

Accelerate Deployment workstream: Technology Managers' Network meeting NSTA's Technology Insights 2026 - Preview

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technology leadership board

26th October 2026

technology leadership board

Accelerate Deployment workstream

Agenda

1.	Welcome and introduction	Clara Altobell
2.	Stewardship Survey headlines	Alan Ransom
3.	Technology Insights report preview	Alan Ransom
	• Subsurface - followed by Q&A	
	• Digital & Data / AI - followed by Q&A	
4.	Stewardship Survey changes from November 2026	Ernie Lamza
5.	AOB & meeting close	Clara Altobell

Headlines: Technology survey and plans

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38 Operators referenced 1,320 innovative solutions in the technology section of the UKCS Stewardship Survey, and in their technology plans, by the end of February 2026, up from 1,280 the previous year.

This year 189 new technologies were reported, up from 142 new technologies last year.

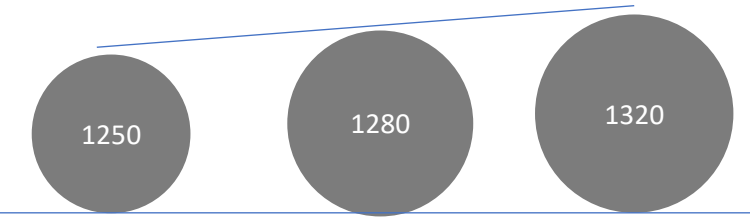
Solutions used by an operator on more than one asset have been counted only once. Technologies which featured in previous reports, but are now considered mainstream, are not included in this year's edition, neither are tools which failed to progress past screening and pilots.

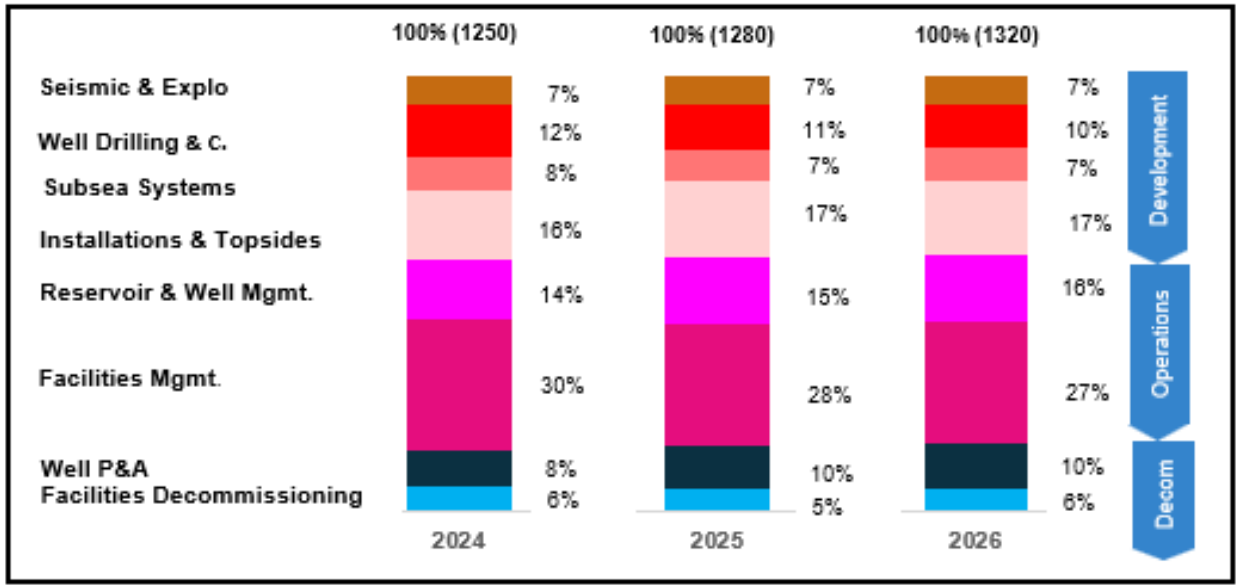
About 41% of technologies were reported in categories relating to new asset developments, 43% were in operations categories, and 16% were for decommissioning.

The proportion of technologies reported for installations and topsides was consistent with previous years.

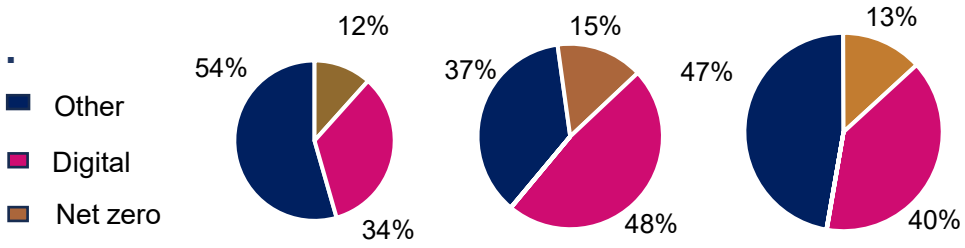
Digital and net zero themes are becoming more focused on operational functions.

Number of technologies reported (UKCS operators)



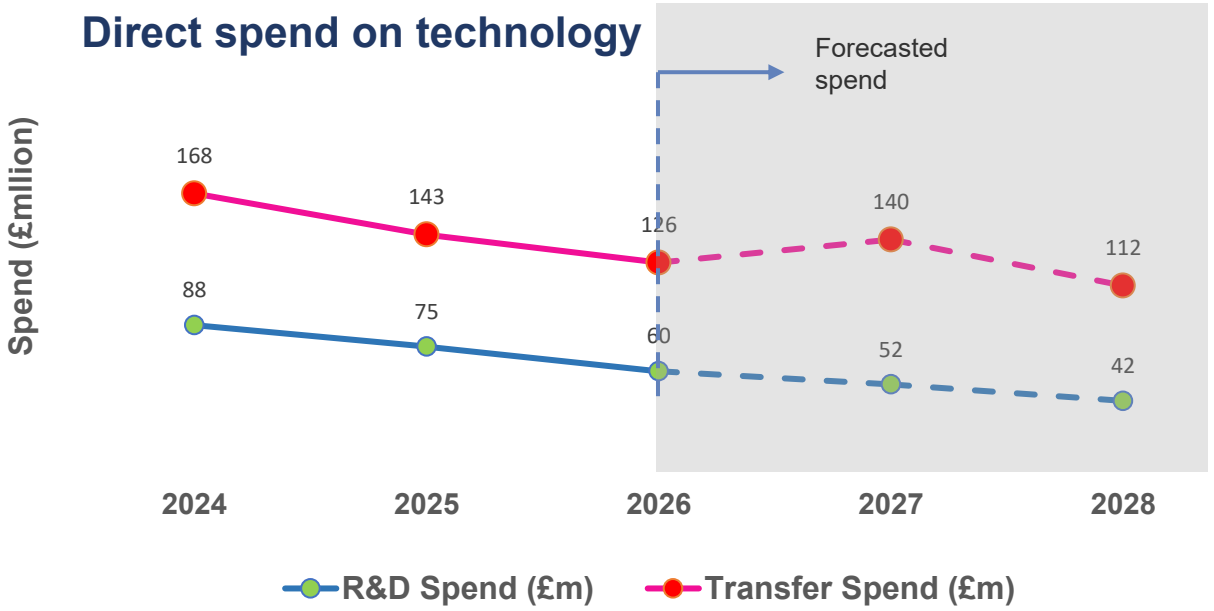


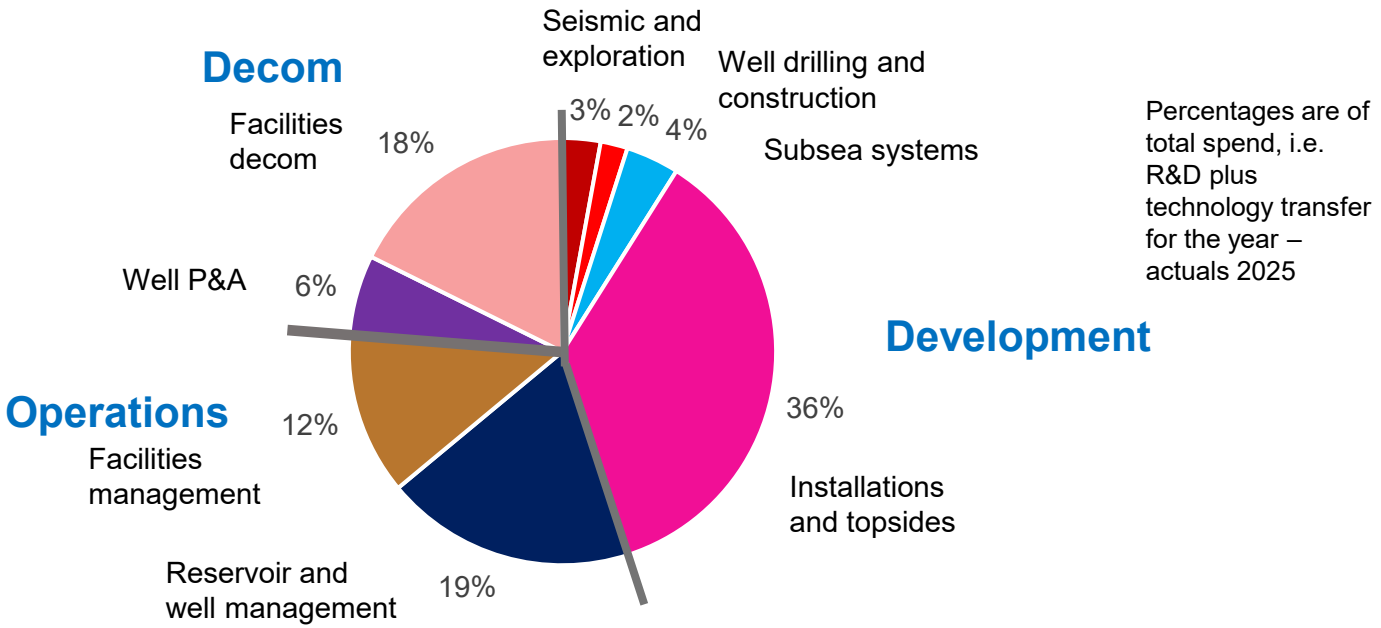
Of which…



Operators' technology spend 2026

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Percentages are of total spend, i.e. R&D plus technology transfer for the year – actuals 2025

Operators make a sizeable contribution to technology research and development (R&D).

Operators intend to spend £60 million directly on their own R&D work in 2026, less than in the previous two years. Transfer spend – defined as the cost to deploy vendors' technologies in the field – was targeted to be £126 million this year. This is due to rise to £140 million next year, before declining in 2028.

Note: These spending figures are in current prices (inflation not factored in).

Development categories attract the largest proportion of operators' technology spend (45%).

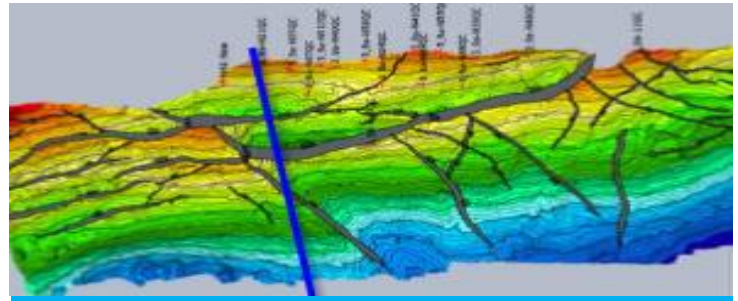
Technology Insights report preview: Subsurface

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Our Subsurface theme is drawn primarily from the following Categories in the UK Stewardship Survey (UKSS):

- **Reservoir and Well Management**
  - Technologies to improve recovery, reservoir monitoring and well surveillance.
- **Seismic Characterisation**
  - Seismic acquisition, processing and modelling solutions to improve the imaging and provide a better understanding of reservoir compartmentalisation or depletion.

- Followed by Q&A for this theme



Subsurface

Reservoir & Well Management (1)

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Surveillance & Inspection

Portable multiphase sampling system to catch and detect the phase of production fluid. TRL 9

AI volume quantification: In-house development to monitor gas flow rates by quantification of bubble flow count for monitoring spurious leaks. TRL 8

Well Integrity Repairs

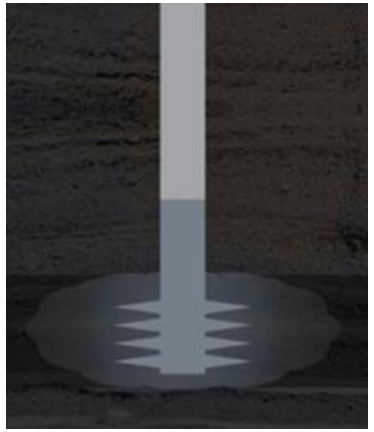
Well diagnostic tool: Ultra-high temperature (UHT) logging memory tool capable of operating at temperatures up to 572°F for various well diagnostic studies, including well integrity evaluation, production performance and reservoir monitoring. This tool measures acoustic spectrums from 8 Hz to 60,000 Hz with very high-frequency resolution. TRL 9

Liquid Loading & Water Production

Technology examples:



Annular isolation sleeve by Isol8. Designed to be run on casing/liner like a centraliser. Left in situ and then melted at well decom stage for annular isolation or when well shows annular integrity issues during production.
Link: TI 23 – 09 Technology Example – Isol8 Fusion Annular Isolation Sleeve - Copy.docx



Resolute expanding polymer grain, pumped into the reservoir to make it expand and fully block permeability. It provides a barrier to barrier, self-healing seal surrounding the wellbore. It blocks perforations, screens and bore space providing a self-healing pre-barrier to plugs and cement.
Link: TI 23 – 08 Technology Example – Resolute Expanding Polymer Grain - Copy.docx

Reservoir & Well Management (2)

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Well Intervention Equipment

Reusable (multi-set) plug that can be set multiple times in a single intervention run to enable flow trials to test water shut off operations. Alternative to PLT in selected wells. TRL 9

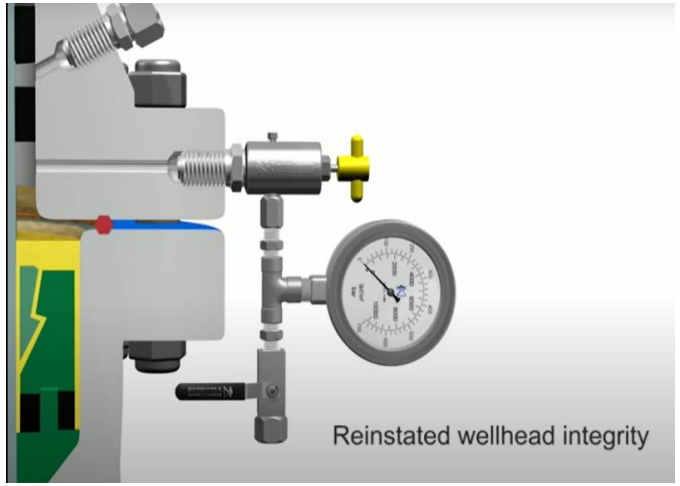
Deployment of ultra-deep azimuthal resistivity (UDAR) geosteering technology: Detects key features allowing real-time well trajectory adjustments. Field trials with tool run in three wells to aid decision making in real time. Fourth well in planning. TRL 8

Technology examples:



The new 90' LynxTM Wire Line Mast increases efficiency and expands the working environment without the need for external cranes once installed.

Link: TI 22 - 27. Technology Example - Lynx Mast.pdf



A time activated sealant is deployed in its liquid phase into the voids of wellhead sealing areas, the sealant converts to a resilient, self-bonding and pressure-energized solid seal.

Links: TI 24 – 07 Technology Example – KCI wellhead sealing technology.docx

Seismic Characterisation (1)

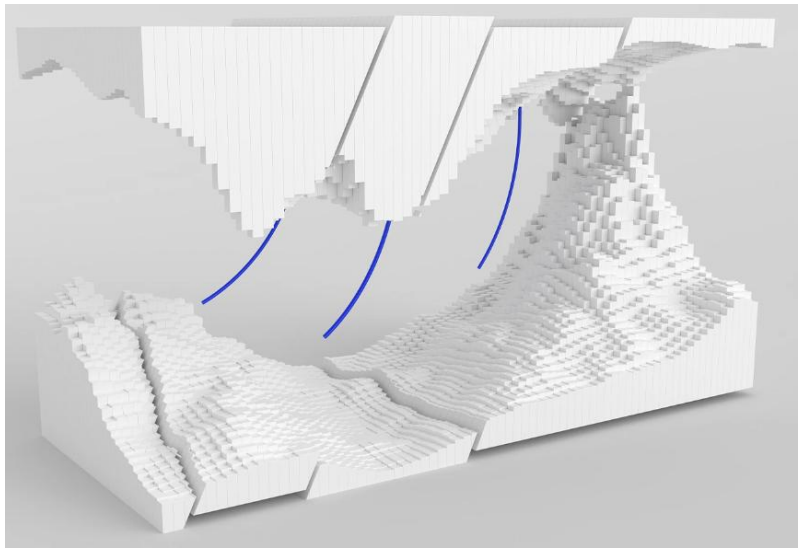
Processing and Imaging

Common reflection angle migration (CRAM): Seismic depth imaging using CRAM algorithm to improve seismic image quality. This is a multi-pathing depth imaging algorithm that works natively in the subsurface incidence angle domain. TRL 9

3D Pre Stack Depth Migration (PSDM) re-imaging: of Full Waveform Inversion (FWI) to re-image on the flank of a salt diapir. TRL 9

Towed streamer joint 4D Full Waveform Inversion (FWI) using towed-streamer data is an advanced seismic processing and reservoir monitoring workflow that inverts baseline and monitor surveys simultaneously to extract physical changes in the subsurface (such as velocity shifts, pressure depletion, fluid migration, and geomechanical effects) while suppressing acquisition-related artifacts. TRL 9

Technology example:



Optimised for large-scale surveys, the Petrel™ multiphysics plug-in provides tools to integrate electromagnetic (EM) and potential field data with geological knowledge, seismic data, and well logs. It comprises three individual modules: magnetotellurics (MT), controlled source EM (CSEM), and gravity and magnetics (GM).
Link:TI 25- 04 Technology Example - SLB Petrel Multiphysics Plug-In .docx

Seismic Characterisation (2)

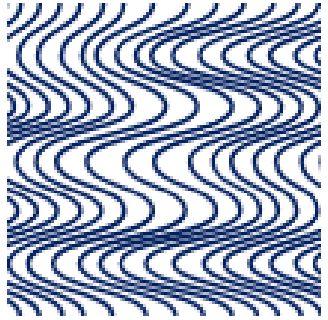
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Geophysical Acquisition

AUV bathymetry survey: AUV-based bathymetry surveys using repeat 4D geophysical acquisition from permanent nodes to monitor seabed subsidence over time. TRL 9

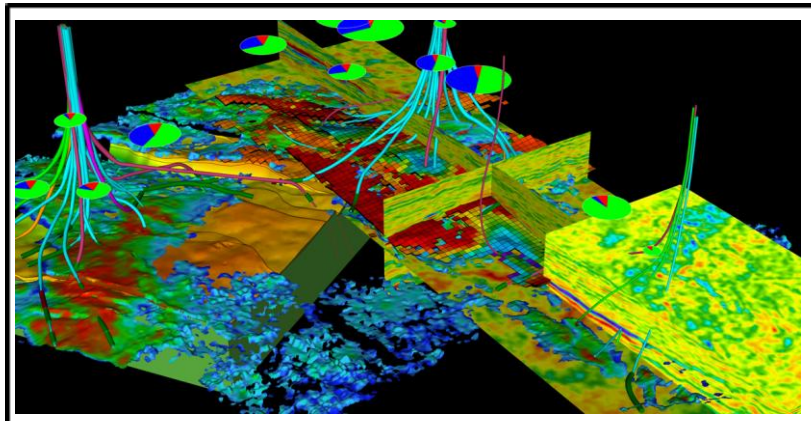


Ultra high-density ocean bottom seismic: Densely sampled seismic data to improve reservoir imaging, reduce volume uncertainty and inform depletion plan. TRL 9



Subsurface Modelling

Technology Example:



CoViz 4D makes it possible for multi-disciplinary asset teams to simultaneously view and interrogate all available data from seismic to simulation, regardless of the original data source. CoViz 4D allows users to visualise and understand how development decisions affect the reservoir throughout the history of a field.
Link:TI 23 – 13 Technology Example – CoViz 4D subsurface reservoir visualisation and integration software.docx

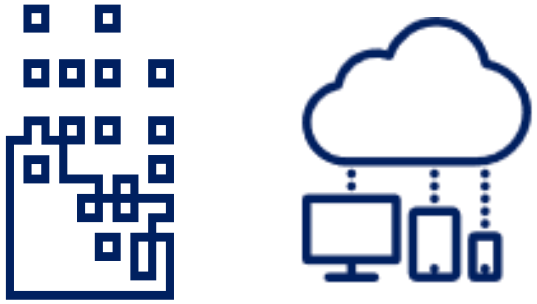
Technology Insights report preview: Data & Digital / AI

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This theme is drawn primarily from the cross-cutting Data & Digital Category in the UK Stewardship Survey (UKSS):

- **Data & Digital**
  - Cloud data management and advanced analytics, including machine learning. "Connected worker" technologies via mobile networks using ATEX rated tablets and head-up displays. Remote and non-intrusive inspection techniques for asset management.
- **Artificial Intelligence**
  - AI does not have its own Category, but many references occur throughout all the other Categories in the UKSS.

- Followed by Q&A for this theme



Digital & Data / AI

Data & Digital / AI (1)

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Connectivity

Maintenance mobility: equips frontline maintenance technicians with intrinsically safe industrial tablets so they can prepare, execute, and close out maintenance work directly at the job site. TRL 9

Maintenance and operations optimisation: 'Connected worker' technology providing plant heat maps and early warning notifications. TRL 8

Ex Inspection software: A cloud-hosted system for hazardous area applications, uses mobile auto-ID technology such as RFID tags alongside strategies such as RBI. TRL 1-4

Software to integrate different data sets, including wellbore, heavy minerals, seismic, geology, to enable real-time updates of geological models during drilling. TRL 9

Data Acquisition

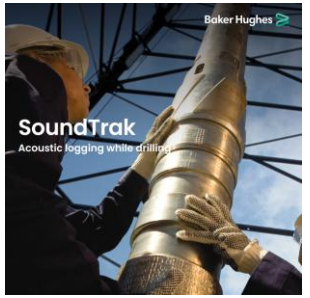
GHG and sustainability reporting platform providing structured workflows, real time validation, and enhanced accuracy for emissions and sustainability data across operated assets and NOJVs. TRL 9

Collation and summary of well files using advanced AI to harvest vast amounts of unstructured data and transform it into actionable insights during multi-well P&A activity. TRL 9

Technology example:

The SoundTrak™ service employs proprietary acoustic technology to directly measure valid formation slowness to calibrate surface seismic. It uses multifrequency sonar in slow formations, i.e. high porosity where no shear wave reflection takes place to ensure high data quality.

Link: TI 25- 05 Technology Example - Baker Hughes Sound Track accoustic logging.docx



Data & Digital / AI (2)

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Data Systems



Implementation of management of change (MoC) software: Operator implemented a tailored MoC automated workflow solution to improve the existing engineering delivery process. The previous system utilised manual Excel and paper forms to manage the MoC process requiring increased staff time and was prone to human error. TRL 9

Modelling & Analytics



Digital core analysis: A multi-sensor digitalisation of rock cores workflow to create high-resolution, continuous logs at centimetre scale. Captures geochemistry, sedimentology, rock mechanics and petrophysics in a single integrated dataset. Enables rapid lithofacies identification using AI algorithms before destructive sampling. TRL 9

Dynamic process simulation model for flares to calculate and monitor combustion efficiency in flaring operations, including CO_2e, methane measurement, flare combustion and destruction efficiency. TRL 8

Data & Digital / AI (3)

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Productivity and safety enhancements

Remote operation centre to control autonomous surface vessels (ASVs). TRL 8

Automated production optimisation (APO) options for automated well control, process control, well testing, gas lift optimisation and rate allocation, including a flowrate soft sensor. TRL 8

Visualisation and interfacing



AI tools for P&A to read and interpret scanned well data and End of Well Reports to allow quicker and more efficient planning/preparation of P&A of mature fields. TRL 5-7

Reverse time migration (RTM) re-imaging of field and surrounds: Converting high resolution FWI velocity model directly into a seismic image instead of performing conventional migration imaging (Kirchhoff migration). Provides a high frequency detailed velocity model. TRL 9

Remote audio-visual inspection: development of Direct Visual Inspection (DVI) with focus on artificial intelligence and machine learning to improve corrosion monitoring capabilities and fabric maintenance planning/execution. TRL 5-7

Useful Links

NSTA
(nstauthority.co.uk)

Previous 2025 Technology Insights Survey
(nstauthority.co.uk/regulatory-information/technology/technology-insights-2025)

UK Energy Technology Platform
(technologycatalogue.com)

Technology Leadership Board
(the-tlb.com)