WHAT DOES DIGITAL TRANSFORMATION MEAN FOR YOU?

As low oil prices give way to dwindling profit margins, strategies dictate organizations to curb inefficient practices and replace them with technologically advanced smart solutions. Connected oilfield services facilitate reduce drill time and increased productivity.

Business model disruptions, to sell performance instead of equipment, have taken over as analytics becomes a strong part of the automation portfolio. The Information and Communication Technology (ICT) industry has taken a leap of faith with the introduction of cognitive technologies through virtual assistants in oilfield services, taking artificial intelligence applications to a higher level and successfully showing oilfield services that there is a better way.

BETTER MARGINS

To improve profitability of the business, oilfield services companies are looking at digital transformation to re-invent how they do their business — in order to achieve cost optimization and remain profitable during the industry downturn, or however long prices for oil and gas are low.

INCREASE EFFICIENCY

For Oilfield Services companies, there's a huge emphasis on being more efficient. When oil was $100 a barrel, oil and gas companies didn't worry about efficiency and costs because they were making so much money. But now the new norm is $50 a barrel, and it is an issue. The oil and gas industry is again at a crossroads.

IMPROVING HUMAN CAPITAL

Focusing on utilization is great, but even better is to couple that with people utilization. A single engineer could operate and monitor multiple sites by connecting remotely to the distant field sites via secure desktop connection over the internet.
A reduced cost base can help Oilfield Services companies secure projects in the current somber market by providing discounts and generate an operating profit.

WEARABLES TRANSFORMING OPERATIONS

Wearable devices stand to give energy workers access to real-time information along with the insight and guidance of outside talent and expertise from around the world, enabling greater efficiency and faster decision-making without having to bring in additional resources to remote sites.

They can both deliver and collect data in the field. Devices such as Google Glass, Virtual Reality (VR) headsets, smartwatches, and sensors embedded in clothing designed to detect such things as radiation and/or chemicals.

What is the advantage of wearables?

- Improving communication between control staff and on-site workers
- Providing workers with the key information (such as data, schematics, maps, guidelines or instructions) instantaneously
- Enabling advanced, immersive, and remote collaboration, including virtual over-the-shoulder coaching
- Boosting on-the-job training—all hands-free.

KEY HIGHLIGHTS

- Oilfield services enable operators to shift **from 'chasing barrels' to 'chasing efficiency'**.
- The **next generation of oilfield services** will witness unparalleled Information and Communications Technology (ICT) convergence, **making digital service platform services imperative**.
- Original equipment manufacturers (OEMs) and original design manufacturers (ODMs) are **transforming their traditional business models** to sell digital service performance instead of equipment.
- The **rising need for efficiency** is driving automation companies to add analytics and digital services to their portfolios.
- Cognitive virtual assistants, **leveraging technologies** such as artificial intelligence (AI) and machine learning (ML), are entering oilfield services.

ARRIVAL OF AI & ML IN OILFIELD SERVICES

TIMELY & DISRUPTIVE

The existing ICT processes is set to collapse, disrupt, and transform into the next-gen cognitive capabilities. Those who do not adapt to this innovation run the risk of extinction.

What can AI do? AI enables natural and artificial systems to exhibit intelligent behavior, construct and formulate hypothesis, automatically analyze data, and learn from experiences to improve performance without manual programming.

AI, ML, and Virtual Assistants applications find patterns through the oil & gas value chain, creating cost and time efficiencies while reducing human error drastically

MACHINE LEARNING - machines improve their performances in certain tasks by learning from previous experiences.

NEURAL NETWORKS - several layers of neural networks learn from available data and improve accuracy with repeated trainings.

DEEP LEARNING - layers of processing units learn from the outputs of the previous units, corresponding to different abstractions.

At Ceremity, we help lead our client through digital transformation, building cognitive apps and solutions. We have a strong history in IoT, IIoT, ML, AI, digital twins and other next-gen technologies. Contact us to find out more about our four pillars of digital transformation, and how we may be able to help your company with:

- **Optimizing Operations** - Modernizing your workflows through technology and creating specialized solutions for your company's needs
- **Transforming Products and Services** - Innovating how you do business on a daily base
- **Engaging Customers** - Giving them new experiences they can better connect with
- **Empowering Employees** - Re-inventing productivity and enabling a data-driven culture

USE CASE

MONITORING PERFORMANCE BY PREDICTIVE MAINTENANCE

Instead of waiting for **equipment to fail,** an AI infused process **provides intuitive insights through predictive analytics** that will help you better address your assets.

CHALLENGE: Identification of nonperforming equipment results in unplanned shutdowns and delays.

SOLUTION: Of field **support center leverages predictive analytics to monitor machine performance**. With the help of AI and ML the support center can remotely monitor equipment conditions, run performance evolutions, and provide optimization analysis.

This approach uses analytical models to prevent shutdowns, increase your efficiency, and reduce your cost of doing business.

OUTCOME:

- Identification of abnormal performance measures
- Preventive maintenance enabled
- Reduced downtime
- Unplanned shutdown avoidance
- Work order coupling allowed
- Need for additional spare parts identified

CONTACT

24044 Cinco Village Center Boulevard,
Suite 100
Houston, TX 77494-8433

Toll-Free: **+1 866.418.3962**
Phone: **+1 713.428.2060**
info@ceremity.com

www.ceremity.com

ceremity
HANDCRAFTED INNOVATION.