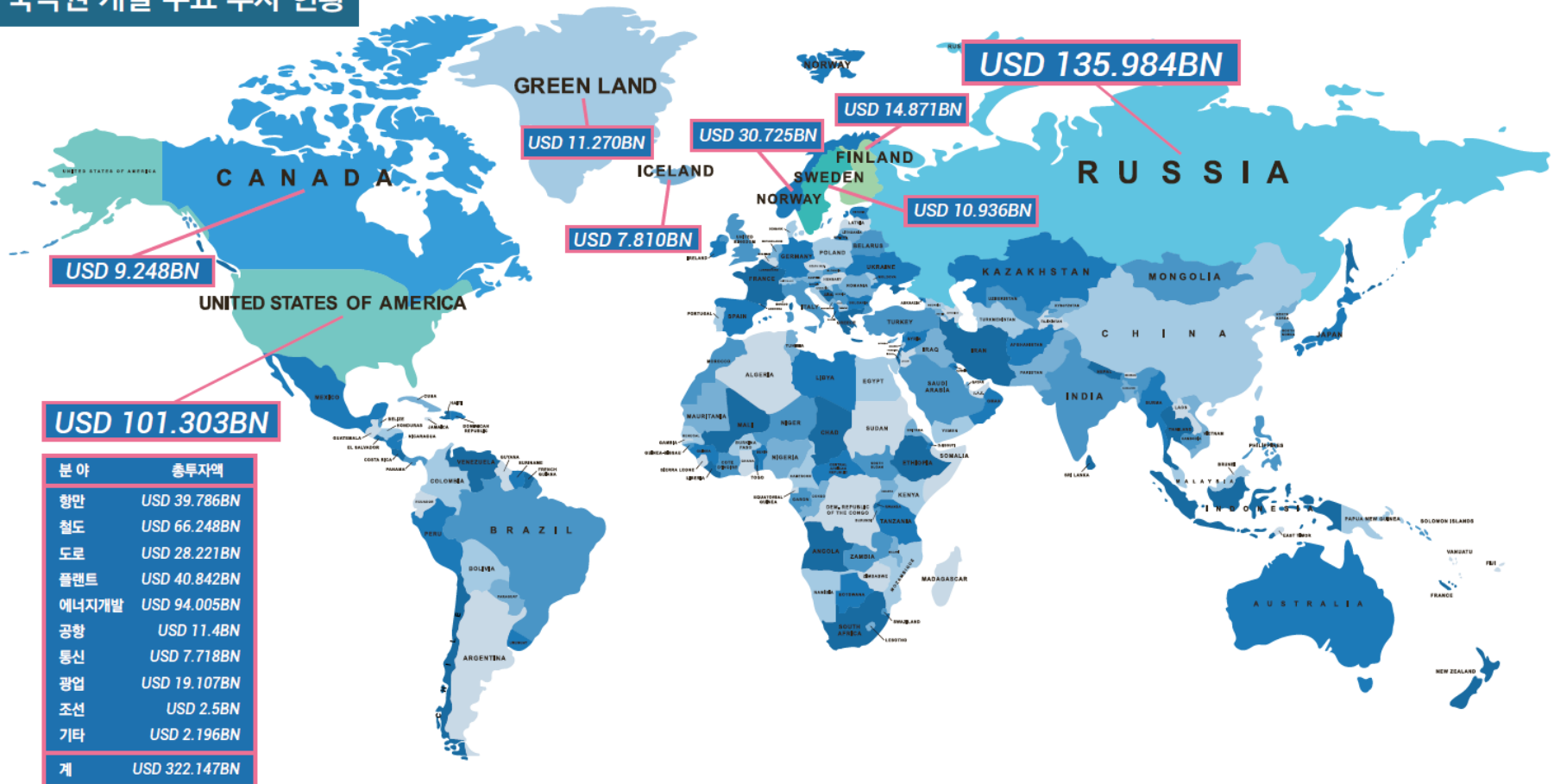
Yamal LNG Transportation



2) Infrastructure for NSR

Investment of Arctic States in Development Natural resources & Infrastructure

북극권 개발 주요 투자 현황



Source : KMI

2) Infrastructure for NSR

Stability of exporting route needs related infra, ship, plant, port and so on

<Icebreaker cargo ship>



<Arctic Plant>



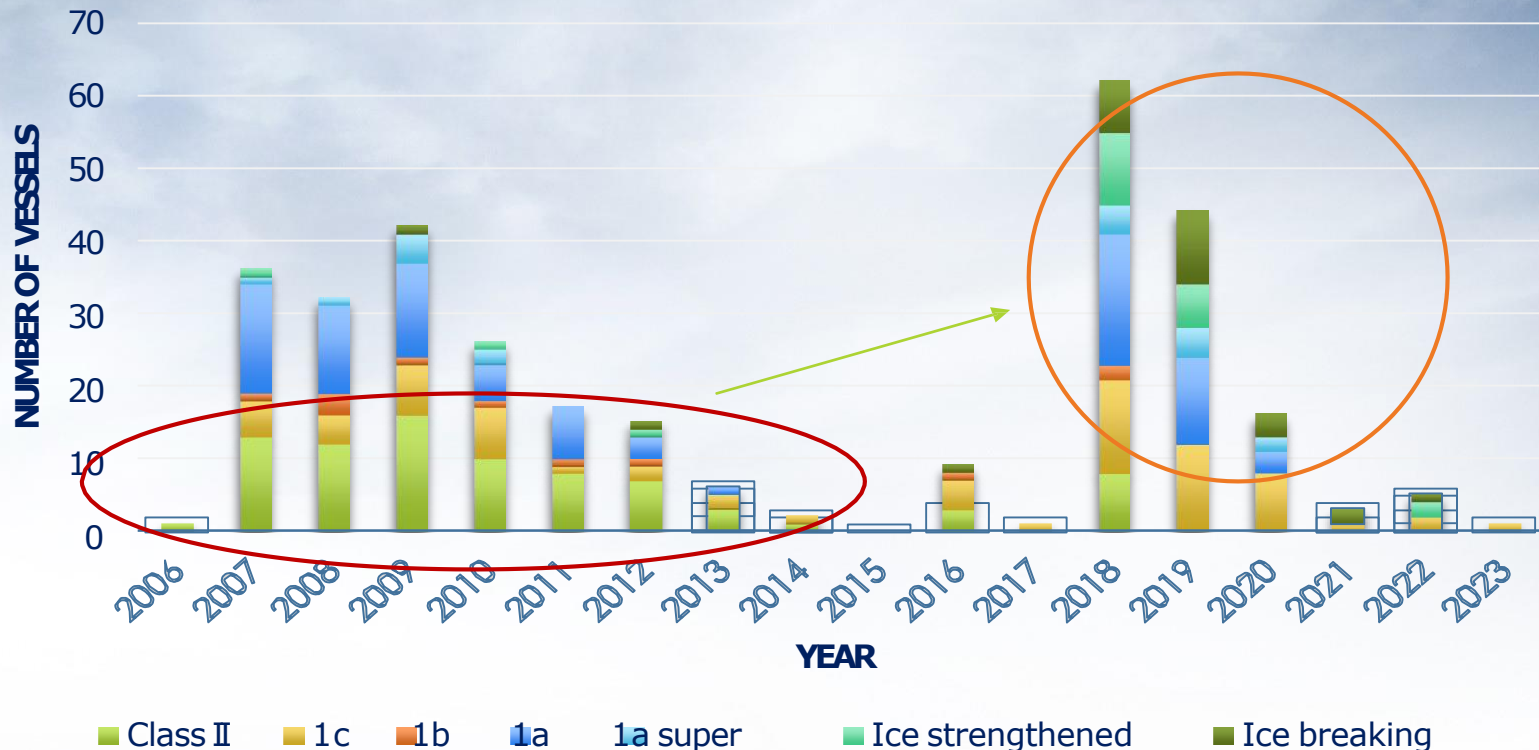
<Exporting Port>



2) Infrastructure for NSR

■ Shipbuilding is one of key cooperation field between Korea & Russia

Ice class vessel orders 2006-2023



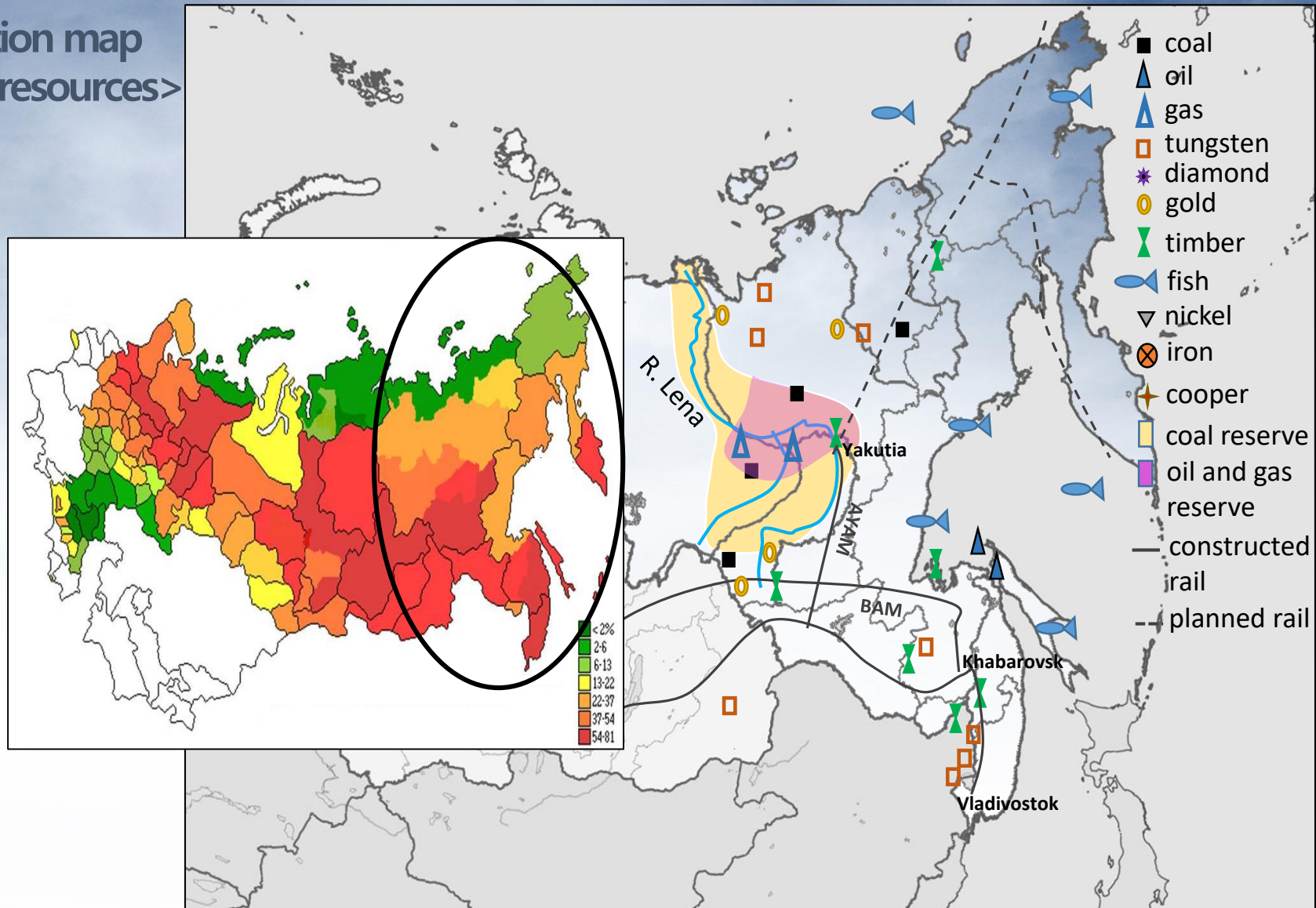
2) Infrastructure for NSR

- Development of feeder and midway ports is important point to cooperate
- These are supporting transit route and concentrating cargoes from hinterland



3) New Advance to Russia

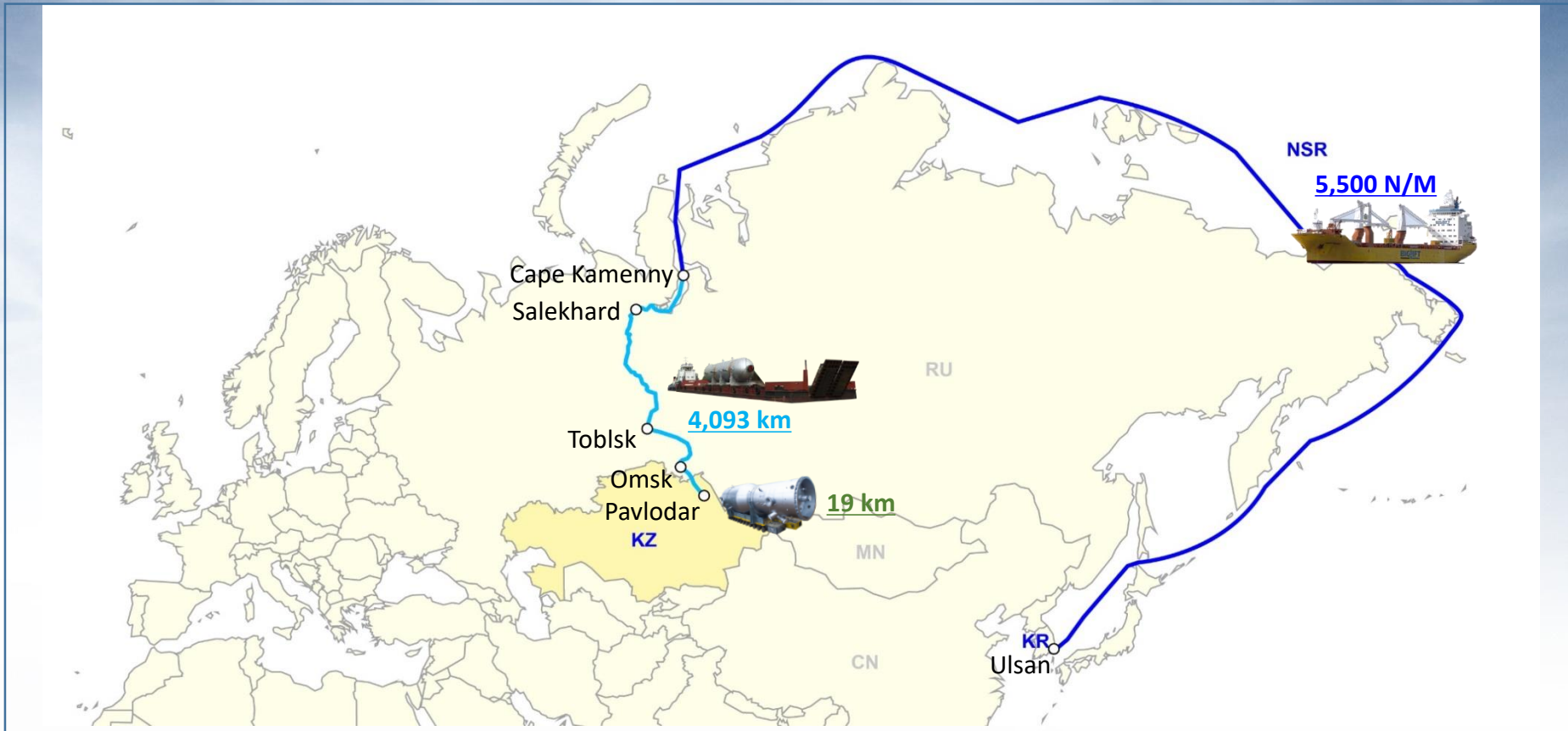
<Distribution map
of timber resources>



3) New Advance to Russia

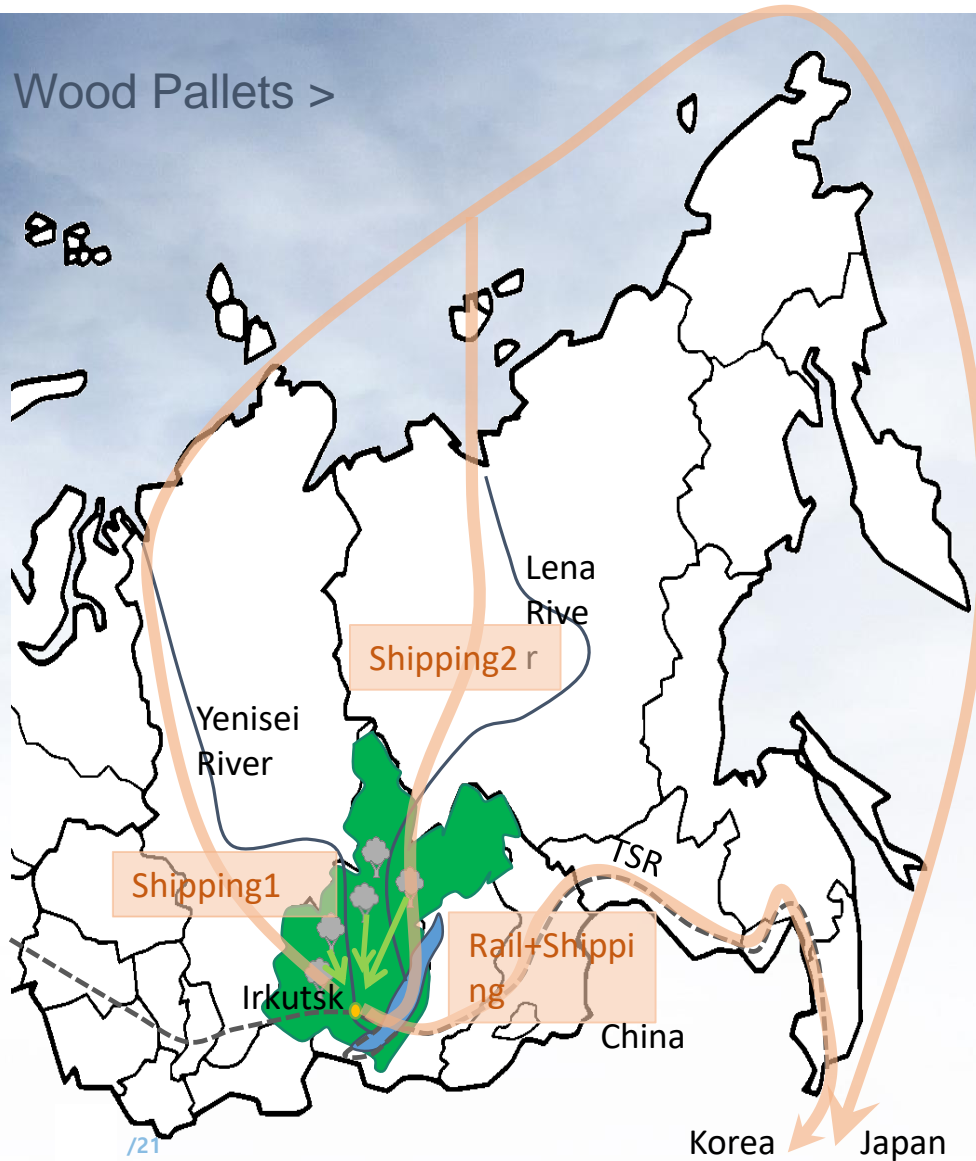
■ Sailing only part of the route to reduce the risks and providing new entry route

< Pilot case for using Russian river and NSR in Asia (2016)>

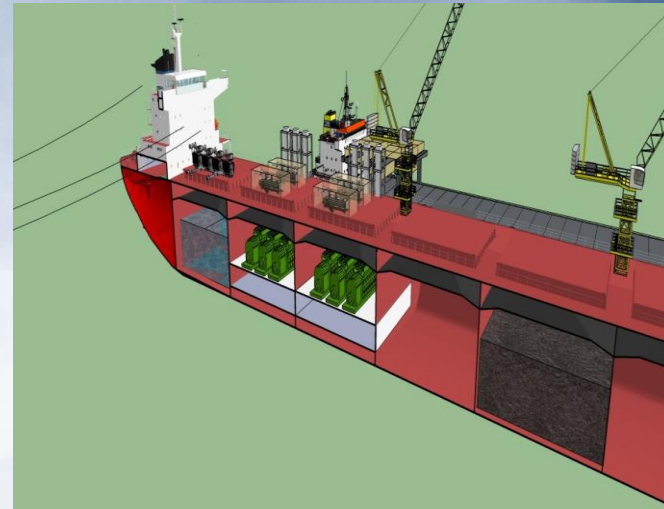
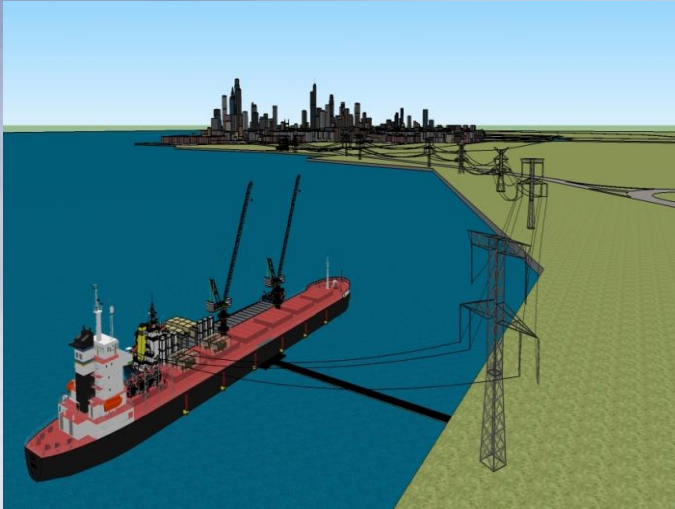


3) New Advance to Russia

< Wood Pallets >



3) New Advance to Russia



Semi-permanent offshore plant converted from 2nd handed bulk carrier of dwt 92,000 to serve as for prompt port, mini-power plant, desalination, waste treatment, storage & emergency rescue base.



IV Cooperation Ways of Korea

Korea's New Northern Policy

9-BRIDGE Strategy

To push ahead with cooperation projects across nine sectors (gas, railways, ports, power generation, Arctic Shipping Route, shipbuilding, agriculture, fisheries, and industrial complex) simultaneously

9-BRIDGE : Arctic Shipping Route

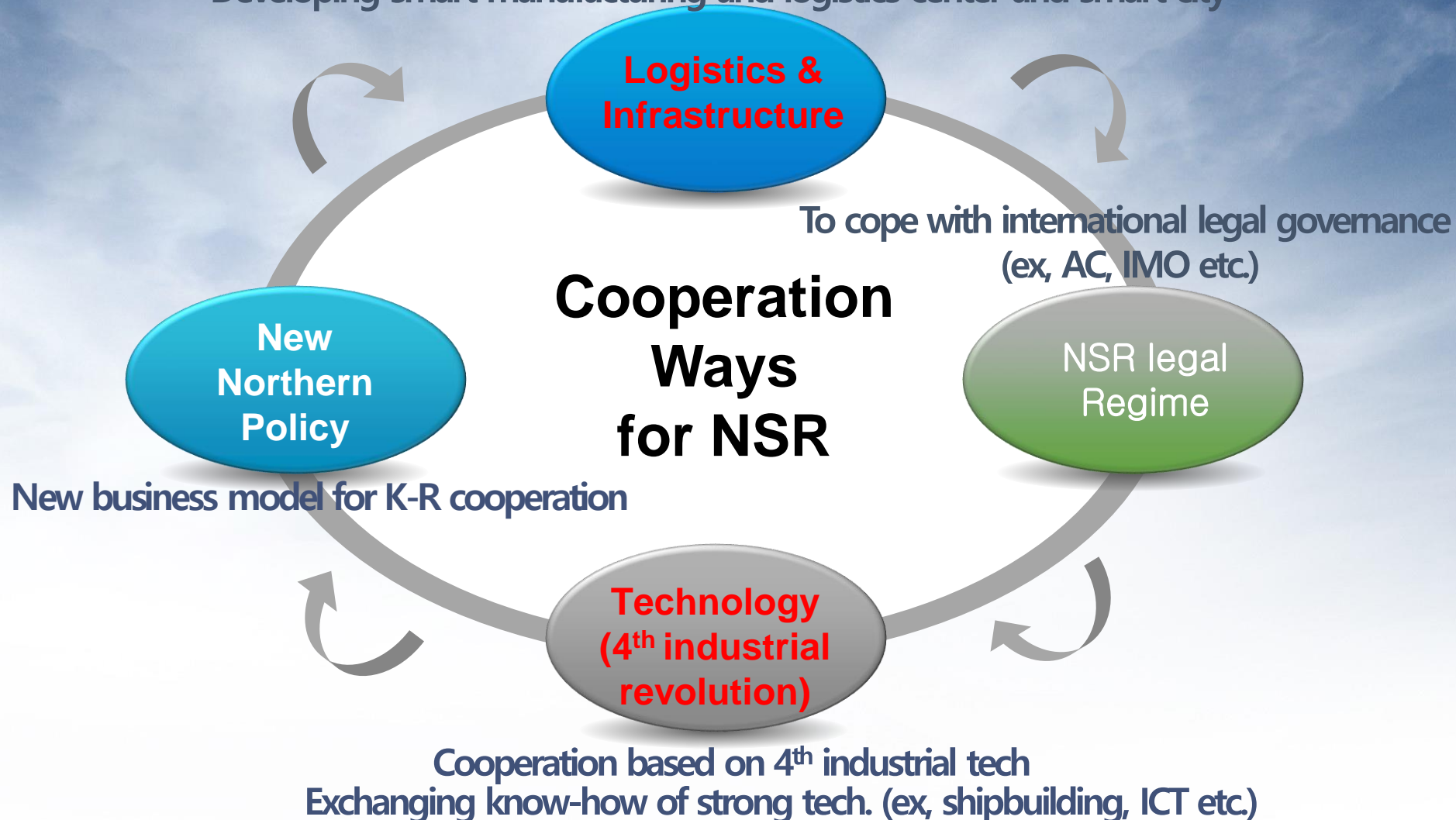
To develop the Arctic Shipping Route into a new logistics route to promote its commercial use and preempt the Arctic Ocean market



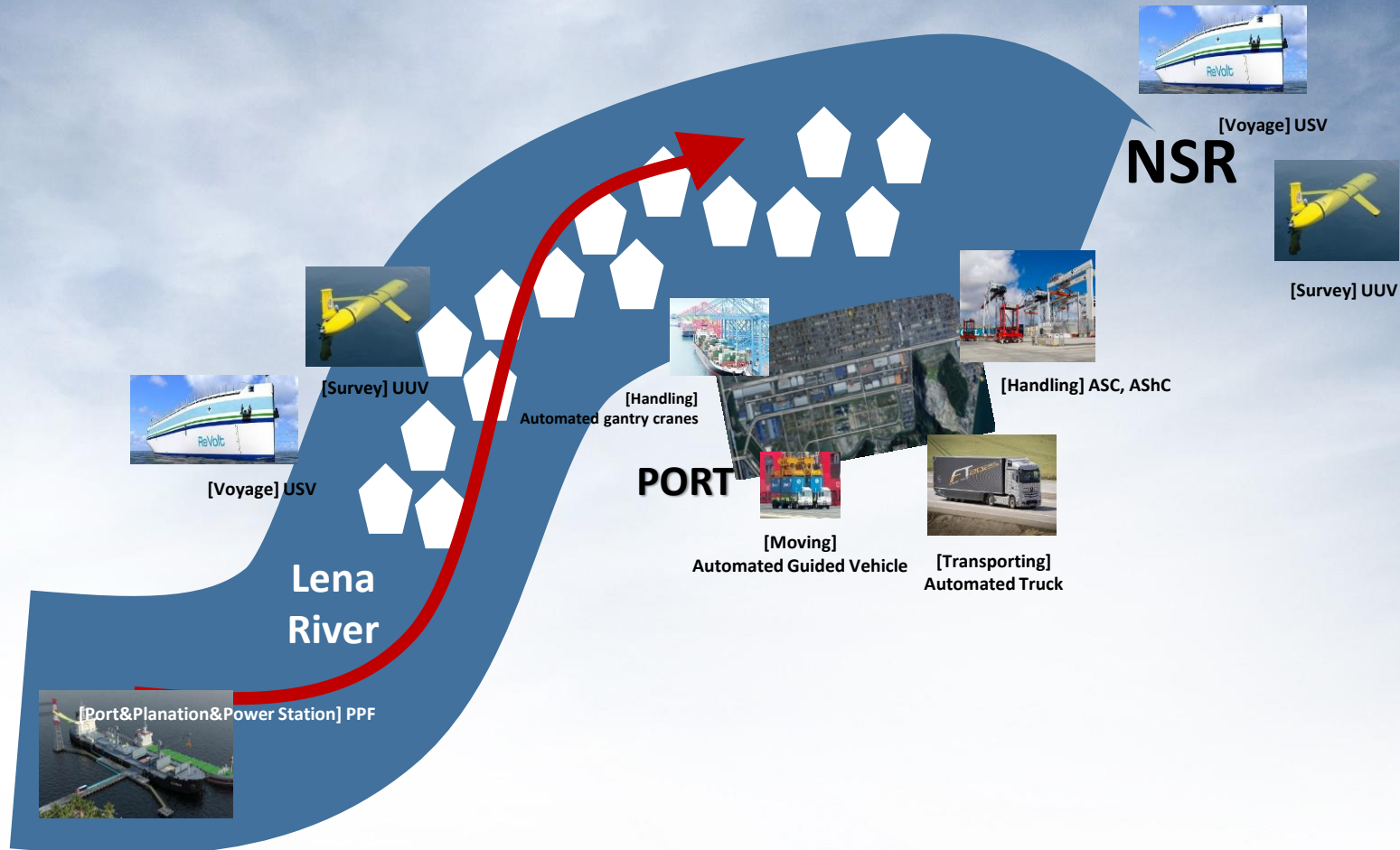
Source : The Presidential Committee on Northern Economic Cooperation

Suggestion : Cooperation Ways

Developing infrastructures in riverside, inland and Arctic side
Developing smart manufacturing and logistics center and smart city



* Logistics Network based on 4th Tech *



* NSR as Global Maritime Logistics *



Thank you For Your Attention!

Sung-Woo LEE, waterfront@kmi.re.kr
Minsu KIM, guan72@kmi.re.kr



한국해양수산개발원
KOREA MARITIME INSTITUTE