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Embrace The Age Of Exciting Oil & Gas

Digitalization is becoming a vital component of the oil and gas industry thus delivering better visibility and clarity through the digital technologies. The advanced analytics are tailored to provide the administrators exceptional views in the operations arena, increase swiftness consequently resulting in better strategic decisions for the organisations. **Ms. Katie Cook, Sr. Vice President - Industrial, Energy & Natural Resources BU, Cyient,** have shared the comprehensive solutions to sustain the oil and gas infrastructure in the new age of oil and gas industry.

By – Namrata Nikale Tanna, Editorial Manager, Oil Asia Journal.

Tell us about Cyient and its business structure?

Cook: Cyient is a global provider of engineering, data analytics, networks, and operations solutions. We collaborate with our clients to achieve more and shape a better tomorrow. From quieter flights and safer train rides to more reliable energy supply, we strive to provide comprehensive solutions that help our clients achieve the operational and business goals. To us, problems are an opportunity to use our extensive global experience and industry knowledge creatively to help our clients do more-we make them more capable, more flexible, and more competitive.

With over 25 years of domain experience in the global engineering sector combined with a dedicated team of senior data scientists and manufacturing expertise, Cyient provides product development and lifecycle support, advanced data analytics, data transformation, process, network engineering, electronics manufacturing and precision engineering services and solutions.

We utilize a global delivery model with 14,000+ associates across 38 global locations and have delivery centres in North America, Europe, the Middle East and Asia Pacific. In the past fiscal year 2016/2017, we have achieved an annual turnover of USD $538m.

Cyient has seven different business units (BU) that work across multiple industries including Aerospace & Defence, Rail Transportation, Utilities & Geospatial, Communications, Medical Technology & Technology, Navigation, and Semiconductors. I am responsible for our Industrial and Energy & Natural Resources BU focusing on Heavy & Industrial Equipment, Power Generation, Oil & Gas, Mining and Infrastructure segments in North America, EMEA and APAC.

Known as a global provider of engineering, data analytics, geospatial, network, and operations solutions, could you throw some light on the comprehensive solutions that help in sustaining the oil & gas infrastructure?

Cook: A few of the solutions we provide include end-to-end integrated plant design, comprehensive asset management services, data transformation solutions for spatial and non-spatial data, and predictive analytics. The last couple of years we have helped our clients implement new ways of improving operational efficiency and extending the life of their critical assets, whether that is on an ocean rig, land base exploration or downstream processing plant. Embedding intelligence (i.e. sensors) on assets, connecting intelligence to a platform (i.e. cloud) to gather data and developing actionable intelligence (analytics) such as identifying failures before they happen to reduce unplanned downtime or modifying operating procedures to get maximum efficiency. Digitalization is also a focus area our clients are exploring as a means of making their businesses more efficient.

How have the challenges in the Oil & Gas industry evolved over the years? How is Cyient addressing these challenges?

Cook: The oil and gas industry has undergone a sea change in the past 8-10 years. With low to medium crude oil prices, oil and gas companies have been forced to address inadequacies in their operations. Industry experts will tell you that the age of easy oil and gas is over, but the age of exciting oil and gas has just begun.

The high levels of investments prior to 2008 have been quiet the last few years, but companies are making new, smart investments in digitalization and automation. Over the years, challenges have shifted from increasing production to enhancing production per well and now to sustaining production with minimal costs to the company and environment.

Cyient has a two-pronged strategy to address these challenges: Cyient provides engineering solutions to oil and gas companies so that they can focus on their core activities, coupled with our overarching vision of delivering value to our customers through our ‘digital’ efforts that include data analytics, Internet of Things, and additive manufacturing.

How do Cyient’s data analytics solutions enhance production efficiency?

Cook: Data analytics is at the core of improving operational efficiency and ensuring we learn from data. The oil and gas industry has relied on data for decades and is probably one of the most data-intensive industries. However, companies are discovering new ways of realizing how data analytics

can add value to their organizations current strategies in this new energy era. Cyient is one of the few engineering solutions company that has a dedicated team of data scientists that work with clients from different industries. This enables an accelerated learning curve and provides us with unique perspectives when helping our clients solve their business problems with data. Cyient has been working with major customers on predicting when maintenance is required for their assets. This reduces unplanned downtimes, extends the life of some assets by not replacing them too soon, and decreases inventory carrying costs of spares. However, we view data analytics as an important tool within a larger asset management framework to drive down maintenance Opex.

May we request you to share the impact of digitization on the industry and what would be its benefits in the long run?

Cook: Digitization is changing the way the oil and gas industry operates. There are several identifiable impacts of digitization including:

- Real-time monitoring of reservoir health and using data to optimize field development plan
- Process automation and production optimization using advanced computational methods
- Application of Artificial Reality/Virtual Reality across operations

A few key benefits include: 1) help the industry address a major challenge – a shortage of skilled labour. In the next 4-5 years, it is estimated that almost one-third of the US O&G workforce will retire and take with it a significant amount of technical and institutional knowledge could be lost. 2) Enhance recovery from reservoirs and deliver better ROI on investments under close Capex scrutiny. As operations become more complex, the costs of mistakes are high. 3) Efficiently train manpower, preventing accidents and connecting technical knowledge with remote locations through AR/VR.

Overall digitization will have a positive effect on Oil and Gas Industry. We are excited for the possibilities yet to be discovered.

We are heading towards the fourth industrial revolution, which is also getting popularly symbolised as Industry 4.0, the pulse of which is the Internet of Things (IoT), request you to share your opinion on IoT?

Cook: IoT is a broad term and everyone has a slightly different definition. For Cyient, IoT means helping clients through the journey of embedding intelligence (integrating sensors into their assets), connecting intelligence (pulling data from their assets) and creating actionable intelligence (create insight that solves business problems).

Those leading the IoT charge are investing in new ways to utilize data that solve their end clients' business problems, whether that is technical, financial, operational, or creating a new competitive advantage.

Please share your broad portfolio of offerings for the oil and gas sector?

Cook: Our solution portfolio includes end-to-end integrated plant design and asset management services for EPCs, owner/operators, and process plants; product development for OEM O&G and power generation companies; electronic manufacturing services; geographic information system (GIS) services and predictive analytics. Cyient is also focused on delivering a full suite of connected equipment services that helps companies design and implement custom IoT strategies within their respective markets.

Where do you think we will see key growth areas in the oil and gas industry in the next few years?

Cook: The past three years have forced the O&G industry into new operating models consisting of the reduced workforce, less capital expenditure and a maniacal focus on efficiency and utilization. Though painful, it has resulted in more projects breaking even at the traditionally low cost per barrel. Growth will come in the sector to those who apply these new lean engagement models to new pursuits and find new ways of collaborating with their up and downstream partners.

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