



# Arctia Group

**World-leading Polar Maritime  
Service Partner**

# Arctia Group

## Staff

2016 2015 2014

### Total



265 / 273 / 261

### Sea personnel



233 / 237 / 230

### Office personnel



32 / 36 / 31

## Operating days

### Baltic Sea



385 / 175 / 338

### Offshore



61 / 380 / 78

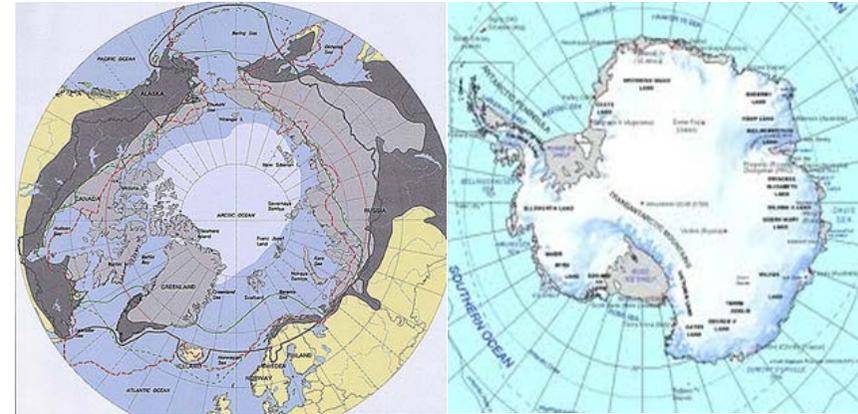
- 100 % owned by the State of Finland, est. 12/2009
- Basic task: icebreaking in the Baltic Sea
- Ice management, offshore services, oil spill preparedness and response globally



# Arctia's business dimensions

## GLOBAL DIMENSION

Maritime services for shipping, industry and research needs mainly in polar and sub-polar areas



## BALTIC SEA DIMENSION

Icebreaking & oil spill preparedness and response in the Baltic Sea

## LOCAL DIMENSION

Harbour icebreaking with additional services including oil spill preparedness and response



# Arctia's icebreaker base in Katajanokka, Helsinki



16 June 2017

Eero Hokkanen, Arctia Ltd.

# The floating "Off.Ice"



- Prefabricated close to completion at the shipyard in Hernesaari early 2013
- Towed by sea to Katajanokka in May 2013
- Designed by K2S Architects Ltd.
- Floor area 931 m<sup>2</sup>
- First floating office building in Finland
- The horizontal outline and black metal exteriors match the black steel hulls of the icebreakers

# Arctia's fleet

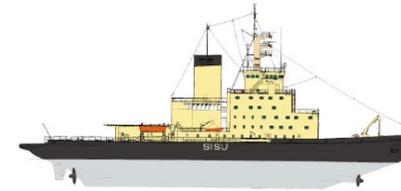


**Voima (1954)**



**Urho (1975)**

Traditional icebreakers

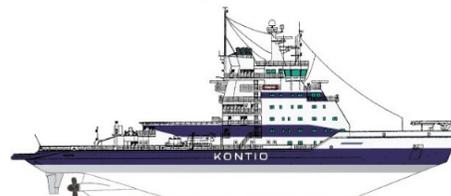


**Sisu (1976)**



**Otso (1986)**

Converted polar icebreaker



**Kontio (1987)**

Oil recovery icebreaker



**Ahto (2014)**

Harbour icebreaker



**Fennica (1993)**

Multipurpose icebreakers



**Nordica (1994)**



**Polaris (2016)**

LNG icebreaker



# IB POLARIS

LNG & diesel

→ the most environmentally friendly icebreaker in the world

Design lifetime: 50 years

Icebreaking capacity optimized to hardest Baltic conditions

Rudder propulsors (ABB):  
2 x 6500 kW + 1 x 6000 kW

Speed at 1.2 m ice 6 kn

Endurance: 30 days

Operating crew: 16

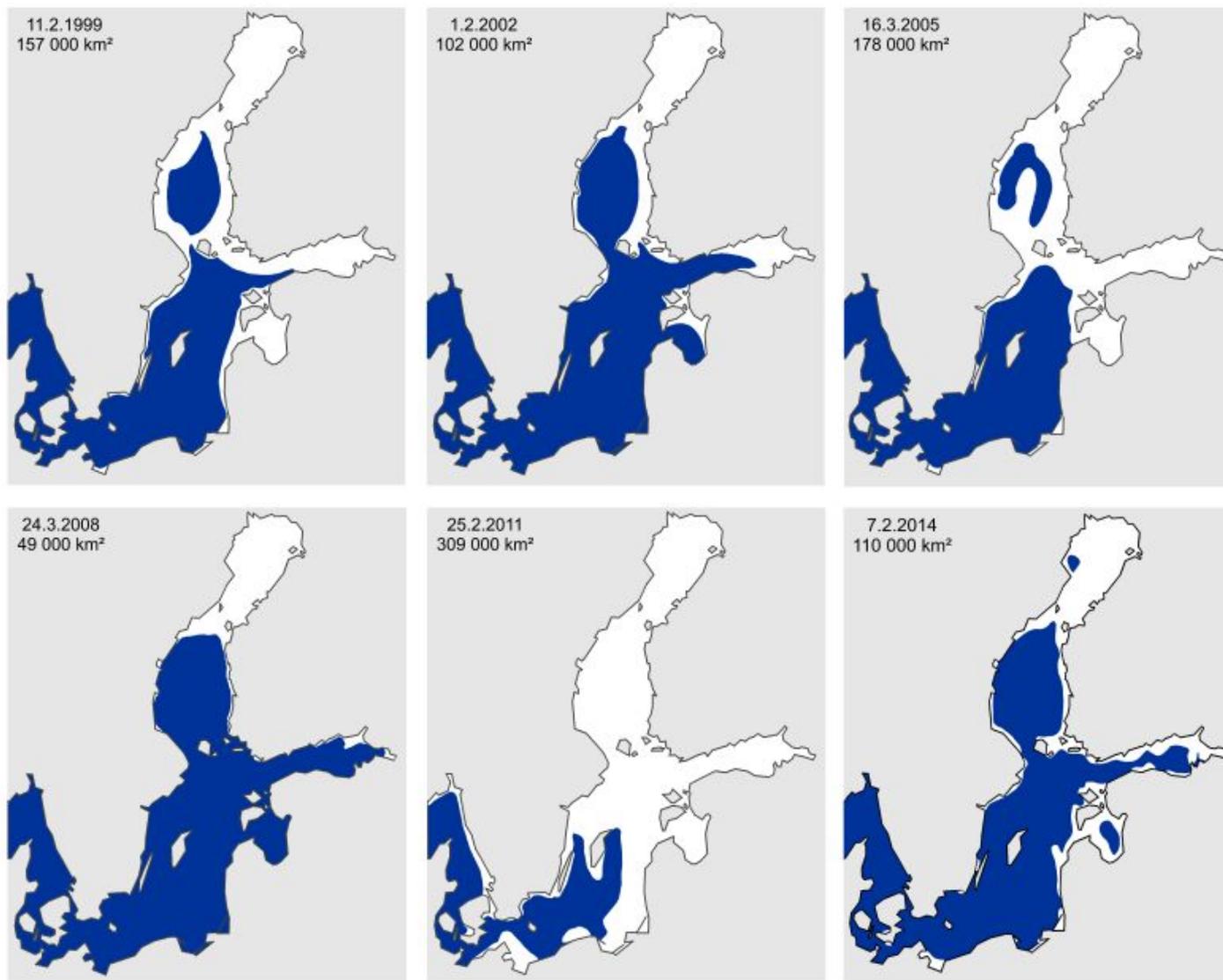
Oil recovery capacity: 1015 m<sup>3</sup> with  
a rate of 200 m<sup>3</sup>/h

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# Baltic Sea Icebreaking

- Need: 90 million tonnes of sea cargo, 90% of Finnish foreign trade
- End users are Finnish and international industrial players and shipping companies
  - Chartering agreement with the Finnish Transport Agency
- 8 icebreakers
- 1000-3500 assignments / year
- 250-1000 operating days / year
- 150 employees
- Annual turnover +/-30 m€

# Ice conditions in the Baltic vary significantly







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# Value chain in Baltic Sea icebreaking

## Financial value chain

## Description

Final customer



Shipping company



Fairway fee



Finnish Transport Agency



Arctia Ltd.

Company in need of sea transportation, has a chartering contract with a shipping company

A ship operator transporting goods to / from Finnish ports

Collected from shipping companies by Finnish Customs on behalf of the State of Finland, based on Ice Class and amount of cargo / passengers

Responsible traffic authority in Finland, steered by the Ministry of Transport and Communications

State-owned limited company, chartering contract with the Agency, assists shipping companies' vessels

# Oil spill response and recovery

- Active role in the **Task Force on Arctic Marine Oil Pollution Prevention** and **Task Force on Search and Rescue** that led to the two legally binding agreements under the auspices of the Arctic Council
- Best available oil recovery equipment installed on harbor icebreaker Ahto, Arctic Sternmax skimmer tested in ice conditions with the Regional Rescue Services of Lapland and Lamor
- Contract with the European Maritime Safety Agency (EMSA) 2010-2016
  - IB Kontio in a continuous state of readiness for oil spill response operations in the northern Baltic Sea



# Harbour icebreaking



- Harbours in the Bay of Bothnia
- End users same as or close to the ones in fairway icebreaking
- 3 vessels
- Turnover +/- 3m€ / year

# Global / polar offshore

- Customers: international energy cluster players, shipping companies, research
- the Arctic and the Antarctic
- 3 multipurpose vessels and 1 newbuilding + conversion schemes
- 120 persons
- 400-600 operating days / year
- Annual turnover (2011-2016): 25-50 M€





16.6.2017



# Task: Primary ice management



- Nordica / Fennica / Otso
- Length – 116m / 380ft
  - Ice Class – DNV POLAR 10
  - 20,400hp
  - BP 234T

Technical conversions to meet EPA requirements

- No<sub>x</sub> emissions -90%
- Particular emissions -50%
- Very low sulphur emissions



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# Arctia's operational history in Alaska

**2007** Ice Management / Offshore support, Beaufort (MSV Fennica)

**2012** Ice Management / Offshore support, Chukchi & Beaufort  
(MSV Fennica, MSV Nordica)

**2013** Ice Management / Offshore support, Chukchi & Beaufort  
(MSV Fennica, MSV Nordica)

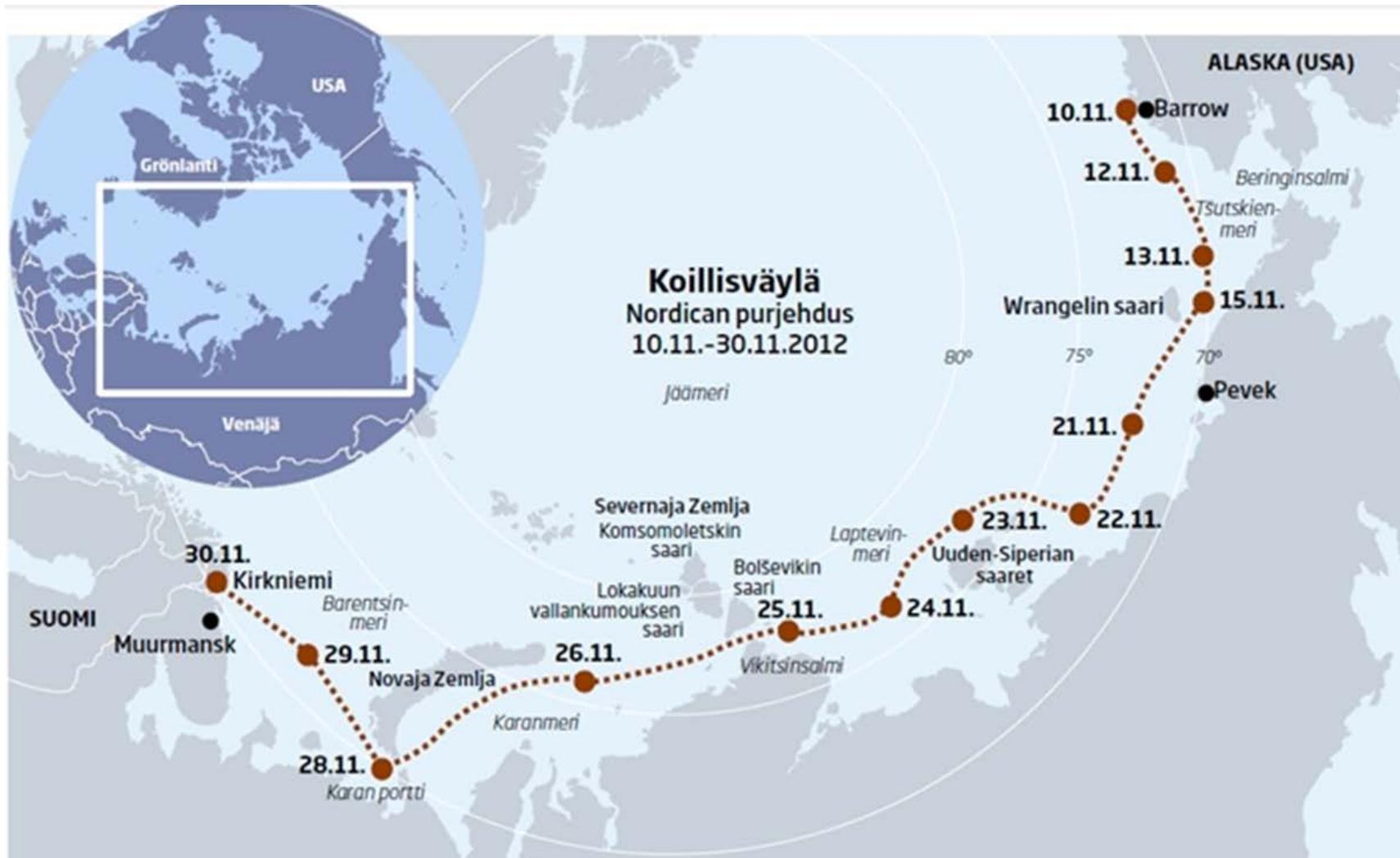
**2015** Ice Management / Offshore support, Chukchi & Beaufort  
(MSV Fennica, MSV Nordica)

# Fennica and Nordica Transit through the NWP in 2015

- Transit from Alaska back to Europe via the Northwest Passage
- October – November
- Record late, record quick



# Fennica and Nordica through the NSR in 2012 and 2013



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# IB Otso in Greenland, 2015 & 2016





# Arctic 100 Expedition in summer 2018

- Research in the Arctic essential for the study of climate change and many other challenges facing us today
- Yet many institutes around the world with research interests in the Arctic do not have reasonable logistical means to access the area
- Arctia Group offers its fleet and expertise for the international research community in the summer of 2018
- based on the research interests of parties interested and funded by the parties themselves

In collaboration with:



Ministry of  
Education  
and Culture

# Arctic Economic Council

- Inaugural meeting on September 2-3, 2014 in Iqaluit, Canada
- **Purpose: to facilitate Arctic business-to-business activities and responsible economic development**
- 8 Arctic States + 6 Indigenous organizations
- 4 Member Executive Committee
- Governance Committee
- Secretariat in Tromsø, Norway
- Arctia's CEO Tero Vauraste Chair 2017-2019

## ACTIVE WORKING GROUPS:

- Infrastructure
  - Maritime transportation
  - Telecommunications and IT
  - Aviation
- Energy (Responsible Resource Development)
- Arctic Stewardship

