

UKCS TECHNOLOGY NETWORK

2nd March 2021







Technology Network Meeting: Attendees

Aker

Athena Exploration

Bridge Petroleum

Burgatee Exploratuin

Carjon

Centrica

Chrysaor

Decipher Energy

Equinor

Halliburton

Hitachi

Ineos

Ithaca

Kellas Mid Stream

Mytilus

Neptune Energy

NOV

OGA

OGTC

Opex Group

Parkmead Group

Perenco

Pharis Energy

Premier Oil

Petrofac

Repsol Sinopec

Schlumberger

Serica Energy

Shell

Summit E&P

Tailwind

Taqa

Worley

Zennor petroleum

Technology Network Meeting: March

Pre-Read & Context Pre-Read: - No Context: - Technology Network - 2021 Recharge 14:00 to 16:00 Welcome, 1400 Carlo/Steve - Roles & Organisational Pivots (OGTC & TLB) **OGA Insights Presentation,** - Impactful Projects & Collaborations Carlo/Rod 1415 - Emerging Trends Function & Rhythm, - Playback of 2019 Managers Survey 1500 Carlo/Dave - Proposed 2021 Program Knowledge Dissemination, 1530 - OGA, OGTC & TLB Activities/Proposals Carlo/Dave - Others & Awareness AOB & Wrap-Up, 1550 Carlo/Steve 1600 Close

OGTC Roadmap

automation and robotics



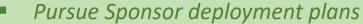
Robotics and autonomous systems

TLB - Thematics





Accelerating Deployment



- Alt Barriers, NII, Decom
- Landscape Awareness (Framed by 10 Grand Challenges)
 - Collate/Commutate/Promote best new "TRL 7&8" technologies in the landscape
 - Collate/Commutate/Promote recent/needed Field Trials



Data & Digital

- Digital Systems
 - Data & Digital Network
- Shared Analytics
 - Sector Proof of Concepts
- Data Infrastructure & Architectures
 - Offshore Energy Taskforce



N. Sea Transition

- Improved Ops,
 - Electrification, CH4 leak detection, flare elimination, driving renewable integration - aligned to ASTF NZ Workgroup
- Development & Deployment of a H2 & CCUS
 - The value chain, driven by economic viability



Technology Insights

45mins









Technology Insights 2020 Summary

Technology Managers Network presentation

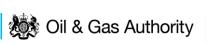
2nd March 2021



Function & Rhythm

30mins









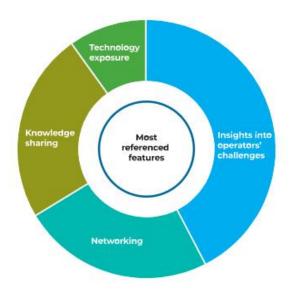


The UKCS Technology Network meets regularly, with an aim to promote cross-industry dialogue on the adoption of technologies which can have a positive MER UK impact and beyond

Network foundations are derived from the MER Strategy, specifically **Stewardship Expectations** where Technology Development is an Expectation.

The Technology Network perimeter strives to encompass Oilfield, Energy Transition and Enabling Technologies, ranging from Pre-Commercial to Commercial application, in support of MER Objectives and annual Technology Plan Submissions.

This programme is run in collaboration among the OGA, the TLB and the OGTC.

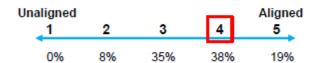


UKCS Technology Network – Survey Feedback





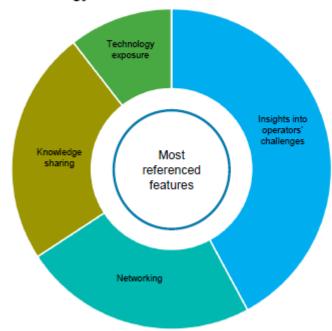
Q1: How relevant and useful is the UKCS Technology Network to you



Q3: What do you like least about the UKCS Technology Network and what do you suggest we change?

| Highlighted suggestions for changes / additions to the network | | | | | |
|--|--------------------------------|--|--|--|--|
| Key comments | Key suggestions | | | | |
| Agenda too full | Allow more time for networking | | | | |
| Topics too focused | Less topic depth | | | | |
| Topics too broad | Prioritise technologies | | | | |
| Prioritisation | Actionable items | | | | |

Q2: What have been the most useful features about the UKCS Technology Network

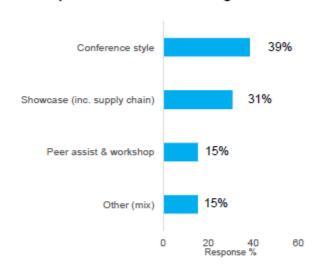


UKCS Technology Network – Survey Feedback

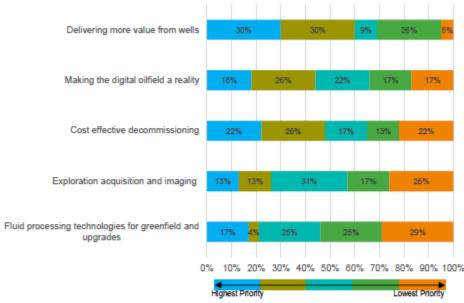




Q4: Regarding the format, for future meetings please select your preferred option from the following



Q5: Please help us select topics for the next few meetings



Q6: If you have any other suggested topics for future meetings

- · Stranded resources, undeveloped resources and potential hubs
- · Other basins for novel technologies
- · Other industries' technology solutions
- · Maximising recovery from ultra mature fields
- Updating technology plans
- Reducing carbon footprint and transitioning
- Continuing production after platform decommissioning.

UPCOMING EVENTS

| | Tue 2 nd Mar | Tue 20 th April | Tue 8 th June | Tue 24 th Aug | Tue 5 th Oct | Tue 7 th Dec |
|-------------------|--|-------------------------------------|--|----------------------------|--------------------------------------|-------------------------|
| Theme | Accelerating Deployment | Data & Digital | North Sea Transition | Accelerating Deployment | Data & Digital | North Sea Transition |
| Time | 1400 - 1600 | 1000 - 1130 | 1000 - 1130 | 1000 - 1130 | 1000 - 1130 | 1000 - 1130 |
| Action | Zoom | Zoom | Zoom | TBC | ТВС | TBC |
| Outline Agenda | Recharge Technology Insights Knowledge Mgmt. | Phase 2 Insights Sector Actions | Engagement PlanTech ThreadsInsights Debate | TRL Hopper Trial Feedbacks | Proof of Concepts OLTER Progress | • TBC |



Knowledge Management

Opportunities/Forums 20mins







- ☐ Seek to evolve Knowledge Management within the landscape
- Knowledge hosting concepts are proposed to encompass:
 - OGA Insights web site
 - Live site, with regularly updated Case Studies
 - OGTC Partner Portal
 - Exclusive space to access latest information on technology ideas,
 live projects, helpful resource and other membership benefits
 - TLB Technology Bulletin Board/Forum
 - User name based administered but semi-anonymous
 - Structured queries and discussion
 - Ask any technology question you like,
 - Share comments and post/threads of interest
 - Build an mutual support based Eco-system
 - Others Technology Catalogue for example
 - Are you aware of others?

nowledge Management

OGTC Partner Portal

OGTC Partner Portal

Driving



Welcome to your OGTC Member Portal. This is your exclusive space to access our latest information on technology ideas, live projects, helpful resources and other membership benefits.

| Latest Member News | My Dashboard | Ideas | Live Projects | Events | Resources |



Welcome our latest members

New members joining us from April lorem ipsum dolor sit amet, no nummy consectateur...



Technology ready now

Visit our websit use on offshore



Help shape our 2 We are looking at the OGTC in th



Applications are member, your companies make

OGTC Partner Portal



Welcome to your OGTC Member Portal. This is your exclusive space to access our latest information on technology ideas, live projects, helpful resources and other membership benefits.

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Resources

OGTC produces a range of resources throughout the year to support our project activities and discuss our research.



OGTC Partner Portal

Driving



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Events Programme

OGTC organises and hosts an exciting programme of physical and virtual events throughout the year some of which are exclusive to our members.







17 March 2021 and technology organisations : The challenge

26 January 2021

OGTC Partner Portal



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Ideas List

This is your opportunity to view our latest ideas and opportunities. You can also vote on, discuss these ideas with other members and offer your organisation's support.

Wastevu Ltd - RADTRAC (Phase 2)

and sensor payloads; StingRAY, a MW-scale ..

Innovative waste management tracking solution, which enables the user to simplify, de-risk and revolutionise the end to end management of waste, redundant equipment, radioactive and hazardous materials for all locations, in one solution. Ecosse IP - Ambient Lifter - Phase 3
Ambient Lifter is made from a coil of polyethylene pipe, with air/gas as buoyancy and water as ballast,













greatly reduce CO2 emission compared to standard solution CPower Alba Ltd - Midwater Power: SeaRAY Autonomous Offshore Power System Columbia Power Technologies (C-Power) is developing wave energy devices for 3 applications: dataRAY, a "dy" system providing watt-scale power (5-20 watts) for met-ocean and navigation buoys, located inside the buoy, SeaRAY, a kilowatt-scale, local power for resident, unmanned manine-vehicles

separated by a specialist gel pig. Ambient Lifter is connected to a subsea item, water is expelled, air expands, buoyancy increases, and the object undergoes a controlled lift, without airbags or a crane







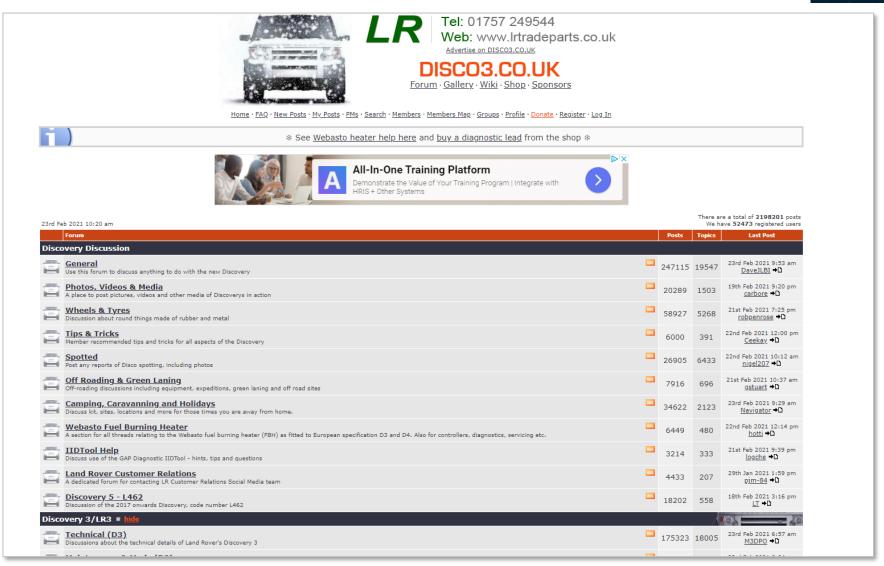




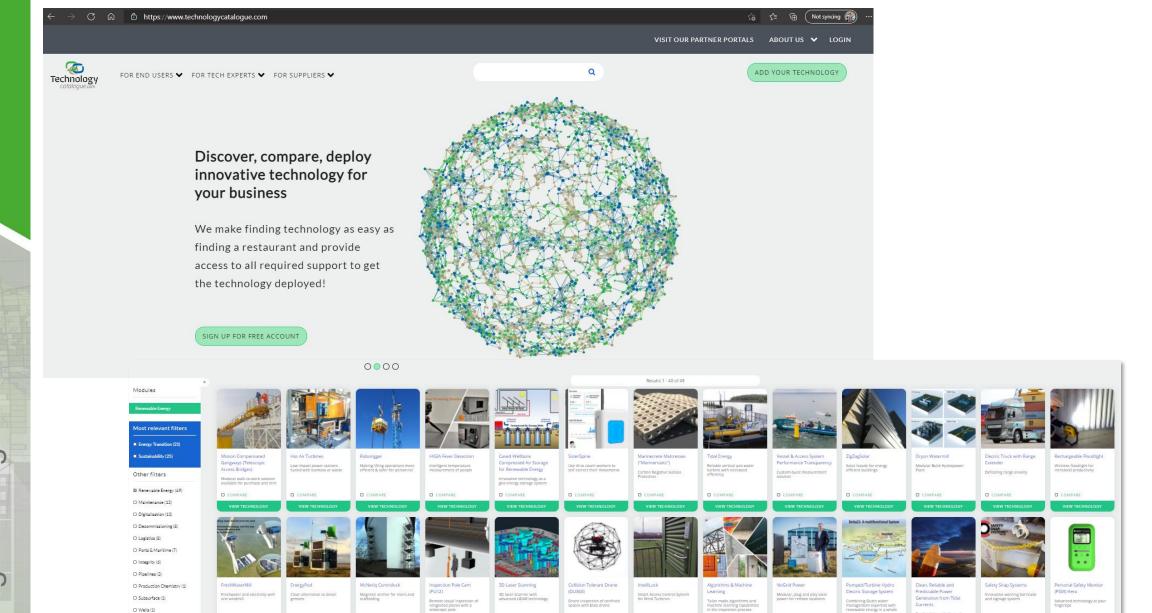
☐ Proposal is for the TLB to offer a bulletin board solution, used as........

- Lite Touch OPEN, User Driven
- Questions, Shared Knowledge and Opinions





D Energy Transition (25)





AOB & Wrap-Up

Opportunities/Forums 20mins









Technology landscape: purpose



| | OGA | NSTF | TLB | OGTC | OGUK |
|-------------------------|--|--|---|---|---|
| Purpose | Deliver energy integration and MER UK | Deliver MER UK and Net zero | Accelerate UKCS technology deployment, with Digital and Net Zero Readiness | Develop and deliver technology for a Net Zero North Sea | Ensure role of technology in R2035 and Transition Deal in industry narrative |
| Core customers | Oil & Gas OperatorsUK Government | GovernmentsOil & Gas IndustryOGA | NSTF - TaskforcesOil & Gas OperatorsSupply Chain Firms | Energy IndustryGovernmentTech Developers | Oil & Gas Operators Supply Chain Firms |
| Action | Regulate | Regulate Instigate | | Innovate | Advocate |
| | | Technology Mar | | | |
| Key activity in 2021 | New OGA Strategy Digital Energy Platform Technology Stewardship (deployment & development) Energy Integration - Phase 3 | Asset Stewardship Decommissioning Efficiency Exploration Supply Chain & Exports Technology Wells | Accelerate Deployment Data & Digital Programme North Sea Transition | Emissions Reduction Energy System Integration Energy Industry 4.0 | North Sea Transition Deal Roadmap 2035 |
| Other key stakeholders | Crown Estates | OGET SLG | NSTF Taskforces | ORE Catapult | Renewable UK |
| | Ofgem | Ofgem SOWEC | | Industry - Operators Other Catapults | |
| | National Grid | National Grid SOWIC | | Innovate UK | CCSA |
| | Marine Scotland | ESA | Energy NGOs | UKRI | SHFCA |
| | | NSTF Task Forces | Government | | ONE |