

Driving agility and performance for chemicals and petroleum industries

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#AccelerateTogether

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The Chemicals and Petroleum industry which literally fuels the planet operates in a highly volatile environment - impacted by price fluctuations, geo-political dynamics, demand uncertainties and strict compliance requirements.

With the pandemic last year sucking the wind out of the sails of economies and industries, left the chemicals and petroleum industry as one of the most impacted with crude prices going on a tailspin and demand hitting an all-time low.

This was another wake-up call for industry captains to ensure to build as much resilience as possible for their organizations considering there are certain parameters outside our control.

The top priorities that CxOs are now looking for the industry are:

- Optimizing the entire value chain, especially considering ageing assets and cost inflation
- Better cost, capital and cash flow management
- Retain knowledge from an ageing workforce
- Ensure a sustainable future with a net zero agenda and properly measure, manage, report and mature
- Employee health and safety and enhancing the overall experience of both end customer and workforce

The new normal environment requires organizations to digitally enable themselves to respond with agility and drive business performance with approaches and ideas which are transformative in nature. To share upfront a couple of use cases where Machine Learning, Artificial Intelligence (AI) along with Big Data can help derive critical business insight with a potential to optimize millions of dollars:

1. AI for Geoscience: AI-based advisor to enhance seismic interpretation in the oil and gas exploration area. This can facilitate the creation of enhanced geological models, risk assessment of new prospects, and optimization of the placement of new oil wells
2. Sweet spot finder for Shale: IBM Watson powered solution that helps Oil and Gas companies choose the best locations for new wells using machine learning and tapping into all available offset well data
3. Predictive Drilling Analytics: AI algorithm along with physics-based drilling model, created Hybrid Drilling Analytics algorithm to run on Real-time time drilling data feed to predict drilling dysfunctional event (Stuck pipe) in good time. The solution can be adapted to other drilling dysfunctional events. The solution is also

scalable and can be rapidly roll out on multiple drilling operations/ Rigs.

Data is at the heart of digital transformation and all industries and especially the C&P industry is known to generate huge volumes of both structured and unstructured data that are not even utilised due to its quality and current inability to crunch this volume of data in the right time to generate useful business insight.

To ensure the same one effectively has to digitally transform to a cognitive enterprise and IBM Consulting with its offerings and capability can help clients embark on this journey by modernizing the legacy core systems, enveloped by exponential technologies like AI & ML, Data analytics, IOT, Edge and Blockchain which enable intelligent workflows, enhanced automation and reducing overall TCO by helping clients to adopt an open, container-based hybrid cloud environment.

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