Real-time ice information to ships

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WORLD CLASS – through people, technology and dedication
The Arctic and the global transport network
Introduction: Real-time information

Planned direct route through the ice
6 hours

Actual route around the ice
3 hours

The view from above - halved the journey time
The benefits

- Safety
- Saves time
  - Easiest, simplest route can be identified
  - Navigate around obstacles
- Saves money
  - Less fuel consumed
  - Less hull maintenance
  - Less time in dry-dock
Envisat ASAR wide-swath image
Image Anywhere – the bridge view
M/V Explorer
The satellite view
Today’s Situation

- Where do you go to learn about these new products?
  - Each product has a unique location
- How do you get them?
- Are they compatible with other products?
  - Can you overlay them geographically?
ICEMAR – The project

3 year, € 2,1 million project funded by the E.C

Goal
Improve access to ice information for ship’s operating in ice – focus on safety

Primary area of interests
Baltic Sea
European Arctic

Vision
Provide acces to ice infromation for any location
ICEMAR – The Partners

- KSAT
- EIS (FMI; DMI; Met.No SMHI)
- BAS
- BSH
- Infoterra
- KMA
- NERSC
- VTT
- Dialog

Flowchart:

1. Requirements
2. Existing and new products
3. Users
4. Product Definition and compliance
5. Training
6. Product Delivery
The scenario today

• Each product (ice chart) is obtained from the producer

• Example – Baltic in the winter

• Ship can obtain the SMHI ice chart and/or FMI ice chart

• Same ship goes to Spitsbergen

• Acquires ice chart from Met.No
ICEMAR scenario

• User sends request:
  • Information required, location and duration
  • Display equipment
  • Communications

• Receives list of available relevant products
• Selects required products
• Products delivered – automatically open up in the defined system
IBPlott - main symbols

- Icebreakers
- Ships
- Port
- DirWay
Object tracking in Fram Strait
February 2008

Tracking the movement of two pieces of sea ice over 12 days in February 2008
Object size: 1.68km² and 4.85km² Average speed = 0.2 knots, max speed = 1 knot
Ice object detection
Movement
Combining satellite with AUV observations
Barents Watch – the current view
Each sector needs to know what is required:

COMMUNICATE

- What is possible
- What is required
Thank you for your attention

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