#### A PRACTICAL APPROACH TO

#### SEA TRAFFIC MANAGEMENT

#### IN THE ARCTIC

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## It's all about situational awareness...



• Analyse the Arctic operating environment and security arrangements from the perspective of comprehensive concept of security, and develop shared situation awareness.







With more activities in the Arctic, there is an increasing need to monitor and understand how such activities affect the security of Canada's marine transportation system. Situational awareness is key to decision-making, not only for security purposes but also for safety, environmental and economic reasons.



Transport Canada

Development towards increased shipping in Arctic waters involves a greater risk for accidents... Greater awareness of traffic at sea, in the air and on land helps to reduce the risks of accidents. Active efforts in terms of preventive measures, surveillance and rapid accident response can reduce the risks...



REGERINGSKANSLIE

In order to meet the greatest number of requirement drivers and support sustainable Arctic growth safely, the CMTS recommends that the United States make it a priority [to] support maritime domain awareness, for vessel monitoring and vessel management schemes...



## How to develop this situational awareness?

•Traffic situation – who is where

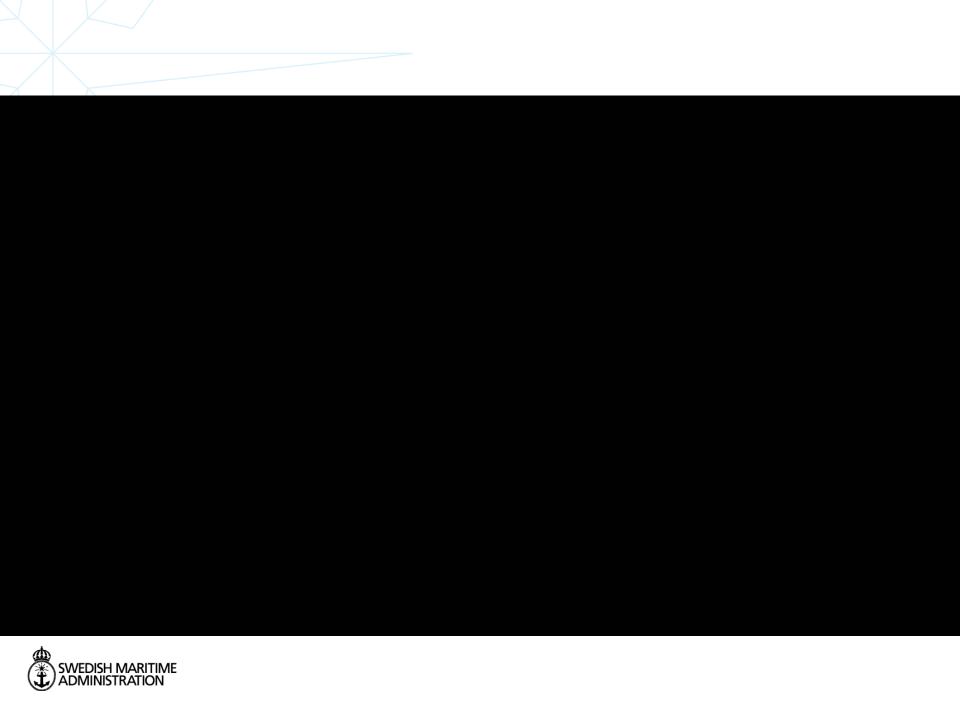


## How to develop this situational awareness?

- •Traffic situation who is where
- Intentions
- Follow-up

Awareness needs to be forward-looking!





#### Forward-looking awareness

- Early warnings
- Corrective action
- Breaking chains of events!

But only if we can do it in real(ish) time!



#### By the way, what is real(ish) time?

Well, we went over the top:

- •15 sec. 3 min. update intervals
- •3-5 sec. latency
- •0,04 % downtime > 6 min.
  Icebreaker Oden's 28 day journey Sweden –
  Greenland and back, August 2013.



#### The business case, tomorrow

- Substantial cost reduction potential
  - Route exchange and messaging standard in nav equipment (MONALISA)
  - Sharing of communication link (LRIT and SSIS requirements)



#### The business case, future

- Satellite AIS
  - Real(er) time monitoring (today: no 24/7 satellite coverage)
  - Shorter latency (today: aiming at 30 minutes)
- Satellite VHF? Comms to the ship?



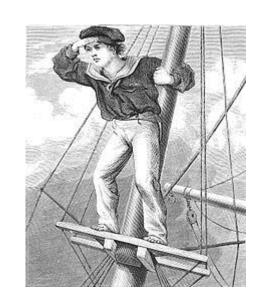
# Take-away #1 WHY?



Arctic shipping must be Safe and Environmental, Efficient and Economical.



## Take-away #2 HOW?



MICE brings forwardlooking awareness to remote places. Today.



Take-away #3
THE COSTS?

Affordable today, cheaper tomorrow







### Thank You!

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