

Technological Transformation Driving Oil Sector: Maclovio Yañez Villagrán

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MEXICO CITY, MEXICO CITY, MEXICO, May 15, 2024 /EINPresswire.com/ -- The global energy industry is experiencing growth, driven by geopolitical shifts, economic fluctuations, and technological advances. According to [Maclovio Yañez Villagrán](#), this upsurge is supported by the robust performance of the oil and gas (O&G) sector, with an encouraging outlook for Brent Crude Oil prices and natural gas at the Henry Hub in the U.S.



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[Brent Crude Oil prices exceeding \\$90/bbl](#) and natural gas at the Henry Hub reaching \$3.50/mmBtu are not just numbers but indicators of a promising future for the industry.

This favorable environment is projected to result in an 11% increase in global upstream investment, estimated at \$580 billion for 2024, and generating free cash flows that could surpass \$800 billion.

One of the key drivers of this transformation is the widespread adoption of cutting-edge technologies, with artificial intelligence (AI) emerging as a driving force behind innovation and efficiency across the entire value chain of the O&G sector.

Maclovio Yañez Villagrán, leader of Núcleo SEPEC, a Mexican company renowned for its excellence in innovation and risk management in the oil industry, emphasizes the importance of this understanding. He explains how generative AI has gained prominence, offering solutions spanning from resource exploration to refining processes.

Generative AI, a subset where machines create new content, has become a catalyst for cost reduction, process efficiency, revenue expansion, and innovation acceleration within the sector.

For instance, Maclovio Yañez Villagrán points out that when facing challenges related to unforeseen downtime, companies can turn to generative AI-driven solutions to generate comprehensive maintenance plans and real-time recommendations, thus mitigating deferred production costs.

Furthermore, generative AI optimizes process efficiency by integrating and analyzing various data sources, enhancing exploration and recovery of existing reserves. Strategic collaborations, such as Shell and SparkCognition, highlight how deep learning shortens exploration timelines, driving efficiency and profitability.

However, effectively applying disruptive technologies like generative AI requires a solid understanding of their scope and application in specific contexts. Yañez Villagrán underscores how his company, Núcleo SEPEC, has successfully implemented cutting-edge technologies, such as the interactive well intervention simulator, strengthening decision-making capabilities in high-uncertainty environments.

Núcleo SEPEC's expansion into Middle Eastern markets clearly indicates the growing importance of global collaboration in the energy industry. The company has formed alliances with significant oil players, such as the Kuwait Oil Company (KOC) and Saudi Aramco, to strengthen its position in the global market and showcase how technological innovation and effective risk management can transcend geographical boundaries. This highlights the significant role of industry professionals in this international endeavor.

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