



# Ice Navigator™

## IMPROVED ICE AWARENESS

*sigma S6 Ice Navigator™* provides enhanced ice imaging, detection and tracking from your existing radar.



# RUTTER

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# Ice Navigator™

*sigma S6 Ice Navigator™* is a radar-based system that enhances existing navigation radars to improve imaging of ice floes, detection of ice hazards and analysis of changing ice conditions.

Here's how **Ice Navigator™** can add value to your operation:

## HIGH DEFINITION IMAGING

High resolution ice imaging, detection and tracking providing un-matched ice insight using Rutter's industry leading radar processing technology.

## SPECIALIZED ICE DETECTION

Ice Navigator™ advanced target tracking finds ice hazards missed by traditional navigation radars. Tracking up to 300 targets the operator has complete awareness when navigating in difficult conditions.

## ICE DRIFT ANALYSIS

Ice Drift Analysis, an optional feature of Ice Navigator™, gives operators visibility of the drift and deformation of ice floes. Optimize speed, efficiency, and safety when encountering ever-shifting sea ice conditions.

## CAMERA INTEGRATION

Integrated camera support ties the detection abilities of Ice Navigator™ with EO/IR cameras to quickly assess potential hazards and avoid possible interruptions to operations.

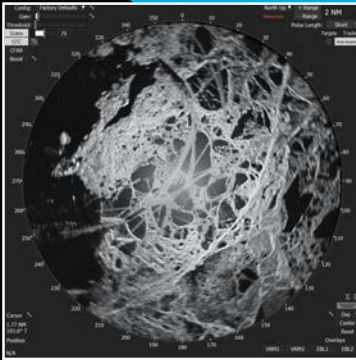


# Leave Nothing To Chance

The improvements in situational awareness enabled by **Ice Navigator™** occur across a wide range of sea states, weather, and low light conditions -- making the tactical information it provides essential for route planning and decision making.

Comparison of Hazardous Ice Detection Capability			
	Size – Height Above Sea Level	Distance Visible Ice Navigator™	Distance Visible X Band Radar-only
Bergy Bit	1 to 5m	Greater than 4nmi	1 to 0.5nmi
Growler	Less than 1m	Greater than 2nmi	Less than 0.5nmi

Source: Canadian Coast Guard



Best in class for general navigation through ice regions and ice management solutions for O&G, ice-breaking and expedition operations.

*"We have the sigma S6 Ice Navigator™ interfaced to one of our navigation laboratory radars. I am impressed by the performance of the Rutter sigma S6 Ice Navigator™ that I experienced as an Ice Advisor during the drilling operation in the Kara Sea."*

- **Norvald Kjerstad**, Professor, Nautical Science,  
Faculty of Maritime Technology and Operations,  
Norwegian University of Science and Technology (NTNU)

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[rutter.ca/ice-navigation](http://rutter.ca/ice-navigation)

# Rutter Product Commitment

Since 1998, Rutter has been on the leading edge of radar image processing technology for the global marine sector. For over 20 years, we have helped mariners navigate safely through ice-hazards; detect and respond to oil spills; protect people, assets and coastlines, and conduct ocean-related research. Our commitment to new product development and service delivery is on display every day and we thank you for your continued trust in our people, products and services.



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Current Monitor™  
Ice Navigator™  
Oil Spill Detection  
Small Target Surveillance  
WaMoS® II  
WaveSignal™  
WaveVision™

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