

A photograph of the Fugro Orca vessel, a red tugboat, in the foreground. In the background, a large orange offshore platform is visible in the North Sea. The sky is clear and blue. A blue vertical bar is on the left side of the image.

Defining the future – ‘the new safe’

MENA HSE Conference

Fugro Orca, North Sea, Inside 500m Zone

Part 1

Fugro at a glance

**Our planet is a complex and
dynamic system...**



Accurate collection and interpretation of Geo-data is essential to mitigate risk

Geophysical

Geotechnical

Geospatial

Metocean

Environmental

Positioning

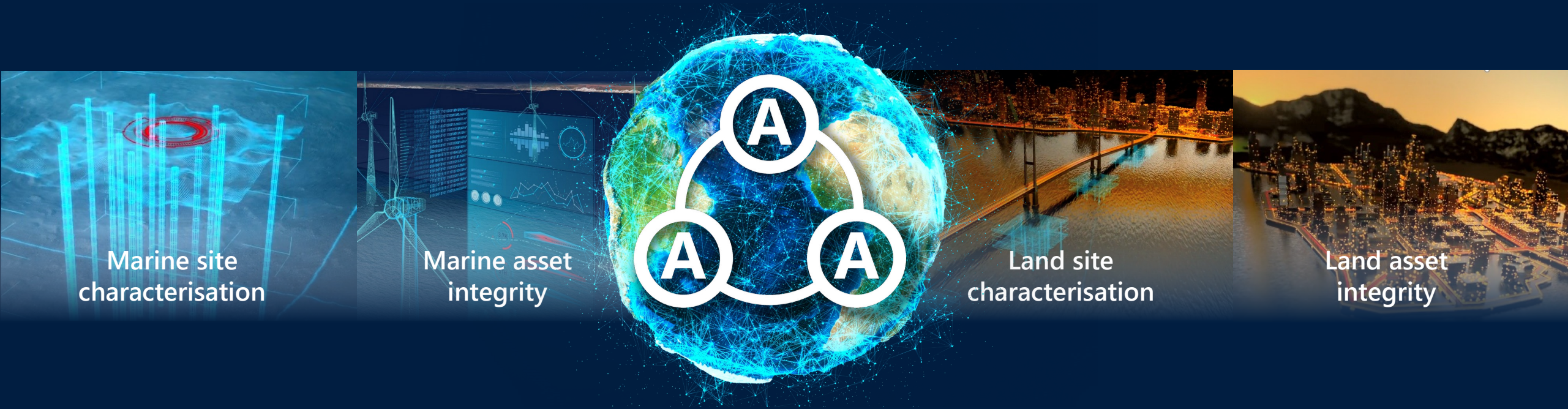
Asset condition

Change detection

Fugro is the world's leading Geo-data specialist

Unlocking insights from Geo-data

Using our 'triple A' approach, we support our clients in managing their project risks during construction and operation of their assets, both on land and at sea



Acquisition of Geo-data

Analysis of Geo-data

Advice based on expertise

Unlocking Insights from Geo-data,
for a safe and liveable world



Safety Always Matter

Together we create a safe and liveable world

3S Together

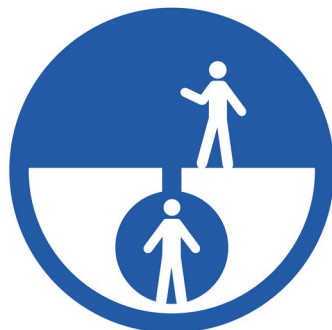
The 'everyone' behaviours are based on our learnings from incidents and the outcome of the safety culture assessment carried out to help us understand where our safety challenges lie.

The 'managers' behaviours are linked to the everyone behaviours; it's about working together, building trust between each other to be the safest we can be.





Bypassing Safety Controls



Confined Space



Driving



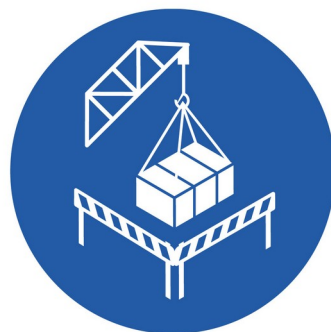
Energy Isolation



Hot Work



Line of Fire



Safe Mechanical Lifting



Work Authorisation



Working at Height



When the Life-Saving Rules are followed, we all get to return to our friends and family safely

Remote Operations

Introducing new ways of working



Differentiate by integrated digital solutions

Combining these building blocks into integrated digital solutions creates value for our clients

Mobile, autonomous
robots and sensors



USV Update Feb 2022

Remote operations and
support services



Analytics and cloud
automation services

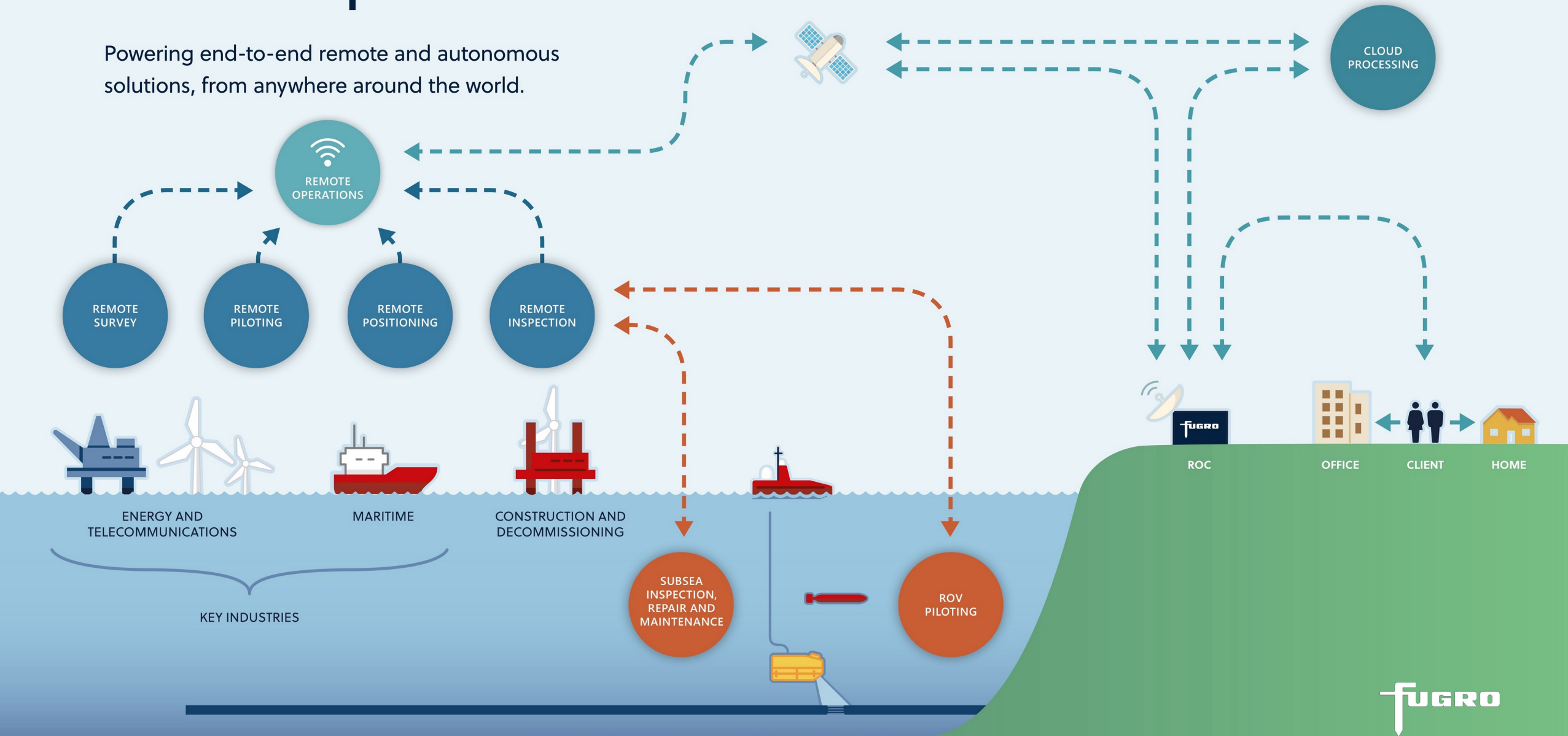


Insights and delivery



Remote Operations Centres

Powering end-to-end remote and autonomous solutions, from anywhere around the world.



Component systems

All the parts which together make up the remote and autonomous solution



USV



eROV



ROC/LOC



People



Introducing new operational models

Applying traditional HSE practices

Introduction of new technology

Regulatory Gap Analysis

Identify what aspects of current legislation can be complied with through *conventional* means

Identify what aspects of current legislation could be complied with through *novel* means

Identify what aspects of current legislation cannot be complied with / would not be applicable



Safety Case

STANDARD
COMPLIANCE

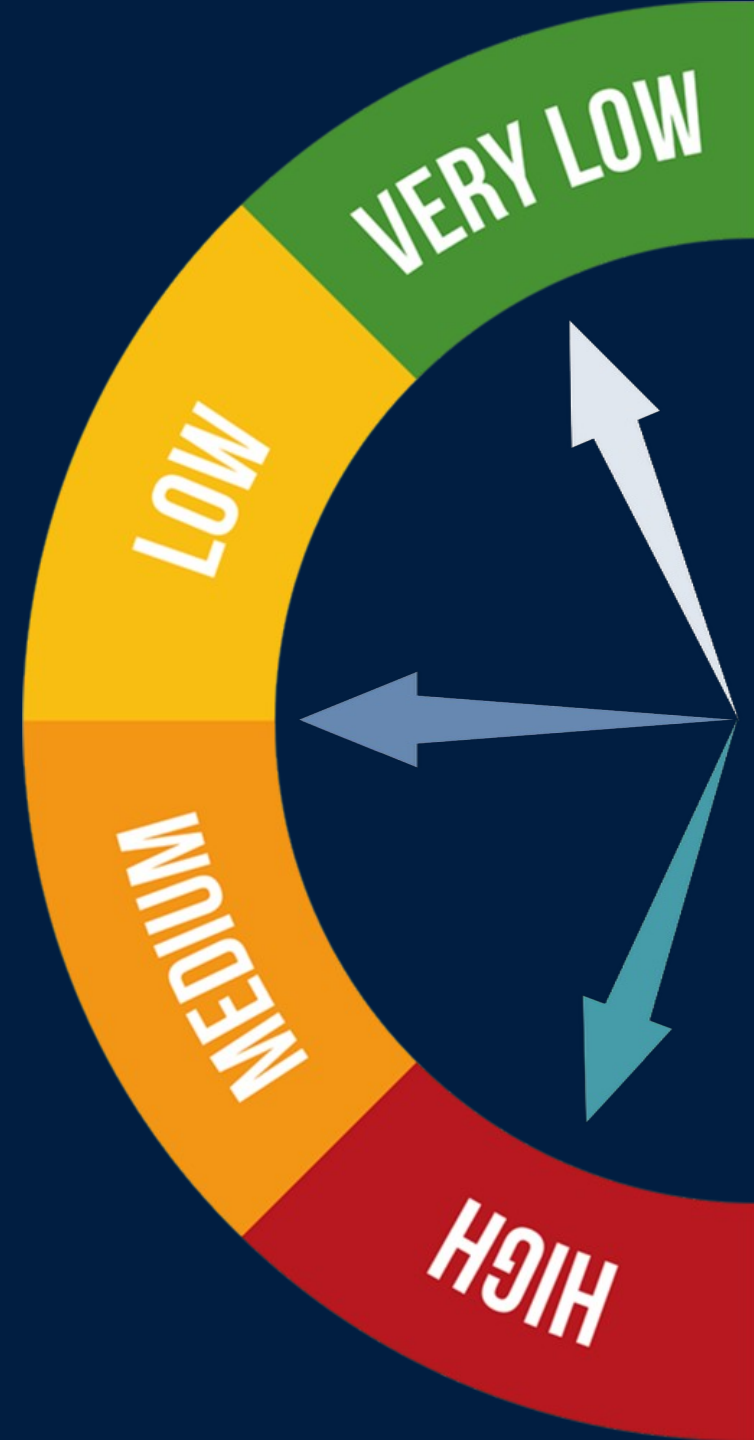
INNOVATIVE
COMPLIANCE

UNREALISTIC
COMPLIANCE

LEGISLATION

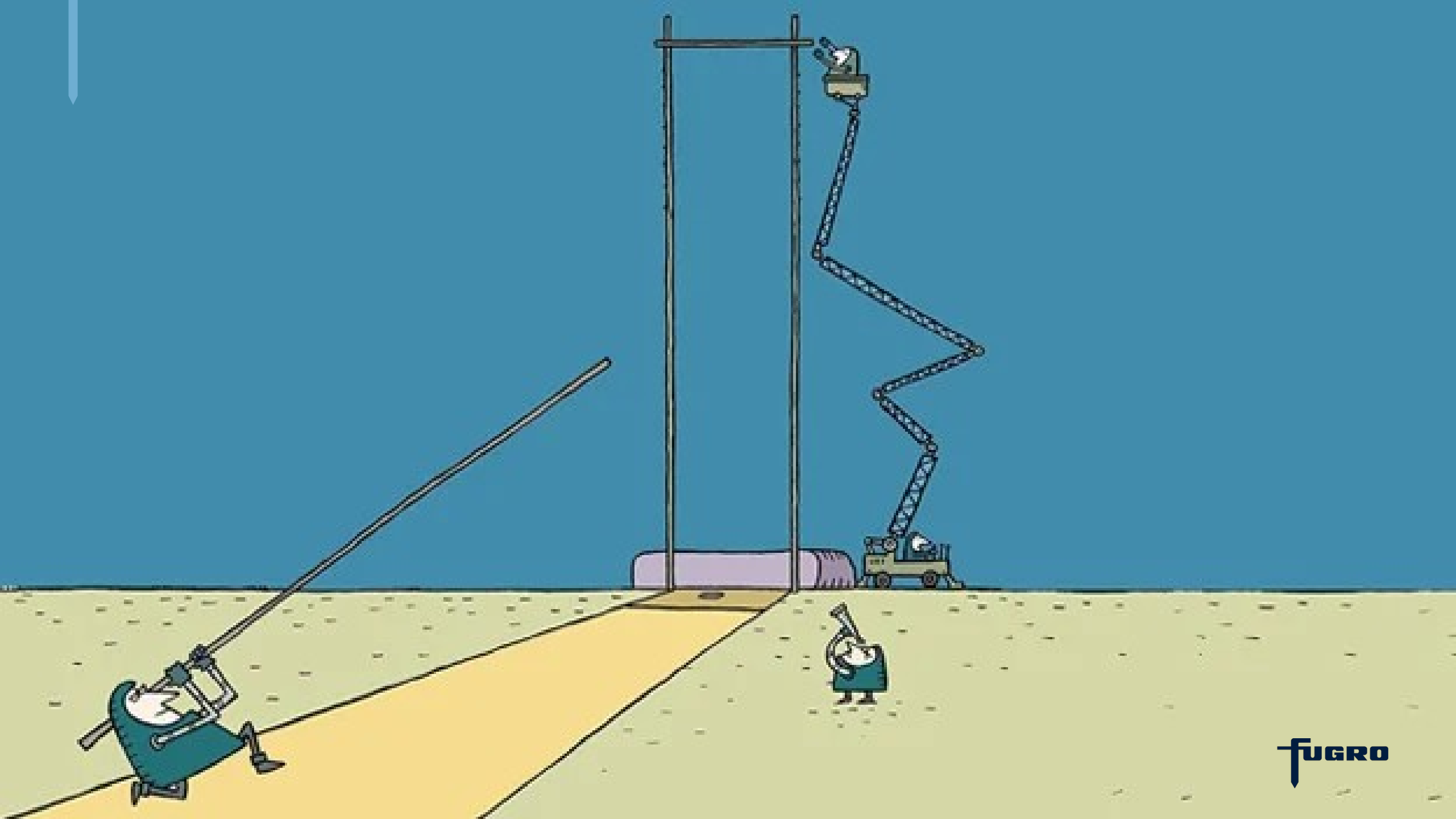
Quantifying Risk

The new ALARP



Ensuring smart systems create safer environments

Stay safe







The human in the loop

Developing new ways of working





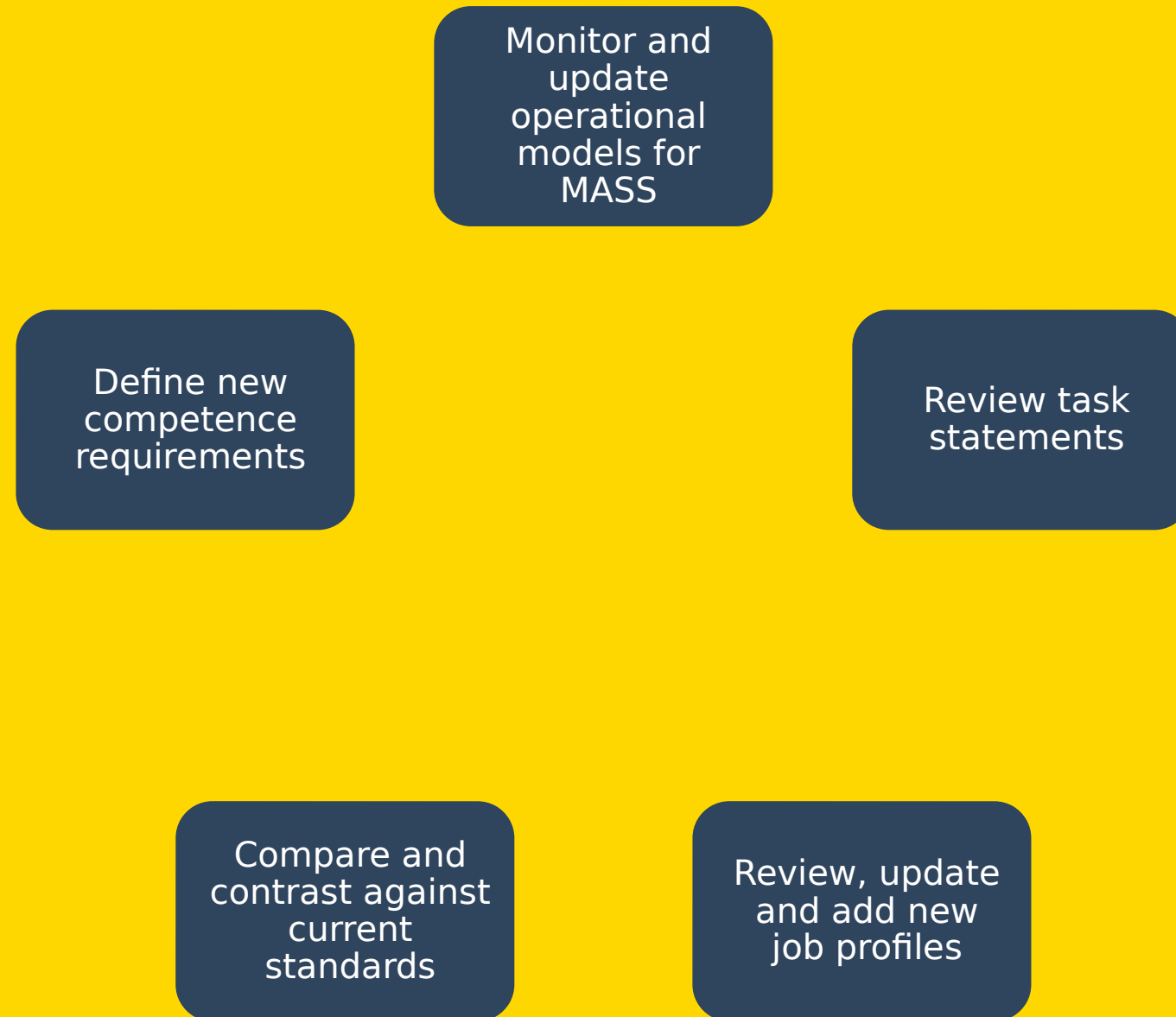




MASSPeople

Shaping the connected mariner

How are we developing the human technology partnership?



Current Status

9 Flag State members

- UK
- Netherlands
- Norway
- Italy
- Poland
- New Zealand
- France
- Belgium
- Denmark

Regional Survey Groups

Regional Survey Groups established by the Flag State members to support in the information gathering process

MASS Acceptance

First deliverable due Q4 2022 – MASS Acceptance document highlighting current operational acceptance for MASS in each member Flag States jurisdiction



MASSPeople

Who is the 'human in the loop'?

- Communications Specialist
- Marine Engineer
- IT Technician
- Navigation Officer
- Electronics Specialist





