

# Drilling Data Management

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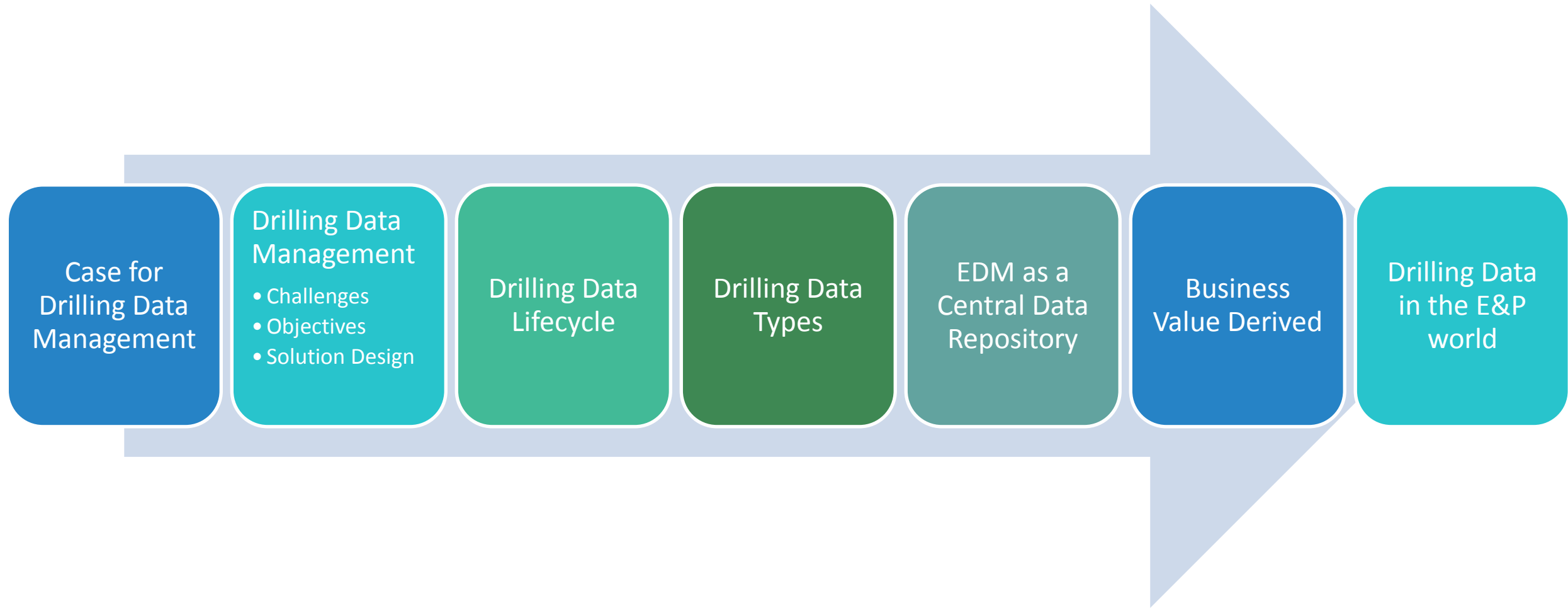
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## Disclaimer

- Views are not an official position or statement of RIL-E&P.
- The Presentation is intended for informative purposes only and do not replace independent professional judgment.
- All vendor product names like EDM, OpenWells, etc. are copyright products of Halliburton and are implemented for Drilling Data Management

# Agenda

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# Case for Drilling Data Management

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1. Drilling - the most Expensive, Challenging and Risky part of the E&P Business
2. Drilling - Delivers a Well : {Dry | Wet | Producing..}
  - Exploratory
  - Appraisal
  - Development
  - Production
3. Drilling - Generates Vast volumes of complex data, in various proprietary formats
4. This Drilling Data is,
  - The GUARANTEED output from every drilling activity
  - The most valuable output for historical and cross-function analysis
  - Highest value creator for
    - i) Cost optimization
    - ii) Problem Prediction
    - iii) Risk

# Challenges

## Domain

- Diversity of terminology
- Absence of Structured Vocabulary

## Database

- Legacy Data
- Data structure and semantics
- Integration of planning and well engineering data with drilling operations activities

## Business

- Convert data to the “best” business value { COST OF DDM <> VALUE to Business }

# Objectives

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Central Database

Role based instant access to data

Consistent rig site data capture and reporting

Defined best practices, workflows, policies and procedures

Standardised RIL Units of measure, Operational Activity & Cost codes and Pick lists

Provide accurate operations statistics and performance benchmarks

# Solution Design

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Scalable solution

Single Data Repository

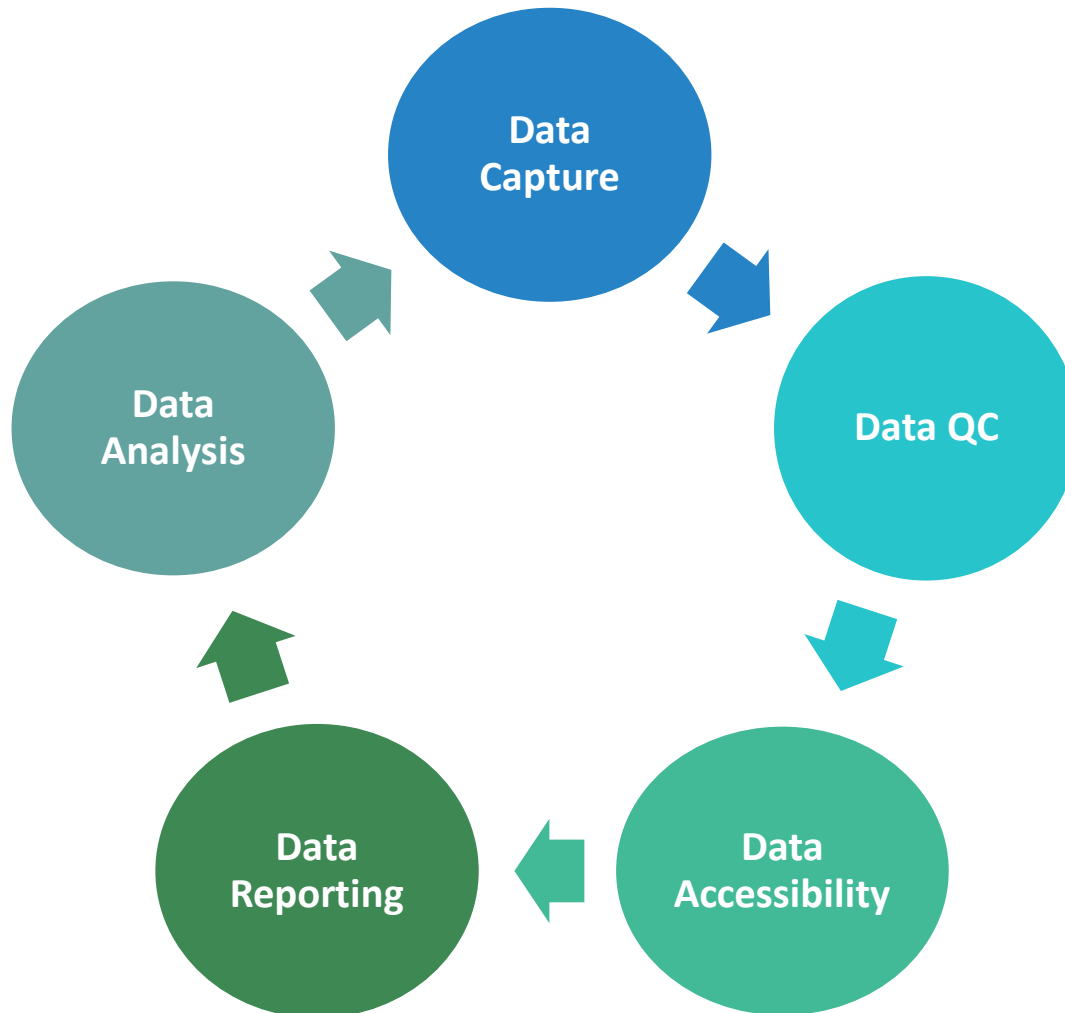
Trusted Data Quality

Enable business to track Operational efficiency

Enable Decision making through verifiable process

Preparing for the future....

# Drilling Data Lifecycle



**Data Capture** at Rig-site & Office- Consistent data captured/ stored in a Centralized Database

**Data QC** for Completeness and Correctness

**Data Accessibility** across the organization – Secured Role based Access

**Data Reporting** – Customized Reporting as per RIL & Regulatory requirements

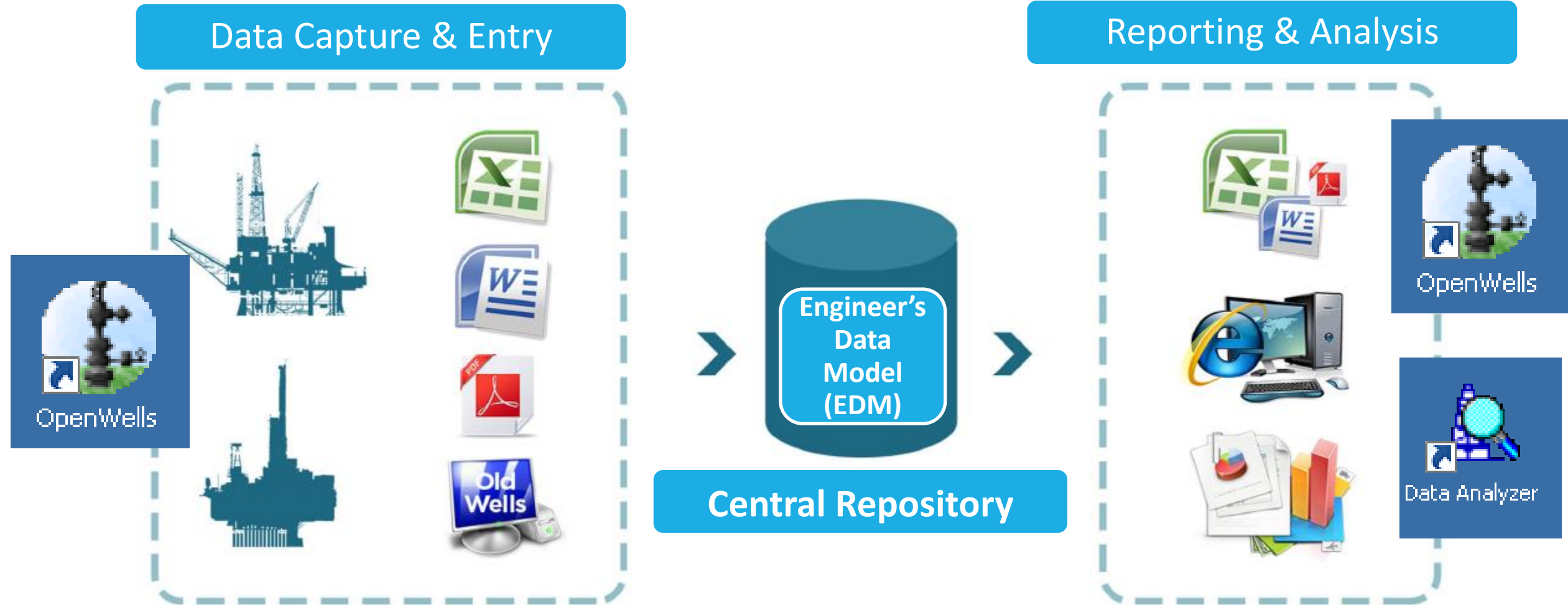
**Data Analysis** – Summary Reports, Statistics and Performance Benchmarking



# Lifecycle Contd..

## Data Capture & Entry

## Reporting & Analysis



# Data & Configuration Sync

RIG SITE



RCP OFFICE



*Auto Sync  
(Data)*



*Master Sync  
(Configuration)*



Server



Client

# Drilling Data Types

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Well Planning & Engineering Data

Drilling Operations Data

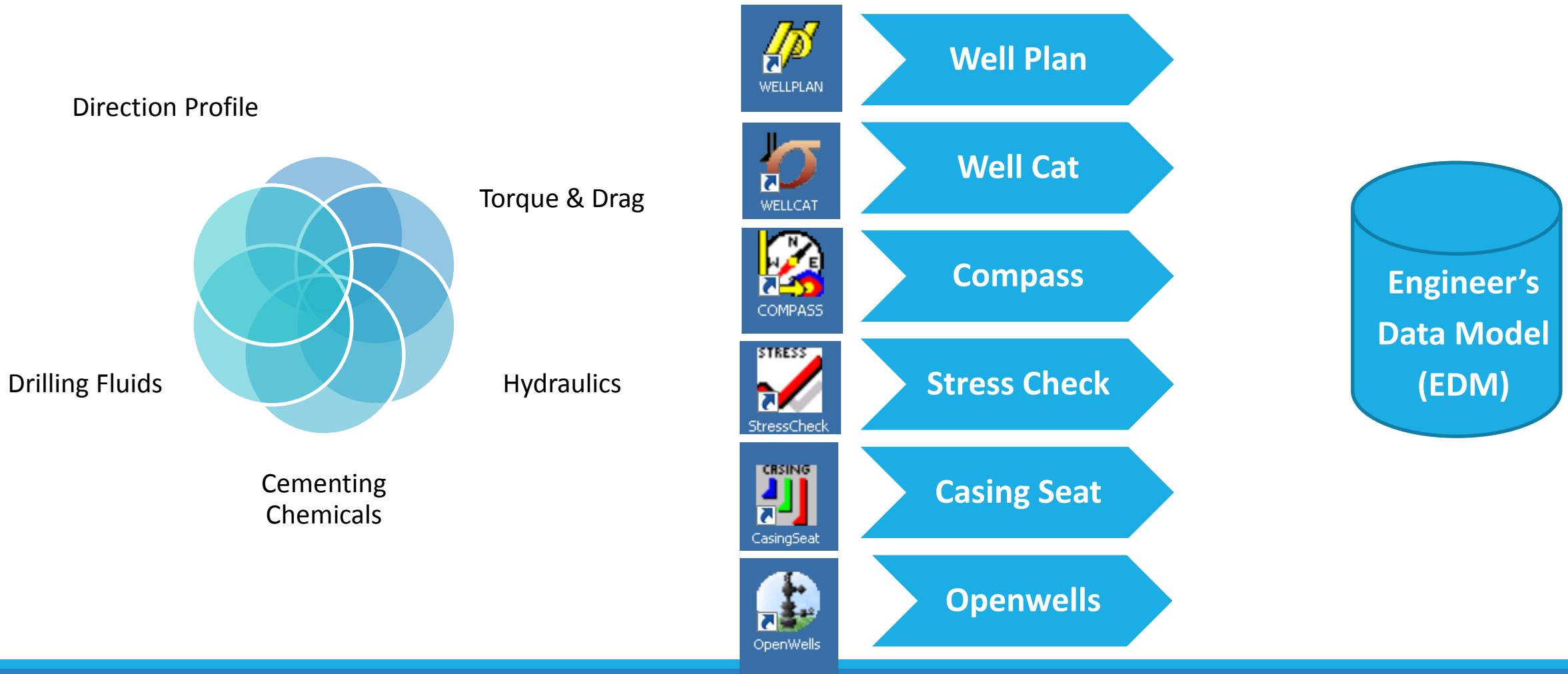
Completions, Testing & Work over Data

Performance Monitoring & Management Reporting Data

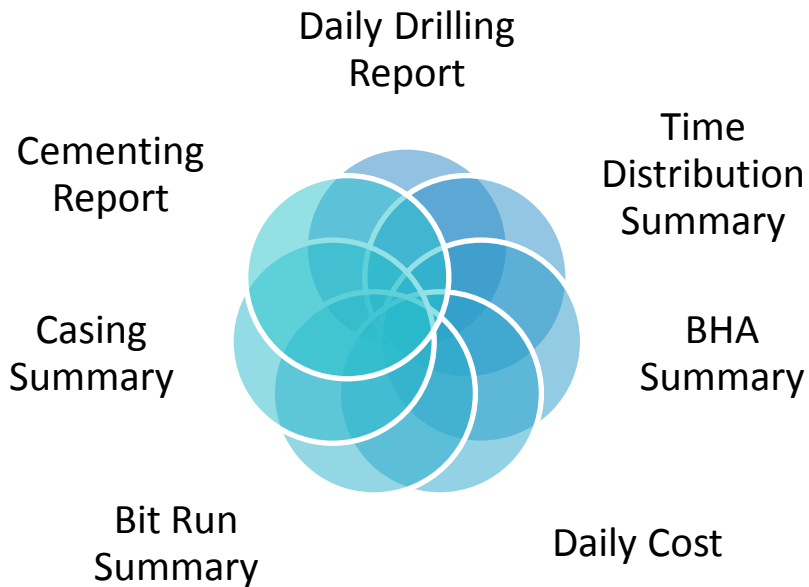
RTOC Reports



# Well Planning & Engineering Data

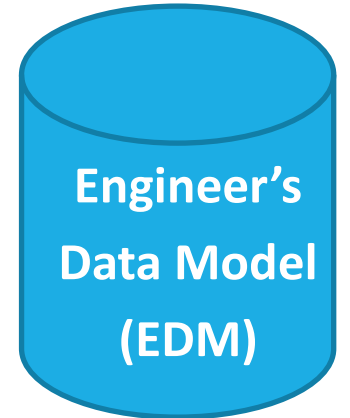
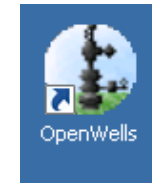


# Drilling Operations Data



## Daily Drilling Report

- Well Details
- Location
- HSE Summary
- Operations Summary
- Mud Properties
- Pump / Hydraulics
- Drilling Bits
- BHA
- Hole Sections
- Surveys
- Personnel
- Support-craft
- Weather information



# Completions, Testing & Work over Data



# Performance Monitoring & Management Reporting Data





# RTOC Reports

## RTOC Reports,

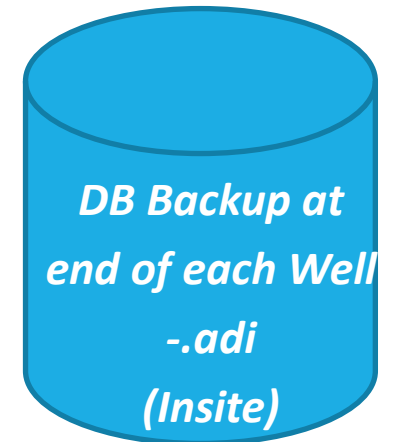
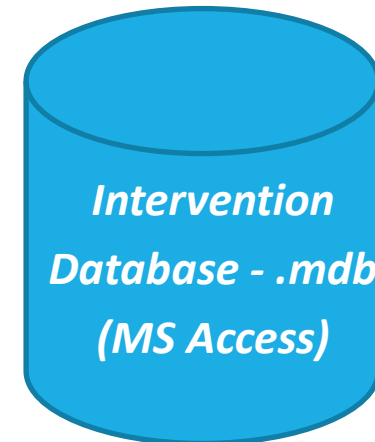
- RTOC Morning, Weekly Performance Reports, Event Analysis, Lessons Learnt Reports, End of Well Report, Pre-drill and Post Drill Pore Pressure Reports- PDF

## Depth Based data in - LAS Ver. 2.0 or higher

- Depth Logs - Formation evaluation log, Drilling Composite log and Bit performance log in 1:500 scale in - PDF

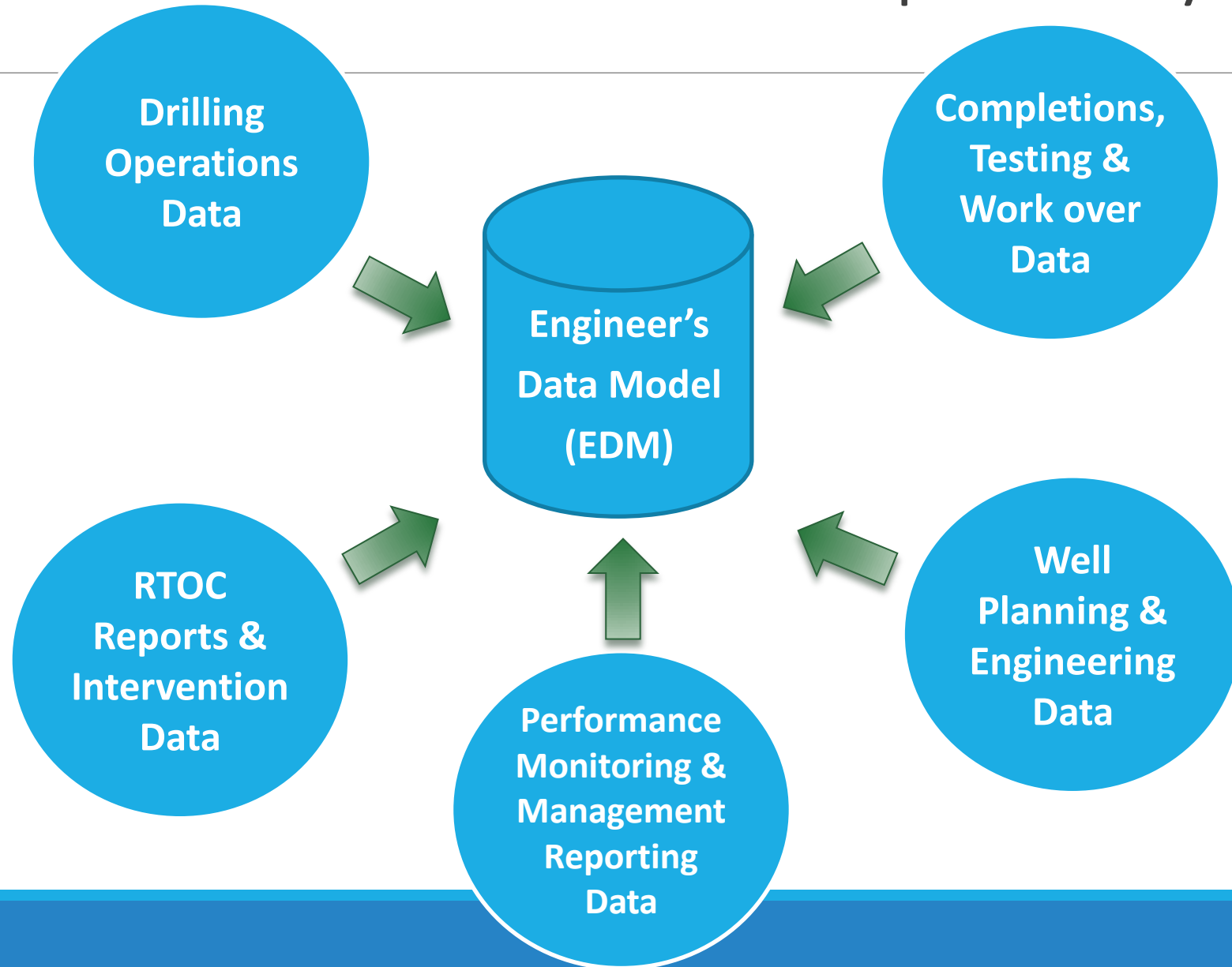
## Time Based data in - LAS Ver. 2.0 or higher

- Drilling Time log for the entire well on a scale of two inch per hour in - PDF



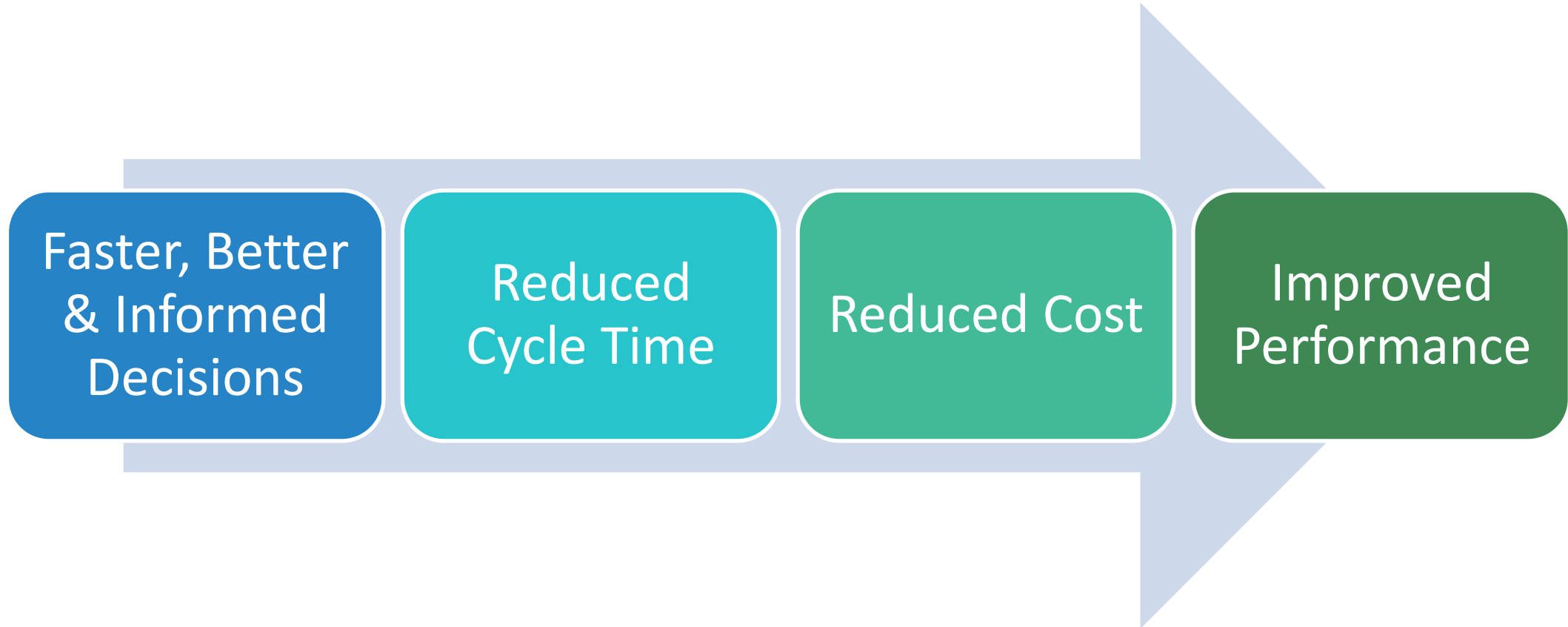


# EDM as a Central Data Repository

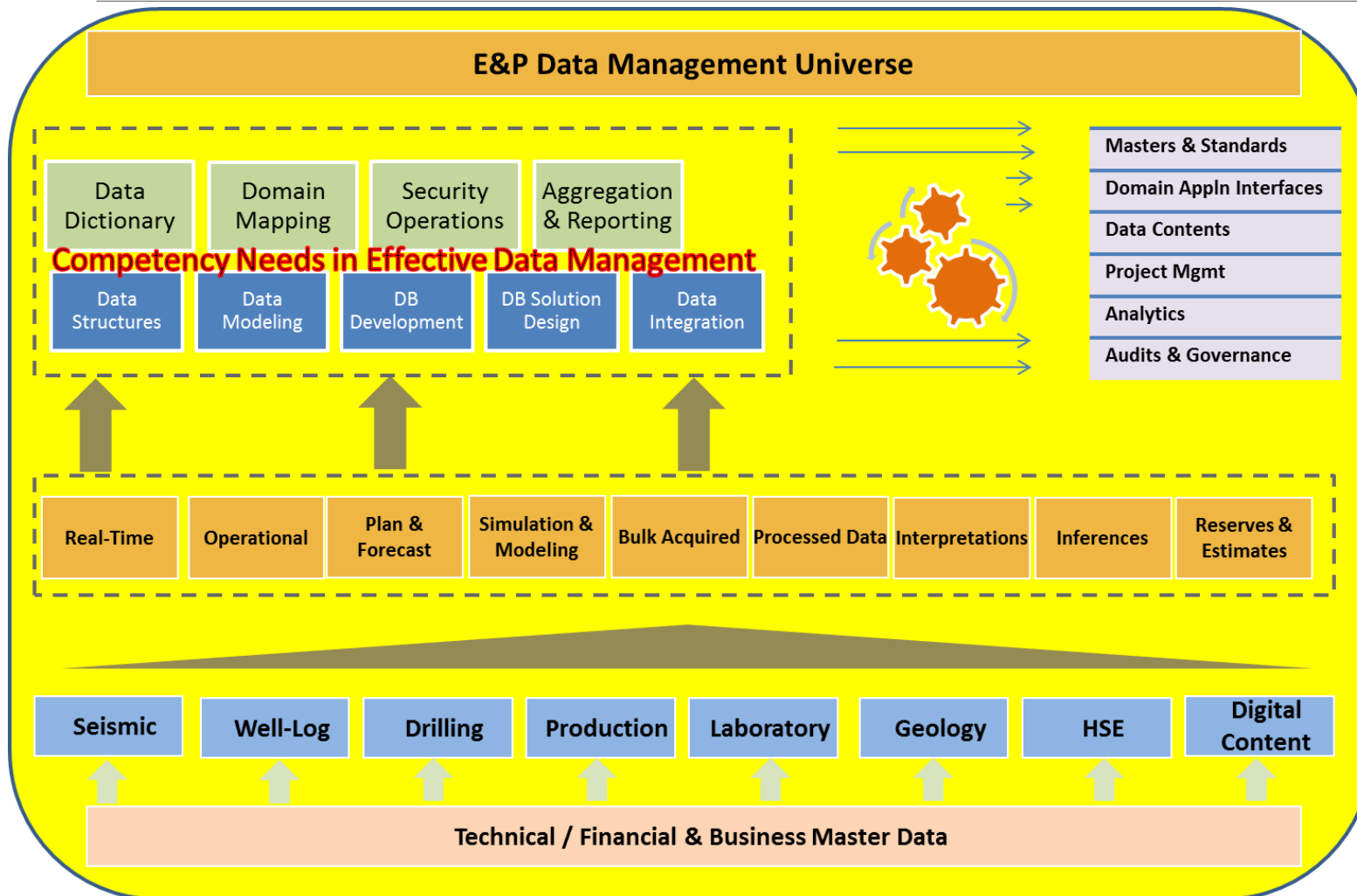


# Business Value Derived

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# Drilling data in E&P data world



- E&P Data universe is complex
- Drilling Data Management has diverse and high-value opportunity
- Domains need to develop modern “Structured Vocabulary”, “Re-usable workflows” and “Powerful collaboration” to derive full business value.

# Thank You

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