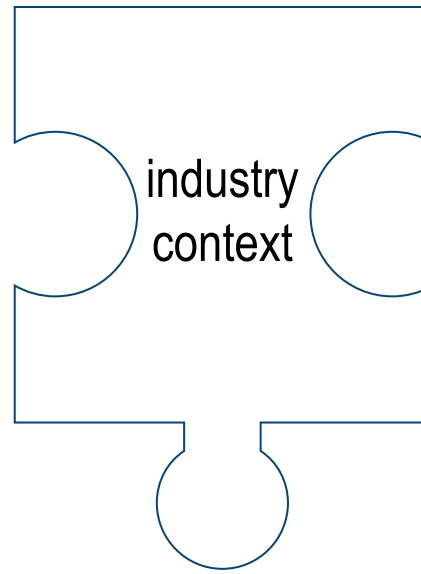


Insights Driven Business Environments – solving the jigsaw

Dr Alexander Neber – OSDU BDM



Insights Driven Business Environment



Digital Transformation

Themes / Key success factors for successful digitalisation¹

Strategy
New Ways of Working
Technology
Data
Talent & Capabilities

Industry challenges (for digital)
Commitment to digitalisation as a holistic business transformation
Ability to inject (digital) innovation in an agile manner
Access to latest and most applicable technologies from (the best of) global and local vendors
Access to quality data easily in an automated fashion
Leveraging wealth of digital and IT talent

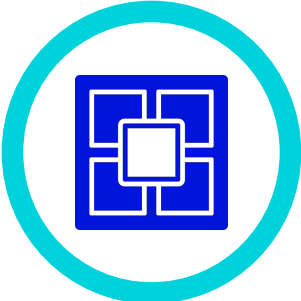
Industry leadership required
Resources (financial & people) earmarked to accelerate digital
Joint Operator-Vendor collaboration on digital
Mechanisms to evaluate and embed appropriate technologies in line with processes/workflows
Industry-wide adoption of global industry data standards
Training institutes and companies to match curriculum to industries' needs, leveraging global learnings

¹ examples, adapted from internal and external publicly available sources

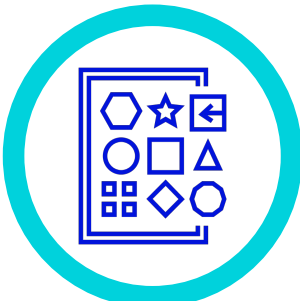


Energy Industry Context – Enterprise Data

Key Challenges



**Data Availability & Access
is Key Hindrance**



**Tremendous Variety of Data
& Enormous Volumes**



**Poor Trust
In Data**



**Specific Data Residency
Requirements**



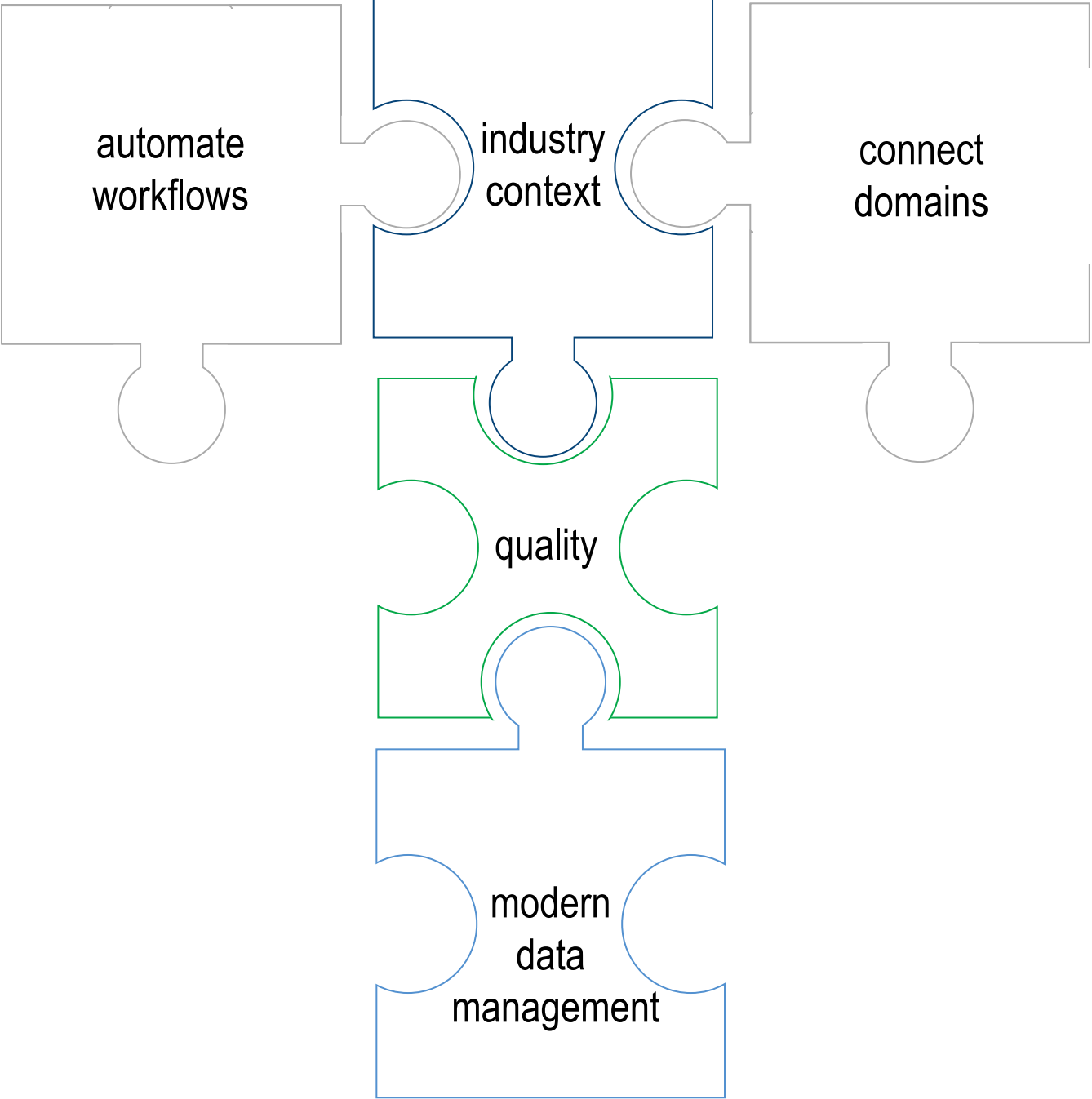
**Variety of
Open Standards**



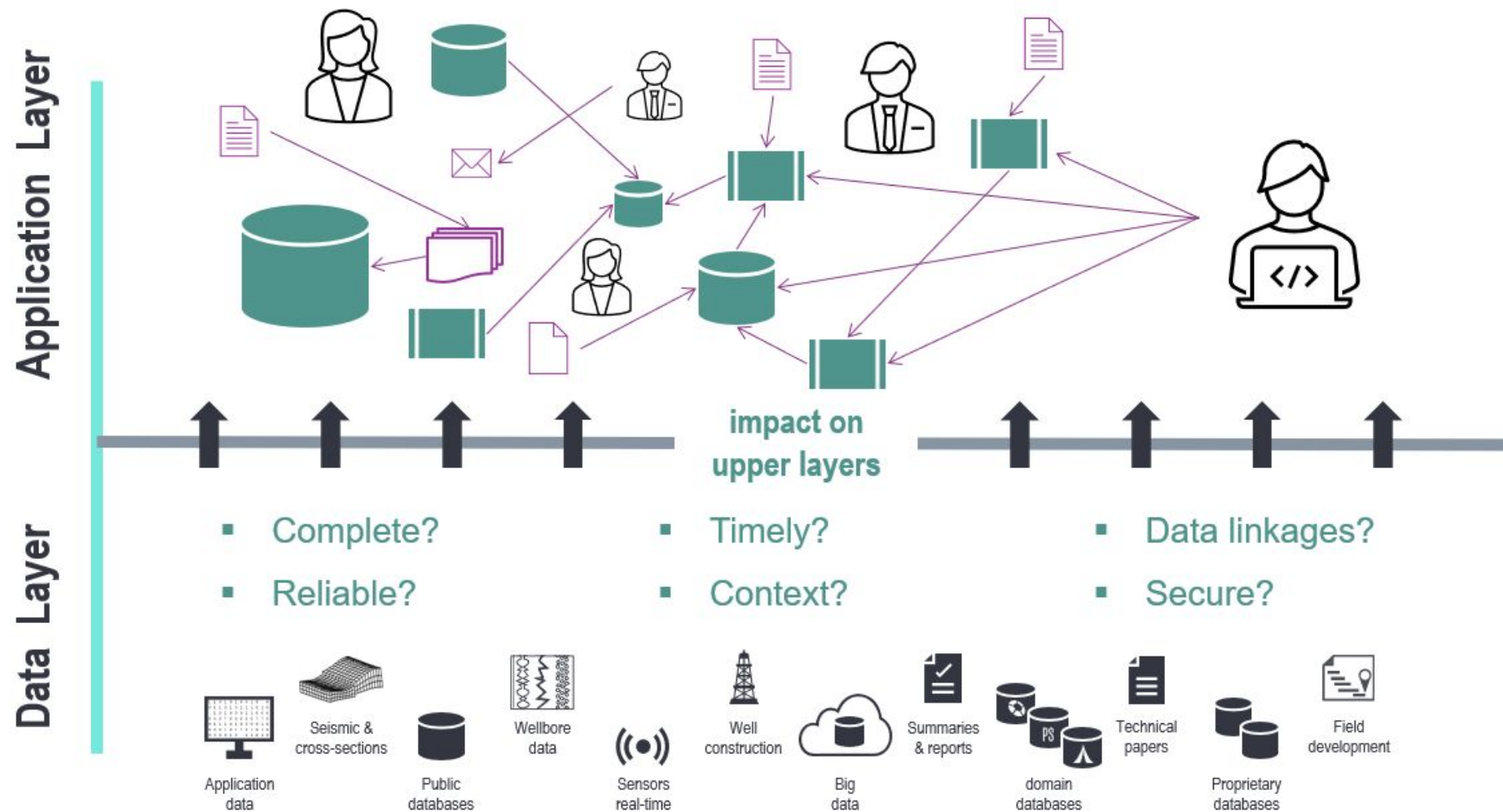
**Data & Workflows
Integration**



Insights Driven Business Environment



Current customer E&P environments impede Digital Transformation



Upstream E&P Environment: Transformed State

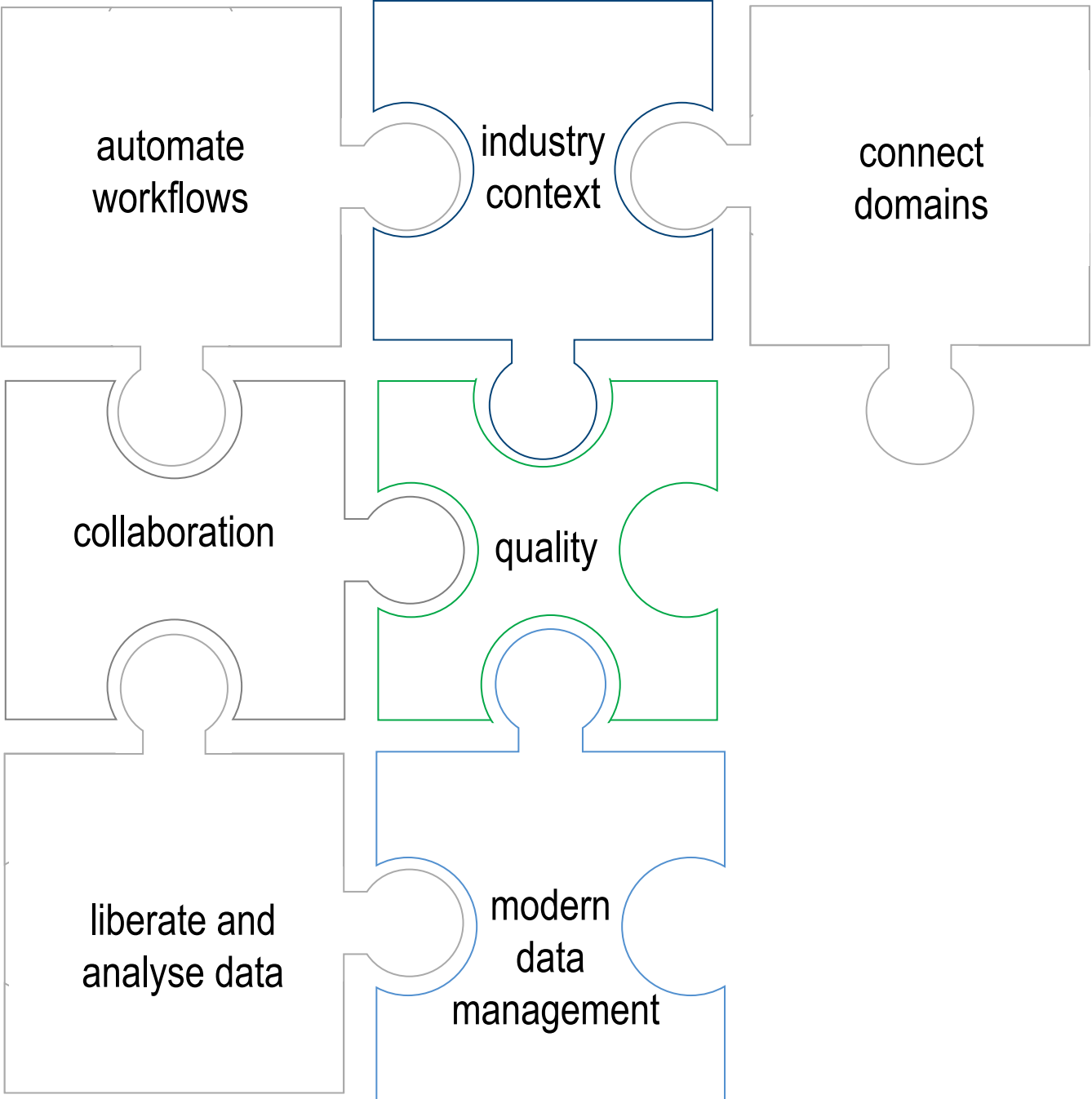
Deep insights from Petrotechnical apps and data analytics



Digitize domain processes for integrity and velocity



Insights Driven Business Environment





- A cloud-native subsurface data platform reference architecture, with usable implementations
 - secure, reliable, global and performant access to all subsurface and wells data
 - reduce current data silos to enable transformational workflows
 - accelerate the deployment of emerging digital solutions for better decision-making
- Consistent API standards
 - to drive innovation
- Master and reference data standards



OPERATORS

SUPPLIERS

Shell, Chevron, ConocoPhillips, TotalEnergies, bp, ExxonMobil, devon, equinor, BR PETROBRAS, Anadarko, PANDION ENERGY, MARATHON, Woodside, HESS, OMV, wintershall dea

Microsoft, HALLIBURTON, INT, wipro, bluware, DELLEMC, CGGVERITAS, ENERGETICS, aws, EMERSON, Google, slb, TGS, BEYOND LIMITS, IHS Markit, TARGET

OSDU Forum and Data Platform



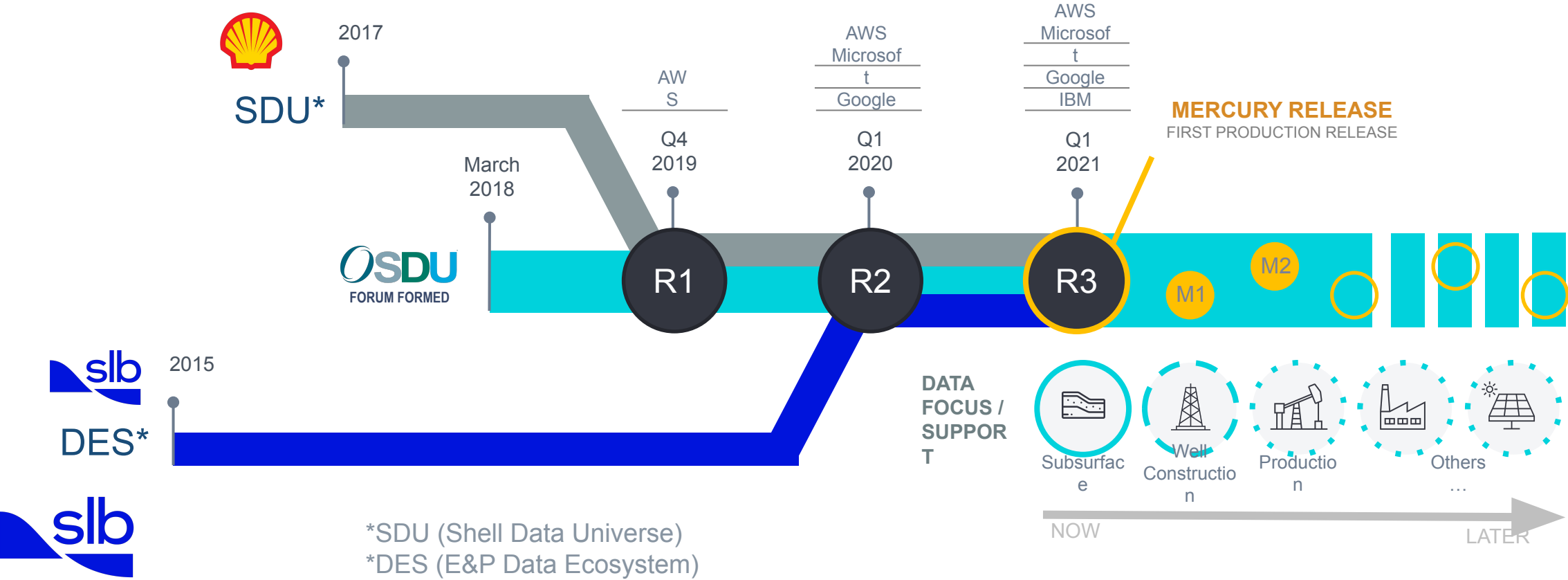
Founded by Operators



> 200 Members
as June 2022



Open-sourced DES* at its core



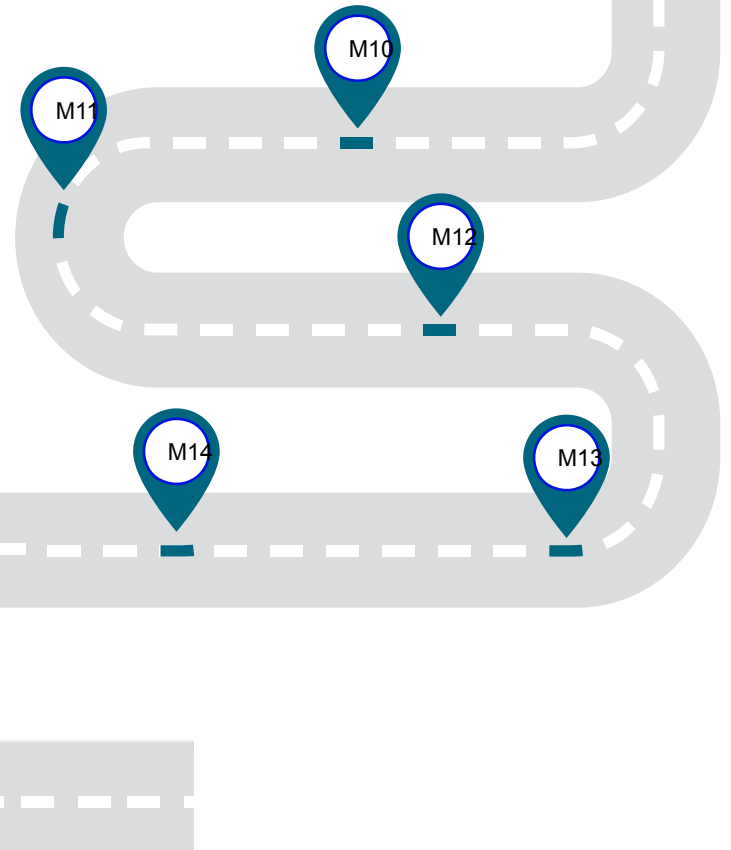
*SDU (Shell Data Universe)
*DES (E&P Data Ecosystem)

The OSDU Data Platform since Mercury

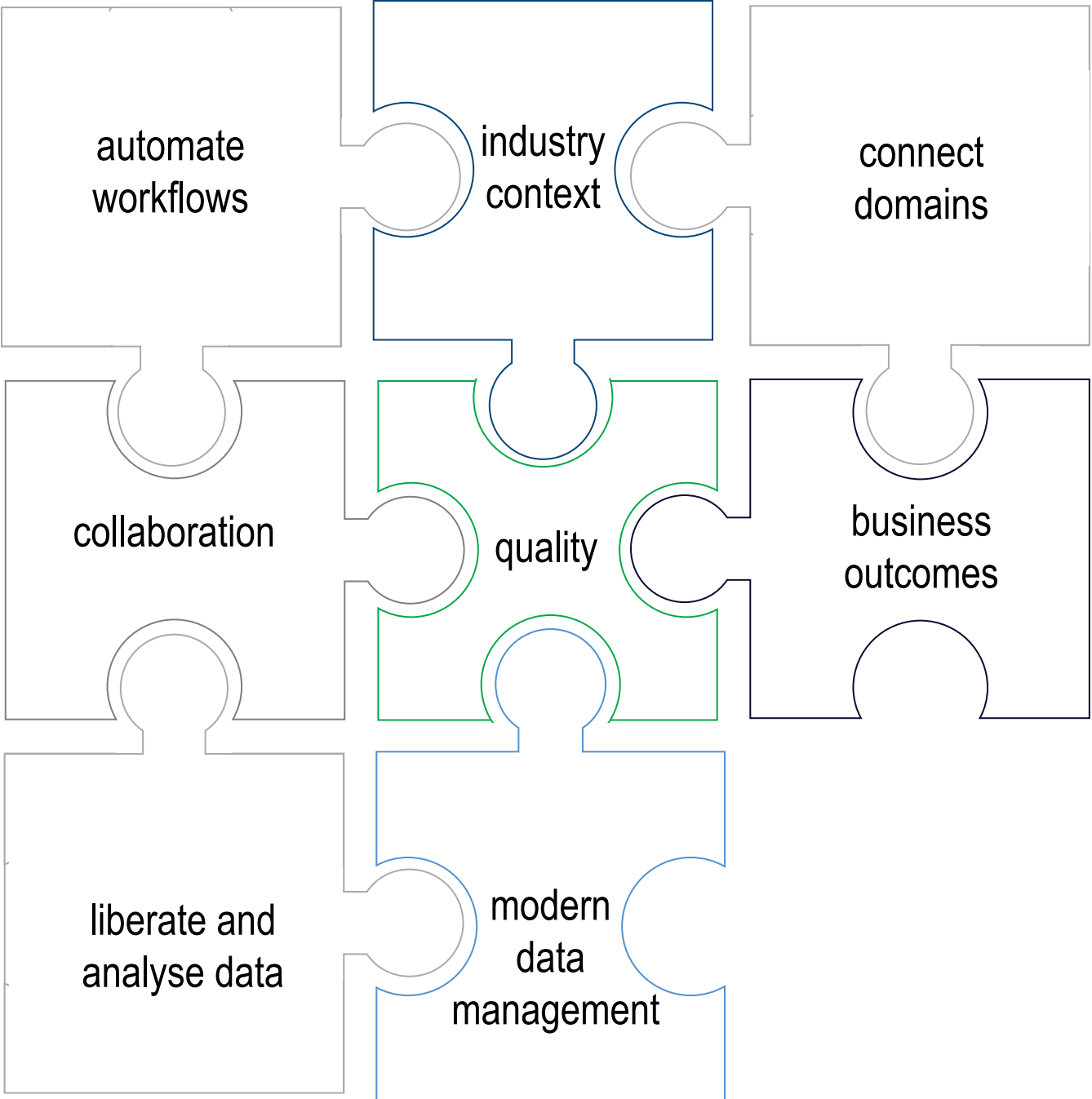


Agile teams producing an integrated release every ~6-10 weeks
 We continue to see a healthy mix of optimization, enhancements, and new features
 The focus on community enablement has culminated in significant new capabilities in M14
 Getting feedback early and often is critical to support adoption

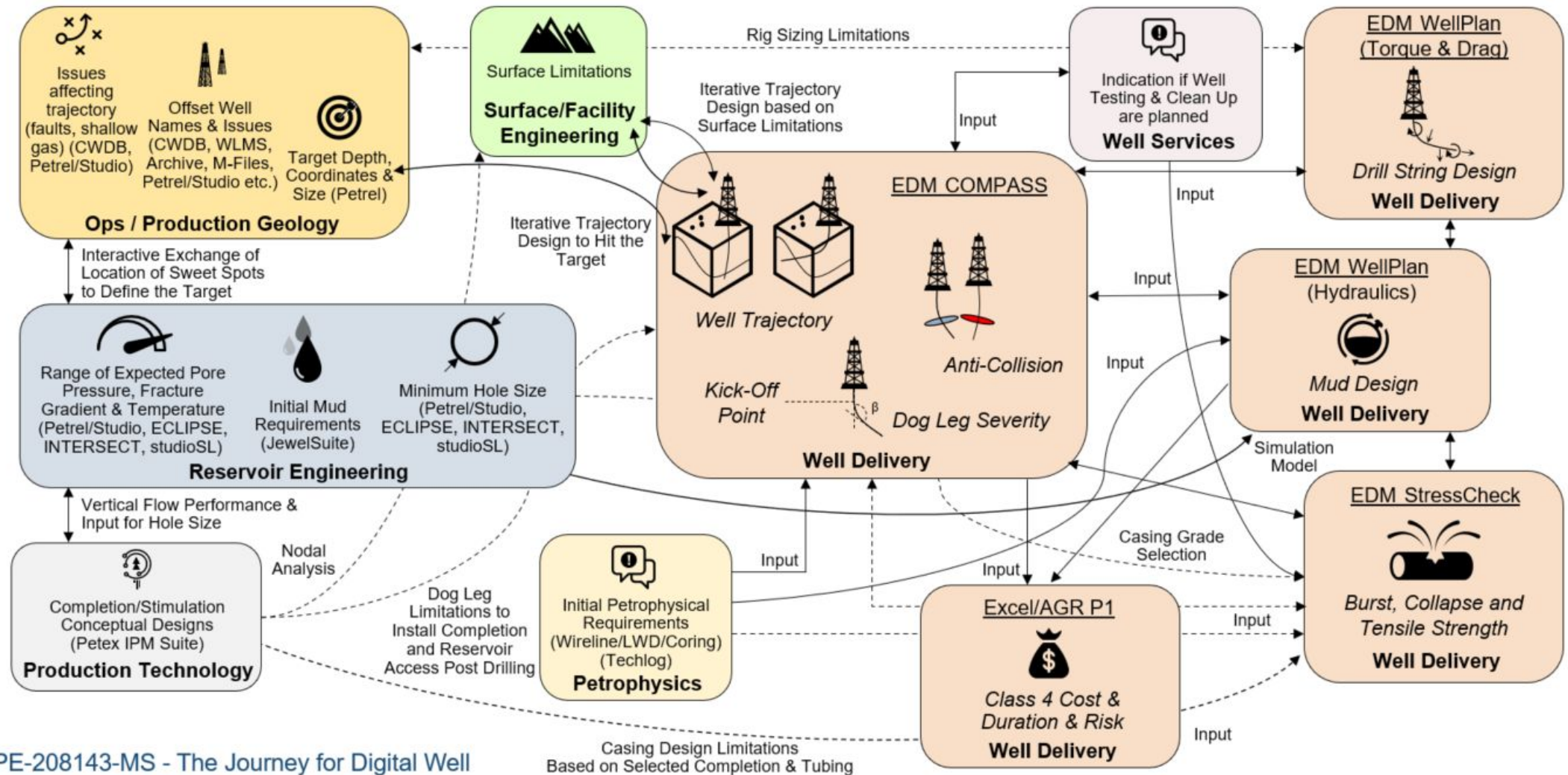
Milestone	Highlights	Release Date
M4	Mercury Release – Public Release of OSDU Data Platform	March 2021
M5	Stabilization of the Mercury Release	May 2021
M6	Searching nested arrays, ZGY & oVDS workflows, WITSML ingestion	June 2021
M7	Entitlements v2 support, Experimental E&O workflows	August 2021
M8	ZGY & oVDS on all clouds, Service versioning, Airflow v2, WB-DDMS v3	October 2021
M9	Patch release support, E&O early production, Well Delivery DDMS	December 2021
M10 Patch	Airflow v2, Schema-updates, Reporting Dashboard, WBDDMS v2 depr.	March 2022
M11	E&O workflows, Audit & Metrics, Global Status Messaging	May 2022
M12	Schemas set to 'published', CRS Catalog v3, Logging optimization	July 2022
M13	MVPs for Reservoir DDMS, External Data Services, & Geospatial CZ	September 2022
M14	Policy service, more CSP adoptions	November 2022
M15	Manifest ingestion performance improvement, CRS v3 new endpoint convertBinGrid	January 2023
M16	EDS DMS, General performance, security and stability fixes	March 2023



Insights Driven Business Environment

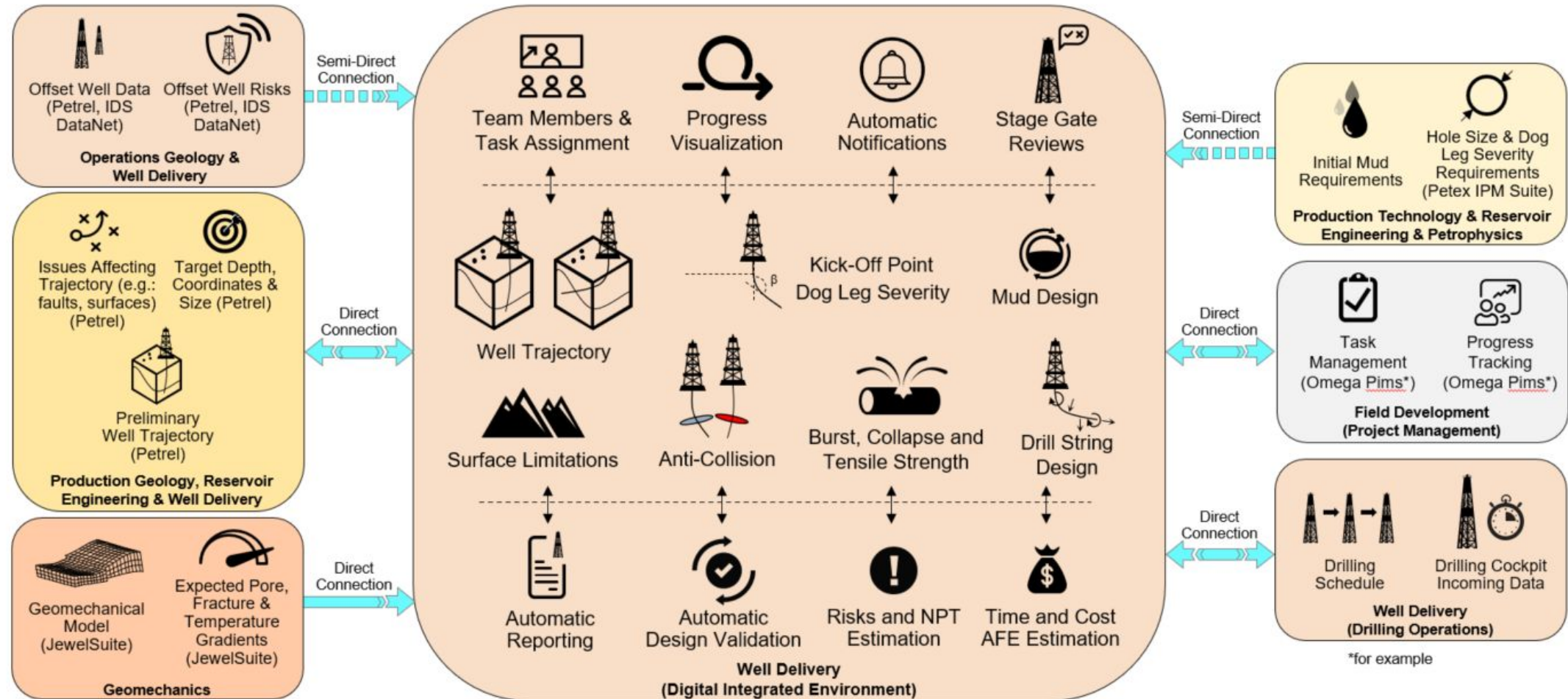


Baseline Study: Domain interaction & Data Flow for Well Planning



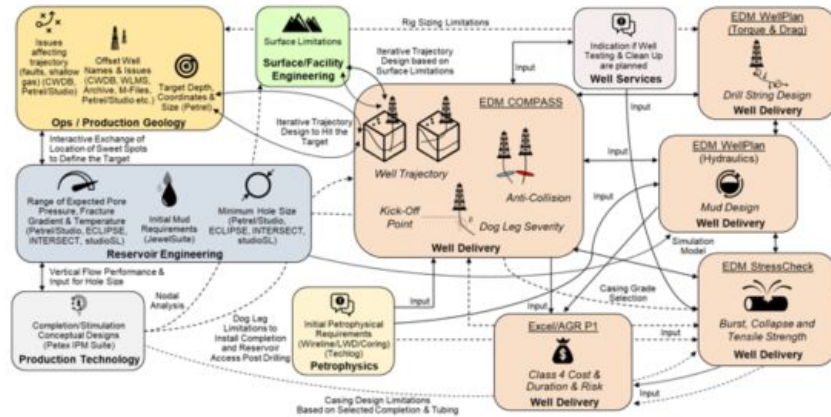
SPE-208143-MS - The Journey for Digital Well Delivery Technology Adoption: The How and Why

Solution Design: New Digital Environment Aligned With Future Processes



SPE-208143-MS - The Journey for Digital Well Delivery Technology Adoption: The How and Why

Case Study: Transformation of OMV's Well Planning Workflows Enabled by a Digital Well Design Platform (e.g.: DrillPlan)

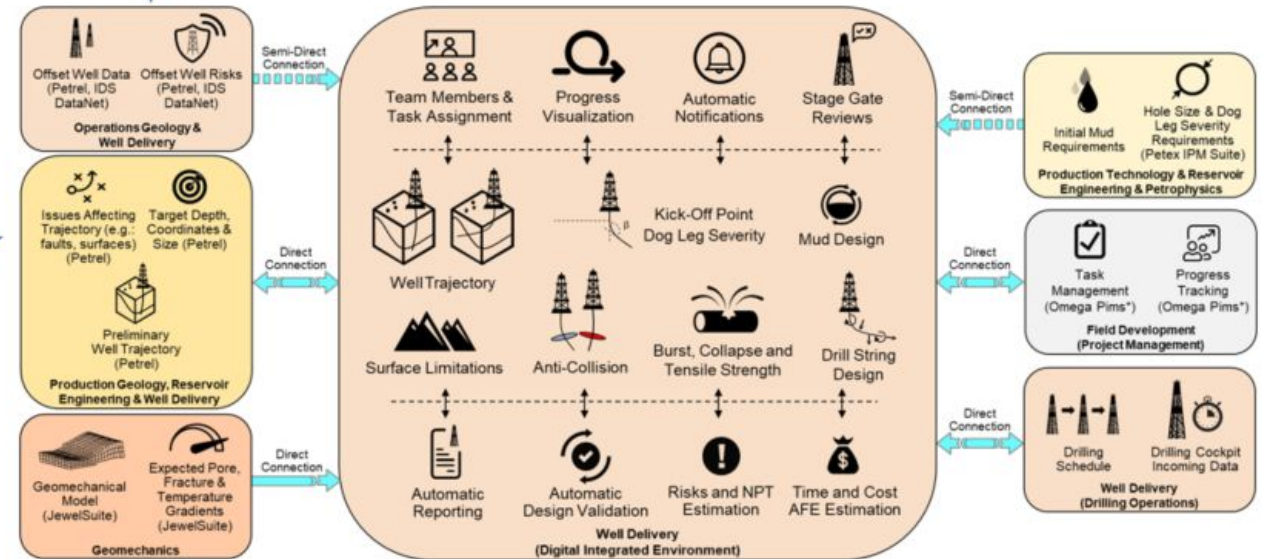


Instant and Seamless
Access to Reliable Well Design Data

Cross-Domain Collaboration for an
Integrated Well Design

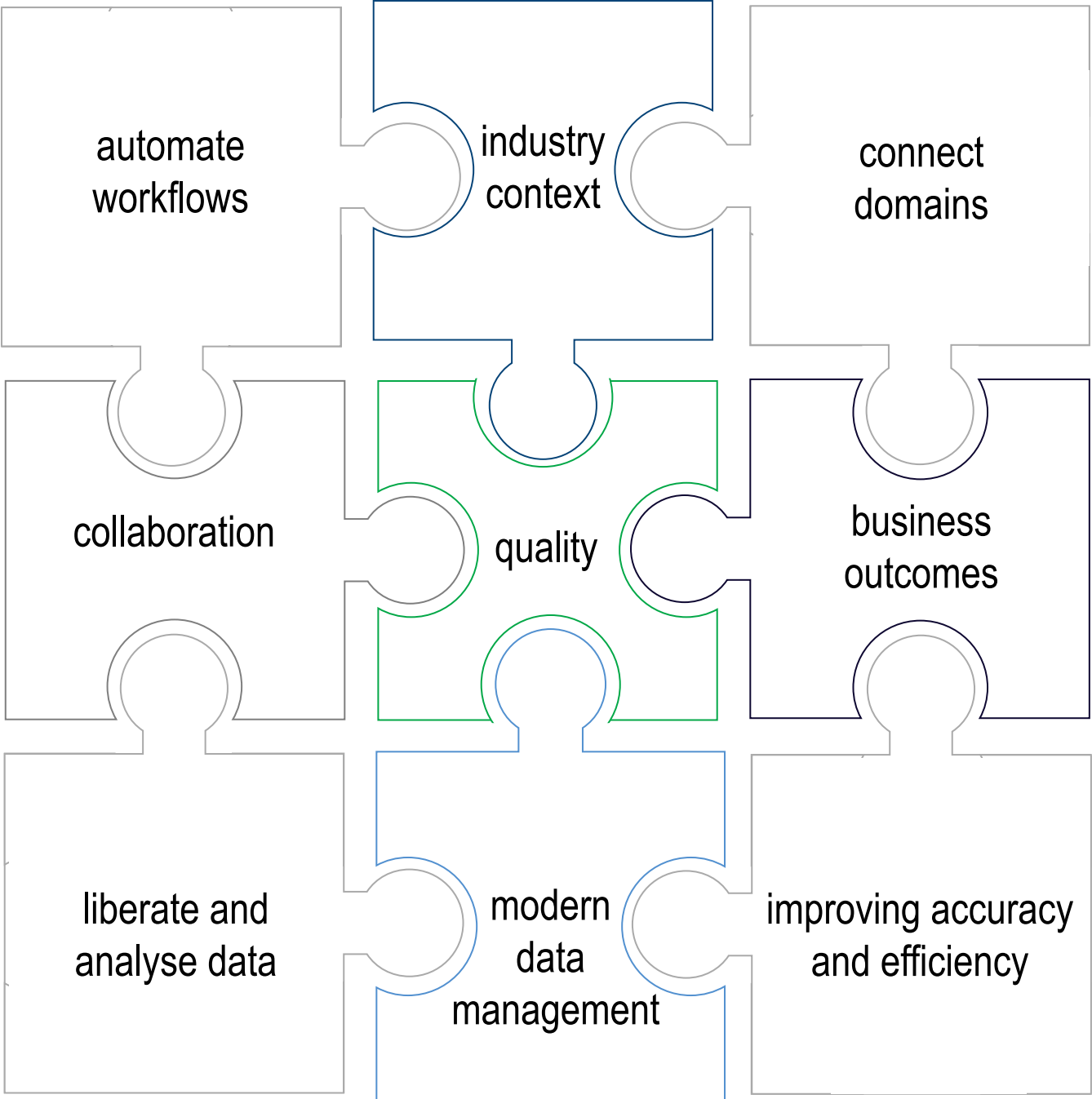
Key Improvements

- **One-Single Well Design Environment & Source of Data Truth**
- **Facilitated Data Sharing** between Other Applications
- **Integration** with Project Management
- Introduction of New **Automized Functionalities**



SPE-208143-MS - The Journey for Digital Well Delivery Technology Adoption: The How and Why

Insights Driven Business Environment



Ecosystem to deliver a Modern Data Platform



enable data discovery



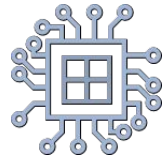
with access any time, anywhere



to trusted data - in context



performing analysis in place



with seamless integration



Automation and Intelligence in data management processes will deliver a step change in decision making efficiency

