FieldTwin Design* and OLGA workflow in Equinor
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*A FutureOn data storage and visualization platform
Examples of Digitalization within different disciplines
(does not necessarily promote interdisciplinary collaboration)

Equinor: MapHub
Equinor: Well database
SLB: DELFI (OLGA, Pipesim, Eclipse)
Field development projects: Multiple databases/files for data storage

**Area specific data:**
- Bathymetry data (maps)
- Marine infrastructure data
- etc.

**Project specific data:**
- Design basis
- Fluid data
- Reservoir data / production profiles
- Well data
- SURF data
- etc.

FieldTwin Design to promote interdisciplinary collaboration

One common platform to visualize and store common project data

To share information between different disciplines working in field development projects
FieldTwin Design in Equinor

A Digital Twin for field development projects

• Data storage and visualization platform
• Screening of concepts with cost estimates
• Store system meta data to build/populate disciplines models like OLGA
• Key results from disciplines models made available in FieldTwin

Not a Digital Twin for as built systems in Equinor

However, FieldTwin supports collaboration with contractors
Promotes development of an as built Digital Twin during the engineering phase
OLGA – FieldTwin workflow
(Development project between FutureOn, Schlumberger and Equinor)

Phase 1: Released in OLGA 2021.1 and FieldTwin 6.2
• Generate single flowpaths in FieldTwin with ID and Roughness
• Import flowpath (XY coordinates, ID and Roughness) into OLGA Profile Generator

Phase 2: Start Q1 2022 – Delivery Q3 2022
• Also import of U-value and Steel wall thickness to OLGA
• Set up heat transfer key in OLGA based on U-value
• Make wall based on U-value and steel wall thickness in OLGA
• Improve OLGA Profile Generator

System data → Model data
Apply FieldTwin – OLGA workflow to Åsgard subsea compression
Apply FieldTwin – OLGA workflow to Åsgard subsea compression

FieldTwin model

5 min to import 14 wells from database

2-3 weeks to get flowlines in place

Need database also for flowlines
FieldTwin: Detailed map (green line)
As laid pipeline estimation (blue line)
Sea-bed, survey pipeline data and as laid estimated profiles

Deviations between survey and estimated as laid profiles can partly be attributed to rock dumping.
Schlumberger OLGA Flowpath Tool in FieldTwin

Sub Project 1 showing flowpaths from Plem SC-101-SC to Aasgard B through Production connections
Flowpath from FieldTwin imported into OLGA Profile Generator
OLGA Profile generator – zoomed in

New: FieldTwin

New:
D: Inner diameter
R: Inner wall Roughness
U: U-value
T: Steel wall thickness
Summary of the work process for FieldTwin-OLGA

1. Build model with system data in FieldTwin
2. Define Flowpaths in FieldTwin (can contain well and several “connections”)
3. Import of one-by-one flowpath into OLGA Profile Generator
4. Follows standard work processes in OLGA to include the Flowpaths in an OLGA model
Summary

Equinor sees FieldTwin Design as a Digital Twin for field development projects:

• A Data storage and visualization platform
• Screening of concepts with cost estimates
• Store system meta data to build/populate disciplines models like OLGA
• Key results from disciplines models made available in FieldTwin

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