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Marine Civil Engineering: Helping Port Management Make Great Decisions

26/09/2022

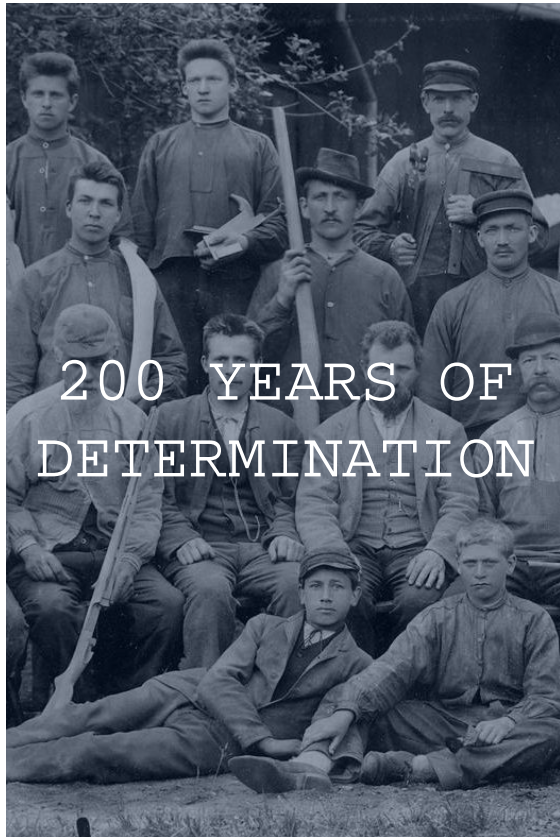
Konrad Mech, Sales Director Coasts, Ports, Inland
Waterways



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200 YEARS OF EXCELLENCE

Two centuries of achievement, innovation and transformation —fueling a journey that has seen us start as a small munitions business in Norway and emerge as a pioneering global technology provider.



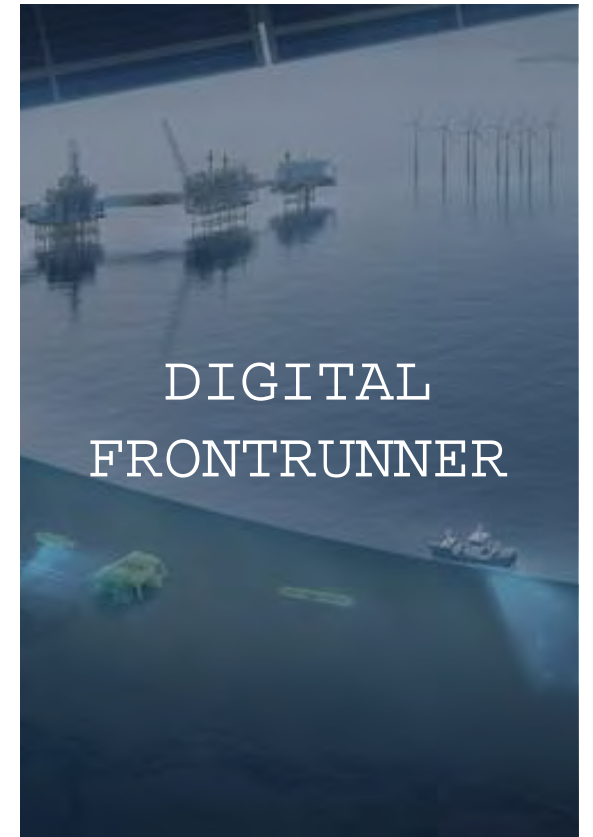
200 YEARS OF
DETERMINATION



INNOVATIVE
BREAKTHROUGHS



GLOBAL
PLAYER



DIGITAL
FRONTRUNNER



KONGSBERG



MARITIME



DEFENCE



DIGITAL



11 000
EMPLOYEES



40
COUNTRIES



27.4 BNOK
80% EKSPORT

FROM DEEP SEA TO OUTER SPACE



OUTER
SPACE

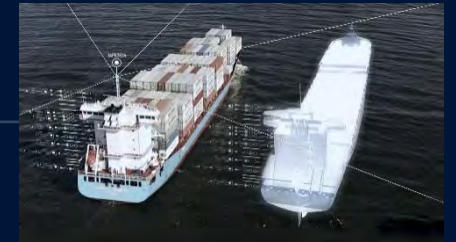


AIRBORNE



SEABORNE

DIGITAL
FRONTIER



LAND-
BASED



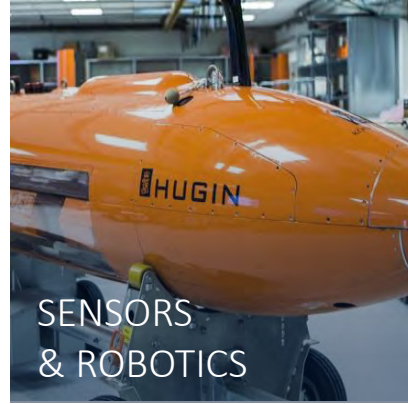
DEEP SEA





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Kongsberg Maritime



GLOBAL SALES



~7,000 employees



16.5 BNOK revenues



32 countries



Equipment on 30,000 vessels



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New technology brings new benefits

KONGSBERG'S digital vision in practice

Zero emission
container feeder



Autonomous
ferries



From diesel
to LNG



Digital Platform
Ecosystem



Battery ferries with
auto-crossing



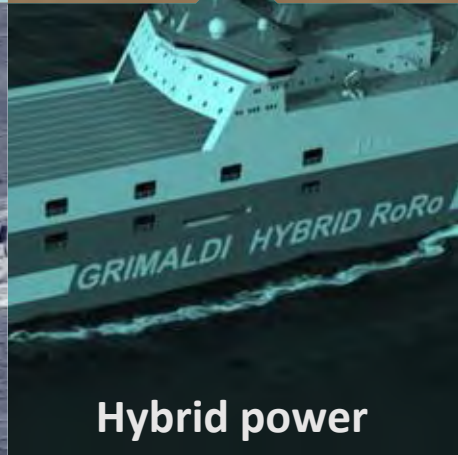
Vessel Insight



Scientific Research



Hybrid power



Green energy

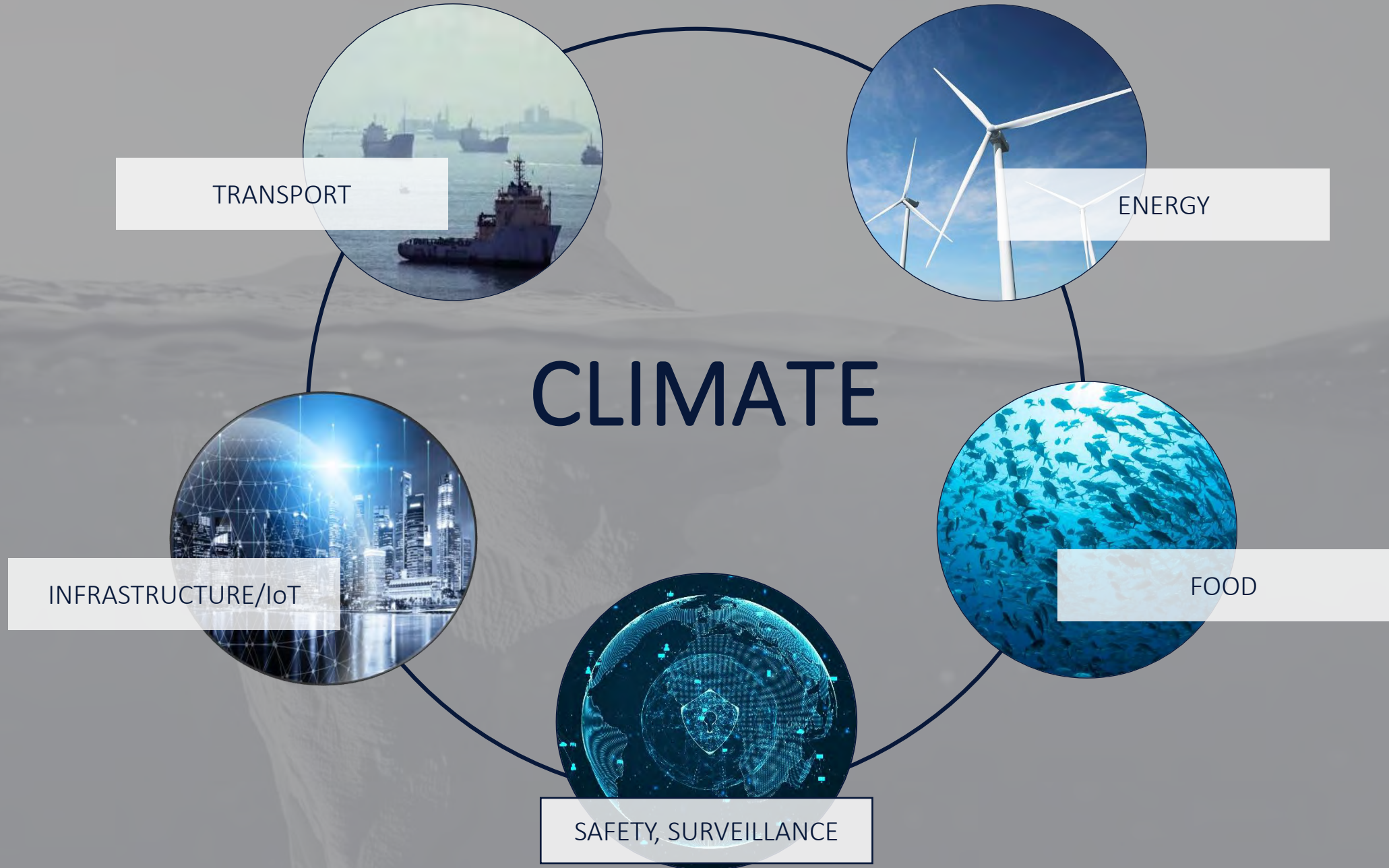


Offshore fish
farming





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TRENDS SHAPING OUR INDUSTRY

Help customers improve their operations through market leading technology

KEY CUSTOMER REQUIREMENTS...



OPERATIONAL EFFICIENCY



SUSTAINABILITY



SAFETY, SECURITY &
RELIABILITY

...DRIVE ADOPTION OF TECHNOLOGY AND BUSINESS MODEL TRENDS

SMART DATA
& ANALYTICS



CONNECTIVITY
& REMOTE
SERVICES



CLEANER
FUELS



ADVANCED
S&R



REMOTE &
AUTONOMY



ENERGY
STORAGE



ELECTRIFICATION



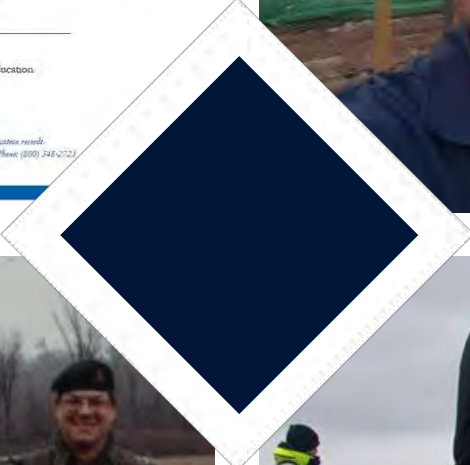
ROBOTISATION





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About me

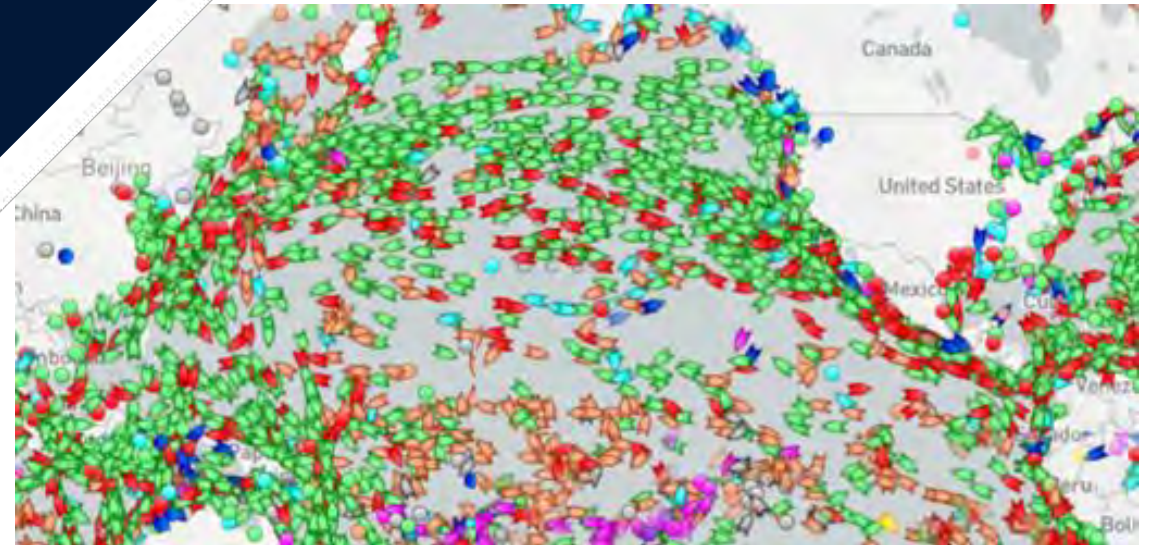




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A Survey of APP Themes

Conference Agenda;
Conference Recaps;
Pacific Ports Magazine





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World Bank Republic of Marshall Islands Maritime Investment Project

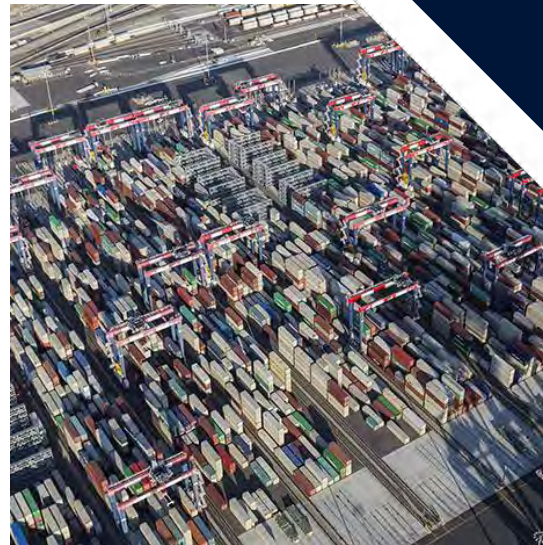
- 1) Maritime Infrastructure
- 2) Maritime Safety and Security
- 3) Technical Assistance for Port Planning and Project Management
- 4) Contingent Emergency Response





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MARAD Town Hall 2021





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Flow:



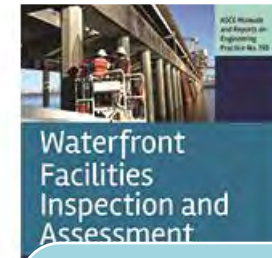
Business Model

- Customer Type
- Volume



Project Funding

- Grants
- Port Funding



Port Ops and Mtce

- Routine
- Event-driven



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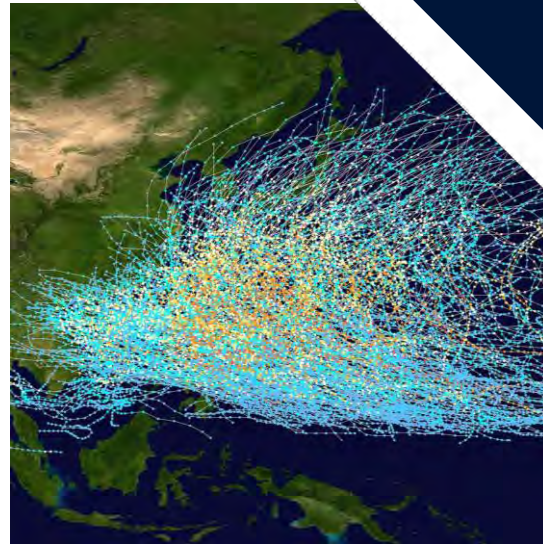
Pacific Ports





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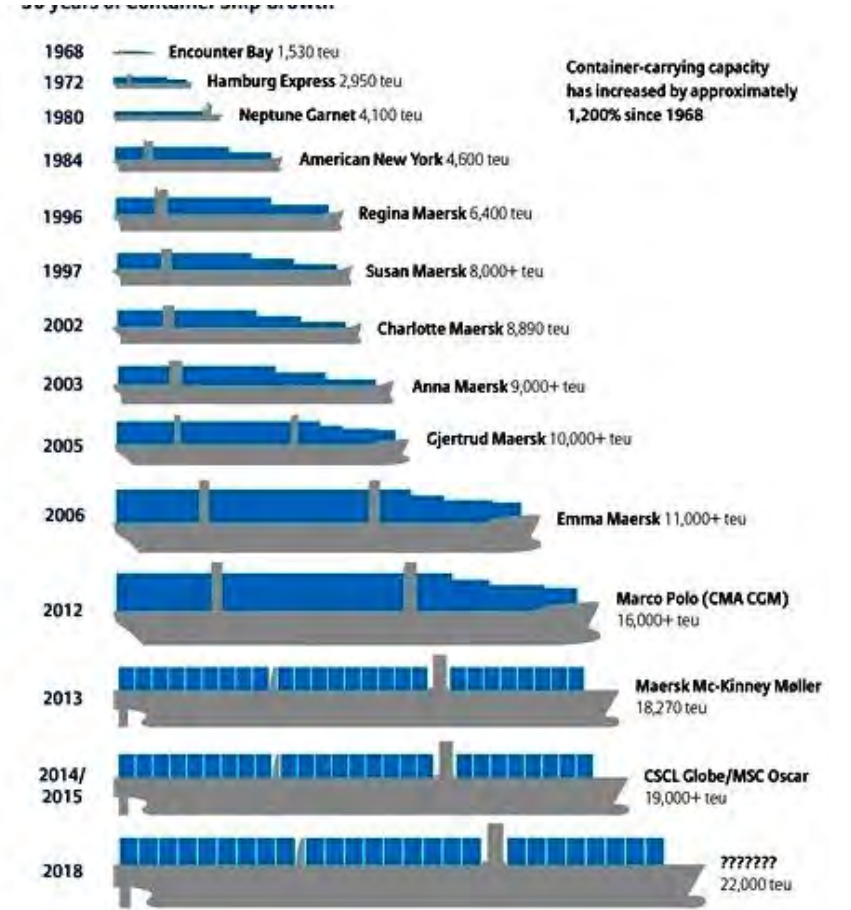
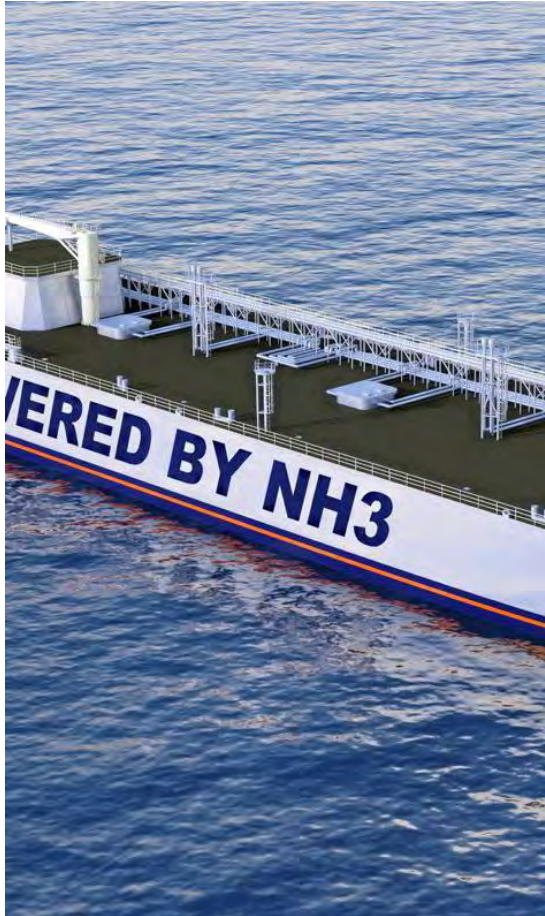
Characteristics of Pacific Ports





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Trends Impacting Port Decisions

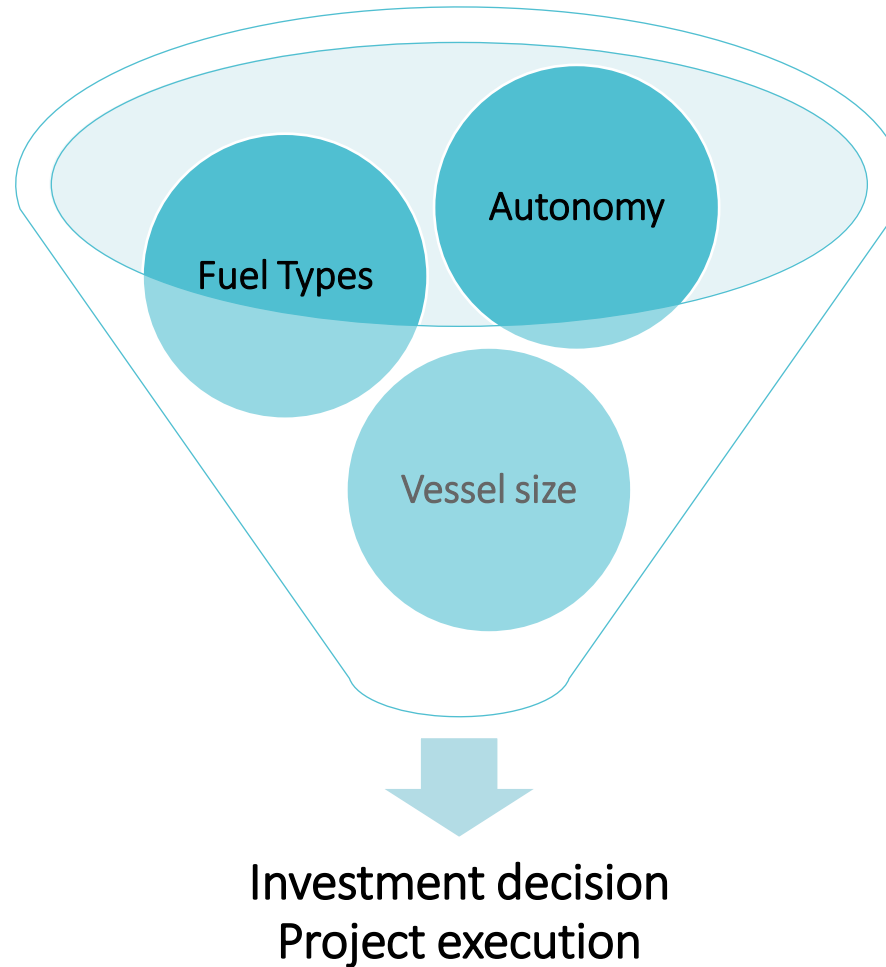




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Implications: Anticipating Change; Risks

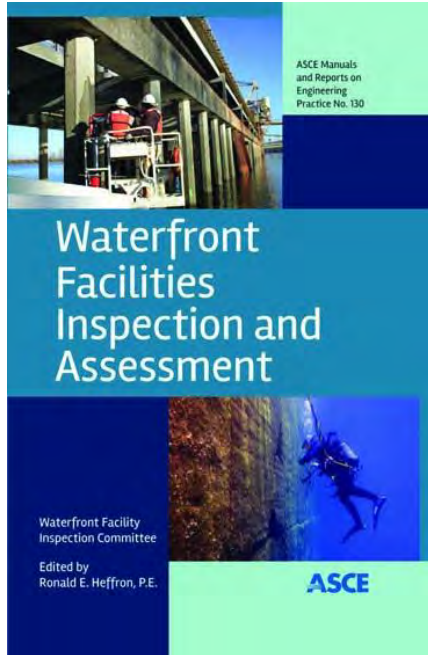
Risks are Bets – You can win and you can lose





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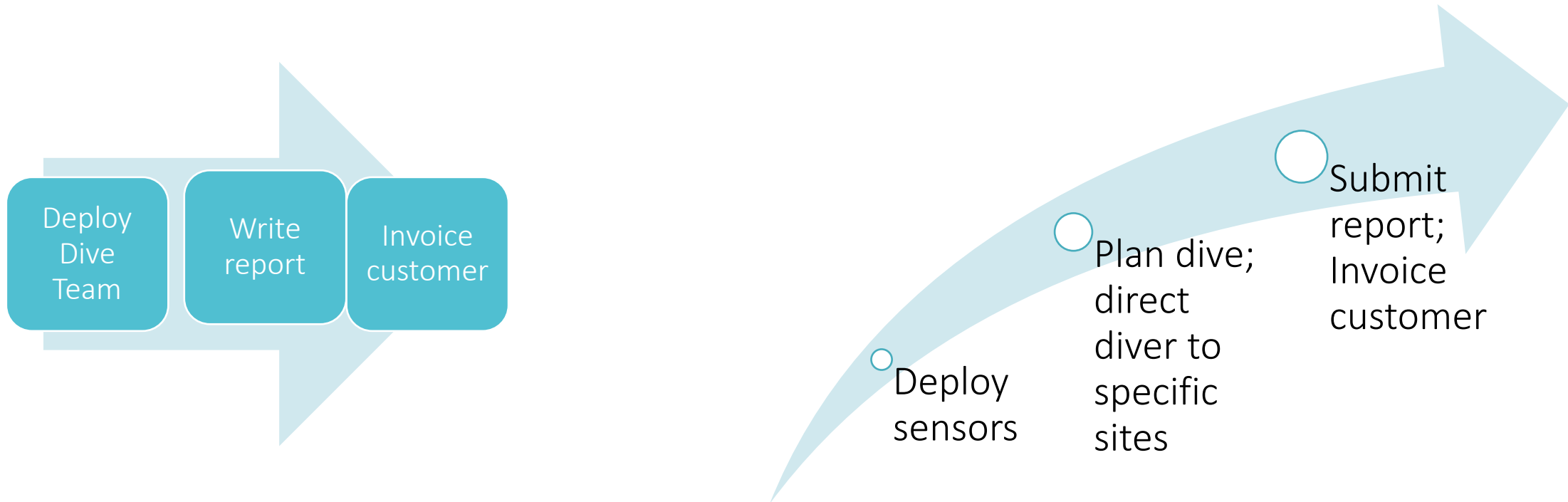
Management Infrastructure Decision Toolbox





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Challenge Your Professional Service Providers

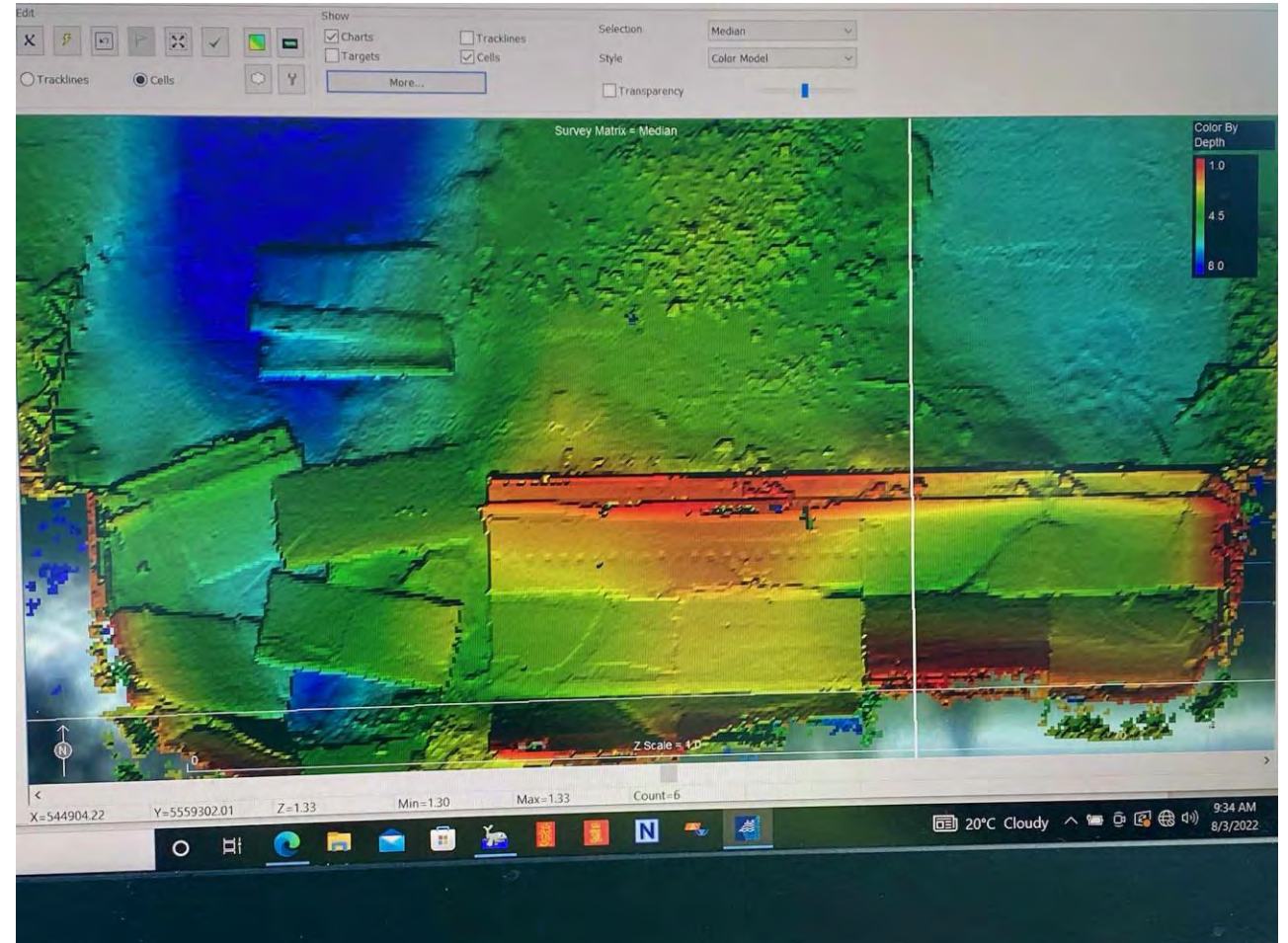




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Technology Tools To Look At:

Sensor Costs Decreasing; Data Quality Increasing





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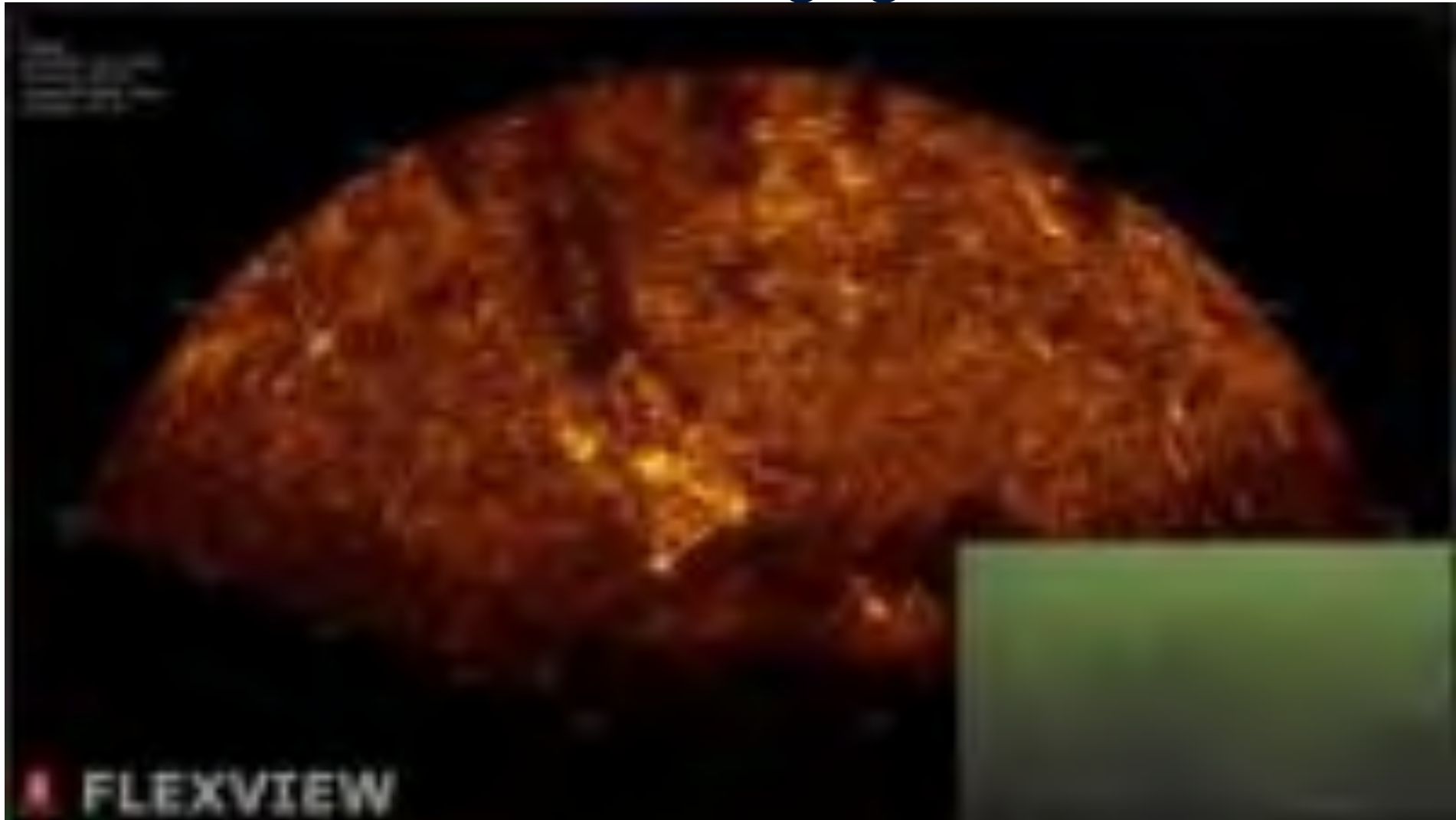
Multibeam Imaging - jellyfish





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Multibeam imaging - crabs





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Infrastructure Inspection; Along Track Mosaic

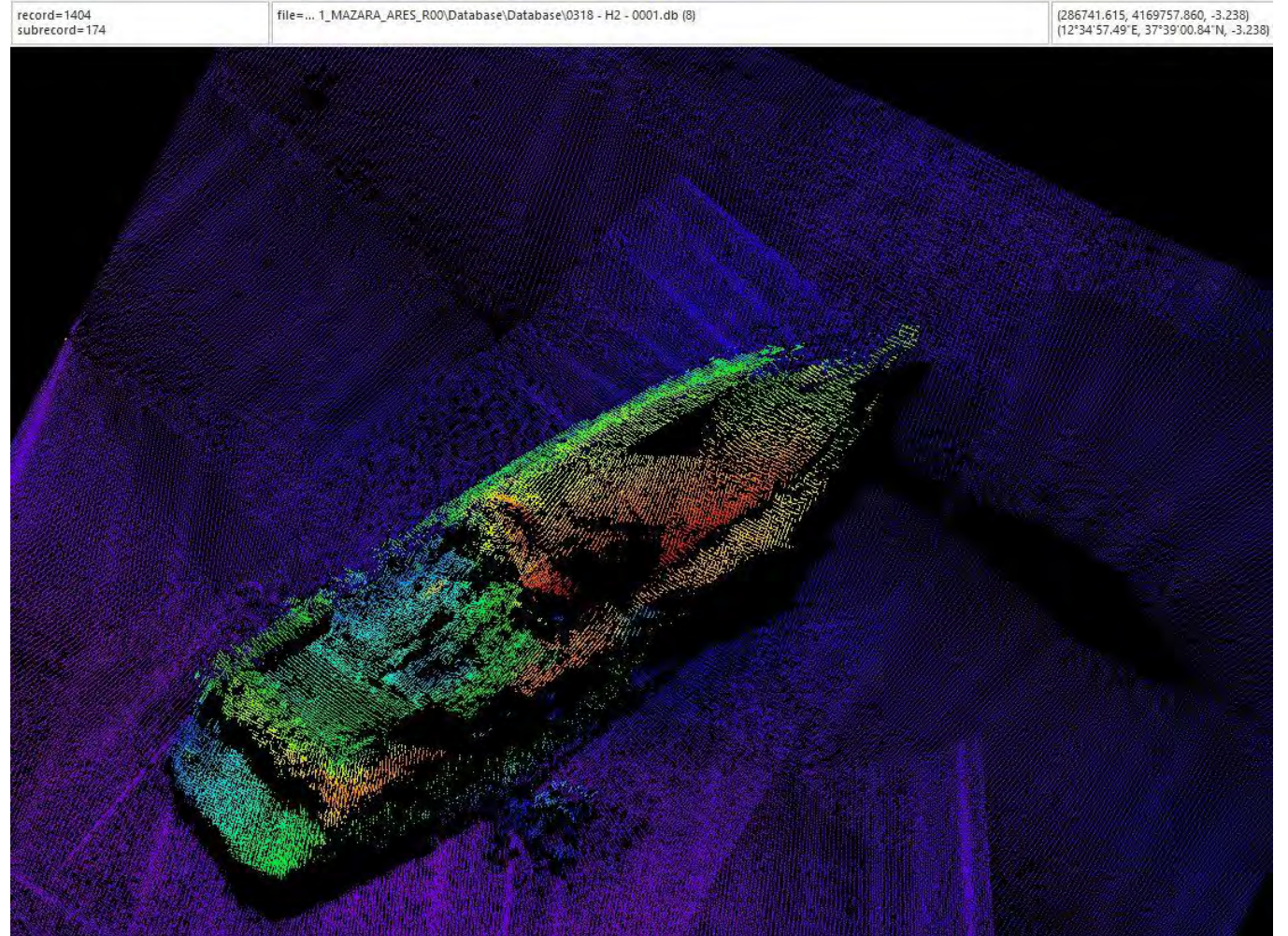




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Technology Tools To Look At:

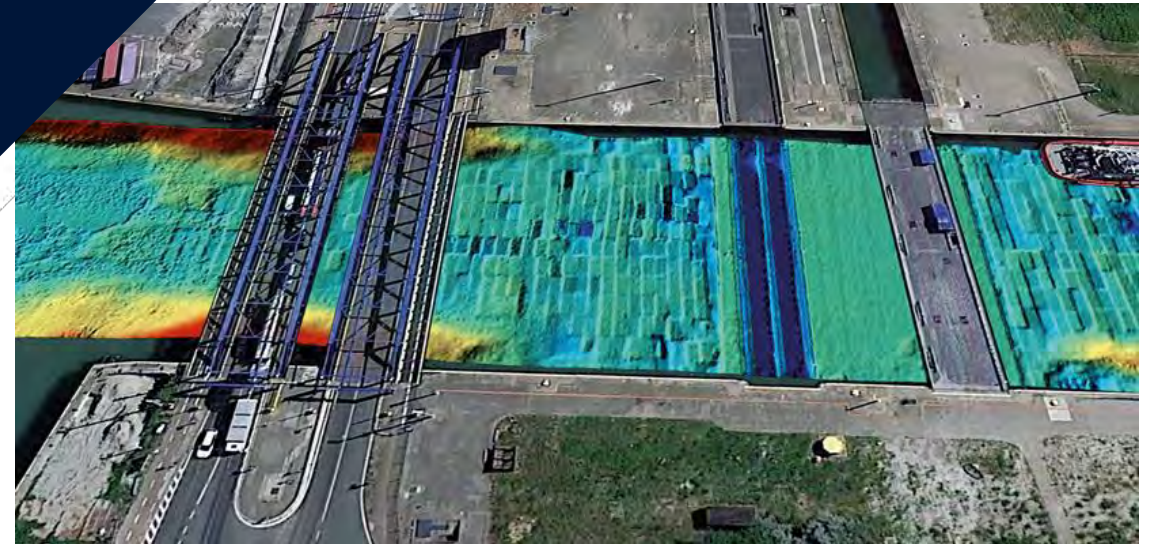
Sensor Costs Decreasing; Data Quality Increasing





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Bathymetry





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Infrastructure Survey



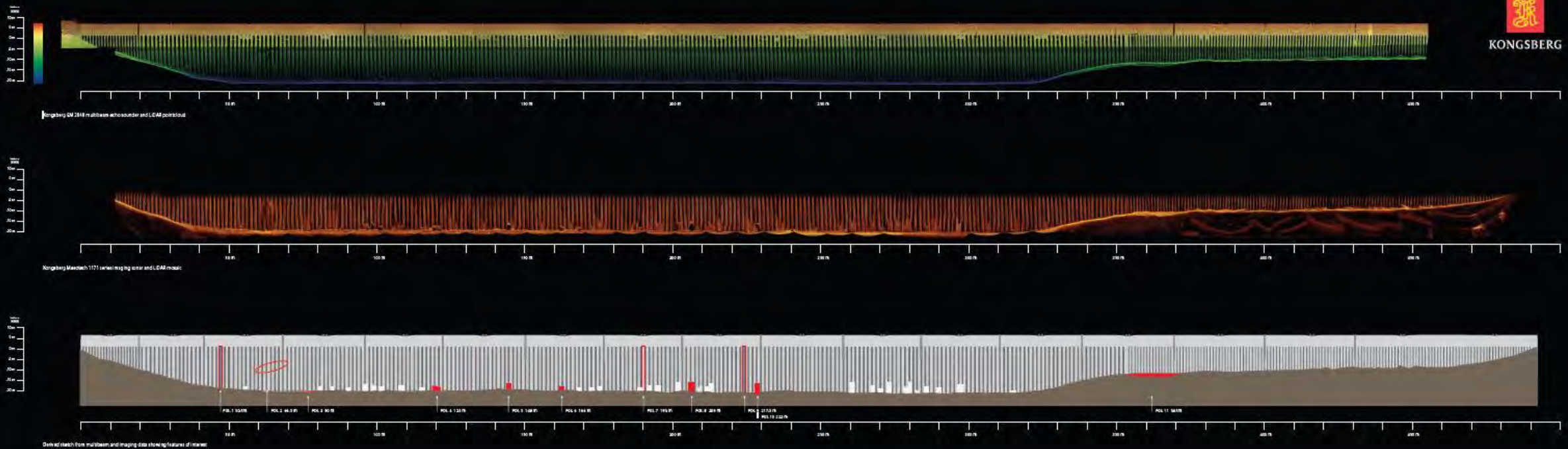


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Quay Wall Inspection

Baseline Inspection – geo-referenced 2-D, 3-D images with as-built drawing

Key Wall Inspection 2014 - The Full Picture



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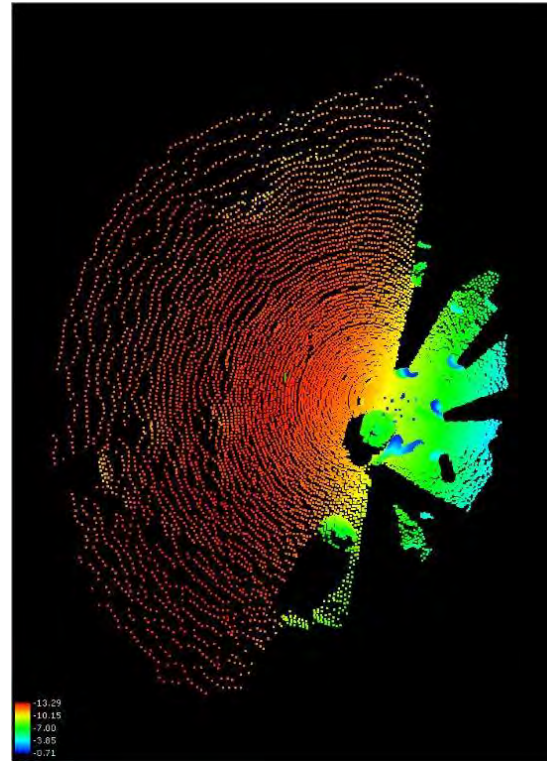
KM Embient and KM Mesotech



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Scour / Siltation Monitoring

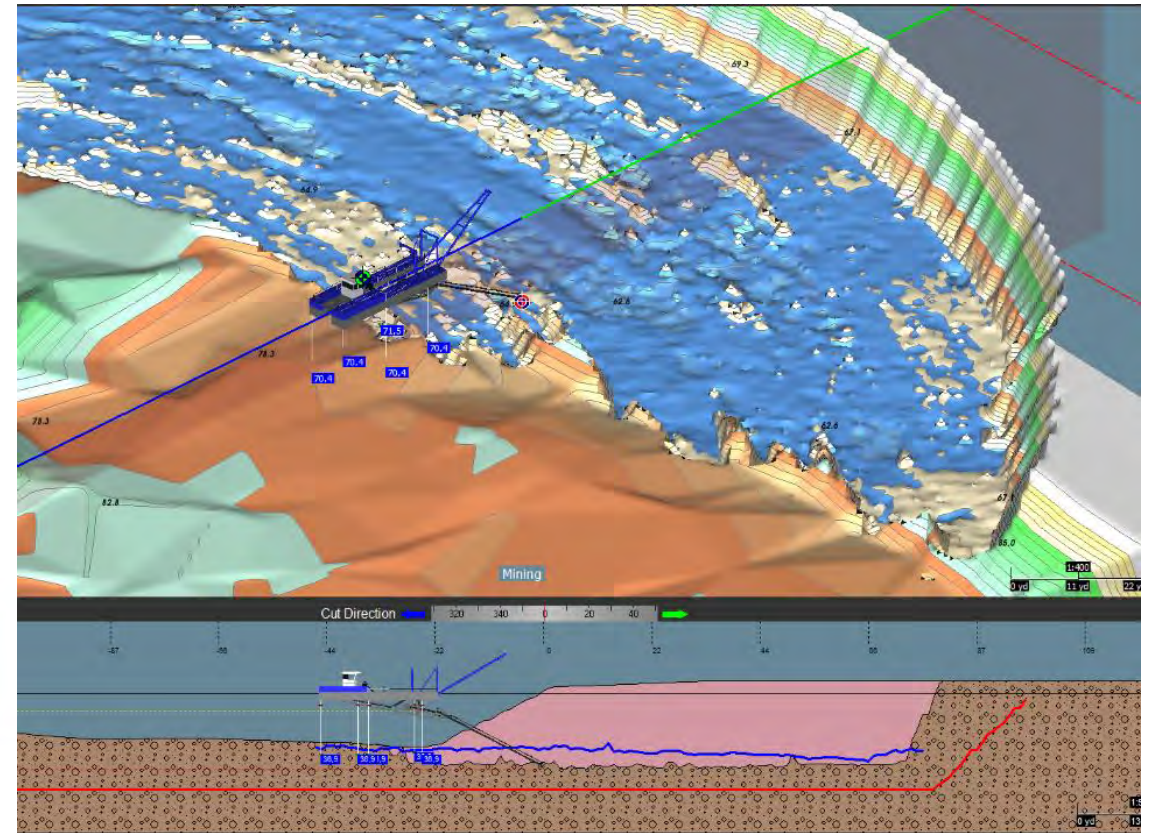
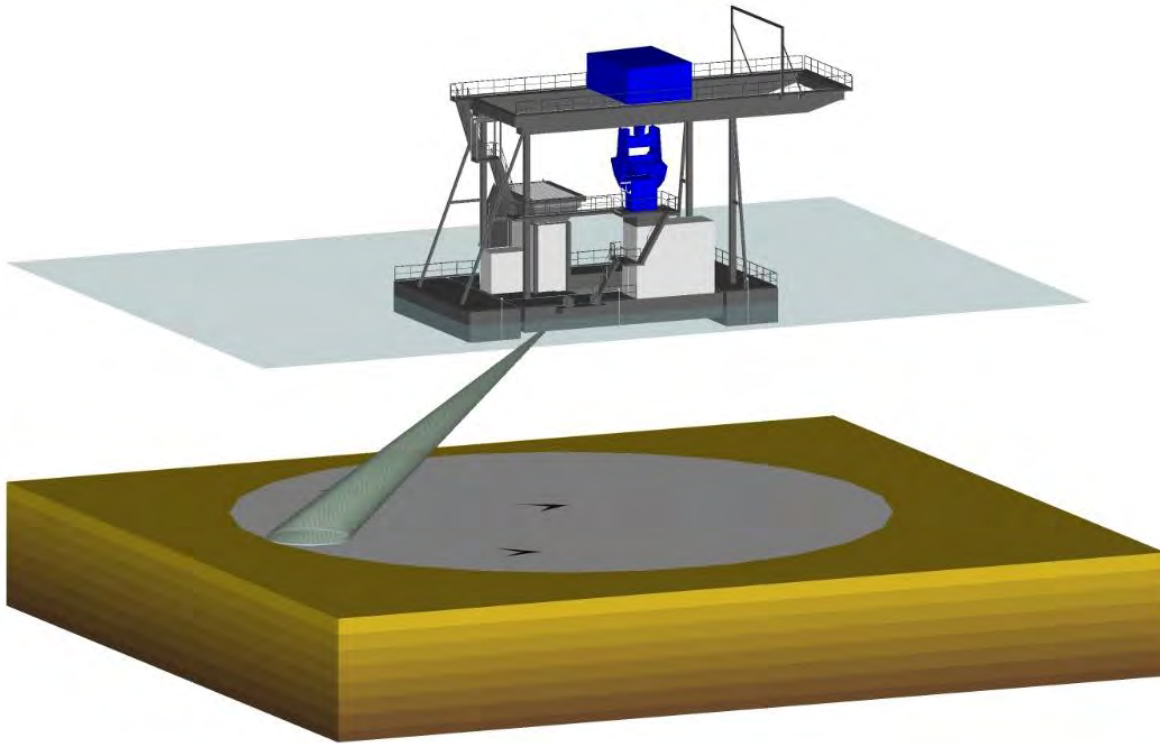
In-situ monitoring





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Making the Dredging Operation Visible





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Port Security from Waterside

- Autonomous Underwater Vessels



- Unmanned Surface Vessels





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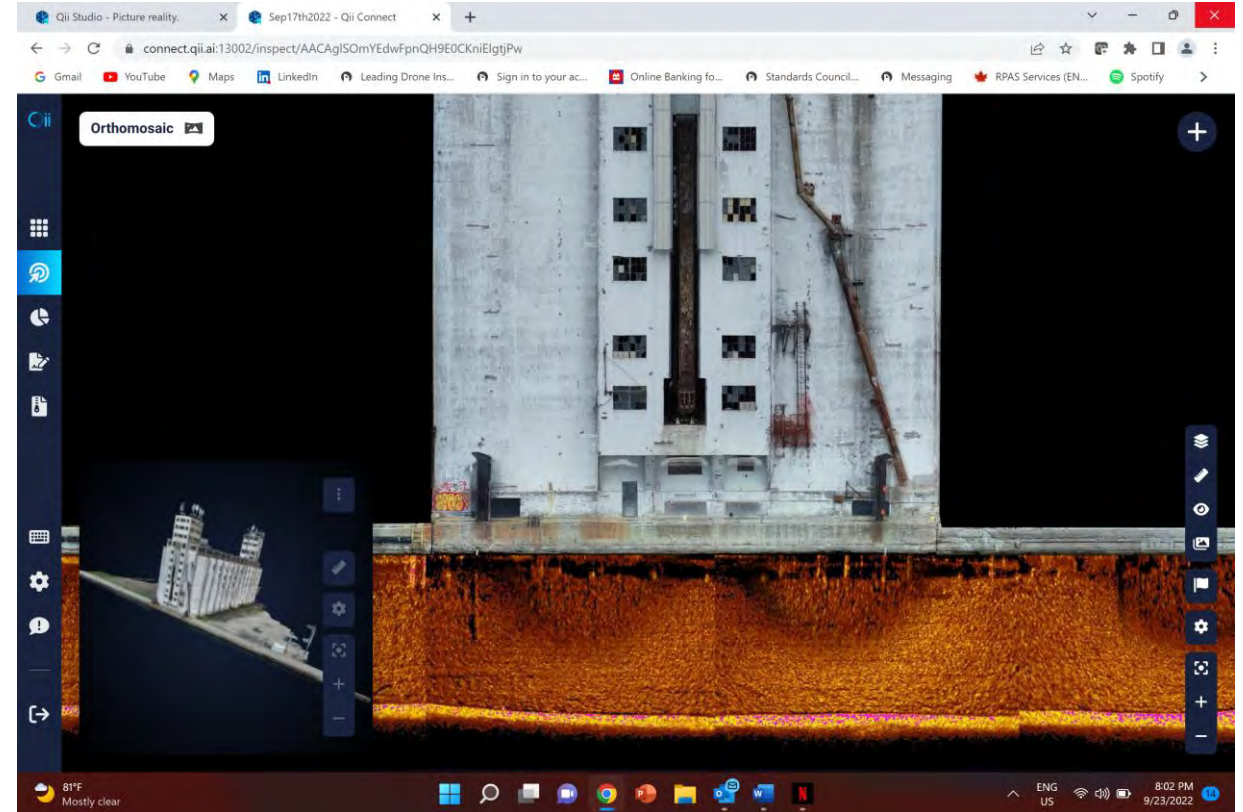
GIS Asset Management





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Port Management Make/Buy Decisions





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Key Take-aways:

Educate yourself and staff on tech options

Hire a nerd or two

Challenge your service providers

Consider make / buy for tech

Get better data to make great decisions



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Thank you!

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