OLTER
Offshore Low Touch Energy RAS

technology
leadership board

The Technology Leadership Board (TLB) works with the industry, government and other stakeholders to define priorities to adopt, adapt and/or develop oil and gas technologies, securing investments, to deliver MER UK and strengthen UK oil and gas industry competitiveness.
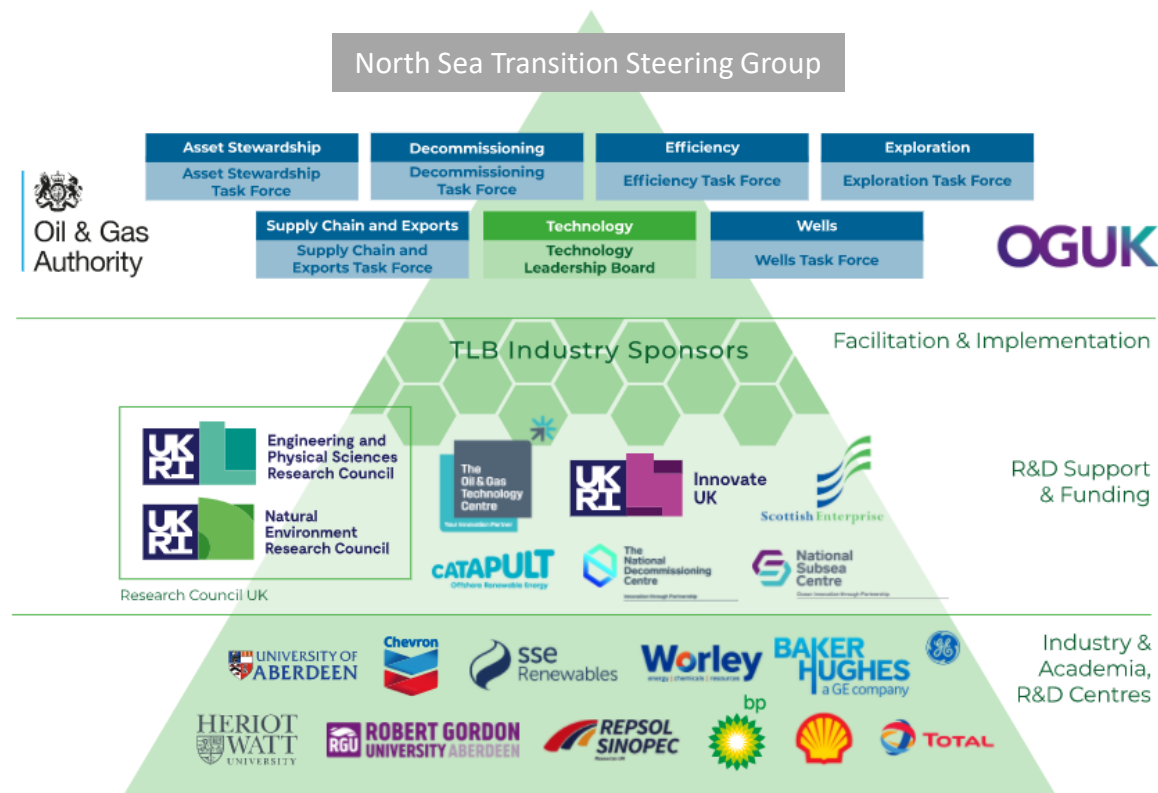
It aims to be the single industry voice on technology on the UKCS, providing strategic direction, clear demand-led priorities and measurement against key performance indicators.
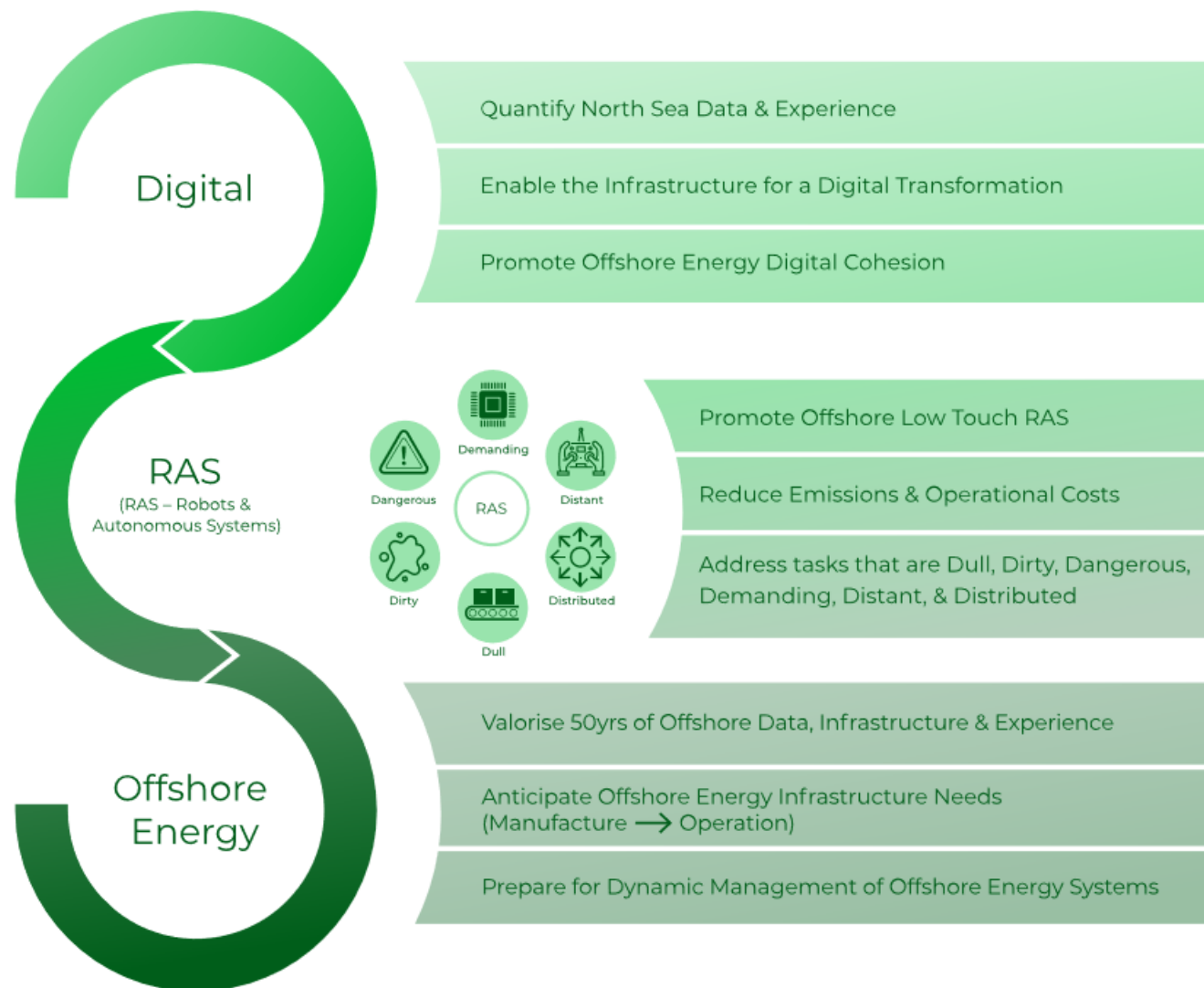
The TLB is co-chaired by the OGA and industry, and the OGA technology team provides secretariat for the Board. It will interface with the other MER UK Boards to agree synergies and alignment to maximise benefits and avoid effort

https://www.the-TLB.com

The integration of offshore energy systems, including Oil & Gas, Renewables, Hydrogen and Carbon Capture and Storage, could contribute to deliver approximately 30% of the UK's total carbon reduction requirements needed to meet the 2050 net zero target (2045 in Scotland).

Sharing existing expertise and infrastructure from the Oil & Gas industry will be integral in the development of an outstanding renewable energy sector, helping to meet climate change commitments.

The TLB and its collaborating Partners are united by their determination to support the changes and programmes needed in support of the UK's carbon reduction requirements.
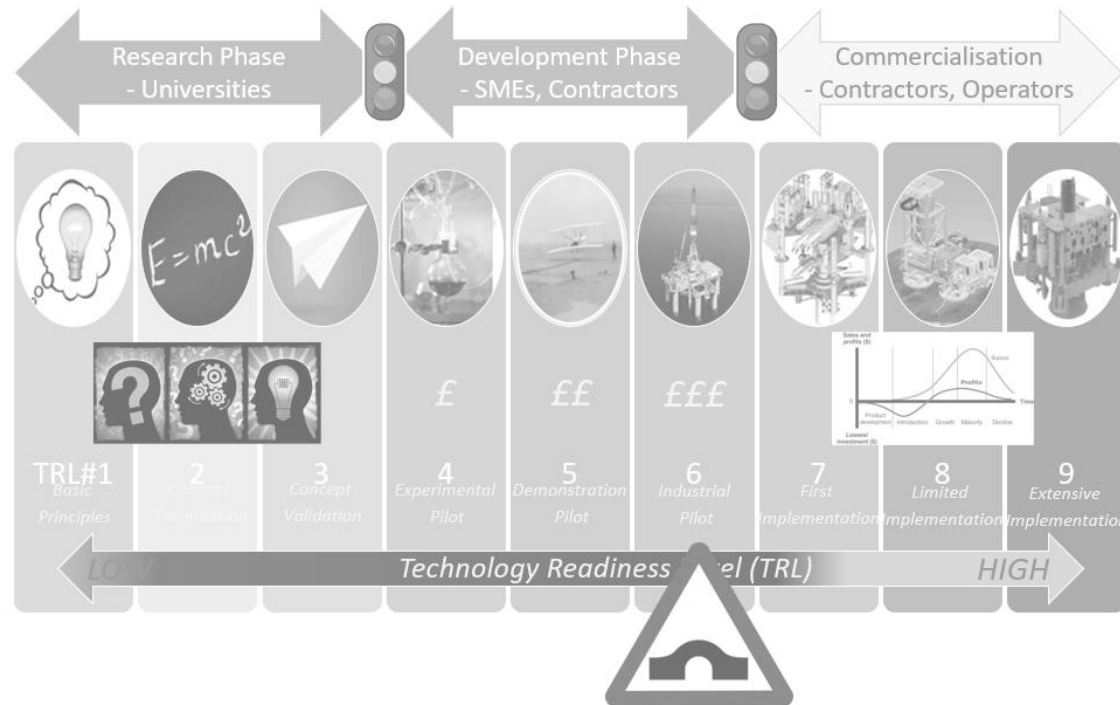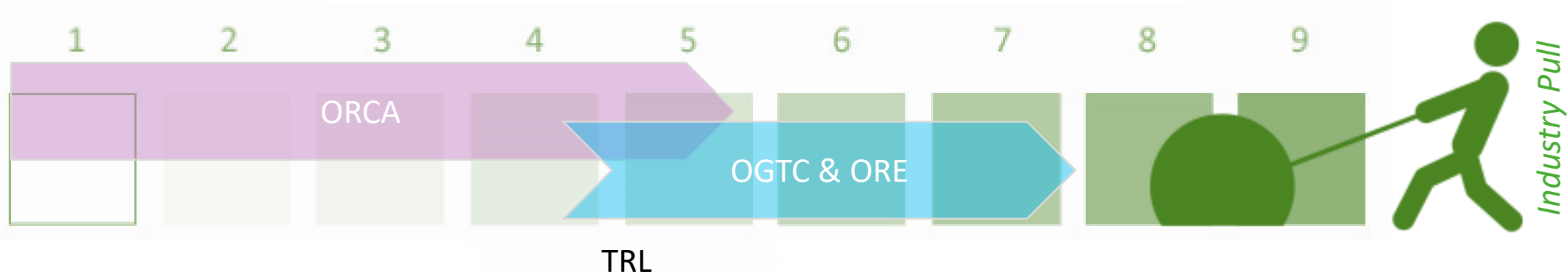
Digital

- Quantify North Sea Data & Experience
- Enable the Infrastructure for a Digital Transformation
- Promote Offshore Energy Digital Cohesion

RAS
(RAS – Robots & Autonomous Systems)

Demanding · Distant · Distributed · Dull · Dirty · Dangerous · RAS

- Promote Offshore Low Touch RAS
- Reduce Emissions & Operational Costs
- Address tasks that are Dull, Dirty, Dangerous, Demanding, Distant, & Distributed

Offshore Energy

- Valorise 50yrs of Offshore Data, Infrastructure & Experience
- Anticipate Offshore Energy Infrastructure Needs (Manufacture → Operation)
- Prepare for Dynamic Management of Offshore Energy Systems

- TOTAL - https://www.youtube.com/watch?v=E7svE6ITN-g
- WOODSIDE - https://www.youtube.com/watch?v=X1LhrTfIc_4
- AKERBP - https://www.akerbp.com/exploring-the-potential-of-robotics-in-the-oil-and-gas-industry/
- MHI - https://oilandgas.mhi.com/stories/robotics-in-the-oil-and-gas-industry/
- ANYBOTICS - https://www.anybotics.com/anymal-legged-robot/
- EXROBOTICS - https://exrobotics.global/
- SPRINT ROBOTICS - https://www.sprintrobotics.org/
- FLYLOGIX (BVLoS) - https://www.flylogix.co.uk/
- ROVCO (SubSLAM) - https://www.rovco.com/
- Equinor (BVLoS) – https://www.equinor.com/en/news/20200828-drone-transport-troll.html

When is Technology Ready?

Technology leadership board

Research Phase - Universities | Development Phase - SMEs, Contractors | Commercialisation - Contractors, Operators

£ ££ £££

TRL#1 *Basic Principles* | 2 *Concept Formulation* | 3 *Concept Validation* | 4 *Experimental Pilot* | 5 *Demonstration Pilot* | 6 *Industrial Pilot* | 7 *First Implementation* | 8 *Limited Implementation* | 9 *Extensive Implementation*

LOW — Technology Readiness Level (TRL) — *HIGH*

OLTER
Offshore Low Touch Energy
RAS

- Systems Integration
- Competencies
- Data & Insight

OLTER Programme

1   2   3   4   5   6   7   8   9

ORCA

OGTC & ORE

Industry Pull

TRL

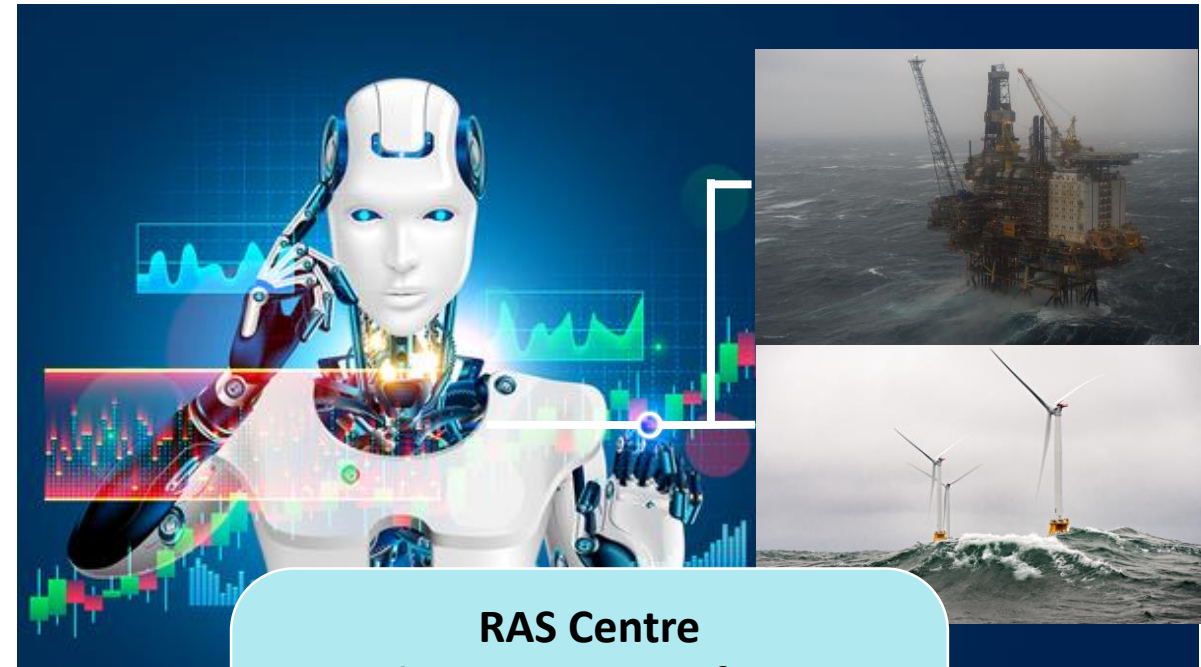Seek to formulate a process, under which to found a "RAS Offshore Energy" Industrial Hub.

Focus is "Operational" RAS – Data Services, Competencies, Certification and Testing.

With the Scottish Government announcement (https://www.gov.scot/news/gbp-62-million-fund-for-energy-sector/) of a multi-million pound fund to help the energy sector recover from the dual economic impacts of coronavirus (COVID-19) and the oil and gas price crash, £62 million **Energy Transition Fund** has been established.

Through the hard work of the OGTC, their 4 Net Zero projects have been specifically highlighted as being one of the focus areas for investment.

OLTER is one of these **OGTC Driven Projects**, contained under "Digital North Sea".

Awaiting Funding Decision by Scot Gov

**RAS Centre
Deployment & Certification**
Service driven, enabling At Scale Adoption & Adaption of emerging RAS technology
A single "voice" under which to consolidate Knowledge for Offshore RAS

Data Hub

- Payload Sensor Data Analytics
- Vehicle Performance Data & Digital Twin Access, Optimised via Data Trust.

Competencies Hub

- Standards & Specifications
- Testing & Certification
- Innovation Space with Workshops & Warehousing
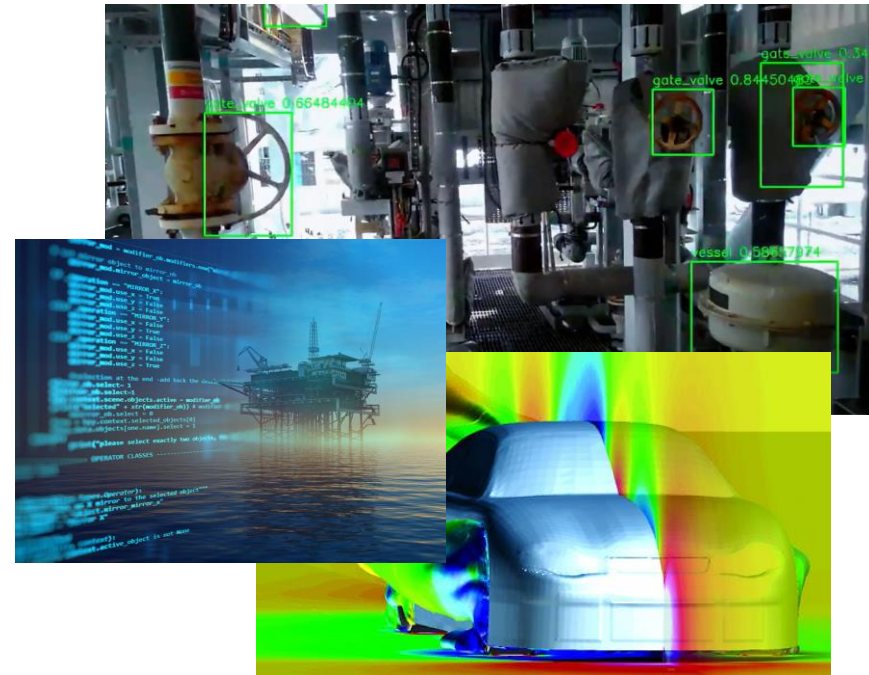- Start-Up Nurturing

Building upon Existing Facilities

Technical Excellence

DATA

☐ **Performance Data**
☐ **Payload Data**
☐ **Site Configuration Data (Digital Twin)**

→ *Digital Services (a virtual "wind tunnel" and APP store)*

Performance Data is collected in a Data Trust (Architecture) to enable High Fidelity Simulations and Machine Learning to combine, providing Vehicles & Facilities Commercial Digital Services. Next generation facilities are designed and tested prior to physical expense.

Payload Data is hosted and offered for Shared Analytics under a common Platform and sustaining Business Model

COMPETENCY

☐ **Design, Operating and Communication Standards**
☐ **Innovation Space – Workshops & Warehousing**
☐ **Verification & Certification Services**
☐ **Reliability Testing**

→ *Physical Services (a "crash test" facility)*

Unification of common Standards and Functional requirements to enable at Scale Commercialisation. Commercial Integration of RAS Technologies.

Innovation Space leading to knowledge and build-out

Test facilities, providing operational worthiness certification for the deployed environment.

Leverage Existing Facilities