FDPlan
Driving a culture of openness

SIS Global Forum

Ben Sellers, Liam O'Sullivan

12th June 2019
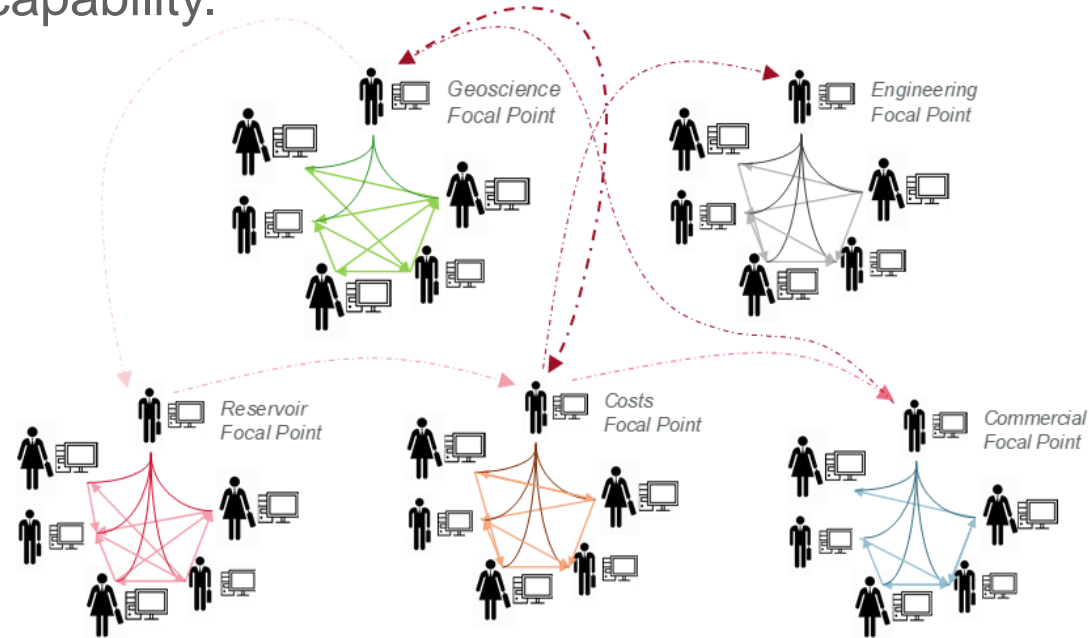
Woodside

FDPlan Motivation

Industry wide problem

Large multi-disciplinary oil and gas projects suffer from:

+ Siloed workflows.

+ Auditability and data trust.

+ Complex processes dependent on capability.

It takes months to move opportunities through decision gates due to multiple interfaces, especially during appraisal/concept select stage
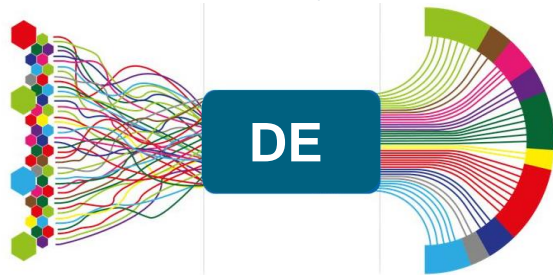
Key Enablers

Openness – 3rd Party Apps

Collaborative Framework

Cloud Architecture
Unlimited Hardware

Data Ecosystem

DE

Automation

FDPlan Motivation

DELFI Cloud-based-solution

FDPlan addresses these problems by providing

+ A collaborative environment to aid decision support.

+ A simple interface to drive rapid scenario screening.

+ Automated scenario evaluation through extensible workflows.

+ Openness including connectivity to 3rd party tools (PETEX) and access to DELFI data (APIs).

FDPlan has potential to **reduce** end-to-end forecasting **time** by **70%** with instantaneous economics for a wide range of subsurface development scenarios.

FDPlan Value

Commercial production optimisation

+   Longer term production optimisation using multiple scenarios to avoid short-term gain for long-term pain.
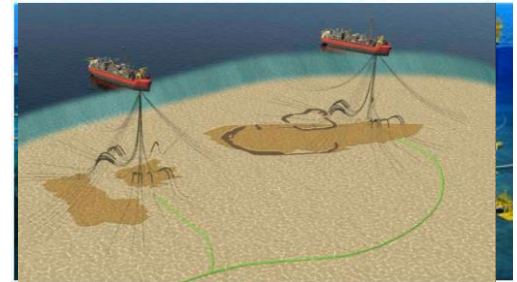
Instant Economics

+   Organisation wide integration enables instant economics evaluation.
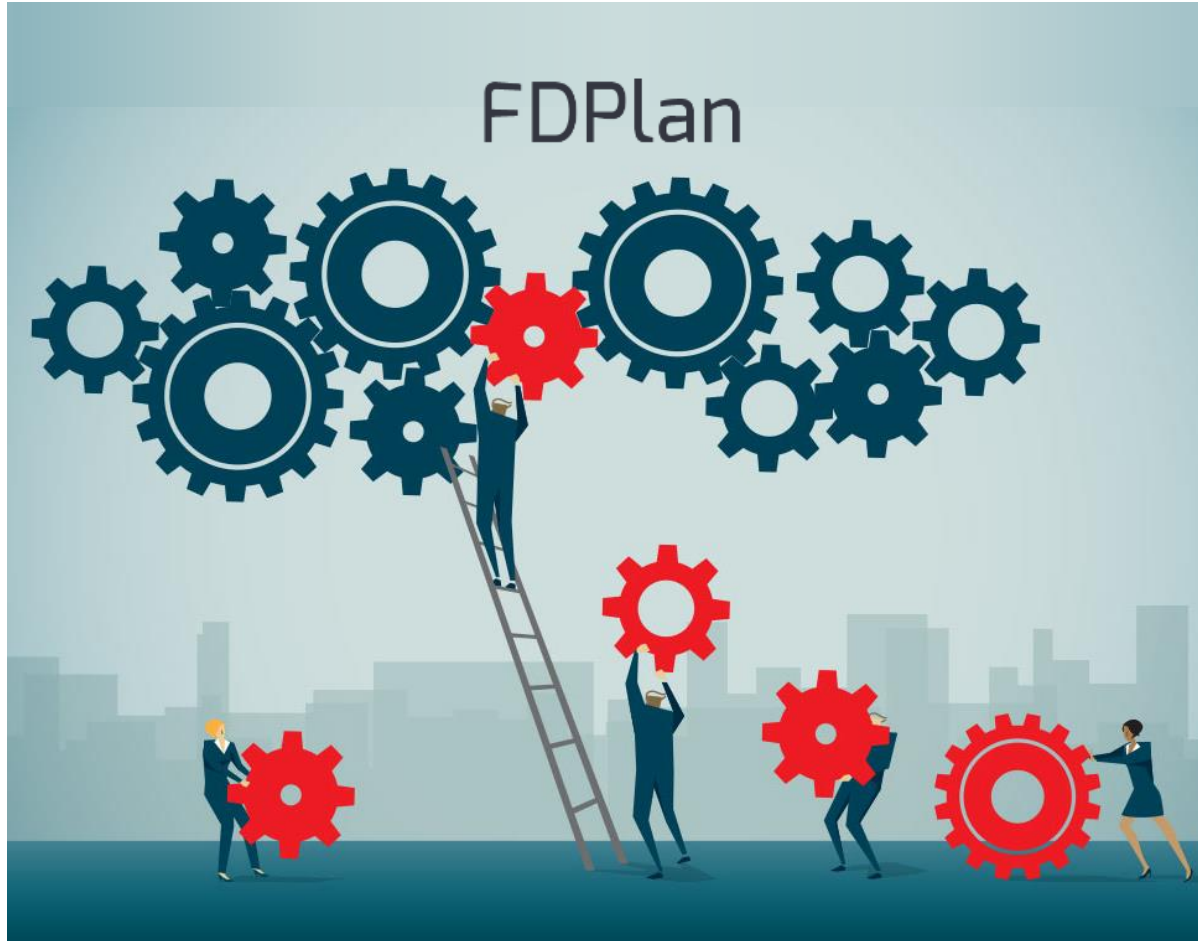
Enhanced Decision Quality

+   Optimal concept selection across multiple scenarios aids understanding risks as well as opportunities for value creation.

Success through collaboration

Schlumberger

+ **Orchestration**
  + Case Mapping.
  + Risks & Opportunities.
  + Decision Mapping.

+ **Data Ecosystem**
  + Stores.
  + Entitlements.
  + Federated Searching.

+ **Cloud Architecture**
  + Simulation Hardware.

+ **Analytics**
  + Visualisation.

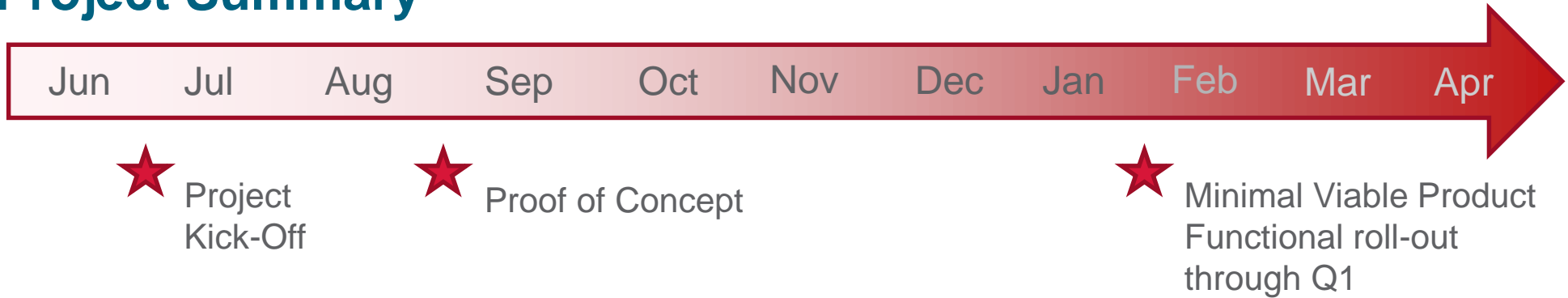**Woodside**

FDPlan

+ **Detailed IPM**
  + RESOLVE
  + GAP
  + INTERSECT
  + MBAL

+ **Detailed Costs**
  + Escalation.
  + FOREX.
  + Categorisation.

+ **Modified Commercial**
  + Australian Tax.
  + Custom Tariffs.

Success through collaboration
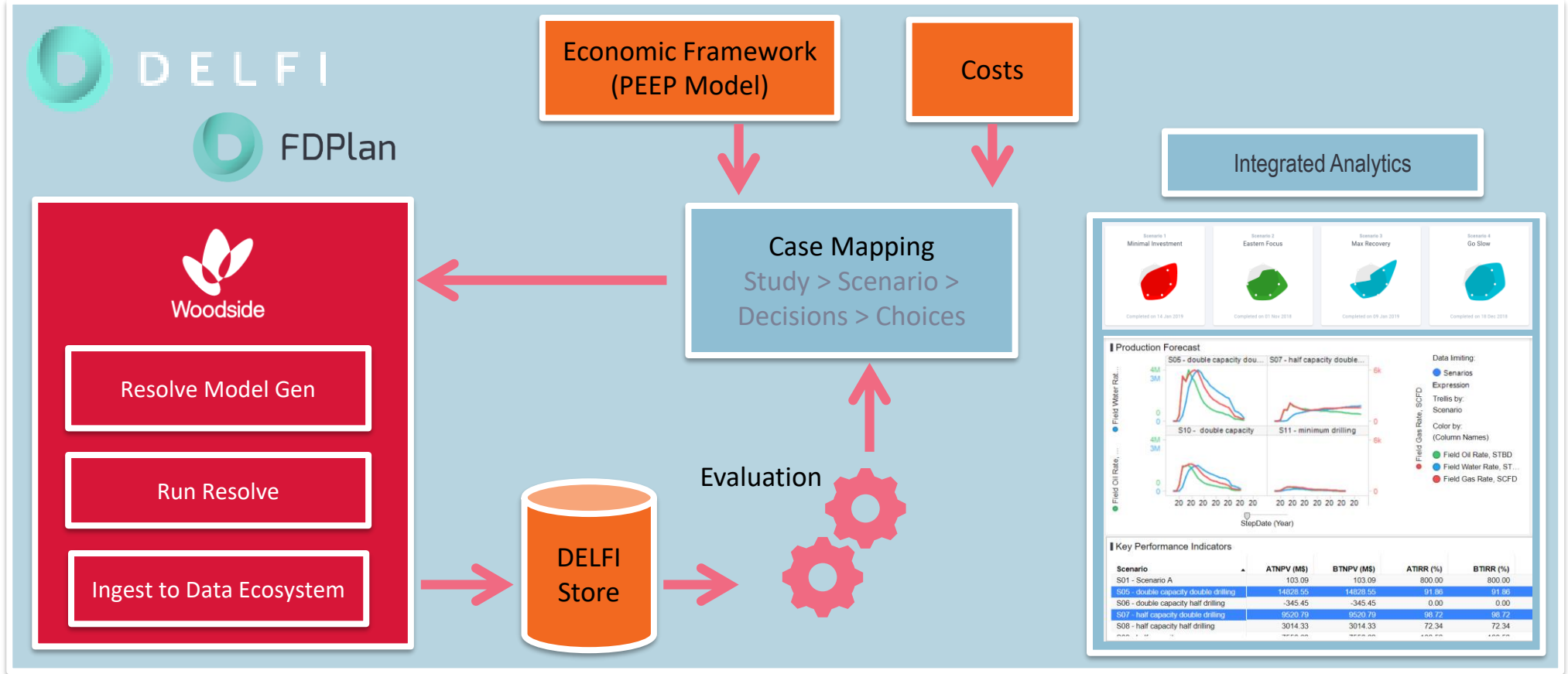
Project Summary

Jun   Jul   Aug   Sep   Oct   Nov   Dec   Jan   Feb   Mar   Apr

⭐ Project
Kick-Off

⭐ Proof of Concept

⭐ Minimal Viable Product
Functional roll-out
through Q1

Proof of concept for customised workflows achieved in 2 months

+ Data auditability with immutable information in DELFI.
+ Enablement of multidisciplinary collaboration.
+ Minimal data manipulation.
+ Simplified user interface for scenario selection.

Collaborative workflow

DELFI

FDPlan

Woodside

- Resolve Model Gen
- Run Resolve
- Ingest to Data Ecosystem

Economic Framework
(PEEP Model)

Costs

Integrated Analytics

Case Mapping
Study > Scenario >
Decisions > Choices

DELFI
Store

Evaluation

Demonstration

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Commercial Production Optimisation

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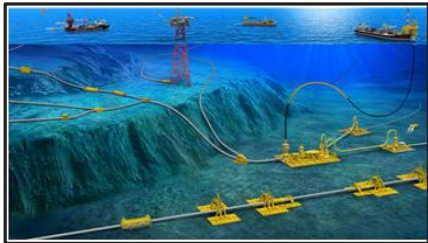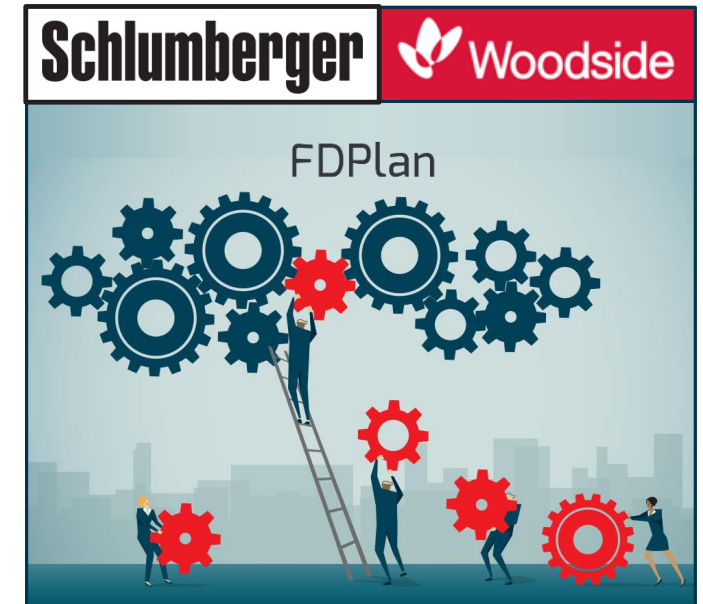
Instant Economics

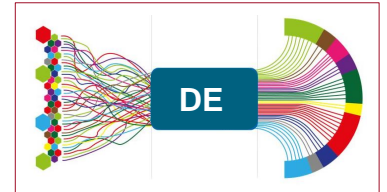+ Organisation wide integration enables instant economics evaluation.

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Technology Collaboration

+ Data Ecosystem
+ Cloud Architecture
+ Analytics
+ Detailed IPM
+ Costs
+ Commercial

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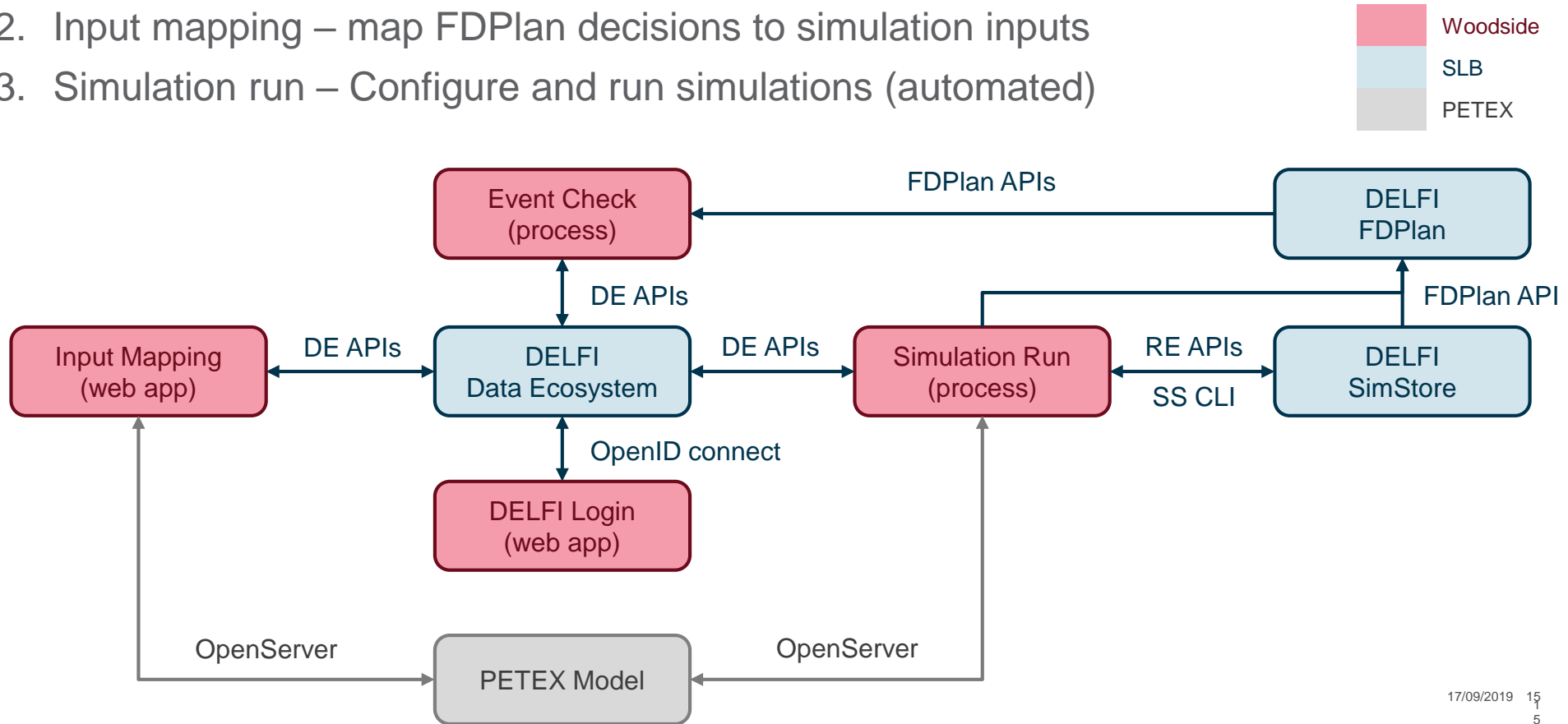
Schlumberger and Woodside Collaboration

+ **Openness -** DELFI Openness enables connectivity to third party applications and capability to consume DELFI Application Program Interface (APIs).

+ **Data Ecosystem -** DELFI Data Ecosystem is utilised to build custom automated evaluation workflows.

+ **Collaborative Framework -** FDPlan provides simplified user interface for scenario creation and evaluation.

+ **Automation -** Automated end scenario evaluation will drive rapid screening of potential development scenarios. Proof of concept achieved for automated evaluation of development scenarios through open and extensible workflow.

FDPlan Modified Workflow

Architecture

1. Event check – Check FDPlan scenarios (automated)
2. Input mapping – map FDPlan decisions to simulation inputs
3. Simulation run – Configure and run simulations (automated)

Legend:
- Woodside
- SLB
- PETEX

Diagram:

Event Check (process) ← FDPlan APIs ← DELFI FDPlan

Event Check (process) ↕ DE APIs ↕ DELFI Data Ecosystem

Input Mapping (web app) ← DE APIs → DELFI Data Ecosystem ← DE APIs → Simulation Run (process)

Simulation Run (process) ← RE APIs / SS CLI → DELFI SimStore

DELFI SimStore ↑ FDPlan API ↑ DELFI FDPlan

DELFI Data Ecosystem ↕ OpenID connect ↕ DELFI Login (web app)

Input Mapping (web app) ← OpenServer → PETEX Model

PETEX Model ← OpenServer → Simulation Run (process)

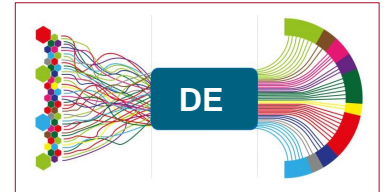# Summary

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Questions

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Backup

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