

ARTIFICIAL INTELLIGENCE – THE FUTURE OF OIL & GAS

The application of artificial intelligence (AI) in oil and gas is inspiring new ways of approaching exploration, development, production, transportation, refining and sales



INTELLIGENT AUTOMATION

Companies can audit tasks to identify those that are suitable for automation. For example, rule-based robotic process automation (RPA) could handle time consuming and error-prone activities.



ENHANCING HEALTH & SAFETY STANDARDS

Using AI software such as natural-language processing for text analytics, vision analytics, and vital-signs analytics to monitor fatigue and heat exhaustion can result in efficient HSE strategies that can target human interactions.



PREDICTIVE MAINTENANCE

AI could provide a viable solution to help oil and gas companies monitor their machine assets, predict when their machines and equipment require maintenance and make proactive maintenance decisions.



DIGITAL TWINS

Digital twins can detect early signs of equipment failure so owner-operators can plan and implement corrective maintenance actions. The software can also use model drilling and extractions to determine whether virtual equipment designs are feasible.

5 WAYS AI IS MAXIMISING VALUE



WELL-PLACEMENT ANALYTICS

Oil and gas producers are increasingly using AI for well-placement analytics and production optimisation. Pipeline companies use AI to analyse pipeline flows and determine the location and size of methane leaks.

ADVANCES IN DIGITAL TRANSFORMATION STRATEGIES IN THE GCC



SAUDI ARAMCO'S 4IR CENTER

Through their dedicated 4IR Center, Saudi Aramco is deploying technology solutions to meet the world's energy needs while minimising the environmental impact of their activities. It is one of the world's largest gas processing plants and uses advanced analytics and AI solutions to increase productivity while enhancing the safety, reliability and efficiency of its operating facilities.



ADNOC'S TECHNOLOGICAL INITIATIVES

- Panorama Digital Command Center, which leverages AI, big data, and smart analytics to aggregate data across ADNOC's operations and provides operational insights and recommendations.
- Thamama Subsurface Collaboration Center, which uses AI to help identify hydrocarbon resources and unlock value from existing fields.