

Technologies and practices for gear detection and retrieval

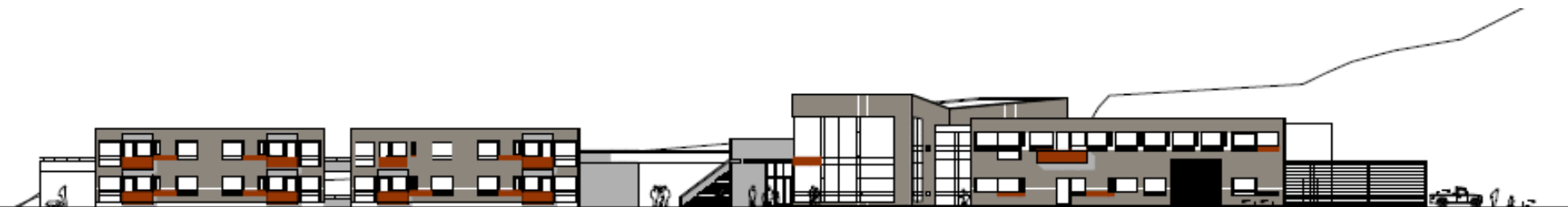
Nils-Roar Hareide – Research Scientist
Runde Environmental Centre (Norway)

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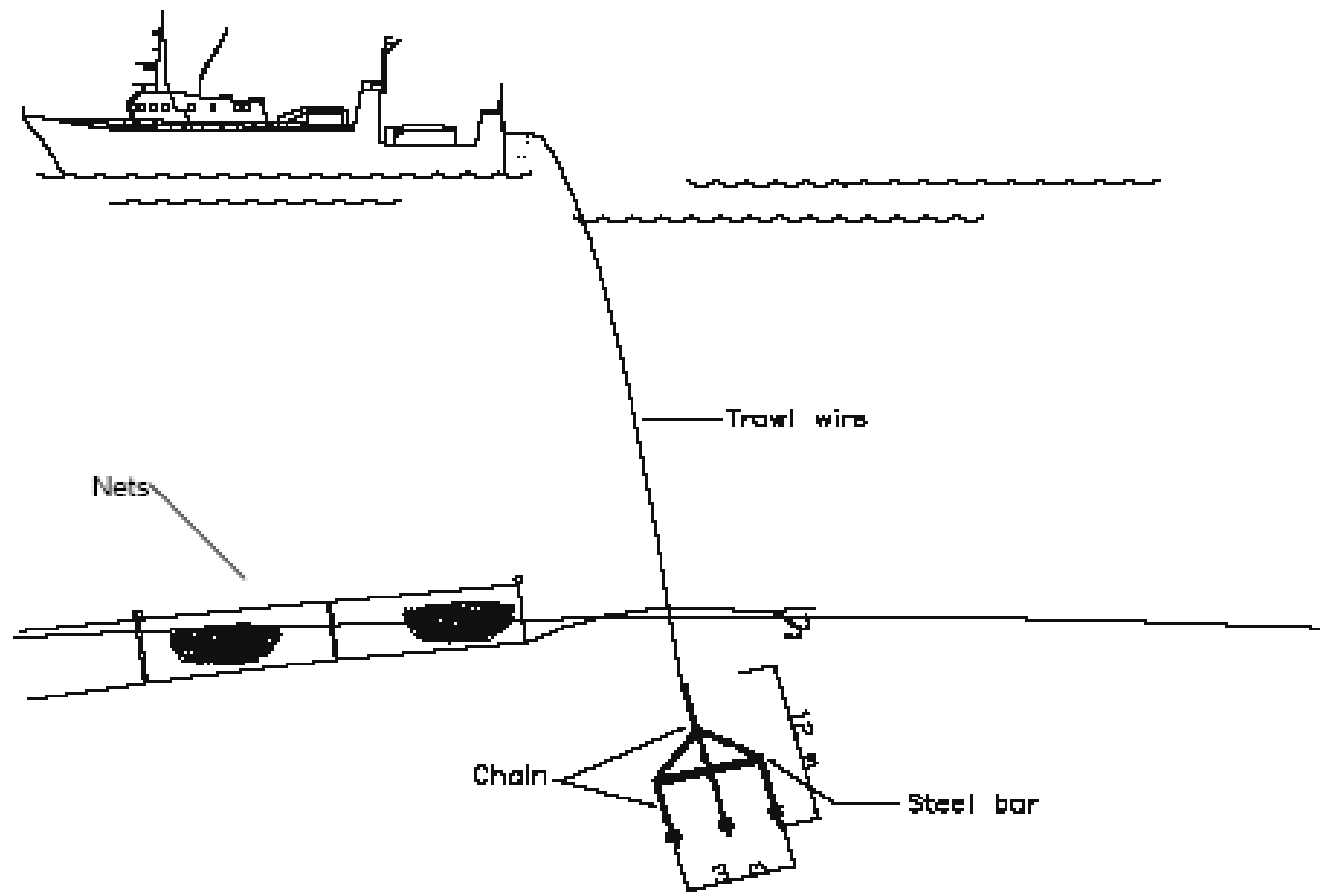
Who we are

- Research Station for Marine Sciences
- Facilities for research, monitoring, education and dissemination
- Research Group of 7-8 scientists
- Visitor Centre
- Test facilities for wave Energy





Retrieval gear used by the Norwegian Directorate of Fisheries.



















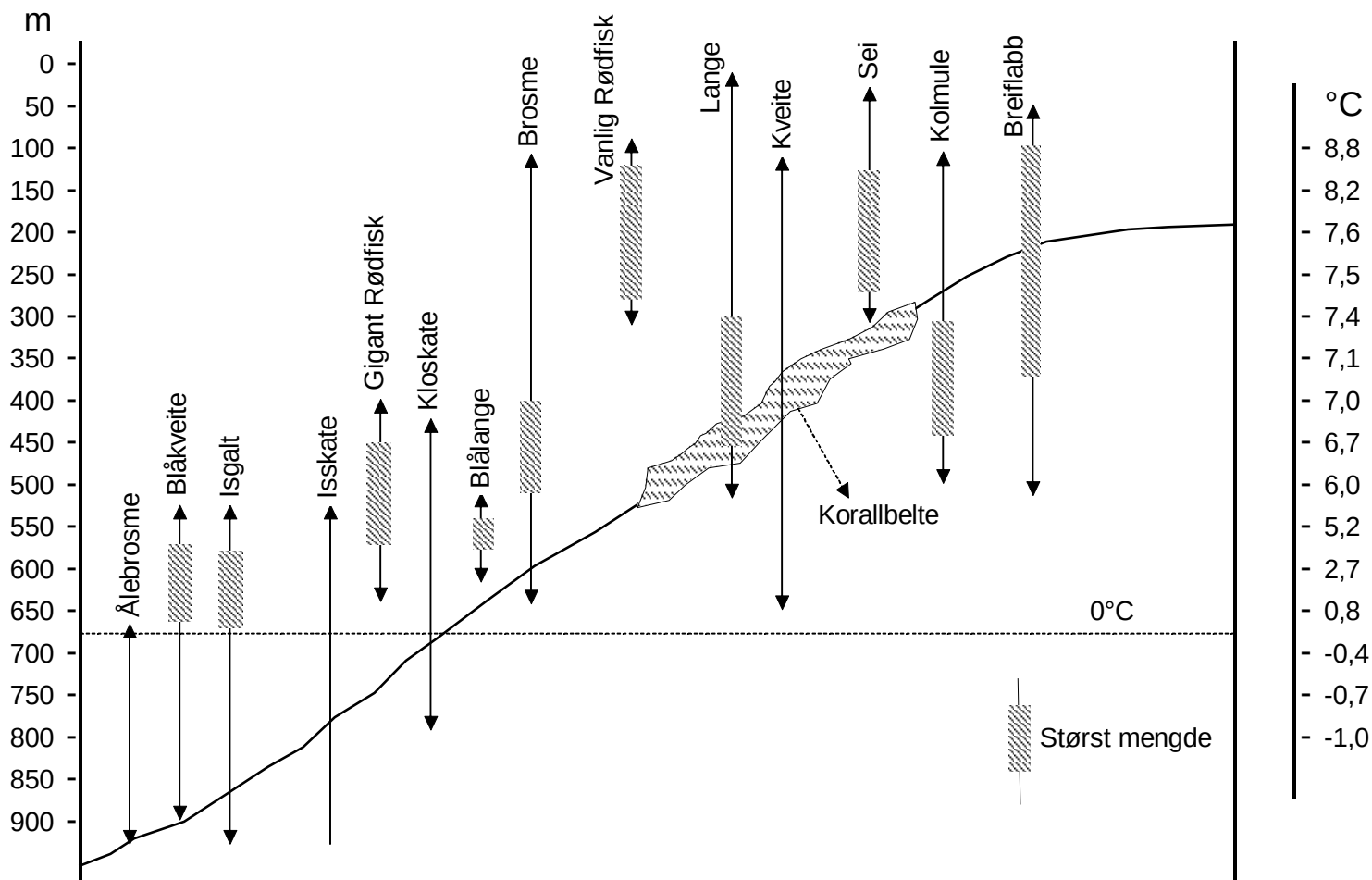


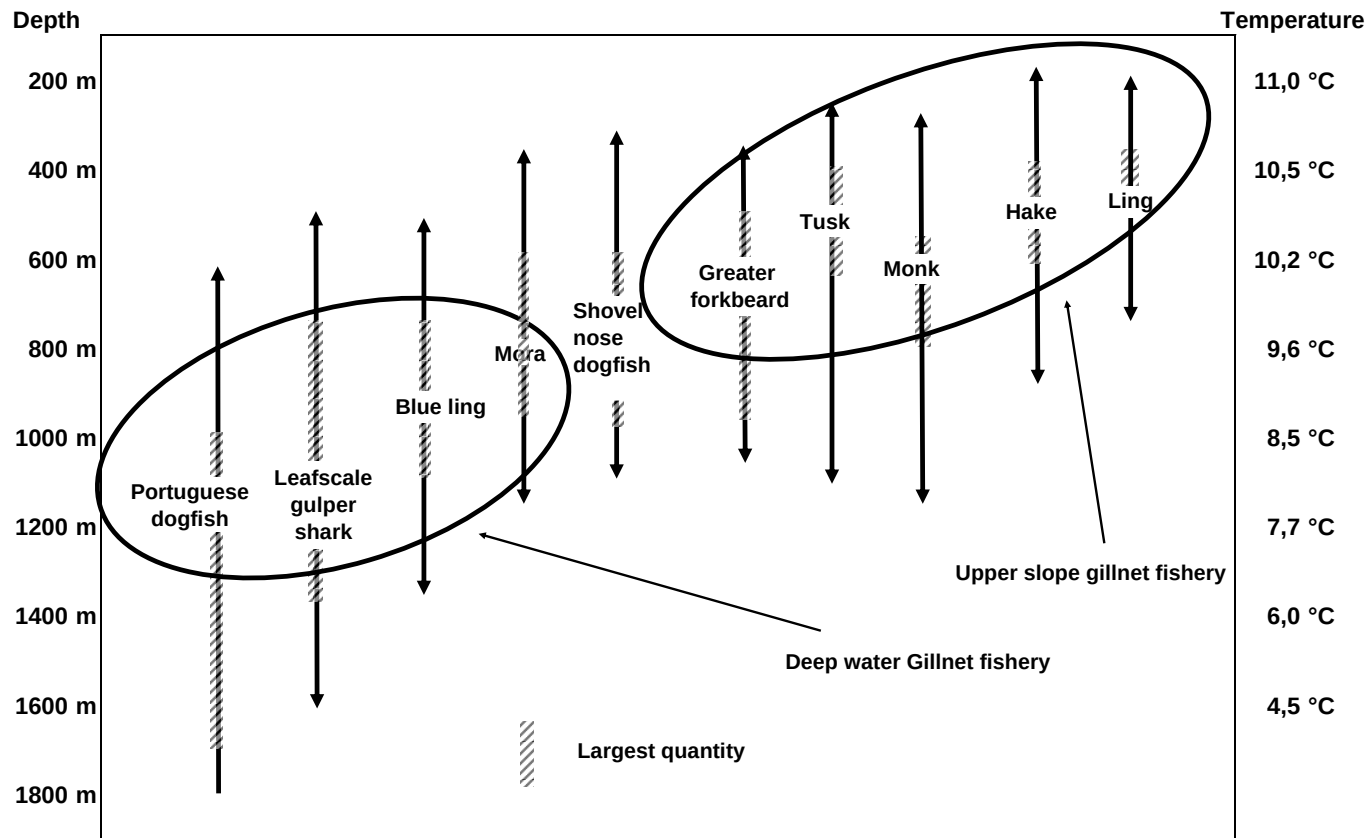


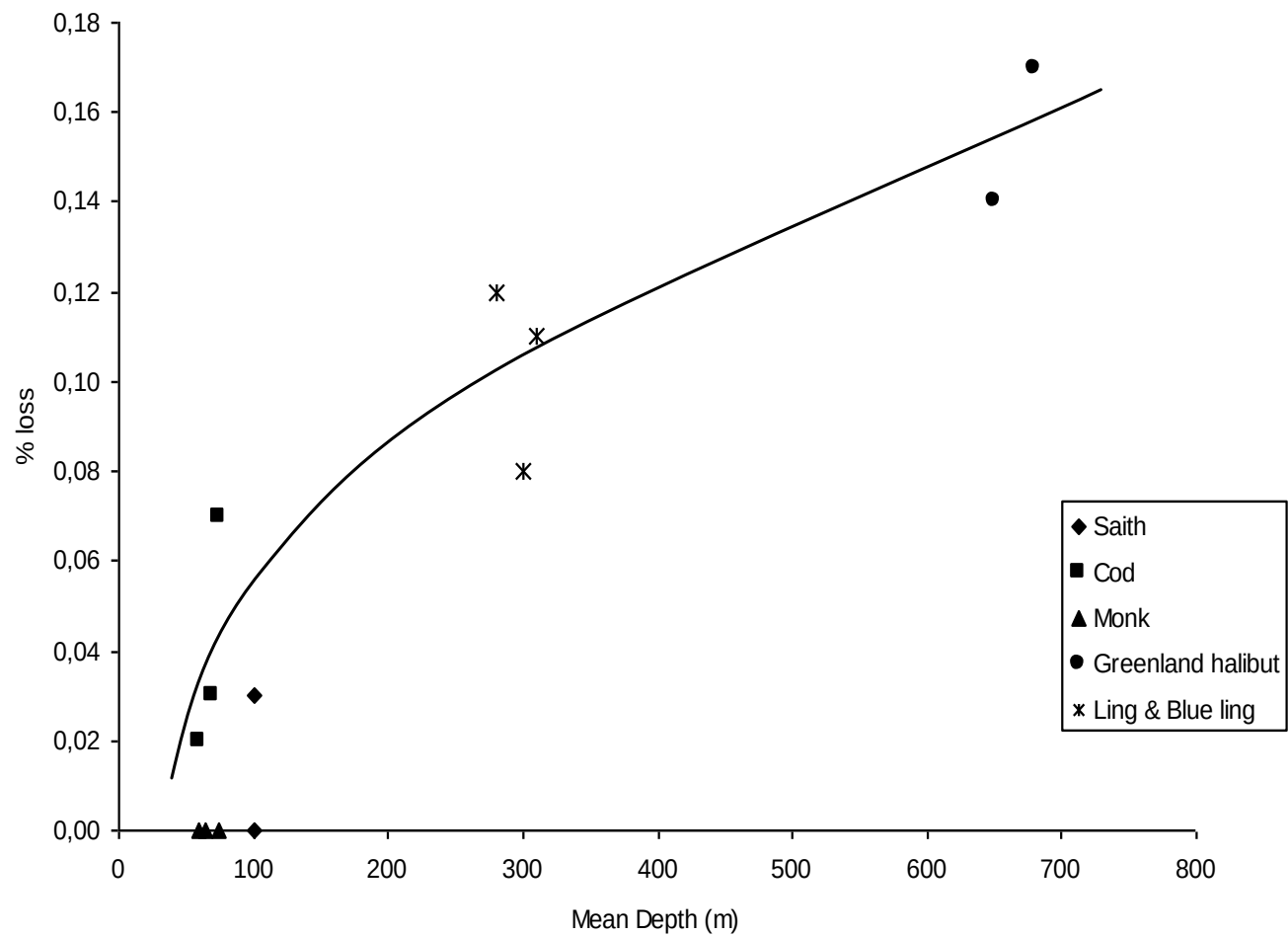


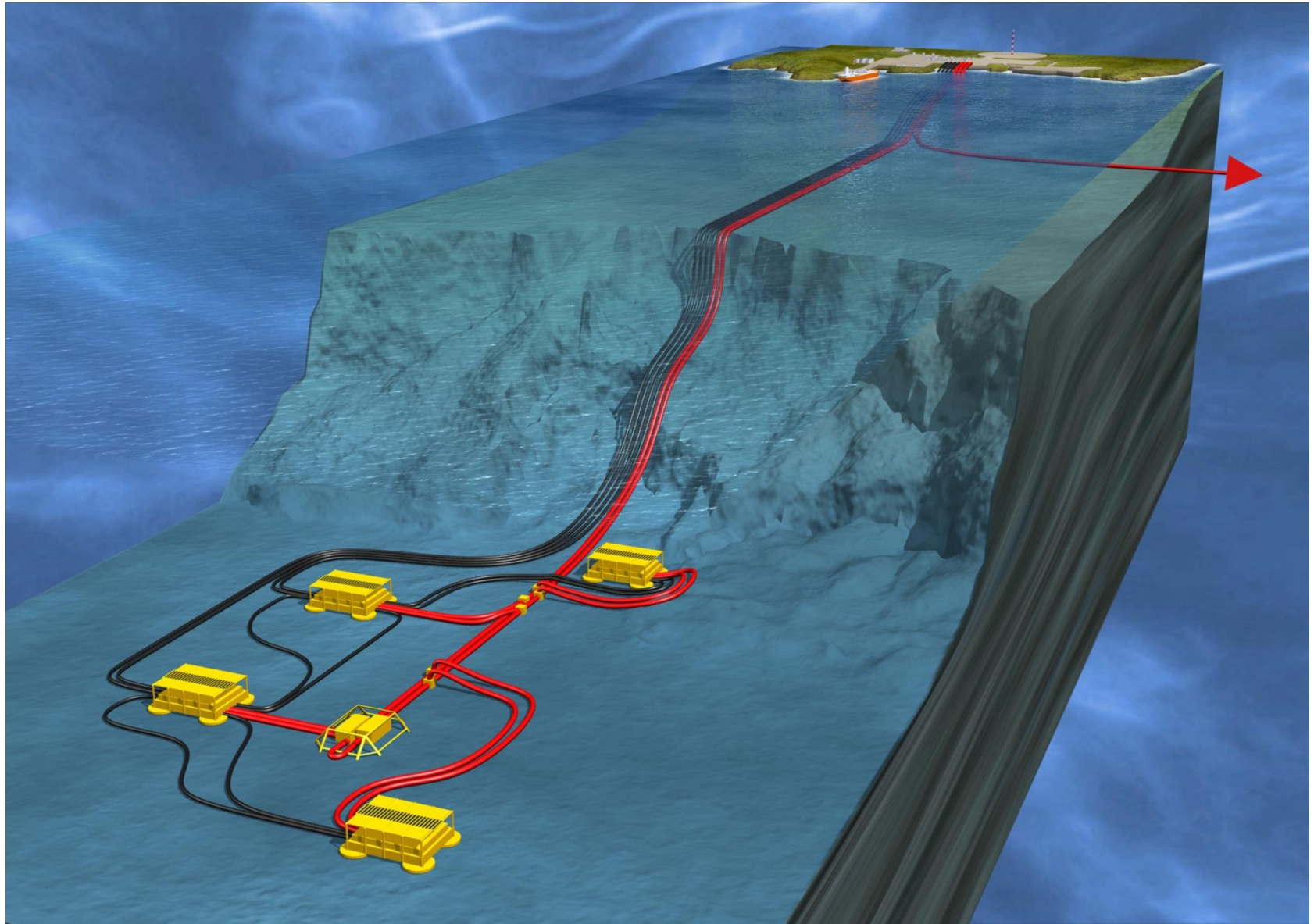


Gilnets, Norwegian Slope 63 N

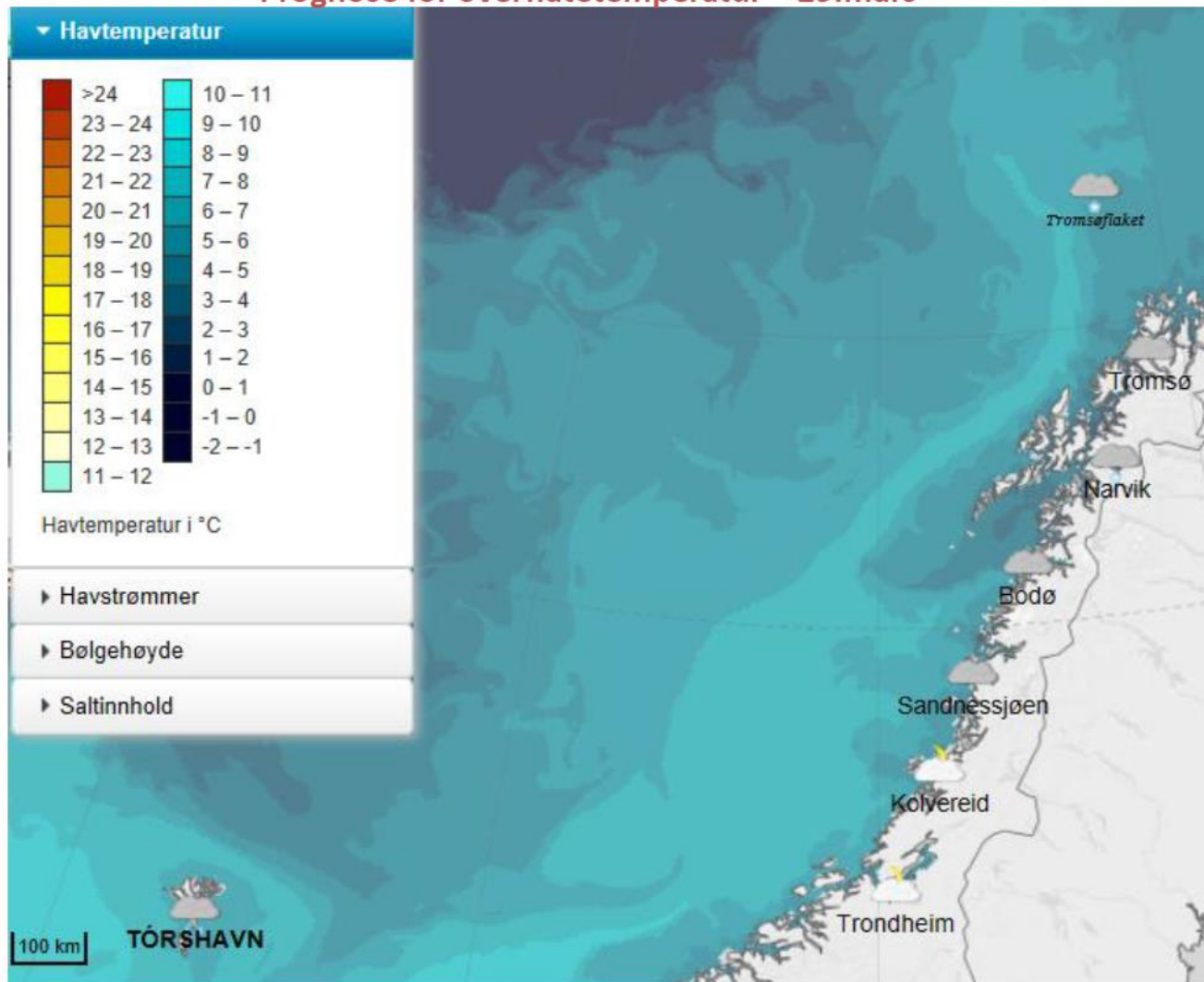




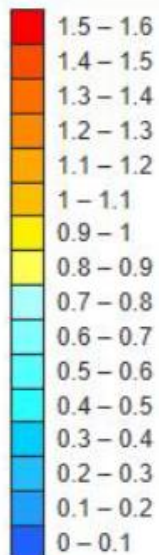




Prognose for overflatetemperatur – 29.mars



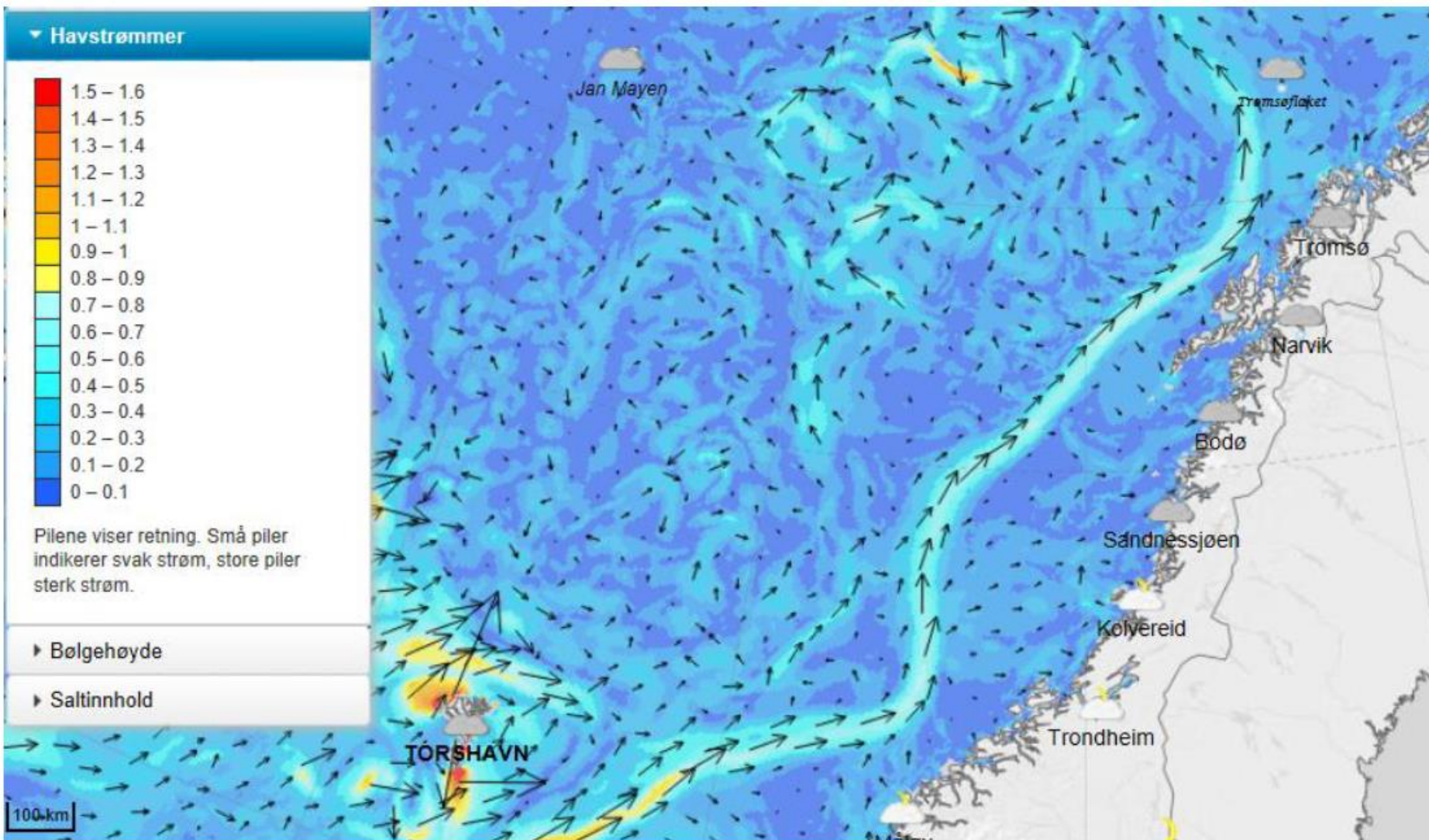
▼ Havstrømmer



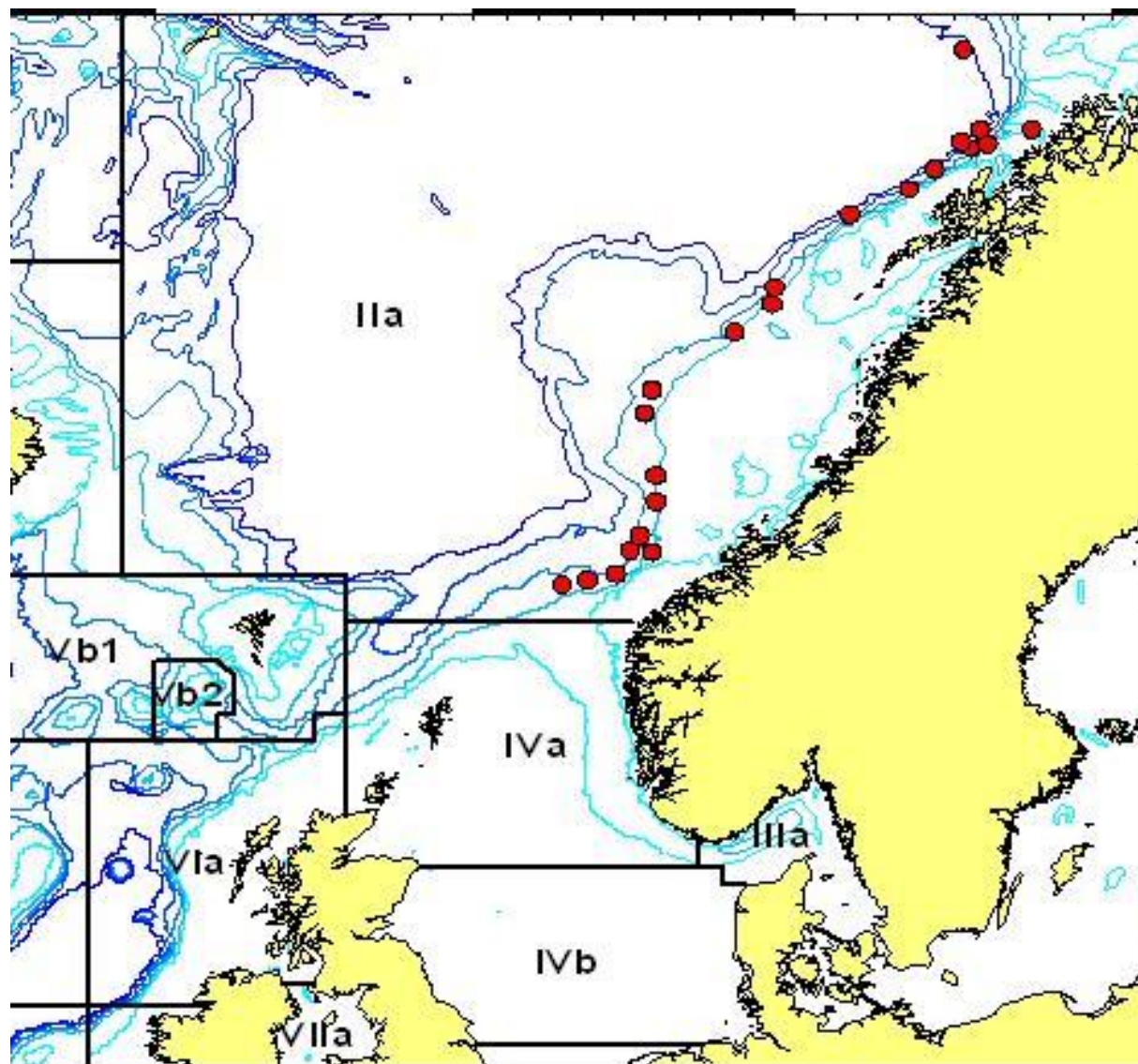
Pilene viser retning. Små piler indikerer svak strøm, store piler sterk strøm.

► Bølgehøyde

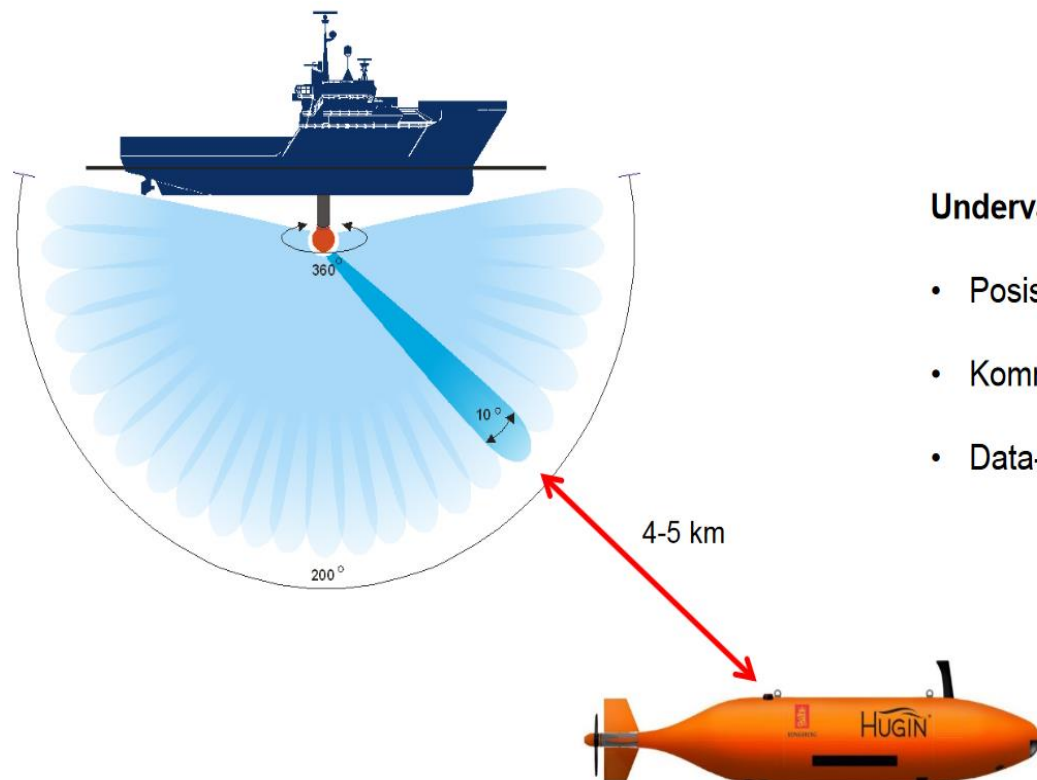
► Saltinnhold







Posisjonering og kommunikasjon - HIPAP



Undervannskommunikasjon:

- Posisjonering
- Kommando-link (ned)
- Data-link (opp)

Dimensions:

- Length: 6023 mm
- Diameter: 875 mm
- Weight: 1801 kg

Depth Ratings:

- 6000 m

Power Supply:

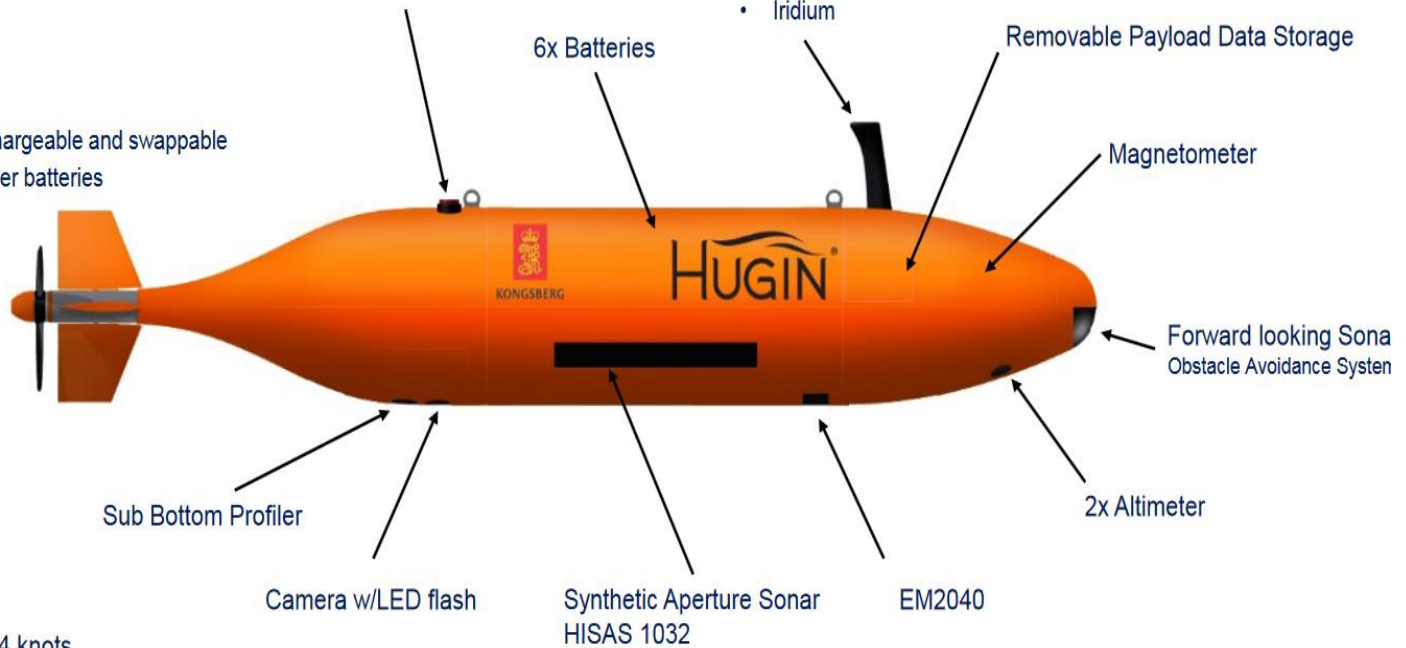
- Up to 6x Rechargeable and swappable Lithium Polymer batteries

Underwater Communications:

- HiPAP USBL
- Command Link
- Data Link

Surface Communications:

- GPS
- WiFi
- RF
- Iridium



Endurance:

- 6 Batteries
 - > 45 hours at 4 knots
 - > 60 hours at 3 knots



Connecting What's Needed with What's Next™



WHAT'S NEEDED:

Innovative technology to reliably and consistently deliver highly accurate and cost-effective pipeline inspections.



WHAT'S NEXT:

The ability to rapidly differentiate anomalies along the pipeline between surveys.

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As the trusted subsea connection specialist, we focus intently on the many challenges that offshore operators face. Solving beyond the status quo for subsea surveys and deepwater seafloor mapping, we connect our reliable AUV technology to pipeline inspections. The result of this cost-effective, innovative solution is highly accurate, high-resolution pipeline inspection information that enables our clients to make informed decisions for IRM services while ensuring continued safe offshore operations.

■ Connect with what's next at [Oceaneering.com/WhatsNext](http://www.oceaneering.com/WhatsNext)

<http://www.oceaneering.com/whatsnext>

Look for:

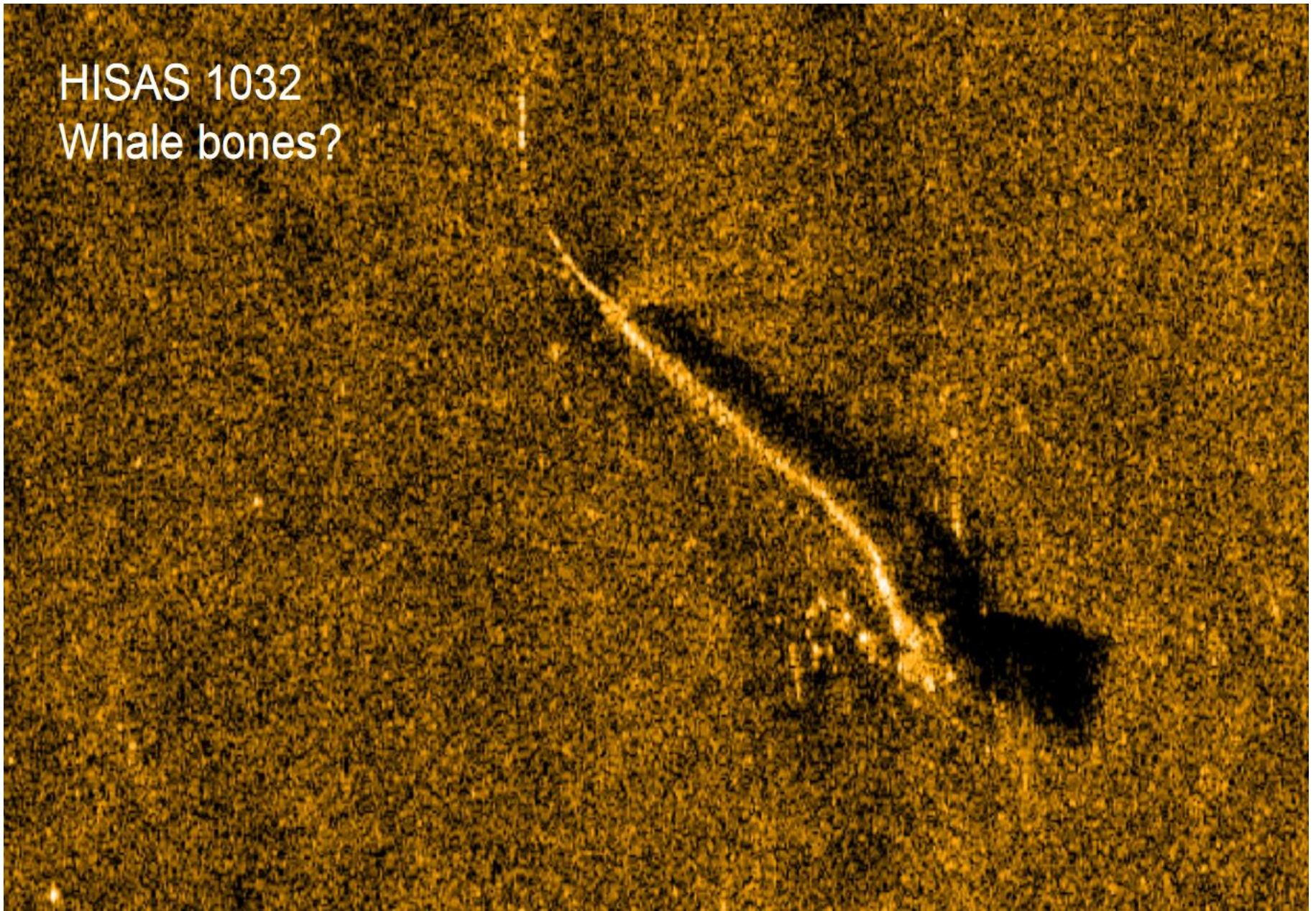
- Lost fishing nets
- Lost lobster pots
- Wrecks
- Garbage
- Marine biology
- Marine archeology
- Marine Geology
- General mapping



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HISAS 1032
Chain of lobster pots

HISAS 1032
Whale bones?





KONGSBERG

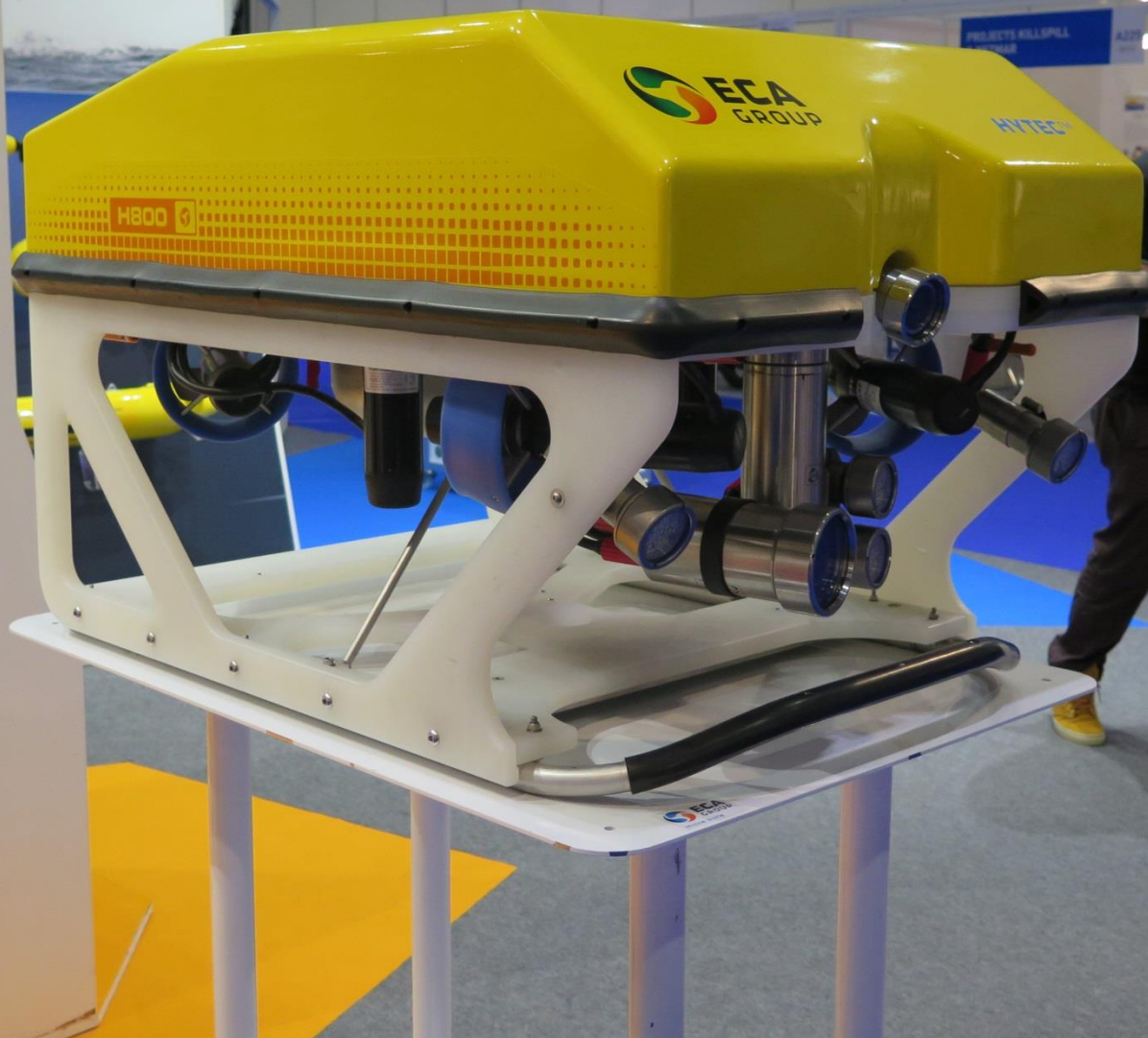
Color camera
Stitched photos of Whale bones

MSV Olympic Intervention IV









INSTALL
MARINE SURVEY GENUINE SOLUTION

