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# Arctic Shipping and its Future Prospects

**Ice Day Conference  
Levi, 6-7 February 2014  
Patrick Verhoeven**



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# Summary

- 1. A history of fascination for Arctic shipping**
- 2. Drivers and types of Arctic shipping**
- 3. Future prospects**
- 4. Principal challenges and concerns**
- 5. Conclusions**



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# **1. A history of fascination for Arctic shipping**



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Christiaan Julius Lodewyck Portman – The Death of Willem Barentsz – 1836 – National Maritime Museum London



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John Collier – The Last Voyage of Henry Hudson – 1881 – Tate Britain



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John Everett Millais – The Northwest Passage – 1874 – Tate Britain



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Roald Amundsen and his crew aboard the *Gjøa*



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Georg von Rosen – The Explorer A.E. Nordenskiöld – 1886 – Nationalmuseum Stockholm





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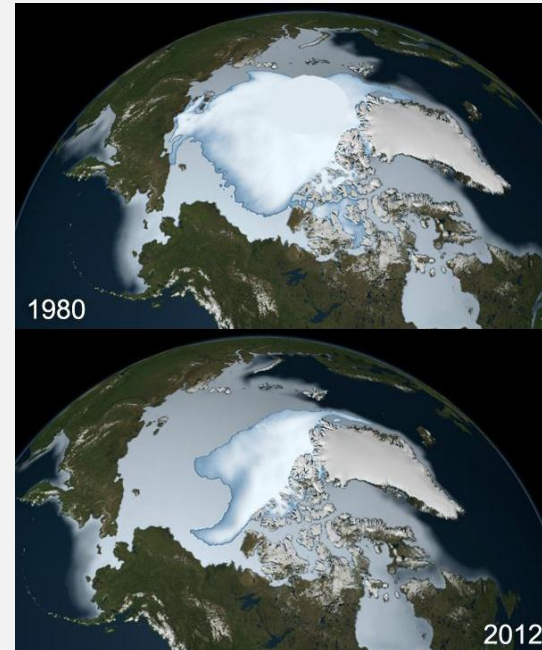
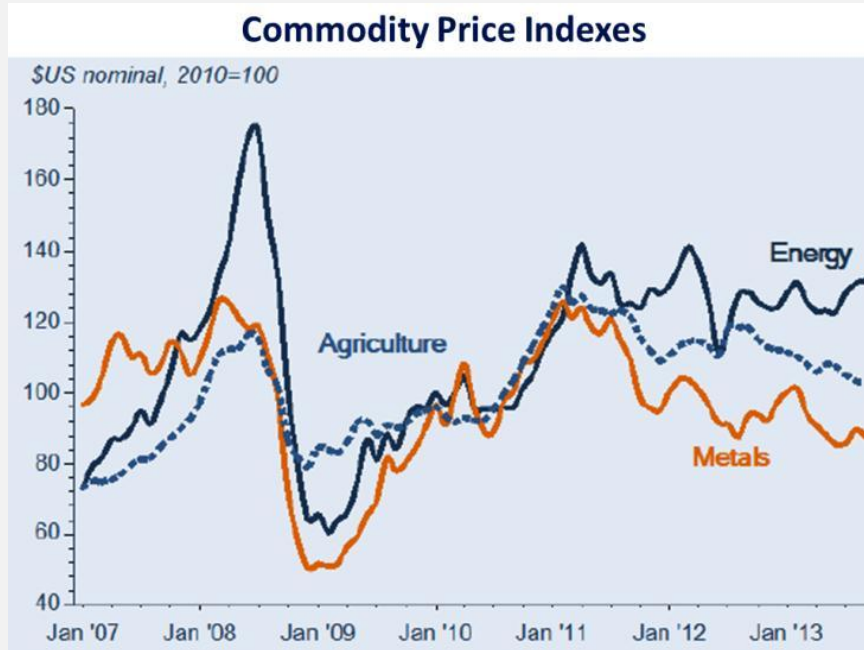
## **2. Drivers and types of Arctic shipping**



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## Drivers





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## Route and destination types





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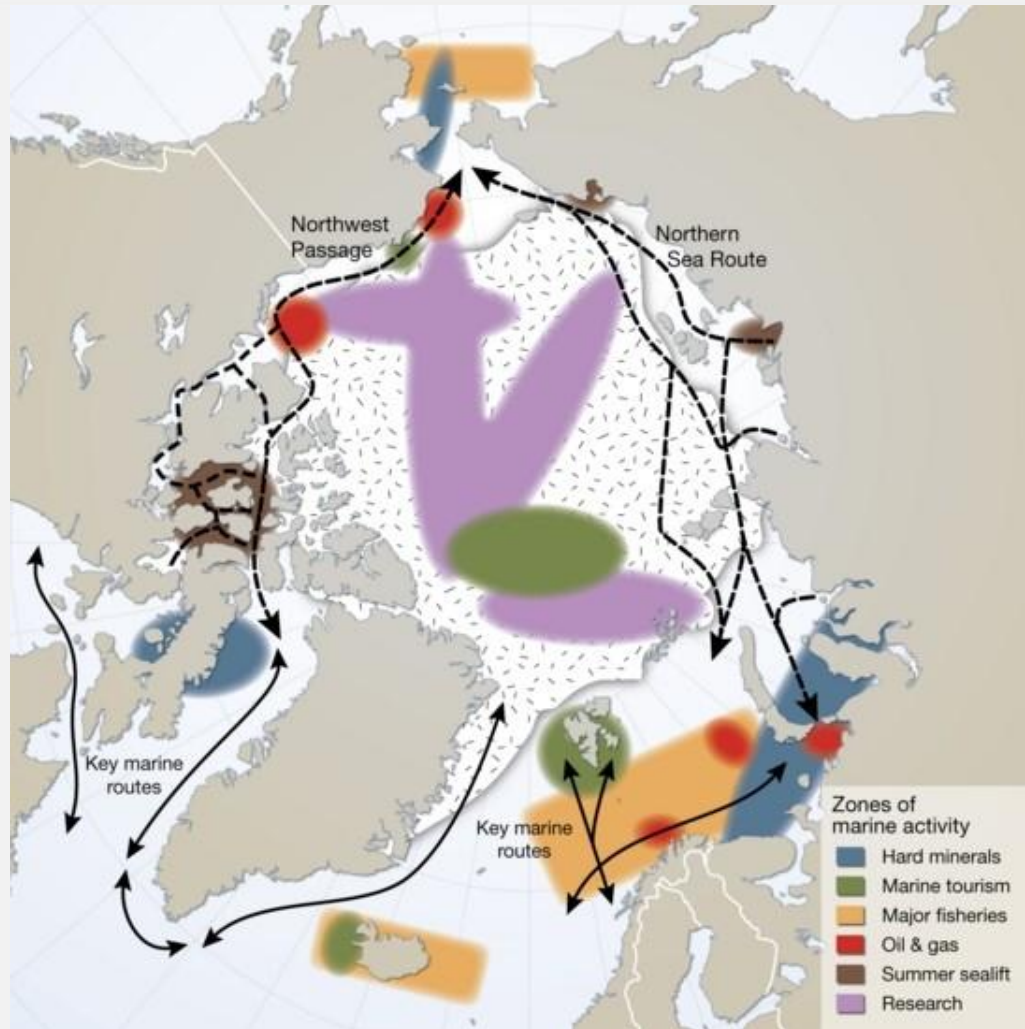
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## **3. Future prospects**



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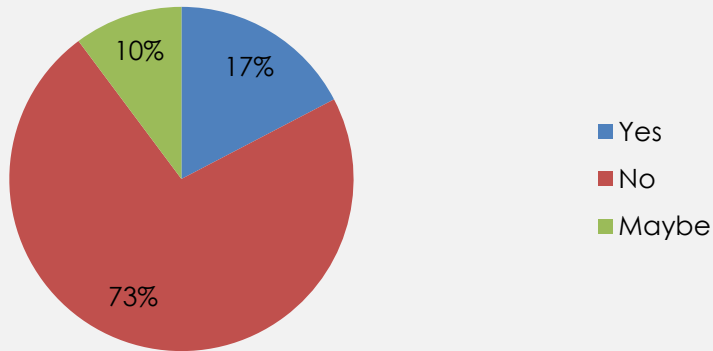
Marine shipping uses in the Arctic in 2009- source: AMSA



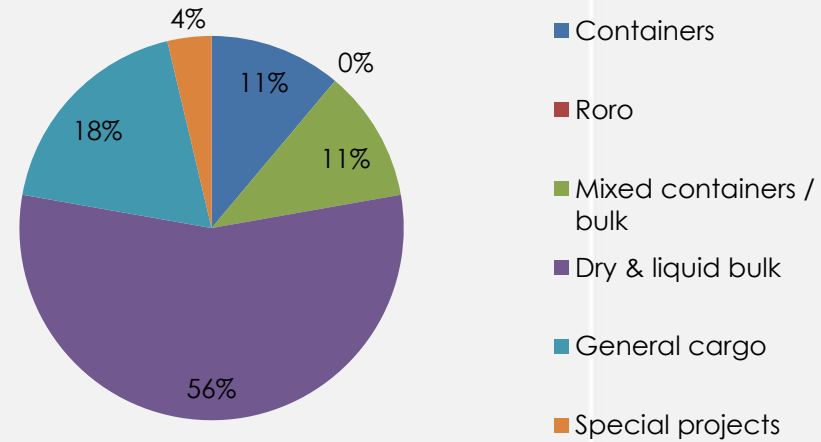
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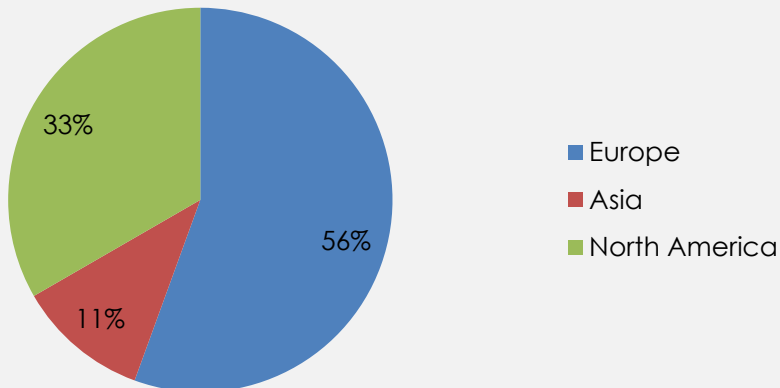
## Do you envisage developing activities in the Arctic region?



## 'Yes' / 'Maybe' responses per sector



## 'Yes' / 'Maybe' responses per region



Source: F. Lasserre (Université de Laval – Québec) – 2011  
Survey of international shipping companies 2008-2010  
Response rate: 98/142



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## Destinational shipping



- Fastest developing cause of traffic
- Extraction natural and mineral resources  
Arctic engine of growth
- Bulk shipping of raw materials and goods from and between Arctic ports and the rest of the world
- Offshore support vessel activity already significant
- Claims to continental shelves and other sovereignty disputes
- Cruise tourism expands (e.g. Greenland)
- Servicing of local communities
- Fishing



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## Transit routes



Arrival of COSCO mv *Yong Sheng* in Rotterdam on 10 September 2013

- ▶ **Northern Sea Route (NSR) promising**
- ▶ **Transit of loaded cargo vessels rises: 26 in 2011, 33 in 2012, 49 in 2013**
- ▶ **Reliability and commercial viability:**
  - Shorter distances, but lower speed and unreliable timetables
  - Fuel savings potential (up to 30%)
  - Seasonal character deterrent for containers
  - No intermediate markets in the Arctic
  - Economies of scale container / bulk shipping
  - Interest of large trading nations (e.g. China)
  - Strategy of Russian Federation
  - Icebreaker, pilotage and other charges
  - Insurance premiums
  - Evolution traditional shipping routes (charges, piracy, political instability, capacity)



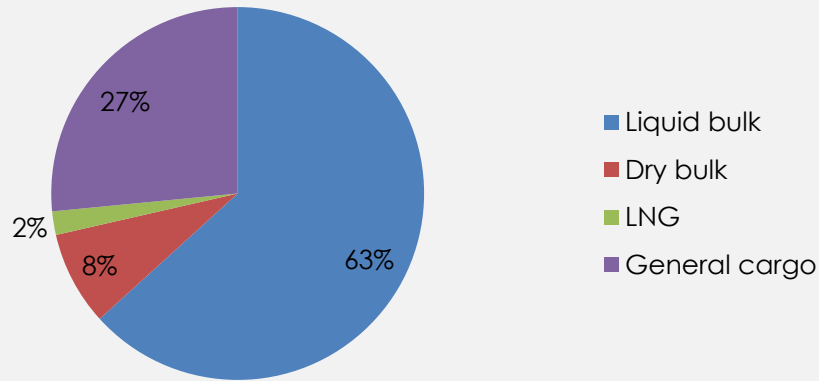


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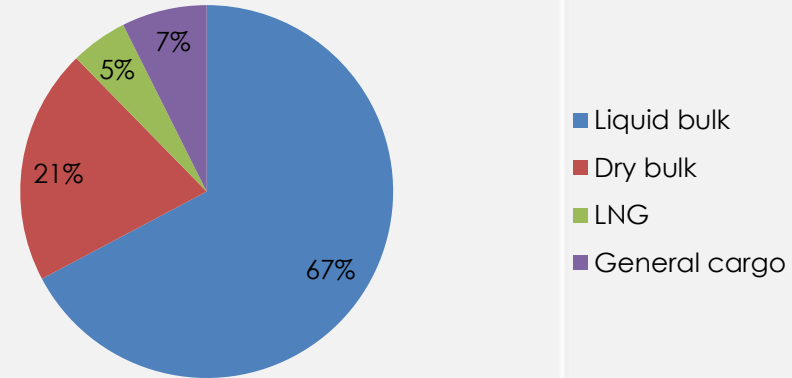
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## NSR Transit in 2013

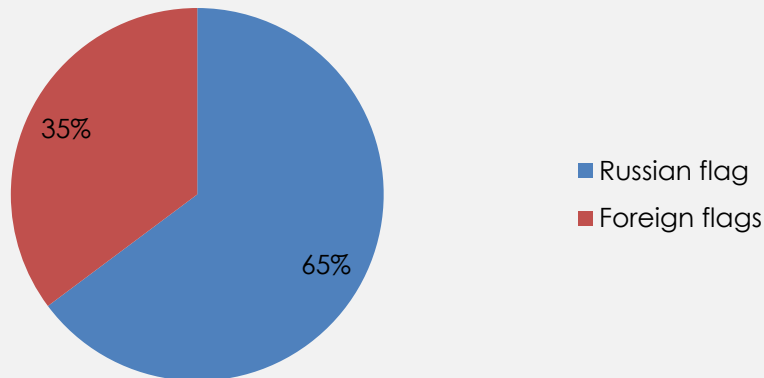
### Number of ships



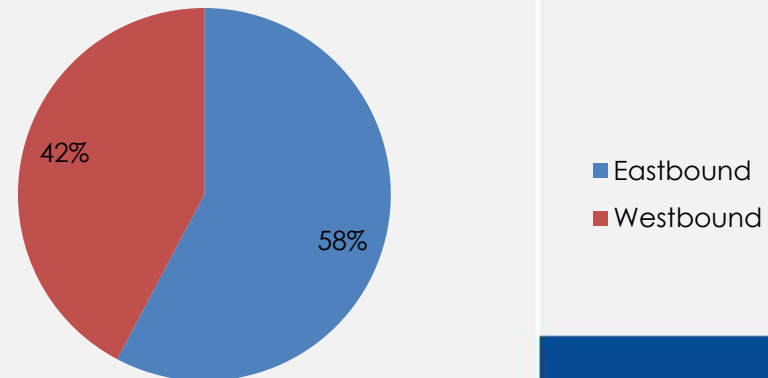
### Tonnes of cargo



### Ship flags



### Direction of calls



Source: Northern Sea Route Information Office



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## **4. Challenges and concerns**



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# Safety infrastructure

- ▶ **Navigation aids and port facilities**
- ▶ **Accuracy of nautical charts**
- ▶ **Communication**
- ▶ **Weather forecasts**
- ▶ **Monitoring of drifting ice and icing conditions**
- ▶ **Search and rescue**
- ▶ **Bases for maintenance and supply**
- ▶ **Places of refuge and pollution response capacity**



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# Technology

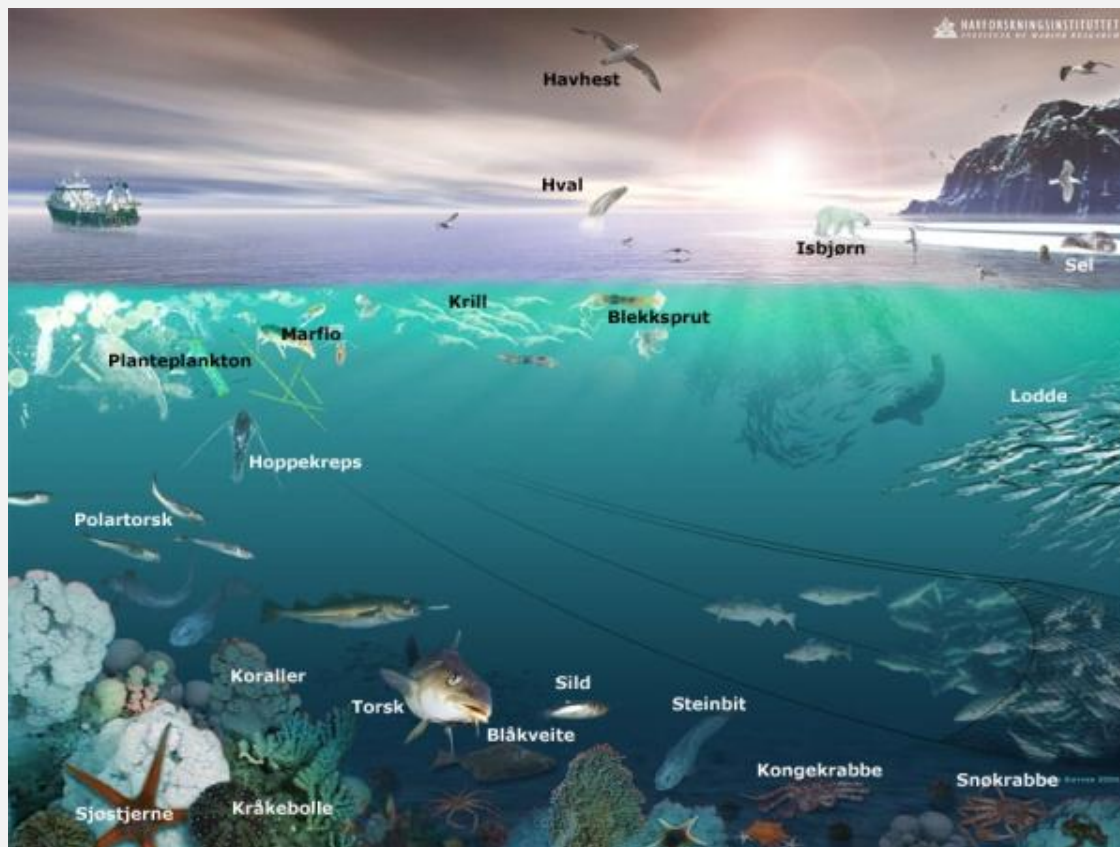
- ▶ **Ice-class ships require high investment and have high operational costs**
- ▶ **Absence of unified global requirements for construction and operation of ice-class ships**
- ▶ **Conditions for standard ships to operate in Polar waters**
- ▶ **Industrial standards for drilling and production**
- ▶ **Harsh climate technology**
- ▶ **Winterisation of rigs and equipment**
- ▶ **Enhanced operational procedures**



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# Sustainability



Source: The Institute of Marine Research

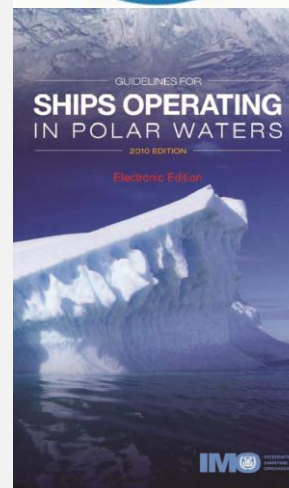


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## Regulation and governance

- Need for mandatory, uniform international regulatory framework
- Development of Arctic maritime infrastructure
- Full participation of shipping nations
- Full market access and freedom of navigation
- Need for legal clarity about status of Arctic (e.g. art 234 UNCLOS, transit passage, internal waters ...)
- Transparency of national regulations
- Reduced bureaucracy and appropriate fees for services





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## EU policy on Arctic Region

- **2012 Joint Communication Commission and High Representative of the EU for Foreign Affairs and Security Policy**
- **Three pillars: knowledge, responsibility and engagement**
- **EU considers UNCLOS key basis for management of the Arctic**
- **EU considers Arctic Council as primary forum for international cooperation in the region (applied for observer status)**
- **Specific on shipping:**
  - Sea-bed mapping to assist in safe transport routes
  - Development of environmentally-friendly, low risk technology
  - Development mandatory IMO Polar Code
  - SAR through Galileo
  - Emergency preparedness, prevention and response measures through EMSA
  - Conservation and management of fish stocks
  - Sustainable tourism and cruise passenger ship safety



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# 5. Conclusions





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- **Crossing the Arctic continues to spark imagination – reliability and economic viability essential factors**
- **Geographic, climate, environmental, safety, infrastructural, technological, political, bureaucratic and legal challenges of new 'frontier route' or 'silk road' remain substantial**
- **From a shipping perspective, the Arctic is for the time being primarily a niche destination, related to extraction of natural resources, maritime tourism, local trade and fisheries**
- **To anticipate further increase of Arctic shipping, an adequate international framework needs to be in place**
- **IMO Polar Code cornerstone of regulatory framework**
- **Close dialogue among Arctic countries and with other shipping nations to avoid unilateral / regional regulation or protectionism**
- **Further international cooperation on charts, communication, pollution response, SAR etc.**
- **European shipowners expect EU to play positive role in achieving these goals'**



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