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# "AI" is Not Always Complicated - Transforming Offshore Operations to Control Room Operations

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**Objectives/Scope:** Recognizing the fact that Artificial Intelligence (AI) is a pivotal driver of ADNOC's ongoing ENERGYai vision and transformation, a Team in ADNOC Offshore re-evaluated their critical operations (for maintaining Well HSE Critical Equipment) and successfully developed ideas to convert some of these physical operations in Offshore into autonomous processes managed from the Control Room. This brilliant idea was not only virtually evaluated but also successfully implemented in ADNOC Offshore Field. This shift not only saves on logistics and reduces GHG emissions but also eliminates human exposure to hazards. Further, these initiatives demonstrate that implementing AI in the oil and gas industry doesn't always have to be complex. By taking a rational approach of reexamining and remodeling routine operations, we can unlock AI's potential.

**Methods, Procedures, Process:** As part of the Preventive Maintenance of HSECES Equipment, Periodic Testing/PM is an essential part of ensuring the Integrity of Downhole Safety Valves (a Well HSE CriticalEquipment).It is carried out with 6-monthy or yearly frequency with above 4700 activities(work Orders)to be completed per year. However, attending these PMs physically poses huge challenges; such as (i) Human Exposure to hazards. (ii) Sustainability challenge - GHG emissions related to Transport of personnel in Offshore.(iii) High Cost - attributing to manhours required to physically visit each well. (iv) Weather restrictions - Offshore rough weather challenges personnel mobilization, which may result ultimately delaying performing Well HSE critical equipment PM. Hence, to convert this Offshore Operations to Control Room, a task force was formed within ADNOC Offshore who worked rigorously for almost 6-months evaluating all P&IDs, cause and effect diagrams, HSE consequences and finally conducted successful test during Jan 2025in Offshore. The whole operation of DHSV PM/Test (including Control Line and related equipment) was carried out from Control Room without any presence of personnel at site.

**Results, Observations, Conclusions**: 1)Direct Cost Savings: ADNOC offshore requires 4700 DHSV PMs per year (with existing well inventory). This demands 28200 manhours annually. Hence, with this initiative(converting physical operation into autonomous one) would save these manhours equivalent to around$5.55 Million per year2)Sustainability: Total GHG reduction per year due to initiative = 2237 Tons CO2 Eq(since, One imperial Gallon of Diesel=0.0119 tons CO2eq emissions and Total transportation Hours required per year to perform 4700 PMs = 2350 hours)3)100% HSE - Zero Human Exposure:4) Non-Weather Dependent Operation - No delays in PMs:

**Novel/Additive Information:** This first of its kind initiative is not only new within ADNOC Group of companies but also for the whole region and with great pride, we can say that all steps, from visualizing the idea


To execution, were carried out purely by ADNOC Offshore employees (A model initiative for other organizations to adopt)