



Optimum control

From the simplest well to the most complex reservoir, Tendeka provides customers with more control over downhole engineering options at every stage of the completion process

Since its formation in 2009, Tendeka has been focused on its objectives of helping customers reduce costs, manage reservoirs and retain the flexibility to intervene, which in turn results in enhanced performance, downtime reduction and the extended lifespan of each well. Established through the merging of three specialist organisations (digital monitoring solutions provider Sensornet, swellable elastomer experts Swellfix and wireless well communication specialists Well Technology), Tendeka went on to acquire sand-face completion specialists Flotech and data interpretation experts FloQuest.

“We have been established to compete with the major oil and gas service companies in the completion sector, however, we differentiate ourselves with our focus on the sand-face and production optimisation,” explains Gillian King, VP Corporate Development at Tendeka.

“We model the clients’ reservoirs with our unique software, and monitor the reservoirs performance and control flow to achieve maximum production, ensuring the operator gets the most out of their wells. To ensure we can provide this level of service, we have brought five companies together to deliver advanced completions and production optimisation to

those in the conventional and unconventional markets. We pride ourselves on innovation and R&D, and constantly strive to enhance the technologies already within our portfolio while also introducing new technologies.”

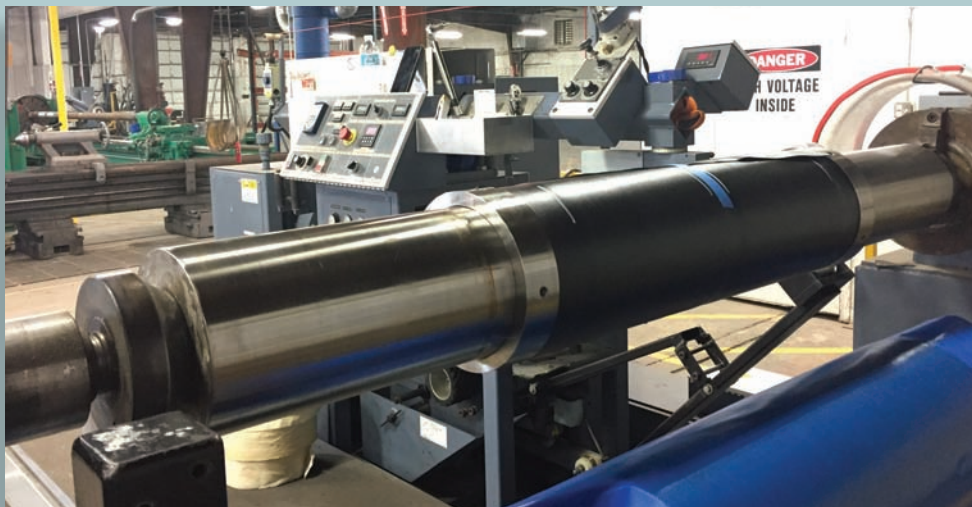
With the integration of these five specialist entities complete, Tendeka has a unified leadership thanks to the amalgamation of the individual management structures of each organisation. Having accumulated more than 200 years of collective experience in the oil and gas industry, Tendeka is able to provide long-term expertise and an extensive portfolio of technological solutions to its customers from a network of 18 strategically located regional bases.

“To ensure we can effectively work with operators on a global scale, we have a number of offices and hubs strategically spread across the globe. Our head office is in Aberdeen, and a large part of our business is focused on the North Sea,” says Gillian. Aberdeen is also the regional headquarters for Tendeka’s Europe, Former Soviet Union and Sub-Sahara Africa region. Three additional regions are North and South America, headquartered in Houston, Middle East and North Africa, headquartered in Dubai, and Asia Pacific and China with headquarters located in Kuala Lumpur. In addition, Tendeka recently entered the Brazil market via the signing of an exclusive distribution agreement and is constantly looking to grow its geographical footprint.

Gillian continues: “In terms of demand for our technology, we have seen increased interest in inflow control technology from clients who either have new wells or existing fields that have issues with premature water or gas that can supersede oil production and impact the longevity of the well. As a solution to these issues, we can install Autonomous Inflow Control Device (AICD) completions that delay water and gas breakthrough in oil producing wells by creating a more even inflow profile along the wellbore.”

Incorporating Tendeka’s AICD technology with Distributed Temperature Sensing (DTS) fibre optic monitoring enables customers to accurately monitor flow performance in both production and injection wells. Creating a more even inflow/outflow by producing an additional pressure drop at specific points along the reservoir, Tendeka’s AICD technologies are deployed as part of the lower completion with the utilisation of zonal isolation packers that divide the reservoir into compartments. The AICD technology can be integrated with





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sand control screens for soft formations or within short subs for harder formations. The technology has been developed further to increase functionality that allows circulation during deployment, prevent cross flow, and autonomously choke back unwanted water and gas production when breakthrough occurs. AICD technology is now available for steam applications and extreme high rate production and injection applications where standard ICD technology has limitations.

The company's DTS systems have also been used for reservoir management, the monitoring of inflow performance and skin, injection allocation, gas lift monitoring, hydraulic fracture optimisation and can be installed either permanently or via intervention on slickline.

For those seeking to gain the greatest insights from complex flow, Tendeka also offers specialist interpretation expertise via its Subsurface Engineering group. Whether the operator's focus is on production surveillance, downhole issue diagnosis, risk evaluation or production enhancement design, the company ensures its intervention and production decisions are based on an in-depth understanding of the reservoir.

With the oil and gas industry currently in the throes of a challenging period due to the low price of oil, Tendeka's technologies and ongoing commitment to innovation is proving beneficial to customers seeking new solutions that make projects more cost-effective.

"We are coming up with great ideas all the time and this year, like others, we will focus on the development of new technologies and going out to market and talking to operators to identify their issues. We would love to work

collaboratively with operators to develop new technology that can solve their challenges and change the way they work. One way we will increase our foothold in this sector is through the launch of new technology such as wireless intelligent completion for the digital oilfield, which we released last month. So far, we have had positive responses to this truly game-changing technology," Gillian adds.

This system uses unique pressure pulse telemetry to channel wireless communication between a well's downhole monitoring and control system and the wellhead. Simplifying operations by removing the need for traditional hydraulic or electric control lines, this technology eliminates downhole connections, which therefore significantly reduces overall system costs while also improving health and safety. Furthermore, each device functions independently, which provides modular flexibility to meet a range of requirements, from single zone monitoring to multi-zone, multi-lateral measurement and control.

Another technology that will be launched by Tendeka over the next few months is Cascade³, a water injection system which removes the failure mechanisms associated with injector wells to extend well life and improve overall field recovery.

With the oil and gas industry expected to remain sluggish in the short-term, Tendeka is in an enviable position as a company that can deliver new, innovative and cost-effective solutions to operators eager to find new ways of working in a challenging market. "Looking ahead, we will continue to focus on our key strategy of diversification, whether that is in the technology we provide, the geographies we work in or our client base," concludes Gillian. ●



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