

BUSINESS ASSURANCE

Prevention of technical failure and environmental impacts for  
fish farms on Iceland

Aqua Ice Conference Reykjavik

14<sup>th</sup> March 2017

## Talk Outline

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- The aquaculture value chain
- Prevent fish escape from fish farms
- Sustainability and environmental monitoring
- What the future holds

# From fish eggs to your plate



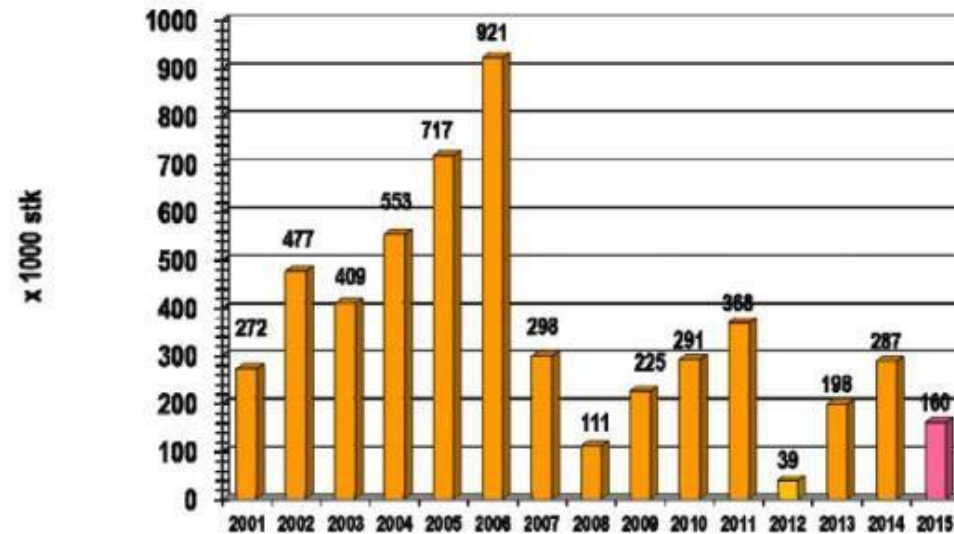
# Prevention of fish escape from fish farms - a technical perspective

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## Why prevent “fish escape”?

- Escaped farmed salmon have negative consequences for wild strains of salmon
- Escaping fish is “bad for business”
- Escaping fish is leads to loss of reputation
- Since establishment of NYTEK regulations in Norway the increasing trend of Fish Escape has been reversed
- The new regulations on Iceland should have the same effect

Rømming av laks 2001-2015  
Oppdretternes innmeldte rømmingstall  
pr. 31.12.2015



## How to prevent escape?

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- Know your site and location;
- Evaluate risks on location and site;
- Use the right equipment;

# Prevent Fish Escape

## Inspection Activities

Site Survey  
Mooring analysis  
Measure  
environmental loads

## Equipment certification

Net Pens  
Feed Barge  
Floating Collar  
Construction parts  
mooring

## Analysis/ modelling

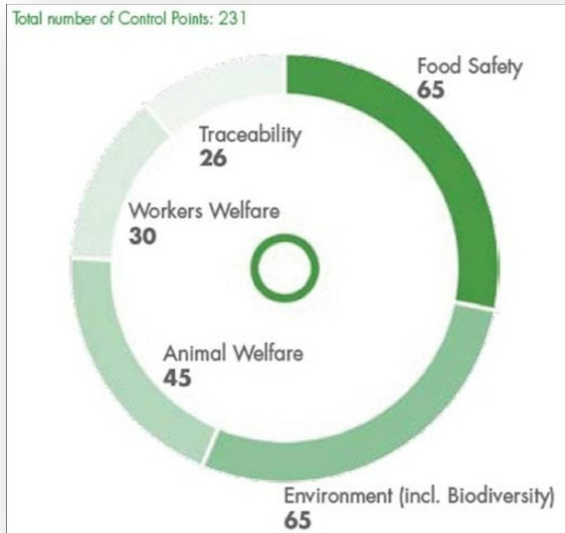
Wave  
Current  
Ice  
Global strength  
Finite Element

# Sustainability and Environmental monitoring

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# Managing sustainable growth in aquaculture - meet the B2B requirements to demonstrate responsible farming

## GLOBALG.A.P. - B2C

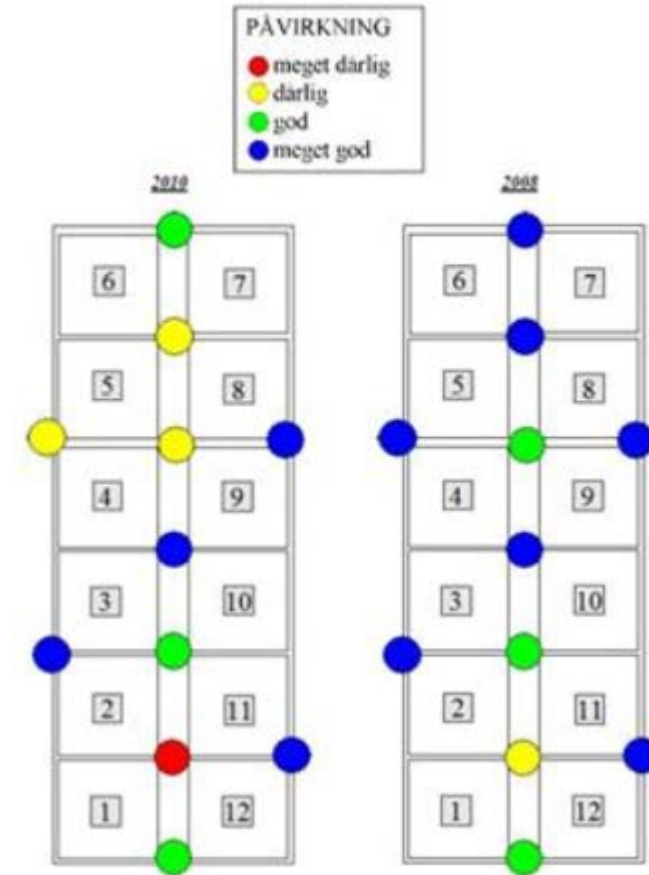


Environmental and social focus  
 EcoLabeling - B2C



# MOM B and C are activities to monitor trends of waste from the farms to the surrounding marine environment

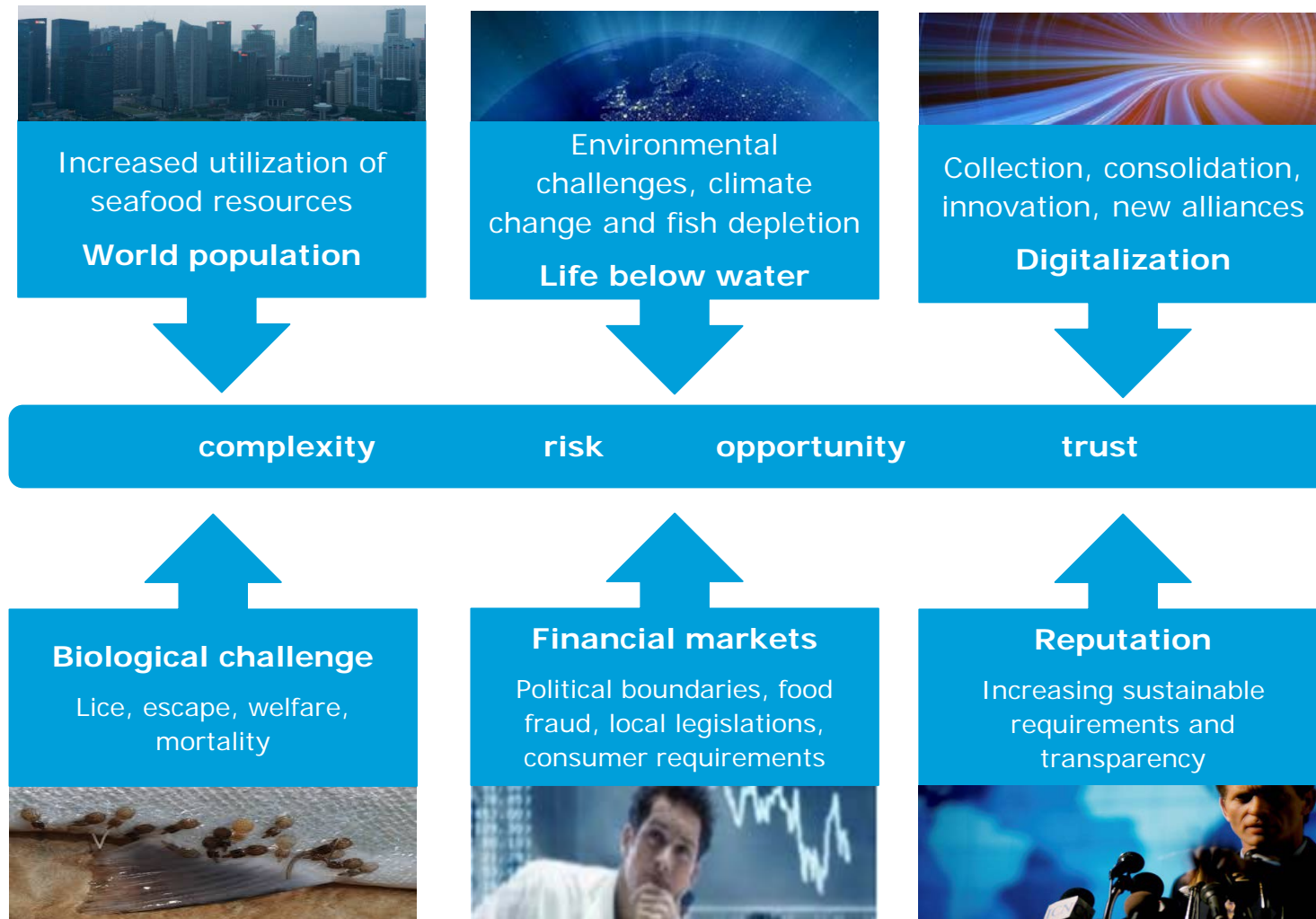
- Environmental monitoring MOM – B and MOM - C is important to be able to ensure and demonstrate sustainable operations
- There are standards and requirements for how this activity should be conducted (NS9410:2016)
- The testing is risk based
- MOM C needs to be performed by an accredited body and laboratory
- The results for a site are categorised into 4 categories with consequences



# What the future holds

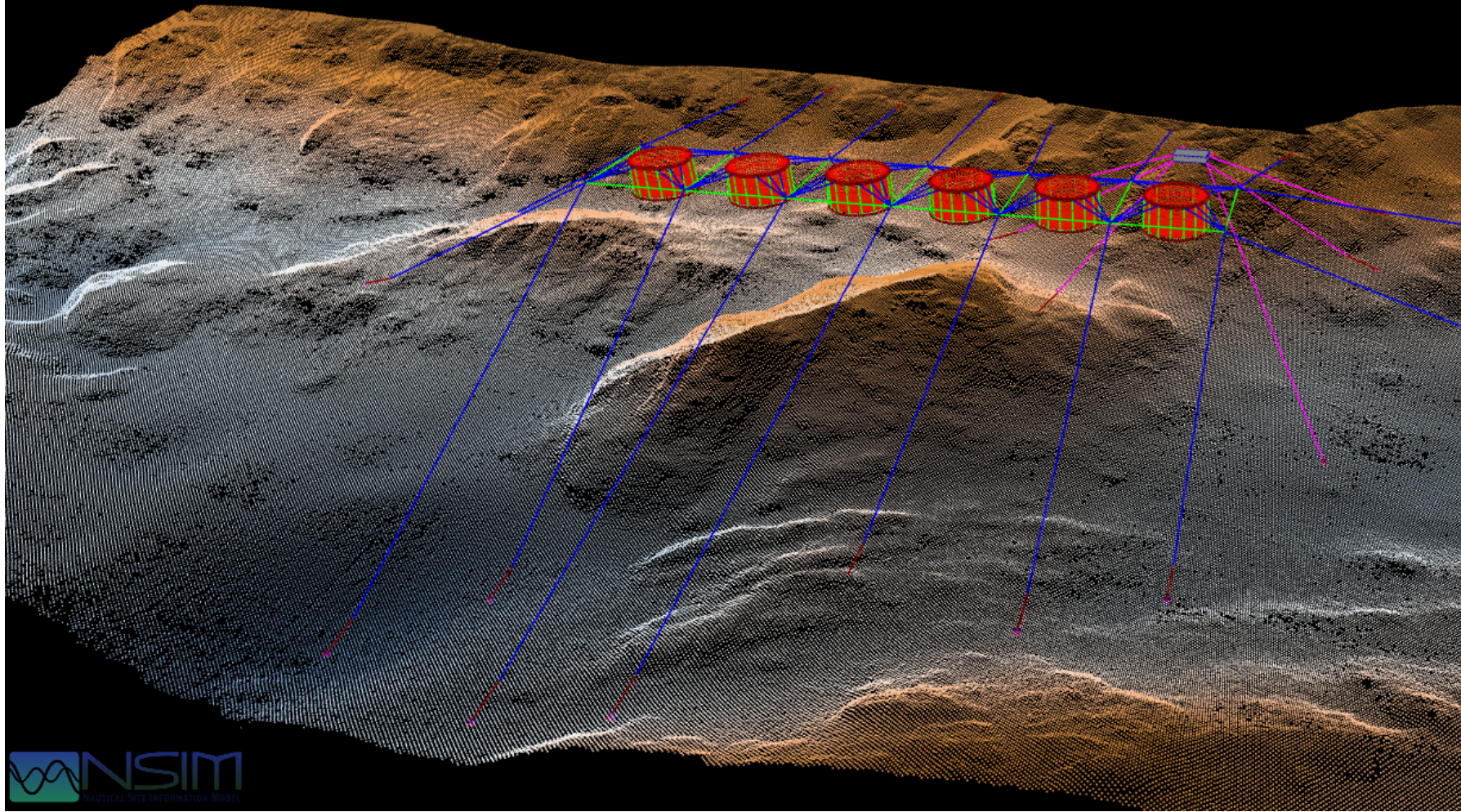
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# The future of Seafood - taking advantage of a world of opportunities while managing risks and complexity



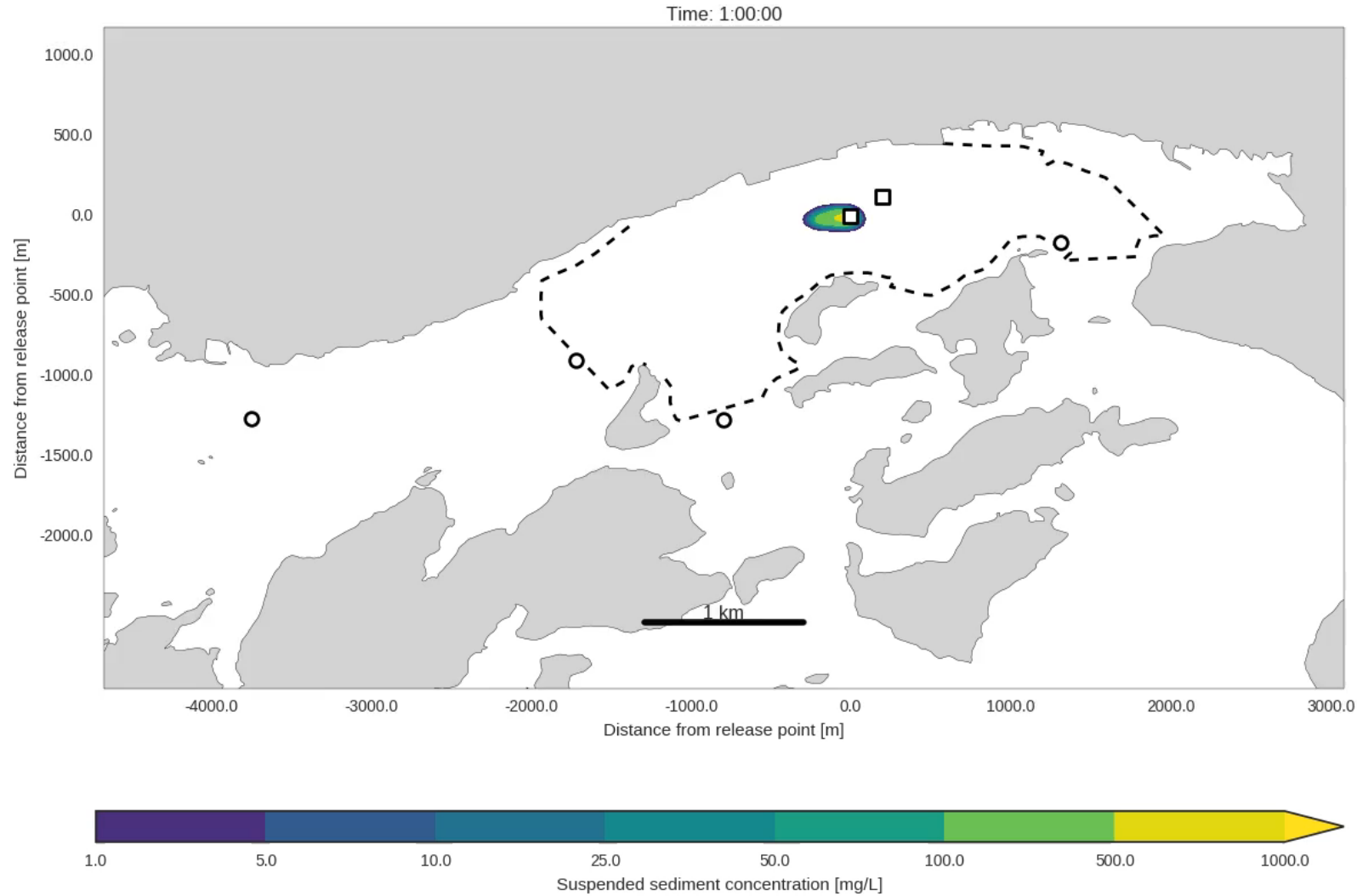
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## 3D “Digital twins” providing optimisation possibilities of sites for reduced risk and improved production and bottom line will be standard



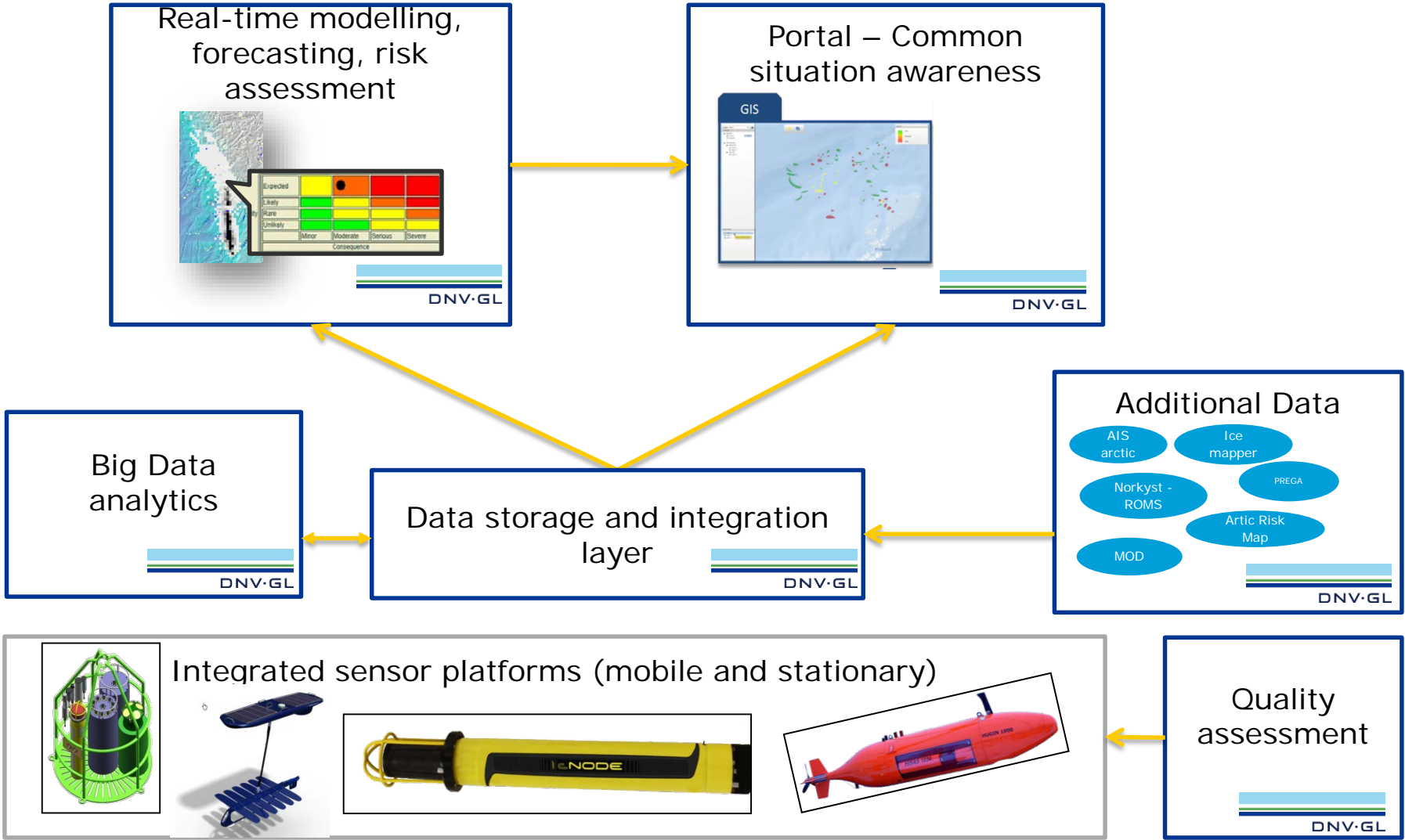
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# Current measurements and real time dispersion modelling will be used - What happens in a fjord where spills occurs or where diseases are present?



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# Ocean Stewardship Marine Monitoring and Management Platform - Architecture in sensor monitoring will provide Big Data Analytics



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# To Safeguard Life, Property and the Environment

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**SAFER, SMARTER, GREENER**

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