

The Connected Digital Oilfield

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Good day to you all and thanks for attending the Connected Digital Oilfield... a "Connected World Series" programme organised by us, c21-virtual.

This programme was launched as an in-person event back in 2004 and held in various locations including Aberdeen, Abu Dhabi, Abuja, Cairo, Kuala Lumpur and Rio de Janeiro, more than 50 events in total. The virtual configuration attracts hundreds of specialists from all of the world's E&P operations centres... both users and providers of new age connectivity technologies... we are here today to hear more about that. Now when I say users I mean drilling contractors, oilfield services providers, both national and international oil companies and the consortia that they form as production sharing agreements.

According to Mordor Intelligence... In 2020, the Oilfield Communications market was valued at USD 3.35 billion and expected to rise to USD 5.31 billion by 2026, which is a CAGR of 8%, year on year over that period. Having said that, the oil and gas industry is highly unpredictable... it is intensely regulated, goes through cycles of production cuts based on projected demand, and the war in Ukraine is a reminder of the political volatility of some E&P arenas. Just the same, demand for robust oilfield communications and the necessity for constant upgrades, persists.

The digital oilfield is not new, in fact it was discussed on the earliest programmes that we produced nearly two decades ago, but today is unrecognisable in comparison to its earlier configurations. Oil and Gas field communications require high performance over large areas and often in challenging environments, and this continues to drive it's ongoing evolution.

New-age technologies such as the Cloud, Edge Computing, AI, Augmented Reality, Machine Learning, Software Defined Networks and no doubt soon... the industrial metaverse, continue to revolutionise efficiencies and optimise production in the offshore and onshore E&P

environment. Advancements in the convergence of Terrestrial + Non-Terrestrial communications technologies and Private 4G, 5G and LTE Networks, are combining to deliver enhanced and robust connectivity, to cope with unprecedented data volumes and to respond in real-time - to mission critical situations in the field.

IoT networks enabling a continuous stream of data derived from sensors monitoring every component of the production framework - are processed across multiple platforms to facilitate remote monitoring and control over critical activities at production facilities supporting informed decision making and predictive analysis. But of course, the multiple access points that come with the IoT territory, present malicious hackers with greater opportunity to penetrate those networks with potentially disastrous outcomes, and the development of preventative tools is a continuous and accelerating imperative.

So what are the digital oilfield use cases? By solution, M2M Communication, Unified Communication Solutions, Video Conferencing, VoIP, Wired/Wireless Intercom among others... and by communications networks... Cellular Communications Networks (private 4G/5G/LTE), VSAT Communications Networks, Fiber Optic-Based Communications Networks, Microwave Communications Networks and Tetra Networks... and more and more, convergence and hybridisation of any or all of the above.

So, with all of that in perspective... so lets move on to the programme.