

Kongsberg Maritime

Sensors and Robotics

BRINGING CLARITY TO THE WORLD BELOW

16th SAIHC
Cape Town 2019



KONGSBERG

Presented by

Øystein Aasbø

Commander RNoN (Rtd)

Area Sales Manager – Europe, Africa and Russia

Kongsberg Maritime



Presentation Overview

- This is KONGSBERG
- Kongsberg Maritime
- Sensors and Robotics Division
- Kongsberg Maritime Hydrographic Portfolio

> 200 Years of Technology Innovation From Deep Sea to Outer Space



Advanced solutions and applications for the maritime, oil & gas, defence and space industry.

- *Extreme Performance for Extreme Conditions* -

The KONGSBERG Organisation

Our business areas



KONGSBERG MARITIME

Efficiency and safety throughout the whole maritime technology spectrum.



KONGSBERG DEFENCE & AEROSPACE

Norway's premier supplier of defence and aerospace-related systems.



KONGSBERG DIGITAL

We aim to be an industry leader in the digitized industry of tomorrow.



The KONGSBERG Global Reach



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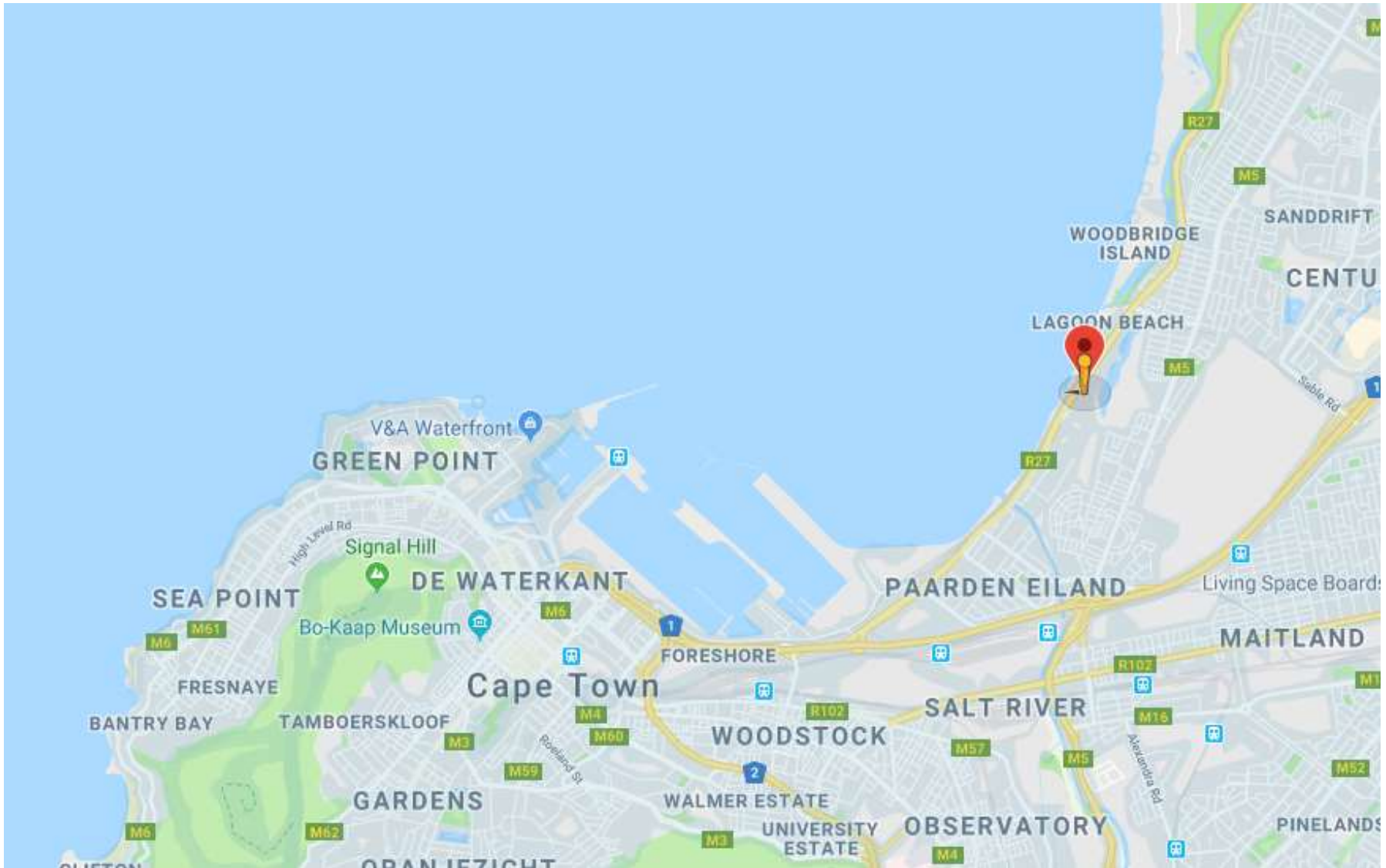
Kongsberg Maritime

- Offshore Oil & Gas, Seaborne Transportation, Energy Management, Aquaculture and Subsea & Marine Robotics
- 117 offices in 34 countries
- 7600 employees
- Installed on more than 30.000+ vessels
- Dynamic positioning, navigation, automation, simulation, seismic instrumentation, deck handling, thruster control, ship design hydrographic, geophysical and scientific systems.

Customer Support – Follow the sun



Kongsberg Maritime South Africa (Pty) Ltd



Kongsberg Maritime Namibia (Pty) Ltd – Walvis Bay





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Kongsberg Maritime AS - Subsea



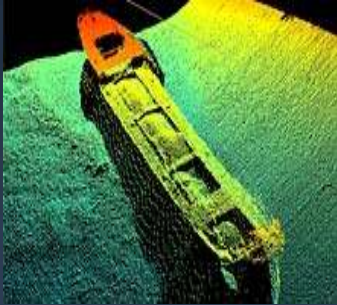
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Kongsberg Maritime Sensors and Robotics Division

Leading technology

KM Sensors and Robotics – Subsea Product Line



UNDERWATER
MAPPING



UNDERWATER
POSITIONING AND
COMMUNICATION



MARINE
ROBOTICS



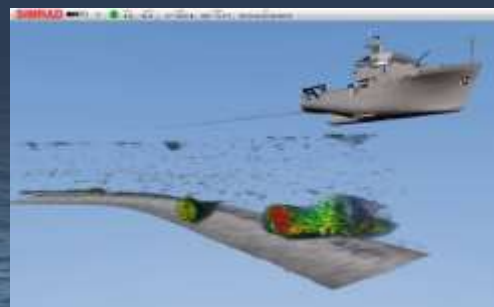
ENVIRONMENTAL
MONITORING



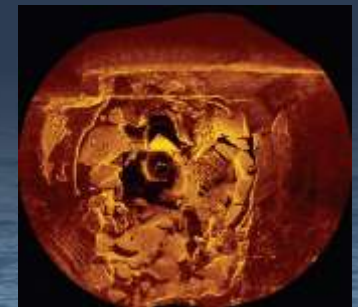
NAVAL
SONARS



FISHERY

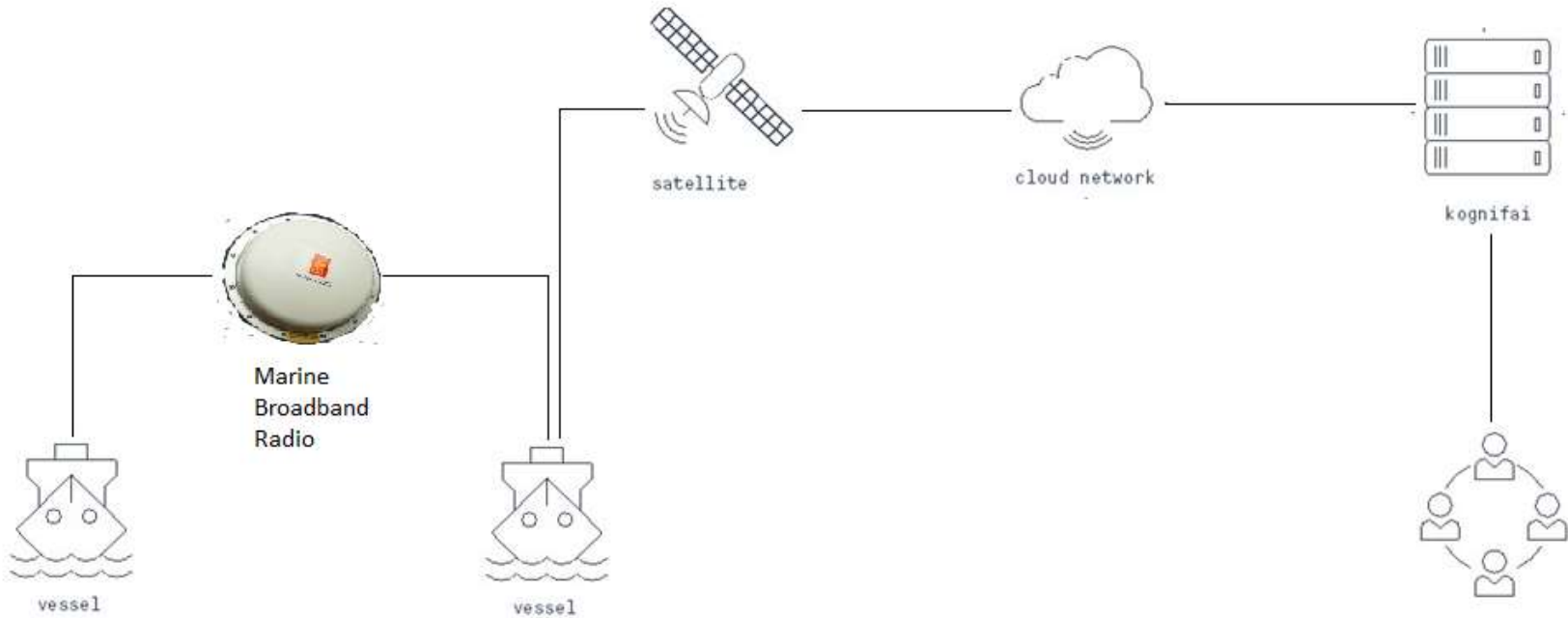


UNDERWATER SCIENCE



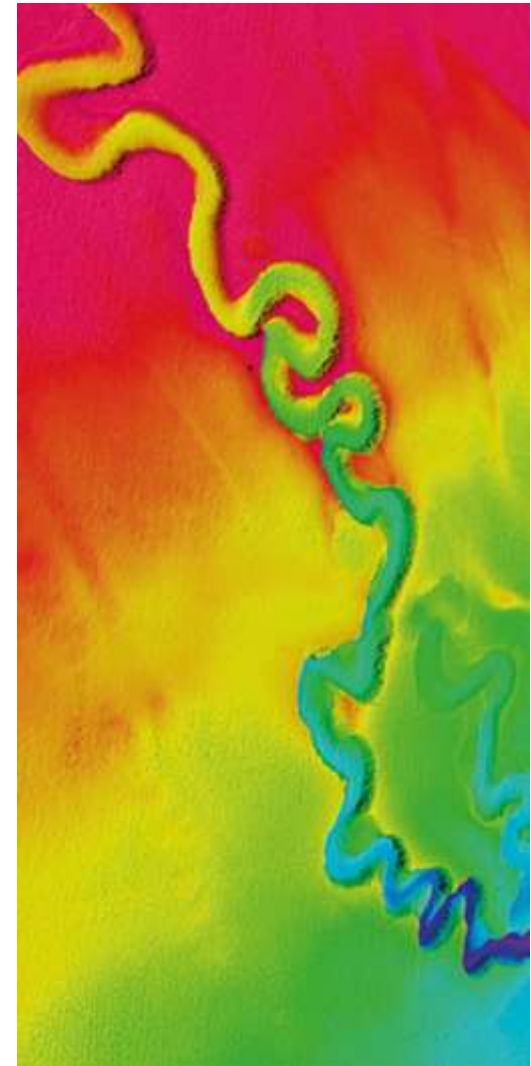
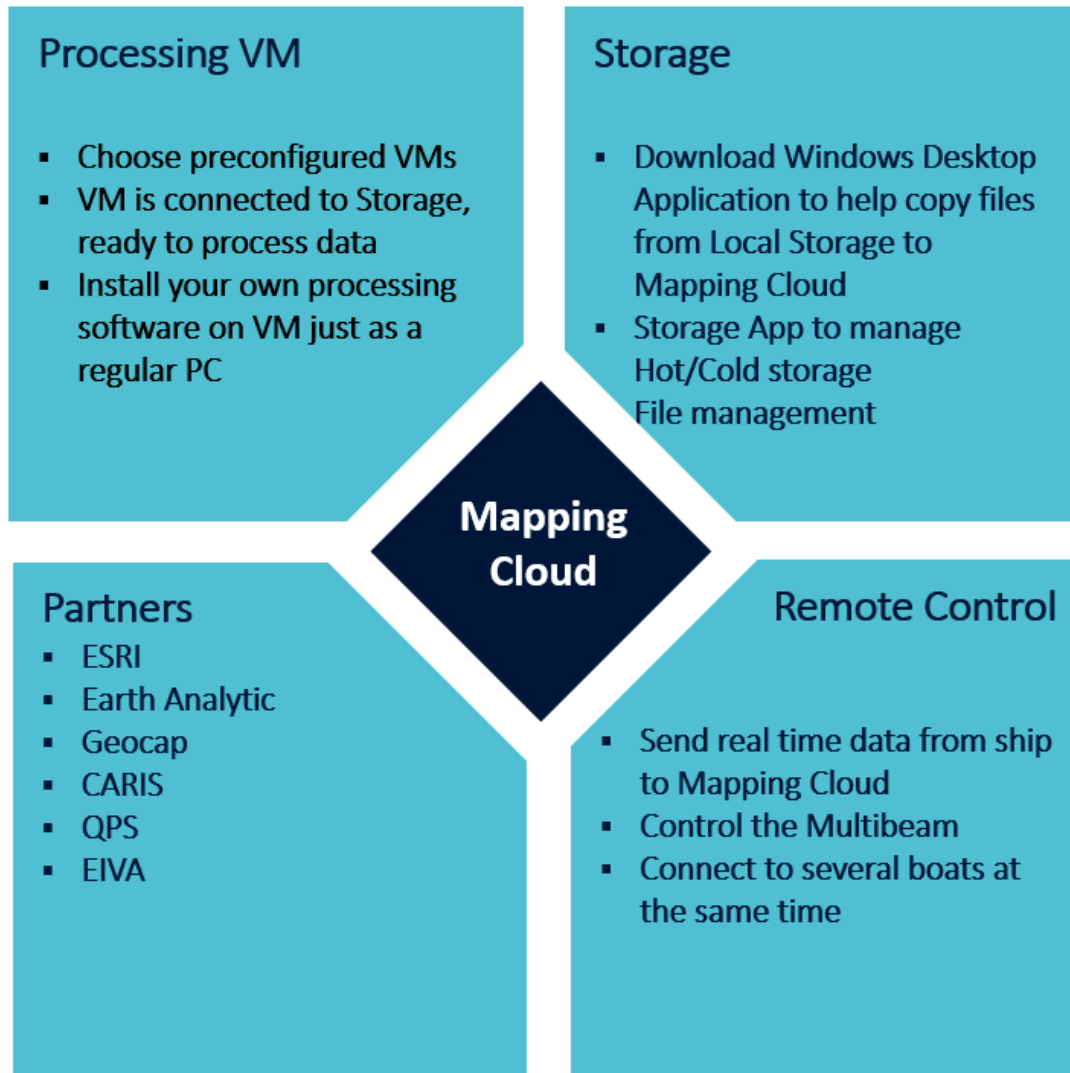
SCANNING
SONARS

Mapping Cloud Data in the Sky





Mapping Cloud Data in the Sky





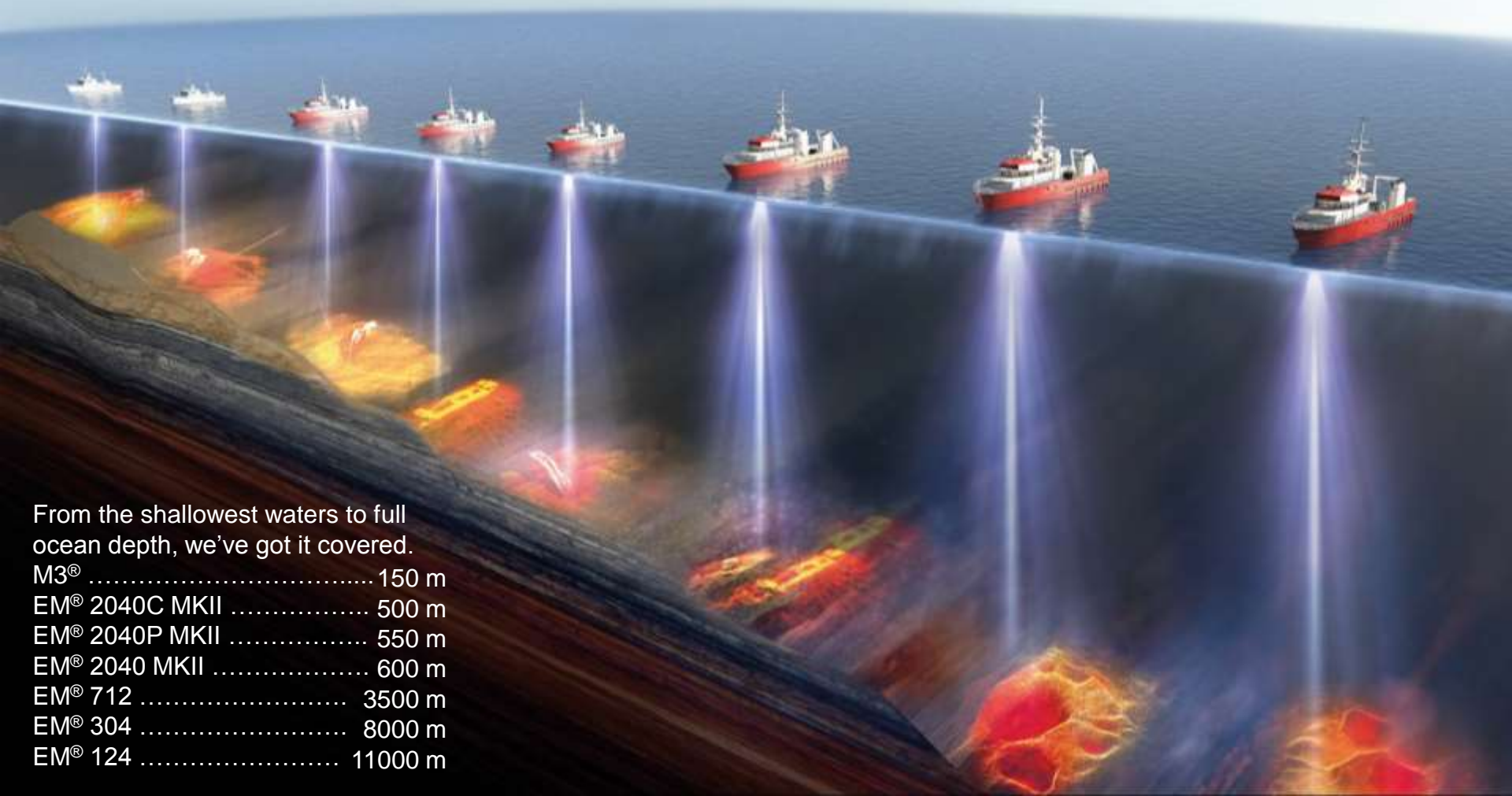
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Kongsberg Multibeam Echo Sounder Portfolio



THE COMPLETE MULTIBEAM ECHO SOUNDER RANGE

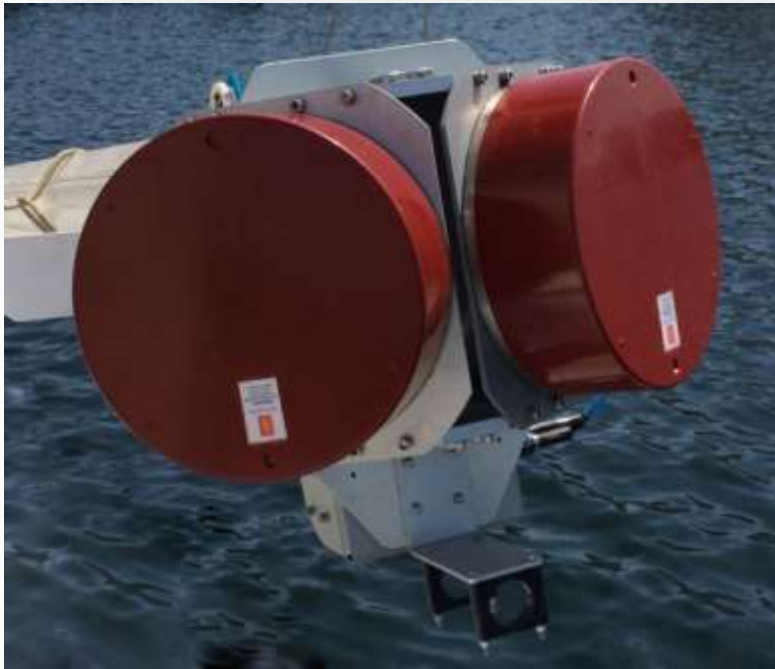


From the shallowest waters to full ocean depth, we've got it covered.

M3®	150 m
EM® 2040C MKII	500 m
EM® 2040P MKII	550 m
EM® 2040 MKII	600 m
EM® 712	3500 m
EM® 304	8000 m
EM® 124	11000 m

EM[®] 2040C MKII/EM[®] 2040 MKII – Installation

Very high resolution Multibeam Echo Sounder



Applications from very high resolution inspection to shallow water surveys.

EM[®] 2040P MKII – Installation

Very high resolution Multibeam Echo Sounder



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Images courtesy of
SHOM @ Noumea,
New Caledonia



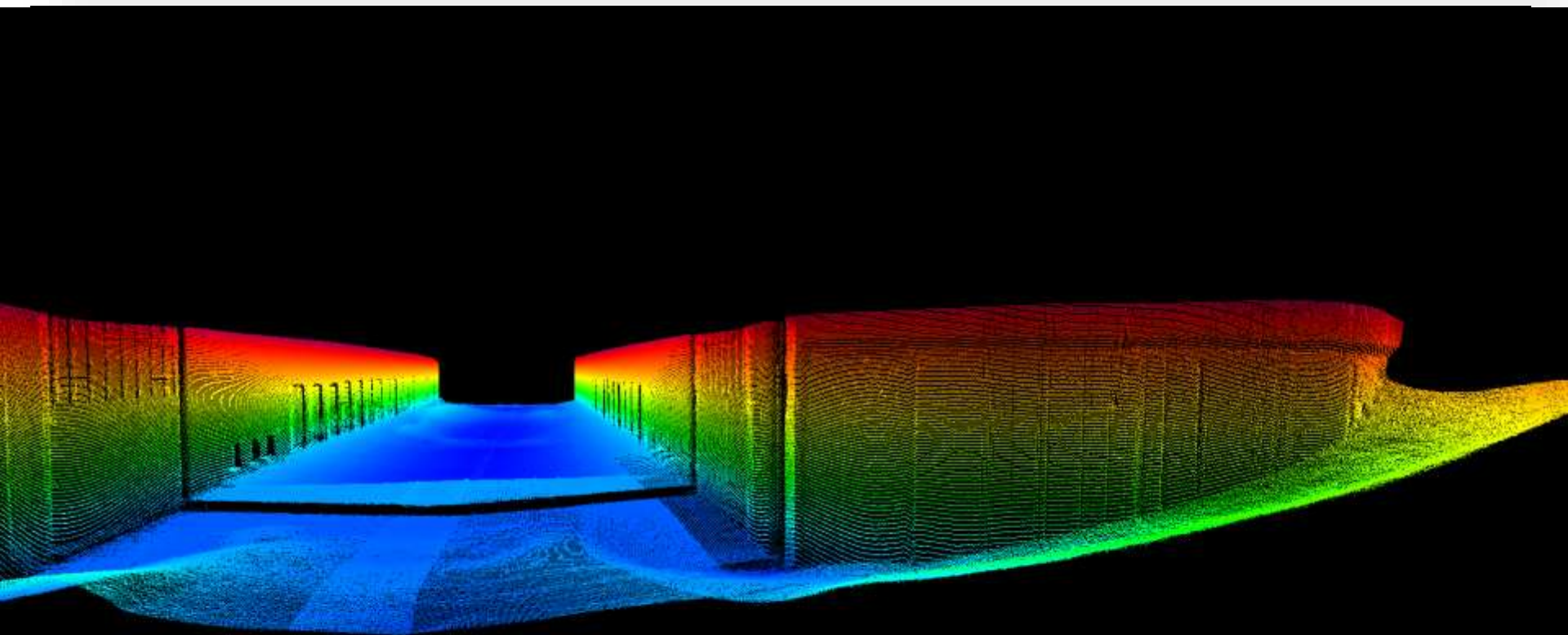
Applications from very high resolution inspection to shallow water surveys.

EM[®] 2040 – Results

Very high resolution Multibeam Echo Sounder



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Courtesy of Port of London, UK

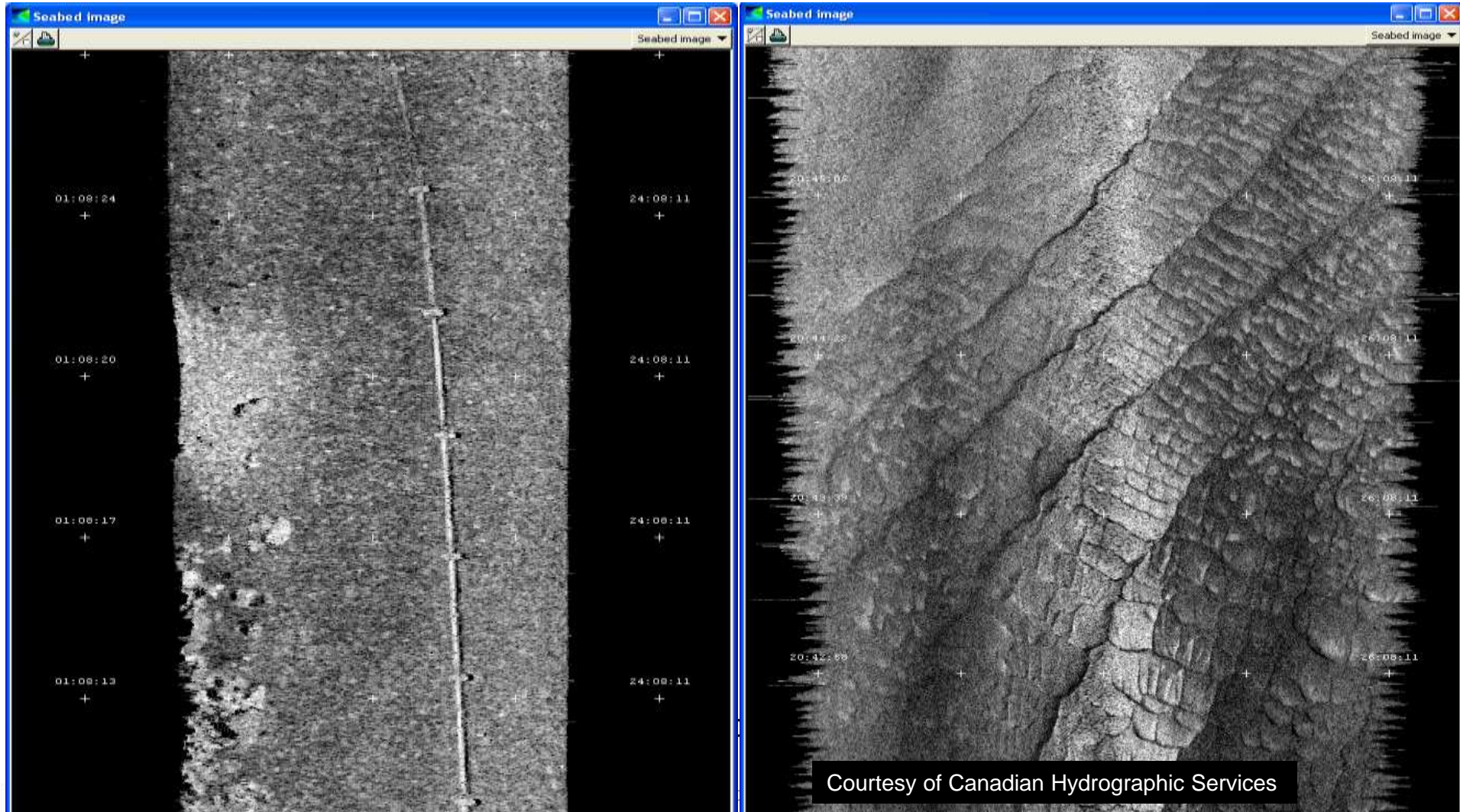
Applications from very high resolution inspection to shallow water surveys.

EM[®] 2040C – Results

Very high resolution Multibeam Echo Sounder

Pipeline – Sydney Marina, 400kHz / 50us

Sandwaves, 90 - 100m depth, 300kHz / 70us

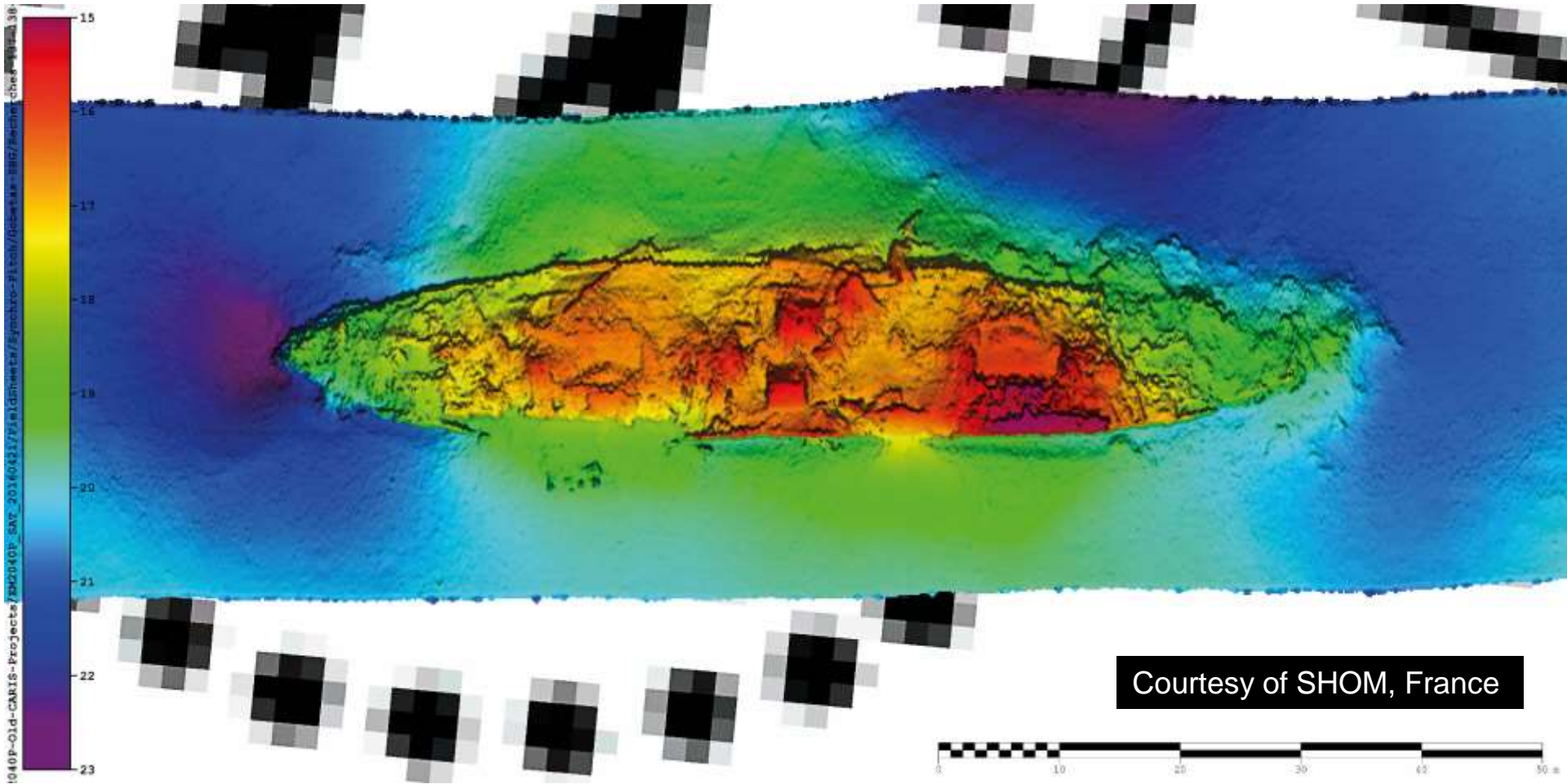


EM[®] 2040P – Results

Very high resolution Multibeam Echo Sounder



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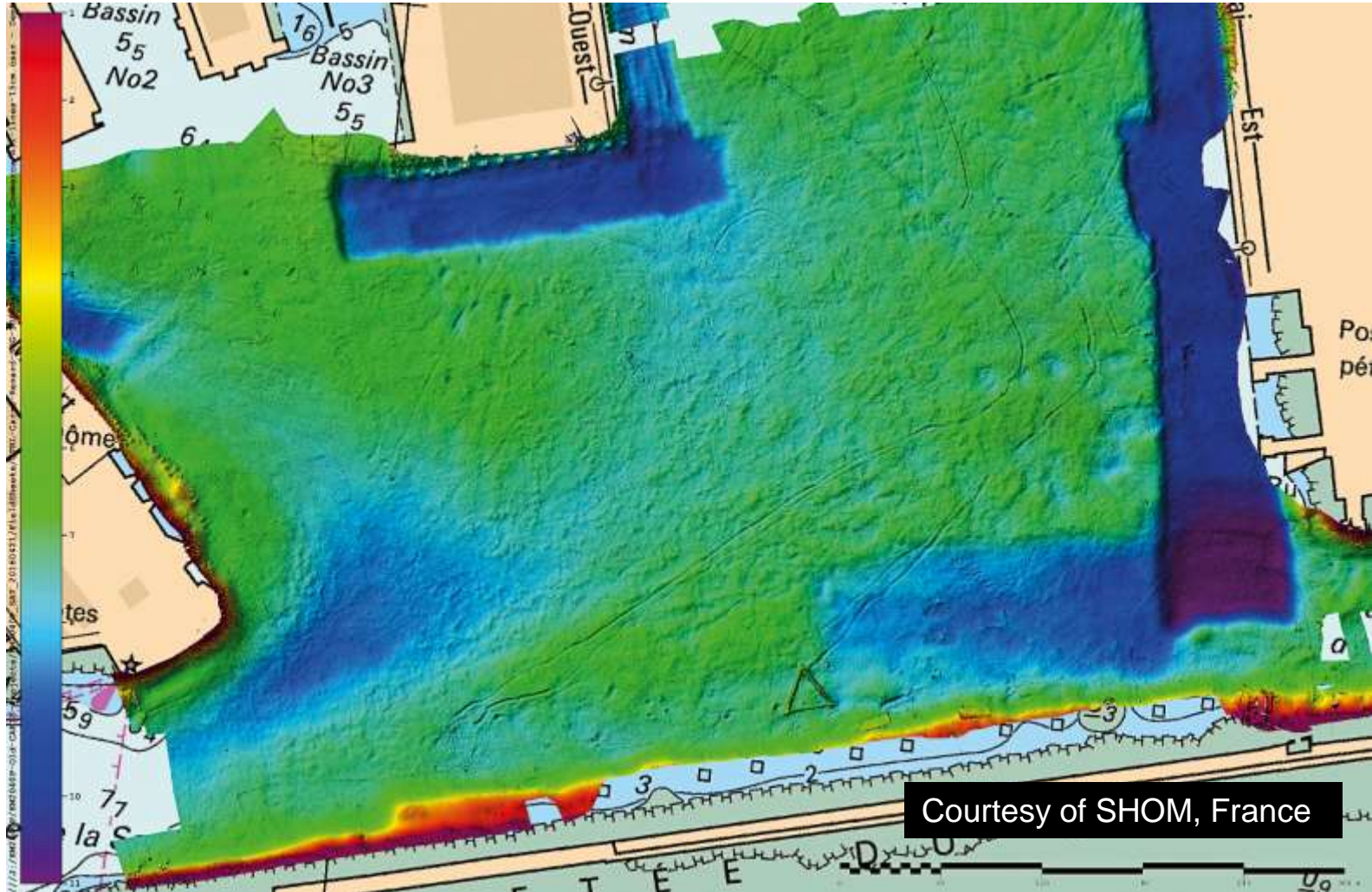
Applications from very high resolution inspection to shallow water surveys.

EM[®] 2040P – Results

Very high resolution Multibeam Echo Sounder



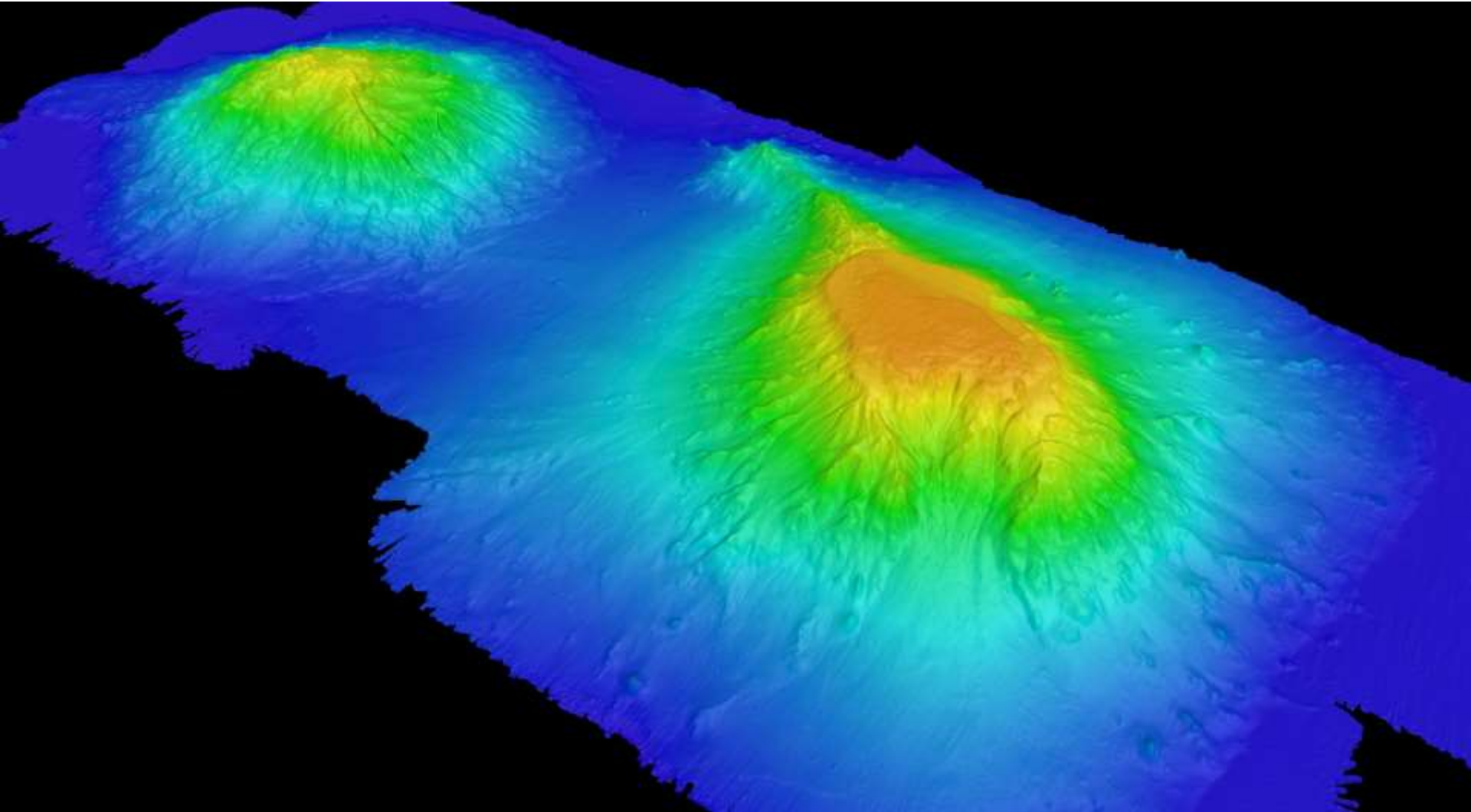
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Applications from very high resolution inspection to shallow water surveys.

EM[®] 302 – Results

Deep Water Multibeam Echo Sounder



EM[®] 302, 0.5 x 1 degree – Courtesy of NOAA and RV «Okeanos Explorer»

RVs on the African Continent



KONGSBERG



Rejuvenation of the South African Navy's Hydrographic Capability



Shell Ocean Discovery XPRIZE Winner GEBCO-Nippon Foundation Alumni Team



Thank you for your attention!



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oystein.aasbo@km.kongsberg.com