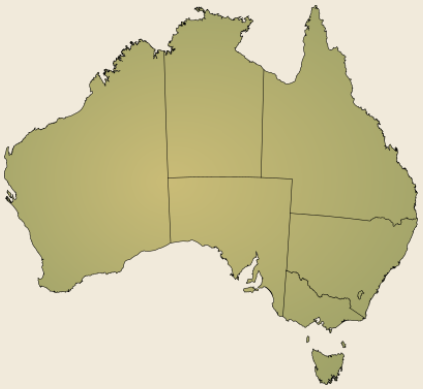
WELL-SENSE BUILDS SUCCESSFUL AUSTRALIAN BUSINESS WITH RAFT OF RECENT FIBERLINE INTERVENTION PROJECTS.

WELL-SENSE IS SUCCESSFULLY EXPANDING ITS FIBERLINE INTERVENTION (FLI) OPERATIONS AND BUILDING AN IMPRESSIVE, MULTI-SECTOR TRACK RECORD IN AUSTRALIA.

FLI provides a range of temperature, acoustic and seismic wellbore and geophysical surveys, valuable across many industry sectors, including oil and gas, geothermal, CCUS and mining.



Several successful projects have been completed for major operators in the region, including geophysical Vertical Seismic Profiling (VSP), well integrity, P&A well assessment, CO_2 injection profiling and cement characterisation surveys.

The highly sensitive bare fibre that FLI deploys along the wellbore provides crucial, real-time insights into fluid injection and recharge behaviour; fluid interfaces; bottom hole temperature and pressure; cement, casing, annulus and tubing integrity; geology and reservoir characterisation and cross-well fracturing interference. This knowledge enhances operational efficiency across the complete lifecycle of the well from drilling and completion to production optimisation and late life integrity management and ensures safe and cost-effective well abandonment.

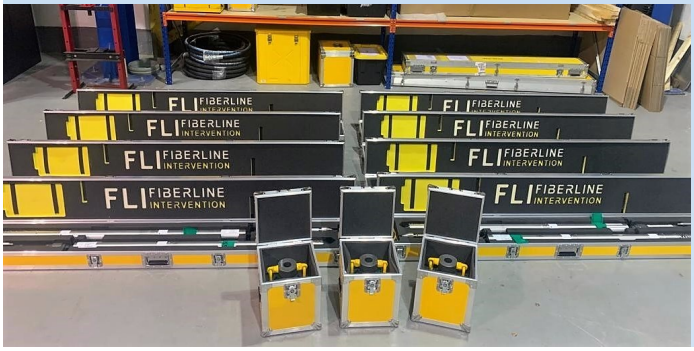
In addition to extremely high-quality data, the system also offers a dramatically reduced HSE risk and lower carbon impact with its static pressure control seal at the wellhead, incredibly small personnel requirement, minimal equipment handling, transport, lifting and wellsite footprint. This means that FLI is now the standard choice for many international operators for data gathering across the complete lifecycle of the well.

Well-SENSE Completes First In-Well Fibre Survey for The Carbon Capture Sector.

Well-SENSE has deployed its FiberLine Intervention (FLI) technology for a leading integrated energy operator, at a large carbon capture and storage (CCS) facility, off the west coast of Australia.

This is the first time that fibre has been used within the production tubing and fluid environment of a live CCS well. It has already been well-proven in a variety of seismic, acoustic and temperature monitoring applications in the global oil and gas sector and has also completed successful projects in the mining and geothermal sectors.

FLI is ideally suited to CCS applications as it provides a safe, low risk monitoring solution in a highly corrosive CO_2 environment where traditional intervention solutions are often detrimentally affected.



As an early adopter of fibre sensing technology for CCS, this energy operator employed FLI in a field trial to study well integrity, CO_2 flow characterisation and plume movement within the reservoir. FLI's distributed temperature sensing (DTS) enabled assessment of the reservoir zones, while its distributed acoustic sensing (DAS) simultaneously acquired vertical and passive seismic data.

FLI's advantages include its extremely compact rig-up, much lighter surface pressure control equipment, which uses a static rather than a dynamic seal, and a simpler deployment method compared to conventional techniques. FLI also uses a bare fibre that is impervious to the corrosive effect of CO_2, which helped to make the intervention possible.

Meticulous planning was undertaken to ensure safe operations during this first live well intervention in a 'super-critical' CO_2 environment. Several challenges were overcome efficiently, including the requirement to leave the fibre in the well for four days with exposure to strong fluid cross flows, the requirement for immediate Cloud data transfer from the wellsite to the operator's technical centre and servicing a remote wellsite near live infrastructure.

Operations were performed incident free with no major NPT events and the unique technology provided valuable, high-quality data from multiple wells.

Carbon capture and storage projects are designed to inject CO_2 into underground reservoir formations, where it remains permanently trapped.

FLI FIBERLINE INTERVENTION

Successful Trial of a Through-Tubing Acoustic Fibre Survey Delivers Accurate Cement Characterisation to Support P&A Operations.

With around 880 wells earmarked for P&A within the next five years, one leading international oil and gas operator has turned to FiberLine Intervention in seek of greater efficiency and lower risk.

In aged assets, there can be a risk of deterioration in the existing cement around the completion. Over time, wellbore pressure and temperature cycling can result in cracking and the creation of micro-annuli in the cement, which causes issues such as sustained casing pressure, which must be addressed prior to well abandonment.

Surveying the wellbore during the early planning phase of P&A, can identify where the top of cement is located and provide an assessment of the quality of the existing barriers already in the well. This allows operators to safely abandon the well by providing the critical knowledge required prior to planning the depths for casing cutting and pulling, casing perforating, squeezing cement or setting cement plugs. It also demonstrates to regulators where the effective well barriers are located.

For this type of survey, a wireline or slickline deployed cement bond log would normally be performed after rig operations have pulled the tubing string from the well. This collects single-point data at measured increments to build a wider picture. However, in a new approach, this operator decided to engage Well-SENSE to deliver FiberLine Intervention (FLI) surveys for an initial trial on 15 wells.

FLI's alternative approach provided an offline intervention, independent of rig operations, which has the potential of greater field -wide efficiency savings, plus early insights without requiring the production tubing to be pulled.

The use of highly sensitive bare fibre, particularly in comparison to single-point logging and encapsulated fibre, delivers very high-quality data and the distributed acoustic sensing (DAS) gives a complete profile of the well in real-time.

These aged assets were located on a remote island off the West Coast of Australia, in an environmentally sensitive environment. With FLI's tiny footprint, minimal personnel, minimal equipment movement and a static pressure control seal at the wellhead a much-reduced HSE risk was achieved.

The outcome was highly successful, with 15 wells surveyed by one technician over 16 days.

There was minimal downtime, no HSE issues and extensive high-quality data sets were generated.

With both parties working closely together throughout the trial, the results were jointly analysed by the client and Well-SENSE to verify the findings.

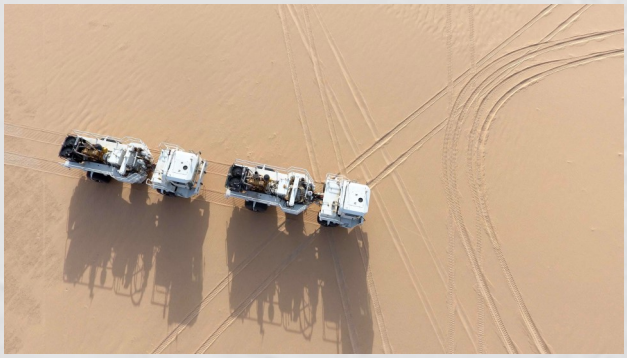
The information provided will now be used to meticulously plan and deliver effective P&A operations. Ultimately FLI can provide essential insights to help reduce the time, cost and risk of well abandonments.

FiberLine Intervention Seismic Surveys are Commissioned for Two Australian Mineral Exploration Projects.

Working in partnership with an eminent Australian university and leading geophysical exploration business, Well-SENSE has provided its unique FiberLine Intervention technology to assist in two separate mineral exploration projects.

In one of the projects our partner deployed FLI independently, with remote support available from Well-SENSE if required. In the other project, Well-SENSE deployed FLI and our partner gathered and analysed the data. FLI performed highly sensitive vertical seismic profiling (VSP) surveys using an external surface sound source, which contributed, in one of the projects, to the generation of a detailed 3D seismic model.

When compared with traditional seismic surveys, involving multiple shallow hole geophones, the highly sensitive bare fibre used in the FLI VSP reduces the surface area of the operations and the impact of the survey on the environment. It can also increase the speed of this type of survey.



With a wireline string involving geophones, the acoustic source (shot) must be repeated multiple times as the wireline geophones are moved from station to station.

Ultimately FLI's VSP results enable high-resolution, near-wellbore seismic data to be obtained at reduced cost versus traditional geophone methodology. It has also been used successfully in Australia for CO2 well injection flow profiling.

Because of the sensitivity of the bare fibre deployed by FLI, it is conceivable that smaller, lighter-weight surface equipment could be utilised, reducing impact in environmentally sensitive environments.

Well-SENSE is part of the FrontRow Energy Technology Group, which is focused on nurturing new technology to provide practical solutions to current energy industry challenges.

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