

# NSR-Based Business in NE Asia

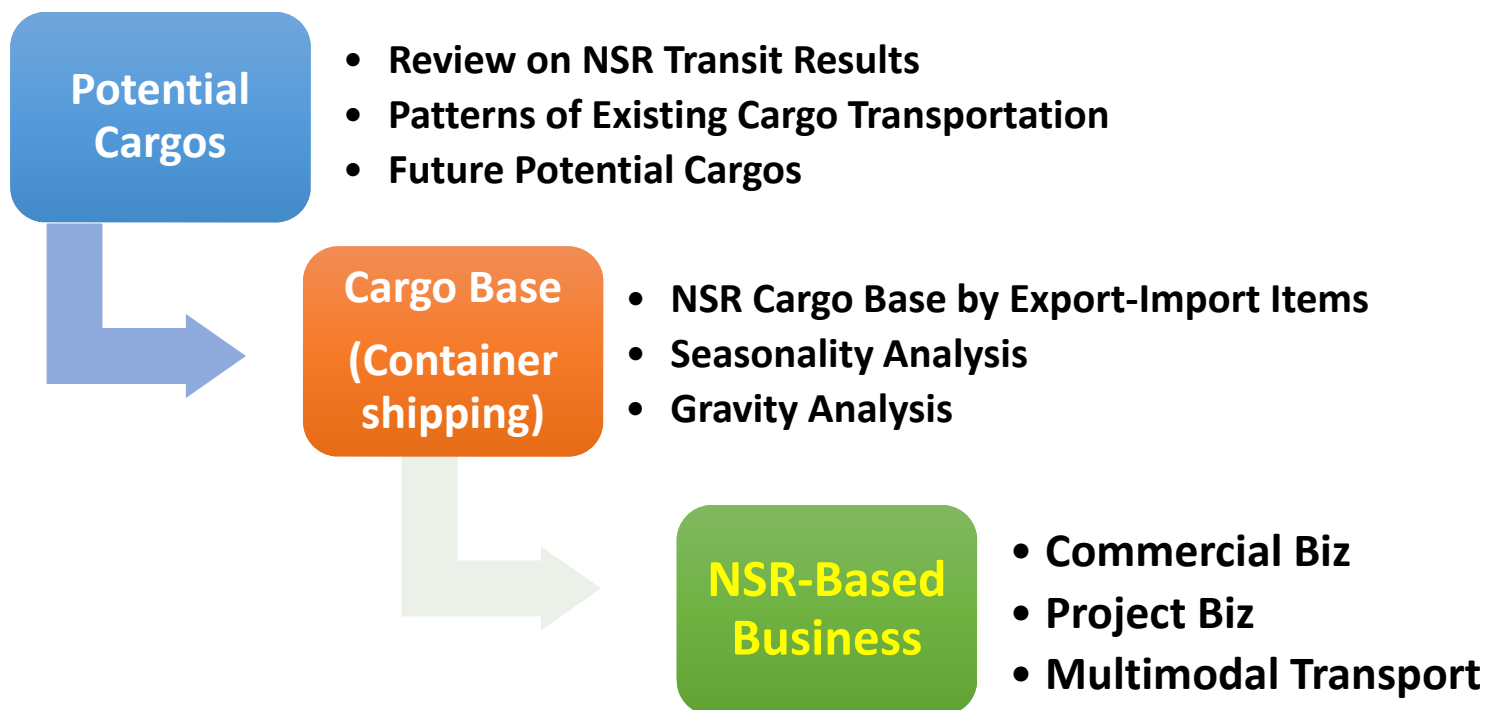
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WP4: NSR's Future Cargo Base**

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# Three Approaches for Identifying the Prospective Cargo for NSR Transport



# Agenda

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**1. Overview of NSR Business**

**2. Transit Cargo**

**3. Multi-Modal Transportation**

**4. Project Business**

**5. Summary**

# 1. Overview of NSR Business

## (1) NSR Trans-Shipping

(unit:'000)

	2013	2014	2015
NSR Port	2,738	3,708	5,392
- Sabetta	398	1,133	1,975
- Dudinka	-	1,156	1,229
- Kamennymys	-	217	497
- Others	778	1,202	1,691
Transit	1,176	274	39
Total	3,914	3,982	5,431

(source: NSRA, IAL)

- In 2015, transited cargoes declined by 86% to 39,000 tons.
- However, domestic cargo volume jumped 37% to 5.4 mil tons, supported by accelerated work in the construction of the Yamal LNG plant.

# 1. Overview of NSR Business

## (2) Impact of Sanctions against Russia

- Since 2014, economic sanctions against Russian energy companies imposed direct constraints on commercial, technological and financial cooperation with the Western countries.
- Sanctions may not directly affect the construction of the Yamal Plant project, but actually can influence the financing of Yamal LNG project.
- It was only at the end of April, 2016 that Yamal LNG finally secured loan agreements totaling over \$12 billion from two Chinese banks, the Export-Import Bank of China and the China Development Bank.

## 2. Transit Cargo Business

### Vessels transited through NSR in 2015

Vessels							Ice Class
	Departure	I/b assistance	Destination	Departure	I/b assistance	Destination	
Winterbay	Tromse	No	Osaka	Petropavlovsk	No	St.Petersburg	Ice 1
	0801	0806~0816	0830-0903	0910~0924	1001~1010	1014~1016	
Yong Sheng	Shanghai	Taymir	Varberg,	Antwerp, Hambu rg	No	Busan	Arc 4
	0709~0722	0802~0810	0819~0822	0823~0904	0912~0920	0929~0930	
Garmonia	Nakhodka	Yamal	Murmansk				Arc 4
		0814~0824					
Bremen	Murmansk	No	Provideniya				Arc 5
		0823~0904					
HHL Valparaiso	Tianjin	Yamal	Gdynia				Arc 4
		0920~1003					

(source: NSRA, IAL)

- Total of 18 vessels transited on the NSR. Among them, only 7 vessels were laden shipping.

## COSCO's NSR Regular Shipping Plan

- 2016: one round trip, one export transportation
- 2017 ~ 2020 : deploying two ice class vessels
- After 2020: Commercialization of NSR shipping
- In the long-run, COSCO plans to conduct Asia-to-Europe transportation on a regular basis via NSR.

## Case: NSR Int'l Transit by COSCO 'Yong Sheng'



Round Transit of YongSheng on the NSR in 2015 was conducted strategically in the long-term perspective.



## Significance of COSCO's Round Shipping(I)

**1) Assessing the possibilities for more regular shipping between Europe and Asia along the NSR**

**2) Reflection of Chinese National Logistics Policy**

- Development of NSR : one of the tasks for “One Belt, One Road” Policy of China
- China proposed the “Silk Road Economic Belt” in Eurasia and the “21st Century Maritime Silk Road” in the Indian Ocean.
- The third road, namely the NSR, was proposed to be added.

## Significance of COSCO's Round Shipping(II)

### 3) Port Development Policy of Dalian Local Government

- COSCO's Yong Sheng transportation in 2015
- Participation in investment for Yamal LNG carrier

### 4) Preparation for future Commercial Voyage on the NSR in the Long-Term Perspective

- COSCO will focus on bulk cargo shipping using multi-purpose vessel like YongSheng for the time being.
- But, in the medium and long run, COSCO will try to operate the regular container shipping between China and Europe.

## COSCO's Strategy

### **(1) Multi-purpose vessel is optimal for Shipping on the NSR**

- Securing ice class vessel & basic cargoes to be shipped
- Making NSR transportation schedule open to public
- Negotiating the additional cargoes

### **(2) Focusing on the development of technology & manpower regarding NSR transportation**

### **(3) Prospective cargoes under commercial operation via NSR**

China -> Europe : Steel, Equipment

Europe -> China : Pulp, Timber, Mineral Resource

## Prospect of Transit Shipping & Status of LNG Carrier Construction

- Major cargoes via NSR in the long-run: LNG & Container cargo
- For year-round shipping of gas to the markets of the Asia-Pacific region and Western Europe, the operator of the Yamal LNG project plans to use a fleet of 15 LNG carriers.
- Each with a cargo capacity of 172,600 cbm and with Arc7 class
- Sovcomflot : 1  
MOL : 3  
Teekay : 6  
Dynagas : 5

All vessels are scheduled for delivery over the next four years.

## Current Status of the Construction of LNG Carrier at DSME

- The first Arc7 class LNG carrier, SCF Yamal, was launched at the DSME shipyard on January 2016.
- The vessel is one of fifteen ice-class LNG carriers contracted to serve Yamal LNG project.
- Status
  - 08/16: Sea Trial
  - 10/16: Initial Acceptance
  - 01/17: Final Delivery



Image courtesy of DSME

### 3. Multimodal Transport Business

- Can be applied to heavy cargoes that need to be transported to Central Asia.
- In 2015, the heavy cargoes shipped in Korea were transported to Tyumen through NSR.
- Unico Logistics completed the feasibility study using multi modal transportation and plans to conduct it next year
- Between 2011 and 2015, the amount of plant orders of Korean companies from the Central Asia countries reached 67 cases and was worth \$330 billion.

## Case: BBC Louisiana(2015)

- BBC Louisiana
  - Modules were loaded at the port of Mokpo
  - Shipped to Novy Port
  - Inland water transportation to Tyumen, Russia
  - Additional equipment to the site by TSR from Vladivostok
- Cheaper to transport the additional equipment to the site by rail than to hire an extra barge to ship the containers down the River Ob



# Unico Logistics, Multimodal Transportation of Heavy Cargo (Plan)



## Departure from Korea via Bering Sea (Planning)

: Vladivostok (T/S Customs) → Yamburg Port or Novy Port (T/S Operation to River Barge)

→ River Jetty → Trailer → Pavlodar River Ob



## 4. Project Cargo Transport Business

- The heavy cargo needed for Yamal LNG project can be transported through the NSR.
- To transport the plant building equipment for Yamal LNG Project, three companies are operating the total of 10 vessels, and the plant equipment is being made in 5 different regions in East Asia.
- Currently, ships are being built in Dalian, Guangzhou, and Shanghai, and two vessels built in 2015 transported plant equipment to Sabetta port through the NSR.

## Yamal LNG Plant Transportation Carriers & Vessels

Vessel company	Vessel name	launch	delivery	remark
BigRoll	BigRoll Bering	2015/12	2016/5	China COSCO Dalian Shipyard
	BigRoll Barentsz	2015/11	2016/4	
	BigRoll Baffin		Second half of 2016	
	BigRoll Beaufort		Early 2017	
ZPMC- RedBox Energy Services	RedZed 1	2014	2015	China Guangzhou Shipyard
	RedZed 2	2014	2015	
	Pugnax		2016/03	
	Audax	2015	Early 2016	
Coscol			Early 2018	Shanghai Hudong-Zh onghua Shipyard

# Case 1: CJ KOREX, Korea SPB No.2, Arctic loading tower for Bluewater (Assembling, Sep 21, 2015)



## Case 2: Vessel AUDAX delivered modules for LNG plant



- The Curacao flagged AUDAX left Bohai Gulf(China) on Feb 25, 2016
  - And delivered modules for the construction of an LNG plant of JSC Yamal LNG on Apr 30, 2016
  - AUDAX is a diesel-electric ship of high ice class ARC7
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- On Apr 28, the icebreaker 50 Let Pobedy began clearing path for the AUDAX
  - This is the first heavy lift ship transporting project cargoes that has successfully passed the channel of Gulf of Ob with the assistance of icebreaker.

## Case 3: China Equipment to Yamal LNG

- 1st shipment of a 'core kit' departed the Chinese port of Qingdao and expected to arrive at Sabetta by the end of June, 2016
- China's first export of LNG core modules
- Semi-submerged vessel carrying the modules weighing more than 1,000 tons will travel 13,000 nautical miles



## 5. Summary

- Success of round trip of COSCO's YongSheng on the NSR in 2015 confirms the possibilities for more regular shipping between Europe and Asia along the NSR.
- If COSCO succeed in regular shipping on the NSR in the future, cargoes from Korea and Japan can be loaded.
- COSCO will focus on bulk cargo shipping using multi-purpose vessel like YongSheng for the time being.

## 5. Summary

- Multi modal transportation is expected to increase while exports of plant equipment from Korea to Central Asian countries are increasing, because it is economical to transport for light equipment through TSR
- Project business is expected to flourish to transport the plant building equipment needed for Yamal LNG Project.

# Thank You

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