Introducing Wise

Next-Generation Well Integrity Management System

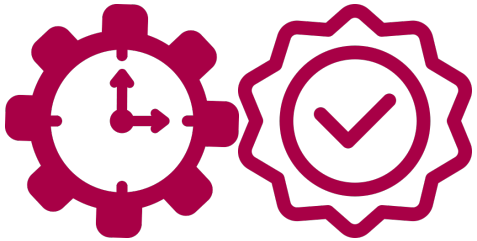
Well Integrity Seminar October 1, 2024

Background and challenges today

Barrier Management

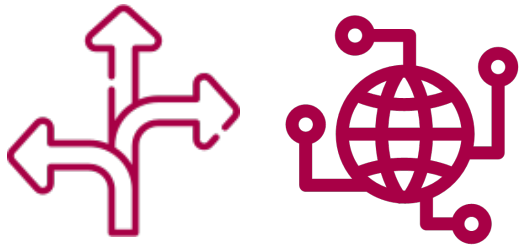
- Lacking holistic overview of barrier status for wells

Efficiency and quality



- Scheduling performed in 2 systems
- Reporting performed in 2 systems
- General dissatisfaction with the user-friendliness of the existing well integrity application
- Large differences in work processes from asset to asset
- Long wait time for existing application improvements

Flexibility and Future Proof



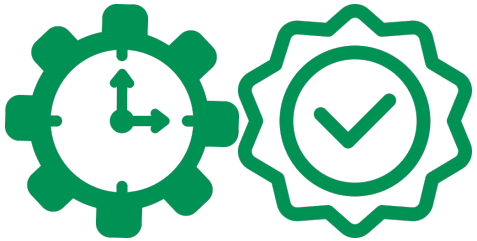
- Existing application doesn't have adequate ability to adapt to needs
- Existing application limited with ability for integration with external systems
- Not regarded as «future-proof» and thus not in alignment with digital ambitions
- Existing system has additional functionality with a long list of improvements that are not implemented

Future vision and objectives

Barrier Management

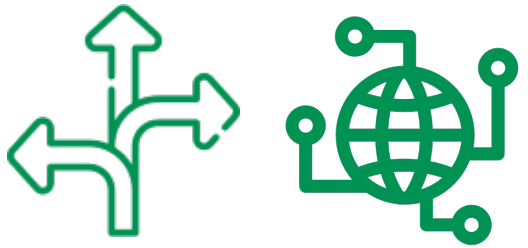
- ✓ Holistic barrier overview
- ✓ Tagging of well components
- ✓ Clear requirements for work process

Efficient / Quality

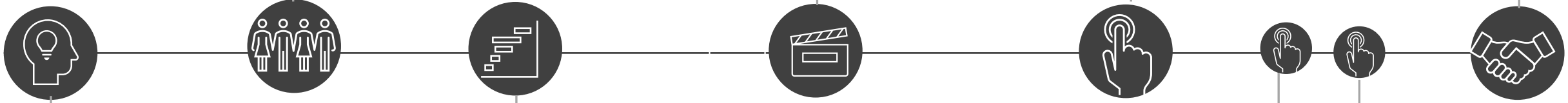


- ✓ 'Like ting likt'
- ✓ One master system for data
  - ✓ No synchronizing of 2 systems
- ✓ User friendly interface

Flexible / Future proof



- ✓ Application aligned with digital strategy and ambitions
- ✓ Flexibility and seamless integration
  - ✓ Tool with ability to talk with all types of sources
- ✓ Enabling of «use case» list



2021

CHALLENGE STATEMENT

Problem statement defining and future state

2022

A3 DEVELOPMENT

Define pre project to further refine business case. Engage stakeholders

2023

PRE-PROJECT

Project manager assigned and pre-project started

Jan 2024

KICKOFF

Project team defined and project started

End 2024

MVP

3 assets to start

1Q 2025

REMAINING

Remaining assets in groups

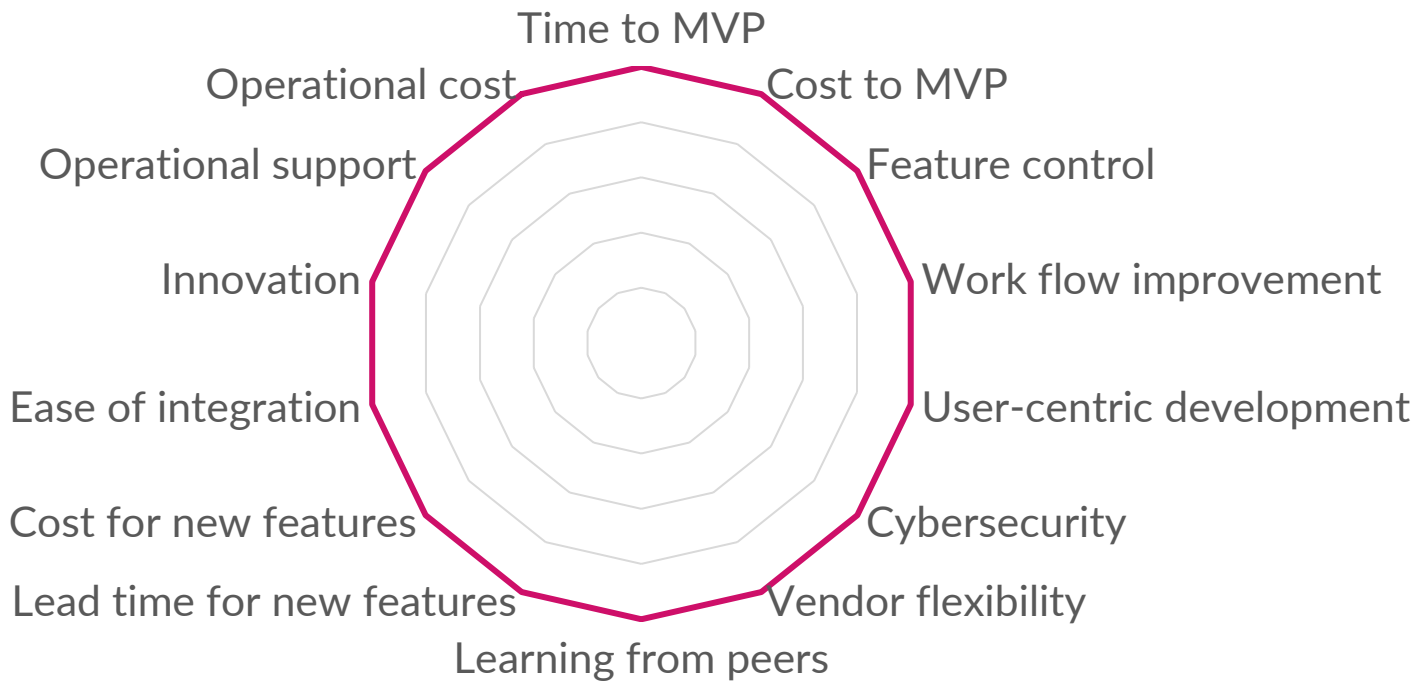
2025

PARTNERS

Criteria Ranking

Score of 1 to 5

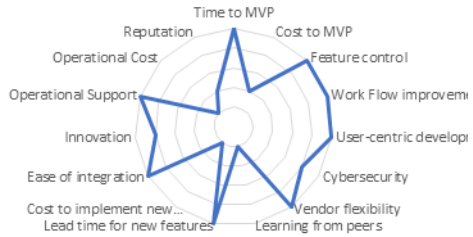
- Time to *MVP
- Cost to MVP
- Feature control
- Work flow improvement
- User-centric development
- Cybersecurity
- Vendor flexibility
- Learning from peers
- Lead time for new features
- Cost for new features
- Ease of integration
- Innovation
- Operational support
- Operational cost



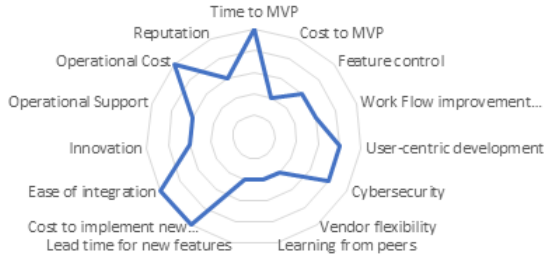
Radar plot

*MVP = Minimum viable product

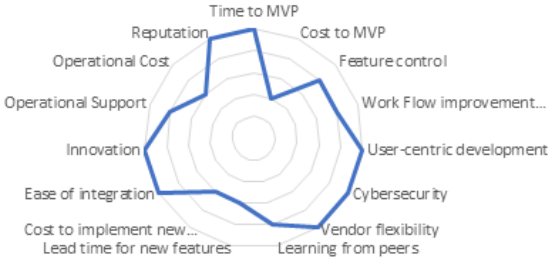
What business model to choose?



AkerBP proprietary

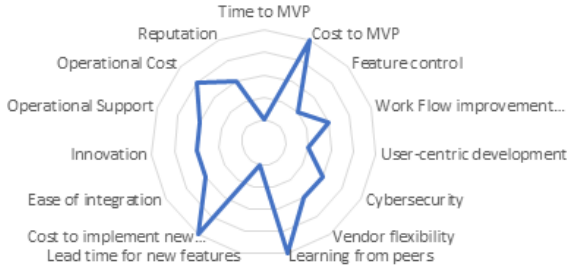


From Aker BP to commercialized

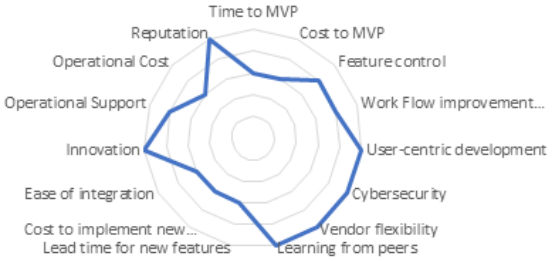


From Aker BP to partnership(s)

Commercial product



NGO initiative for NCS



Partnership

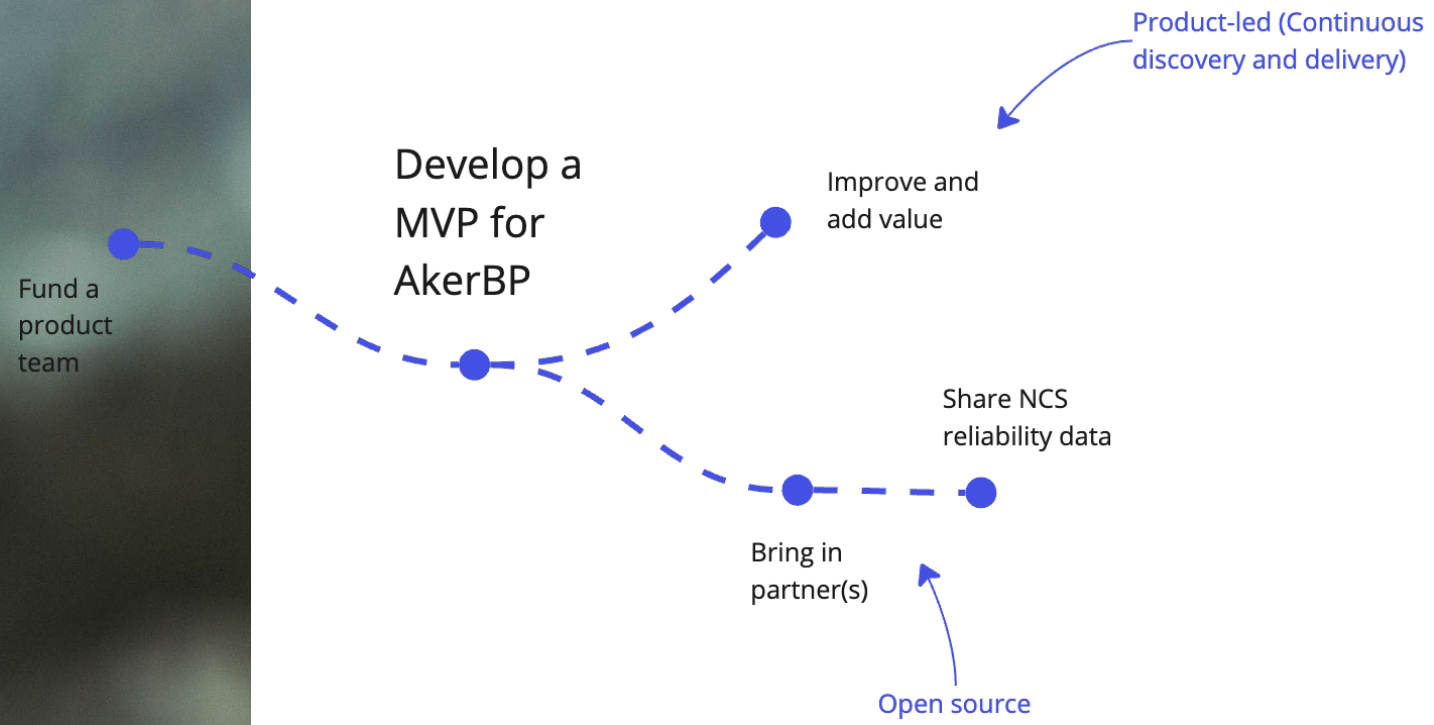
Vision

Wise guides well integrity engineers, operational personnel, and management to address the **most critical well integrity issues** and challenges on an asset, based on objective risk prioritisation.

Wise demonstrates **proactive capabilities** by recognising patterns and **freeing up time** for well integrity engineers to focus on high-priority wells. Offshore operators concentrate on efficient execution, supported by optimised test schedules and automated reporting.

Wise is used throughout the well life cycle, from concept to maintenance and P&A, becoming the **preferred tool** for accessing contextual well integrity information.

Strategy


Product-led (Continuous discovery and delivery)
Develop a MVP for AkerBP
Improve and add value
Fund a product team
Share NCS reliability data
Bring in partner(s)
Open source

Product principles

Integration

over

Duplication

Data

over

Documents

First time right

over

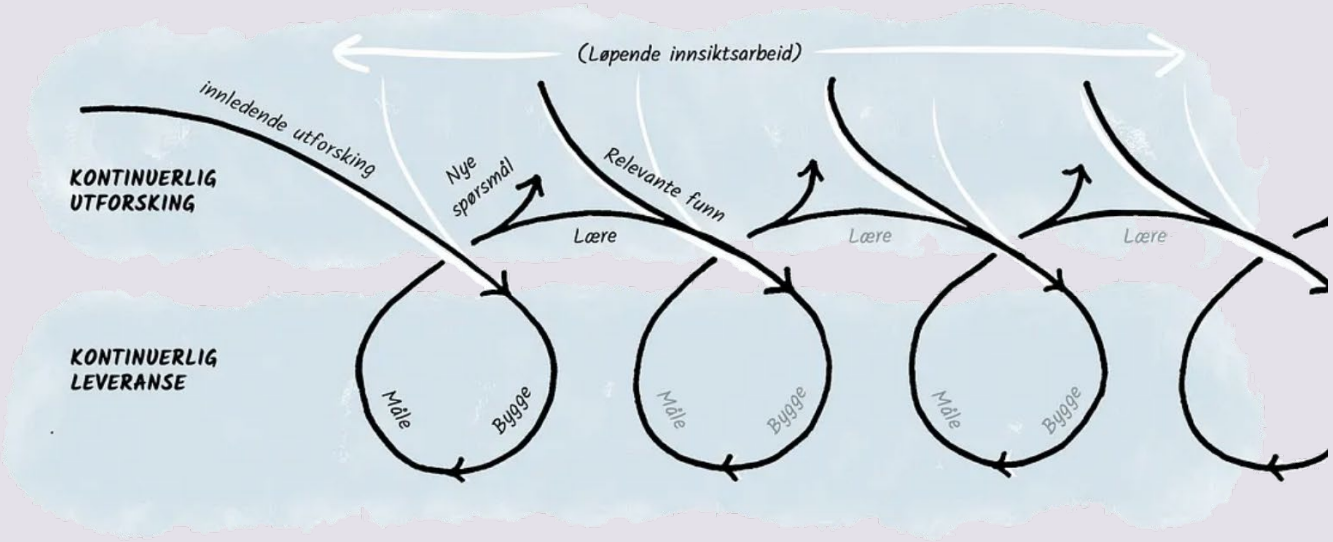
Many edits

Usability

over

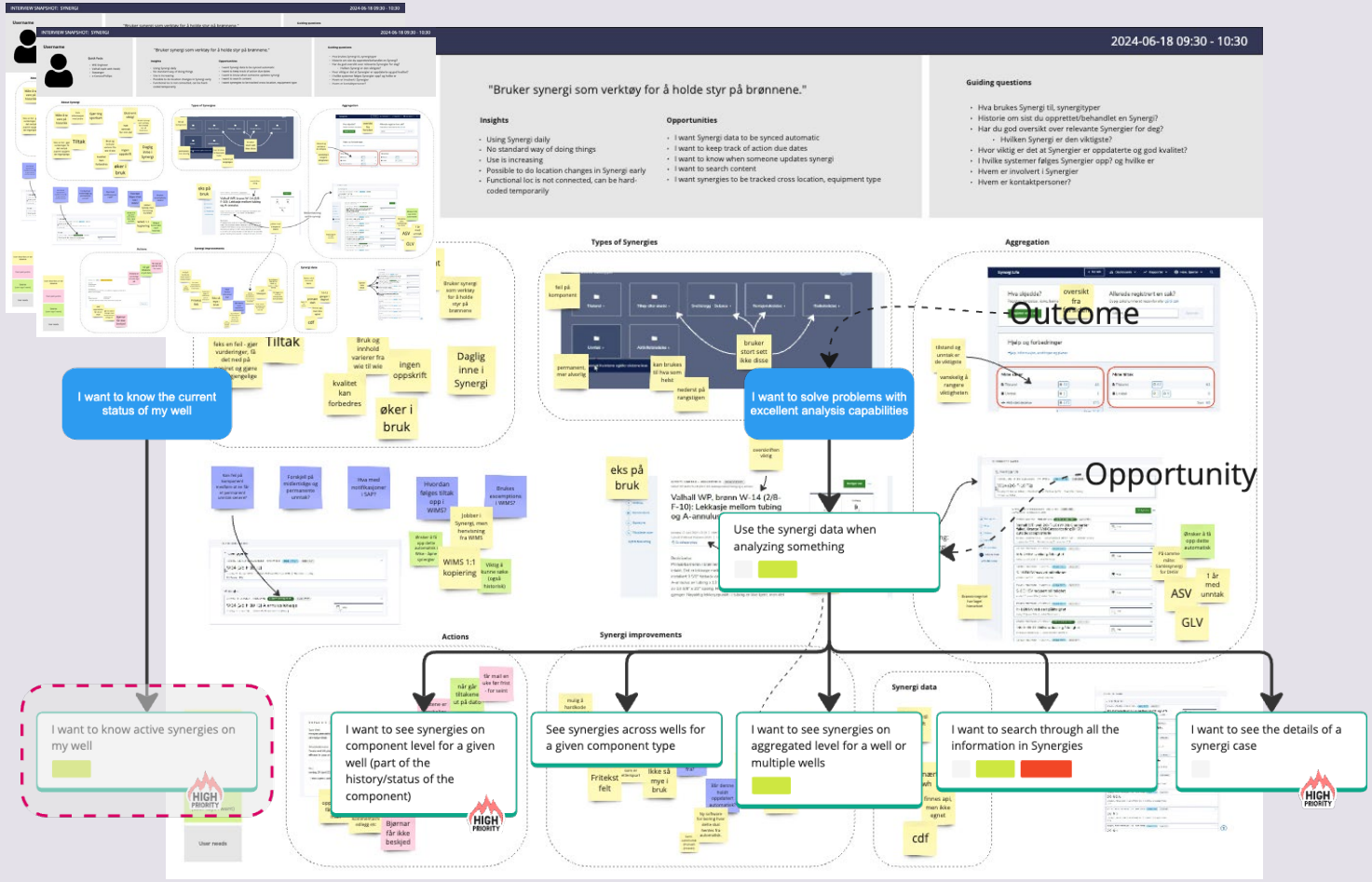
Training

How we work

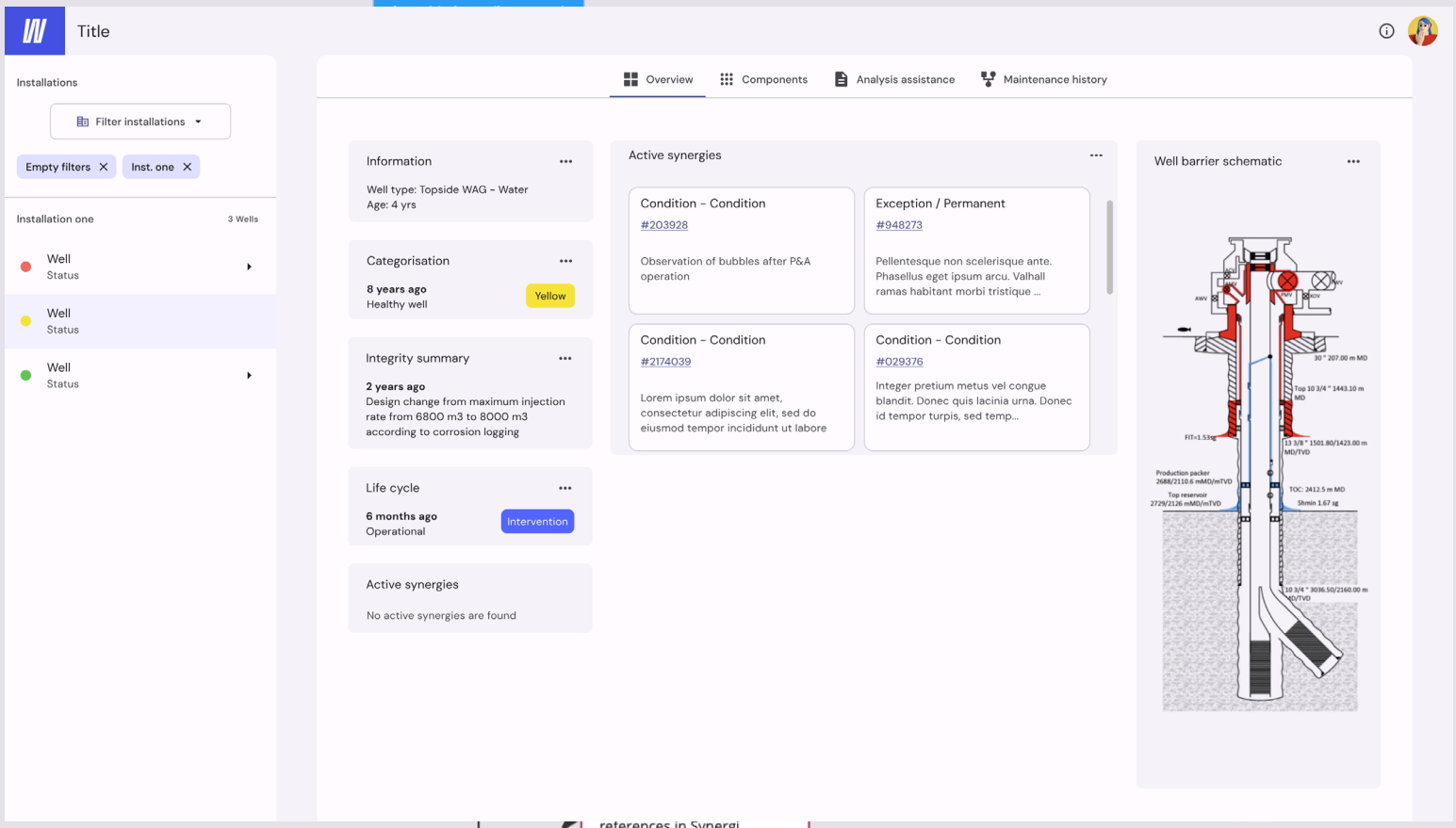


problems to solve versus *features to build*

From problem to opportunities …



… to solutions



references in Synergi

WIE wants to use functional loc in Synergi

Demo

1. Navigation
2. Wellbore status page
3. Component page
4. Adding a test result

Seamless Integrations

SAP

IDEX

COGNITE

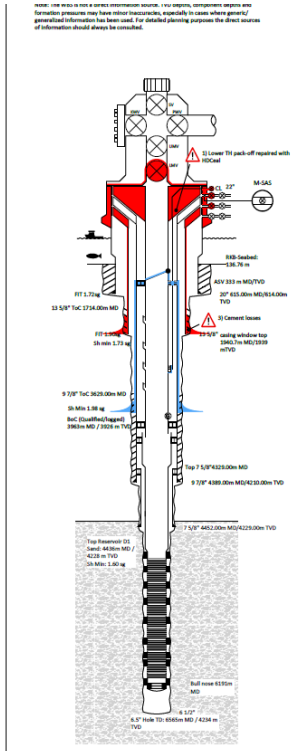
Synergi

WELLBARRIER
A Schlumberger Technology

Challenges

Parallel initiative to enable Wise

- ENS's are not 'setup' setup for well components!
  - Engineering numbering system
- Lack of tags in maintenance management system (SAP)
- Defining which well components to tag (and how)
- Defining what are the documents we require
  - Technical document system
- Contracts
  - Getting documentation from Vendor to Projects (NEW WELLS)
- OLD WELLS – Getting documentation into technical document system
- Defining/updating steering documentation
- Moving from documentation model to data model



Gaslift

Barriers against reservoir

As built - Active

Primary barrier elements

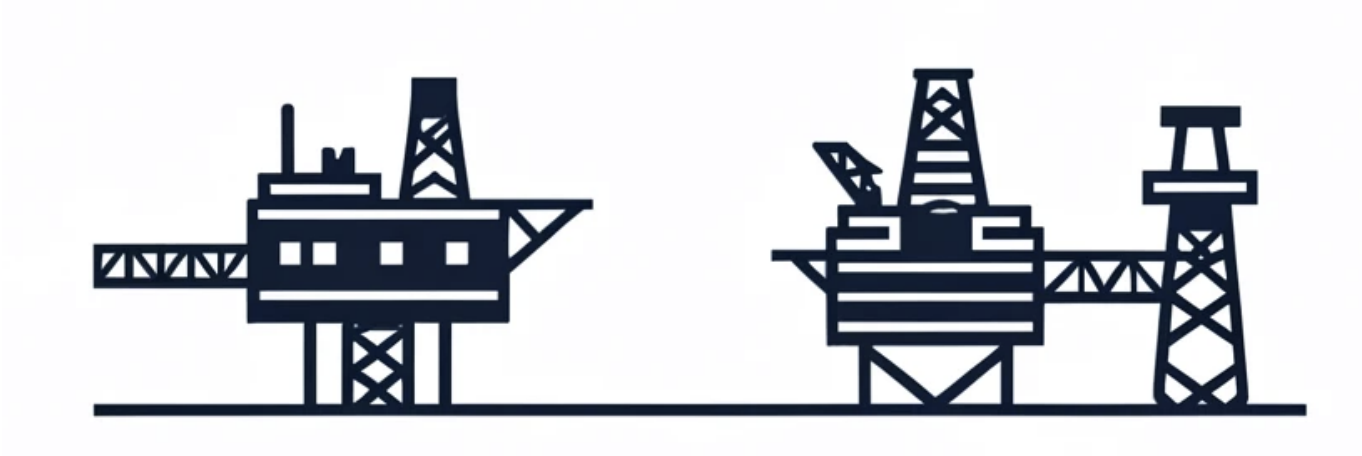
Element	Qualification	Monitoring	
Downhole safety valve @ 293 m MD/TVD (EAC 8)	Inflow test to 60 / 265 bar w/1.0 sg Packer Fluid (03.04.2021)	Tubing pressure	
Annulus safety valve @ 333 m MD/TVD (EAC 9)	Inflow test to 60/ 265 bar w/1.0 sg Packer Fluid (03.04.2021)	A-annulus pressure	
CIV @ 3030/3013 m MD/TVD (EAC 29)	Pressure test to 345 bar w/1.0 sg Packer Fluid (03.04.2021)	A-annulus pressure	
Production casing (EAC 2)	Pressure test to 345 bar w/1.77 sg OBM (14.03.2021) & 300 bar w/1.0 sg Packer fluid (31.03.2021)	B-annulus pressure	
Production casing cement (EAC 22)	Isolation scanner (3836 - 3963 m MD)	B-annulus pressure	
Formation (in-situ) @ 3963/3926 m MD/TVD (EAC 51)	Sh min: 1.98 sg (762 bar)	Not accessible	

Secondary barrier elements

Element	Qualification	Monitoring	
Surface x-mas tree (EAC 33)	Pressure test to 345 bar w/1.032 sg SW (08.04.2021)	Periodic testing	
Tubing hanger @ 45 m (EAC 10)	Pressure test TH Void to 448 bar w/hydraulic oil (08.04.2002) & TH pack-off to 345 bar w/hydraulic oil(08.04.2021)	Periodic pressure testing - Degraded lower TH pack-off (Note 1)	
CIV Control line exit (EAC 33)	Pressure test to 300 bar w/1.05 sg Transaqua HT2N (04.04.2021)	A-annulus pressure	
Wellhead annulus access valve (EAC 12)	Pressure test to 20/ 345 bar (08.04.2021)	Periodic pressure testing	
Wellhead (EAC 5)	Pressure test to 345 bar w/1.77 sg OBM (14.03.2021) & 300 bar w/1.0 sg Packer fluid (31.03.2021)	External observation	
Casing hanger (EAC 5)	Pressure test to 345 bar w/1.69 sg OBM (01.03.2021)	A-annulus pressure	
Intermediate casing (EAC 2)	Pressure test to 345 bar w/1.69 sg OBM (01.03.2021)	B-annulus pressure	
Intermediate casing cement (EAC 22)	Losses, not logged.	B-annulus pressure - Losses (Note 3)	
Formation (in-situ) @ 1941/1939 m MD/TVD (EAC 51)	Sh min: 1.73 sg (329 bar)	Not accessible	

One barrier degraded

Do you want to be a part of future building of Wise?



AkerBP

bouvet

Contact Michelle…