DRILLING DATA QUALITY MANAGEMENT & AUTOMATION

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VALUE & IMPORTANCE OF DATA QUALITY

CMMi Data Model

DAMA Data Model
OIL & GAS DATA GROWTH & QUALITY

• EXPONENTIAL DATA GROWTH ACROSS E&P INDUSTRY.
• CHALLENGES TO MAINTAIN QUALITY AND CONSISTENCY ACROSS MULTIPLE DATA REPOSITORIES.
• MANUAL DATA CLEAN-UP PROJECTS ADD TEMPORARY VALUES.
• DATA QUALITY MANAGEMENT & AUTOMATION IS ULTIMATE SOLUTION TO MAINTAIN QUALITY AND CONSISTENCY.
DIGITAL TRANSFORMATION JOURNEY AT ADNOC

DIGITIZATION

**DEFINITION:** To digitize is to convert analog data into digital form.

- ADNOC Onshore has gone through the Digitization Journey since 2010s. All the company’s business processes are digitized and automated.

- Also ADNOC Onshore is in the midst of a fully-fledged Digital Oil Field Program where Data is expected to exponentially increase once the deployment is completed.

DIGITAL TRANSFORMATION

**DEFINITION:** Digital Transformation (DX) is the process of changing existing business models with new digital technologies.

- ADNOC Onshore is just embarking on the DX journey and is also embracing Oil & Gas 4.0 direction.

- Both DX and Oil & Gas 4.0 are heavily dependent on Data (Big Data, Data Science / Analytics, AI).

- ADNOC Onshore is building the foundation for a successful transformation.
DRILLING DATA QUALITY CHALLENGES AT ADNOC ONSHORE

Issues encountered in different areas and at various levels which must be addressed. The severity of the issues varies based on the technology used, the system in place.

- Inconsistencies and errors while entering drilling reports into database.
- Duplications, redundancies and inconsistencies in data maintained in database historically.
- Lack of integration and data exchange from maintained database to other system.
- Unreliability of the data, which generates distrust in analysis that are derived from it.
- Difficulties in making decisions.
ADNOC Onshore is seeking a solution that can:

- Maintain consistent and sustainable data quality
- Automate data quality management (process).
- Provide business rules-based tools to automate, diagnose and correct bad data.
- Easy to configure and to adjust based on business needs.
- Integrate with the existing application landscape.
It is crucial before embarking on the project to articulate a clear Data Quality Management Strategy which consists of the following:
Halliburton-Landmark’s DecisionSpace Data Quality evaluated and deployed.

- Quickly assesses the health of data.
- Automates & schedules data quality jobs for perpetual monitoring and continuous data improvement
- Removes data bottlenecks that hinder a project’s progress
- Communicates data quality improvements over time to management and end-users
DEPLOYMENT OF DATA QUALITY MANAGEMENT SOLUTION

PROFILING THE DATA
• SOLUTION IDENTIFYING A FULL SPECTRUM OF DATA ISSUES.
• REGULAR SCHEDULING IS DEFINED TO MONITOR RESULTS OVER TIME AND ACROSS DATA SOURCES.
• ONGOING MONITORING IS ENSURING THAT PROBLEMS ARE IDENTIFIED AND CORRECTED AS THEY OCCUR / APPEAR.

CLEANING AND STANDARDIZING
• COMPREHENSIVE CLEANSING METHODOLOGY IS APPLIED.
• IDENTIFICATION OF DATA DUPLICATION AND AUTOMATIC CORRECTIONS IS ONGOING.
• AUTOMATIC SUBSTITUTIONS AND CORRECTIONS ARE PROMOTING DATA STANDARDIZATION.
CONSISTENT & SUSTAINABLE DATA QUALITY MANAGEMENT AT ADNOC ONSHORE

- Match & Compare
- Merge & Correct
- Health Checks
- Monitor & Reassess

Phase-04: Operate
Phase-03: Act
Phase-02: Plan
Phase-01: Assess

Phase-04: Operate
Phase-03: Act
Phase-02: Plan
Phase-01: Assess
Improving the data quality by 50% in one year and then reach to 90% at the end of second year.

Complete Automation of Data Quality Management as we have reduced manual efforts significantly.

Providing data consistency and quality feedback to users constantly in order to improve the data quality throughout the lifecycle of data management.
Your feedback is very important to us. Please open the LIFE2019 app to answer a few short questions on this presentation.
Thank You