CENTRE FOR HIGH NORTH LOGISTICS

NORD University

資料－４

Future Prospects of the NSR as an International Trade Route

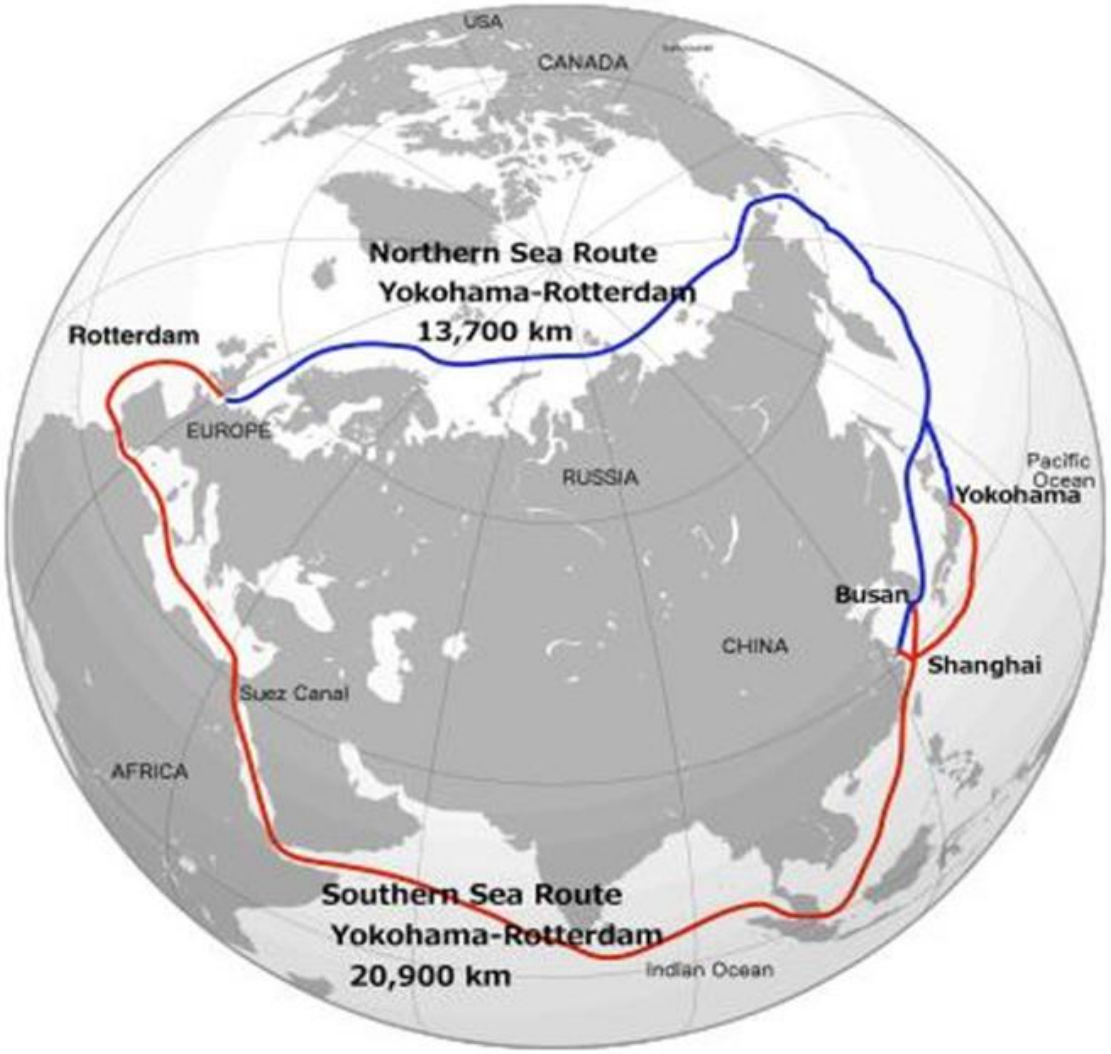



Dr. Bjørn Gunnarsson, Managing Director bjorn@chnl.no

The 5th Public-Private Partnership Conference Related to the Northern Sea Route, 6th of June 2016, Ministry of Land, Infrastructure, Transport & Tourism (MLIT), Tokyo, Japan

CENTRE FOR HIGH NORTH LOGISTICS

The Northern Sea Route (NSR)



NSR's Demonstration Voyages 2010-2013

Liquid & Dry Bulk Carriers

Large Vessels with Cargo in 2011

Perseverance	Russia to China	59 981 t gas condensate
STI Heritage	Russia to Thailand	60 944 t gas condensate
Marilee	Russia to China	60 098 t gas condensate
Vladimir Tikhonov	Norway to Thailand	120 843 t gas condensate
Stena Poseidon	Russia to Korea	57 814 t gas condensate
Perserverance	Korea to France	64 400 t kerosene
Palva	Russia to China	59 313 t gas condensate
Mariann	Russia to Korea	61 259 t gas condensate
Affinity	Russia to China	59 079 t gas condensate
Perserverance	Russia to China	61 275 t gas condensate
Sanko Odyssey	Russia to China	66 344 t iron-ore

Liquid & Dry Bulk Carriers

Shipments on NSR Between Ports Located Outside the Arctic 2012-2013

Vessel	Cargo	Loading Port	Destination Port
Stena Poseidon	Jet Fuel	Yosu, South Korea	Porvoo, Finland
Marika	Jet Fuel	Yosu, South Korea	Porvoo, Finland
Palva	Jet Fuel	Yosu, South Korea	Porvoo, Finland
Nordic Odyssey	Coal	Vancouver, Canada	Hamburg, Germany
Propontis	Diesel	Ulsan, South Korea	Rotterdam, Holland
Mari Ugland	Naphtha	Zeeland, Holland	Mailiao, Taiwan
Zaliv Amurskiy	Diesel	Onsan, South Korea	Rotterdam, Holland
Nordic Bothnia	General	Xingang, China	Amsterdam, Holland
Viktor Bakaev	Jet Fuel	Yosu, South Korea	Rotterdam, Holland
Nordic Odyssey	Coal	Vancouver, Canada	Pori, Finland

Experimental NSR Liner Service

COSCO's has announced seasonal semi-liner operation to start in 2016; multi-purpose vessel MV Yong Sheng (Arc4) transited NSR in 2013 and 2015 (160 m in length and 19,150 dwt)

The world's only nuclear-powered container ship Sevmorput will be ready in 2016 for shipping along Russia's Arctic coast and for transit voyages between Murmansk and Petropavlovsk-Kamchatka (260 m in length and 61,000 dwt)

NSR as an International Trade Route?

Transportation Safety

Russian nuclear icebreaker escort; Russian ice pilots; transport by ice-class cargo vessels (Arc4); NSR admittance criteria and the new Polar Code's safety requirements (mandatory). Additional support infrastructure needed

Predictability & Punctuality

Attractiveness of NSR for transits is low due to the lack of predictability. Regularity of a year-round supply of goods is no less important than the cost of transportation

NSR as an International Trade Route?

NSR's Administration & Management

Development stragety and implimentation plan to promote commercial activities; efficiency and route optimization; demand for icebreaker assistance and other support services; minimize the risk of sailing delays due to sea ice

Navigational Support Services

Icebreakers and ice pilot services are key elements of the NSR's support infrastructure; sufficient icebreaking capacity to assist vessels in transit; aids to navigation and real time navigation information; communication systems; and vessel traffic monitoring and reporting systems

NSR as an International Trade Route?

Convoys on the NSR

More efficient use of icebreakers; many ships sailing through the NSR at the same time in convoys improves emergency response capacity and emergency preparedness in case of accidents

SAR & Oil Spill Response

Land-based and offshore (floating) infrastructure to be able to respond to emergencies in time and deliver needed assistance and supplies and conduct evacuations and oil spill response from remote areas of the NSR; Arctic Council's SAR agreement in 2011 and OSR agreeement in 2013

NSR as an International Trade Route?

Arctic Sea Ice Reduction

Navigation in seasonal ice only (one year ice) 1-2 m thick; reduction in sea ice extent and thickness; important to avoid ice ridges and hummocky ice; year-to-year variability in ice characteristics

Seasonal or Year-Round Operations

Summer-fall navigational season July-November (5 months); short season limits NSR's development and economic viability; year-round operations are prerequisites for the route's full integration into the world's transportation system

NSR as an International Trade Route?

Cargo Transport Westward & Eastward

Prerequisite for increased growth of transit shipping on the NSR is the availability of cargo transport in both east and west directions

High Ice-Class Cargo Ships

Limited number of vessels with adequate ice class represent a limitation on the utilization of the NSR; makes NSR vulnerable to competition from much larger vessels going via the Suez or Cape (economy of scale)

NSR as an International Trade Route?

NSR's Economic Feasibility vs. Suez

Higher costs of operations in the Arctic compared to southern shipping routes (ice-class vessels; winterization); not economical for ice-class vessels to sail for long distances in open waters; harsh operational conditions, limited or no excess to Arctic ports and insufficient support infrastructure

Arctic Ports & Transshipment Hubs

Most Arctic ports lack deep-draft access, refuge and salvage operations, cargo handling and passenger-crew facilities; excess to Russian ports for non-Russian flag vessels; transshipment hubs on either side of the NSR

NSR as an International Trade Route?

Energy and Mineral Resource Development

Current and future development of Arctic energy and mineral resources is the main driver for increased shipping on the NSR in the coming decades

Industrial Development

The abundance of energy and mineral resources in the Eurasian Arctic within the same geographical locations opens up the possibility of value-adding indurstrial processing in situ before shipment via the NSR; new industrial frontier in the Eurasian Arctic

NSR as an International Trade Route?

Protecting the Arctic Environment

NSR admittance criteria and the new Polar Code's environmental protection requirements (mandatory); environmental and safety concerns and the need for economic development should be inclusive and intergrated in a balanced way

Sensitive Areas & Places of Refuge

Indentification of areas of heightened ecological significance; careful planning and effective regulation in areas of high risk; indentifying and supporting suitable places of refuge for ships in need of assistance and providing such ships with needed support

NSR as an International Trade Route?

Destinational & Intra-Arctic Shipping

Most relevant activity on the NSR in the short to medium term; transport of resource materials from ports inside the Arctic to ports outside the region; transport of project cargo to the Arctic; offshore support vessels; supplying Siberian communities with goods and trade

Transit Shipping

Will increase with further redution in sea ice and improvements in navigational aids, communication systems and other support infrastructure; year-round operation a prerequisite

NSR as an International Trade Route?

New Transport & Logistics System

Logistics system for reliable and safe cargo transport; an integrated network of navigable seaways, ports, terminals and offshore structures interconnected with main railroads, airports, roadways, pipelines, and river transport

Financing Needed Infrastructure

Without cost-sharing the up-front capital costs of establishing proper infrastructure are prohibitive; public-private partnerships (PPPs)

Concluding Remarks

NSR's Strategic & Economic Importance to Russia - NSR has the potential of unlocking the natural resource potential of the Russian Arctic

NSR as International Trade Route – A supplimentary route for certain types of cargos transported by a fleet of specialized ice-class vessels and assisted by icebreakers on a year-round basis

NSR's Sustainability of Usage – A number of administrative, managment, service oriented and infrastructure issues need to be addressed

Future NSR's Transportation & Logistics System – We need to understand what kind of maritime transport infrastructure is needed for safer and more reliable transport on a year-round basis

Thank You!