



human energy®

Delivering digital well designs faster, through dynamic subsurface model integrations

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September 2022

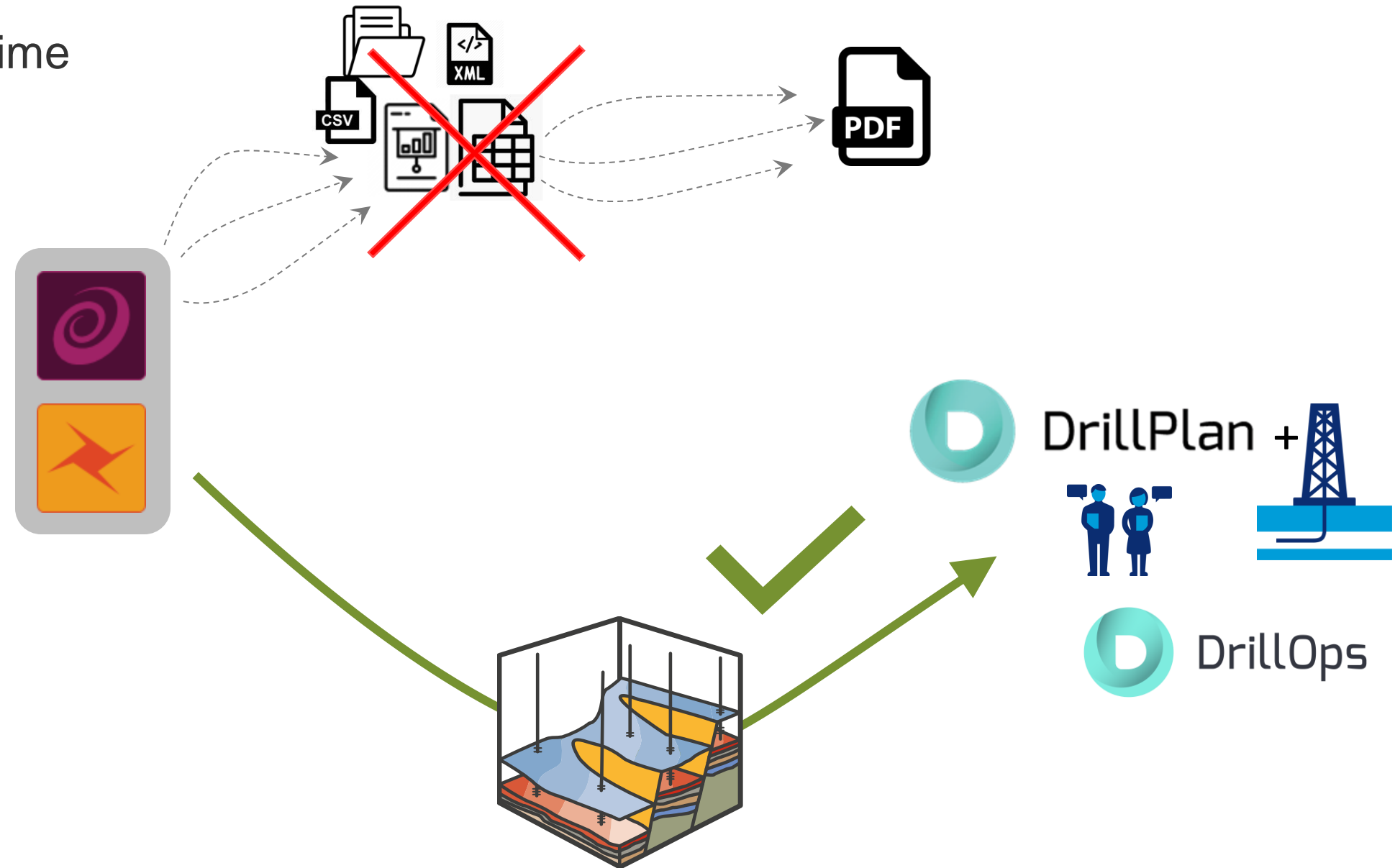
integrated well planning workflows

Problem – Data handling wastes time & decreases model fidelity

- Static and unique exports
- Slow iteration processes
- Hamstrung collaboration

Solution – Integrations via a centralized model with a shared planning space

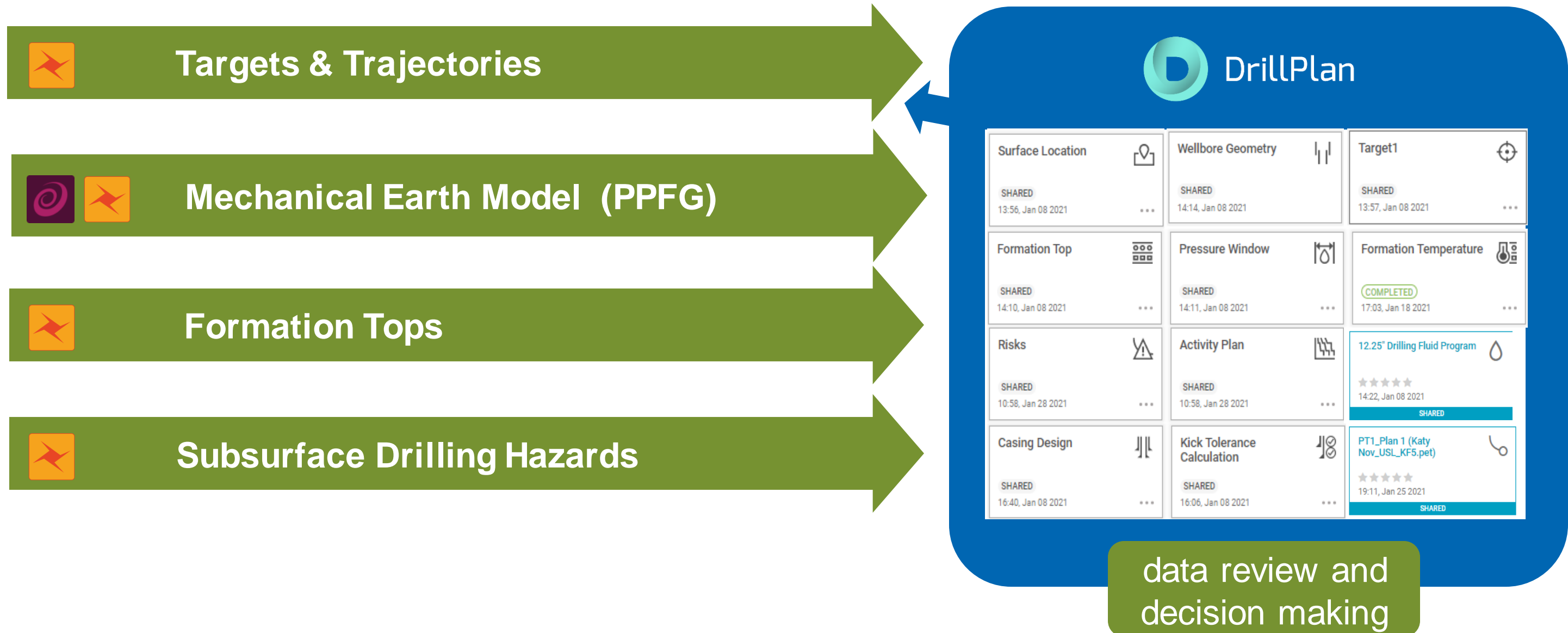
- Faster well planning processes
- Users focus on design and safety



integrated well planning workflows

Subsurface

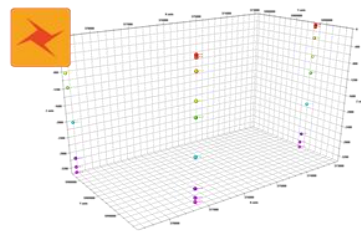
Wells



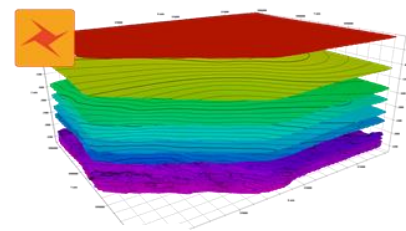
integrated well planning workflows

Formation Tops

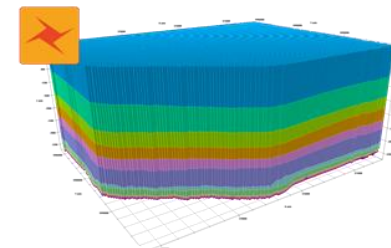
Well Tops/Markers



Surfaces



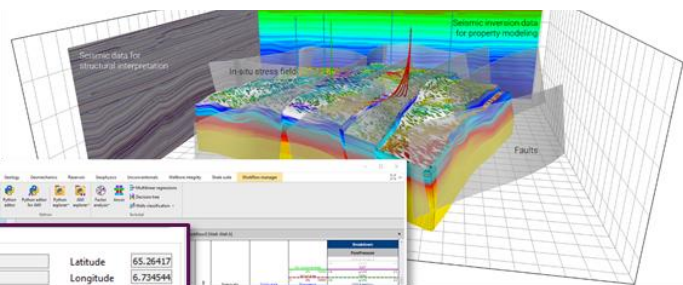
Grids



Trajectories & Targets
direct connect (non-OSDU)



MEM / PFFG



MEM Ingestion

Name: Well A Latitude: 65.26417
 Client: Centrica Resources (Norge) AS Longitude: 6.734544
 CRS: Valid Area: 0 m

DrillPlan Well	Client	Created On
<input type="checkbox"/> Coniston 10H	Demo	3/10/2021 9:58 AM
<input type="checkbox"/> FG-test	sib	7/13/2020 3:26 PM
<input checked="" type="checkbox"/> Well_nest	AbTC	1/22/2021 8:37 AM
<input type="checkbox"/> York G01	Demo	3/10/2021 11:24 AM
<input type="checkbox"/> York G17	Demo	3/10/2021 10:38 AM

OSDU

Geomechanics Insights

DrillPlan

Subsurface Hazards



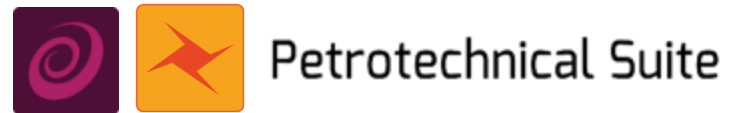
ID	Name	Type	Category	Depth (m)	Pressure (MPa)	Temperature (°C)	Stress (MPa)	Strain (%)	Failure Mode
1	Well A	Production	Oil	1000	10	30	10	0.5	None
2	Well B	Production	Oil	1200	12	35	12	0.6	None
3	Well C	Production	Oil	1400	14	40	14	0.7	None
4	Well D	Production	Oil	1600	16	45	16	0.8	None
5	Well E	Production	Oil	1800	18	50	18	0.9	None
6	Well F	Production	Oil	2000	20	55	20	1.0	None
7	Well G	Production	Oil	2200	22	60	22	1.1	None
8	Well H	Production	Oil	2400	24	65	24	1.2	None
9	Well I	Production	Oil	2600	26	70	26	1.3	None
10	Well J	Production	Oil	2800	28	75	28	1.4	None



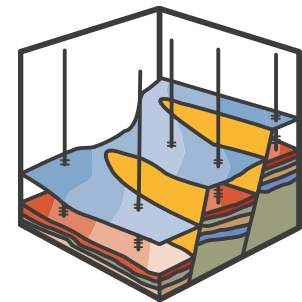
UCR 1H-2023

integrations cut data share effort by >75%
the fastest Chevron well planning ever

4 well pad example



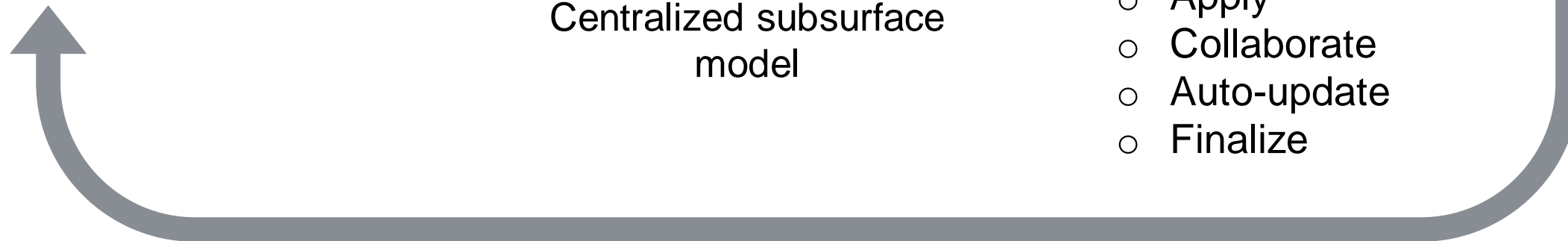
- 1 upload of targets & trajectories
- 1 sub-regional MEM
- 1 formation top model
- 1 study of hazards



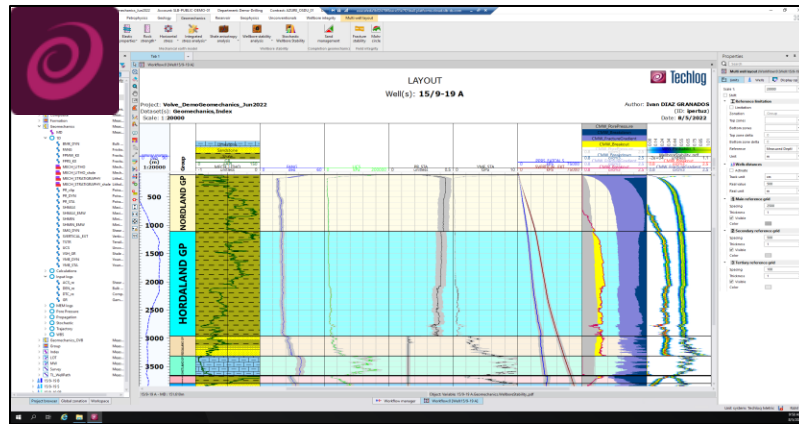
Centralized subsurface
model



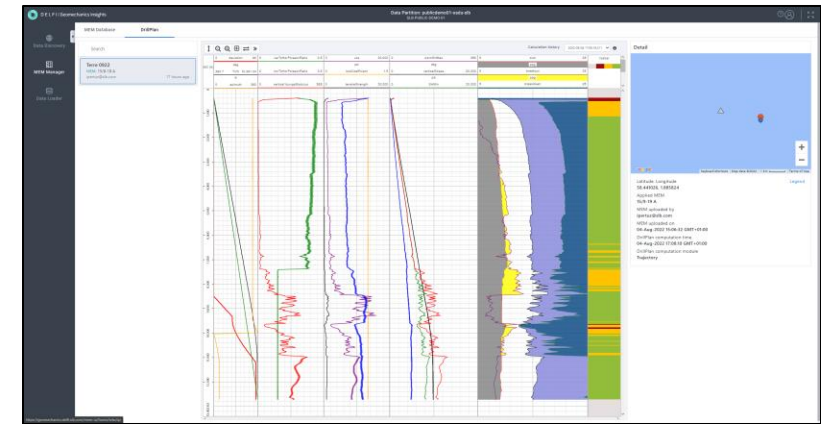
- Apply
- Collaborate
- Auto-update
- Finalize



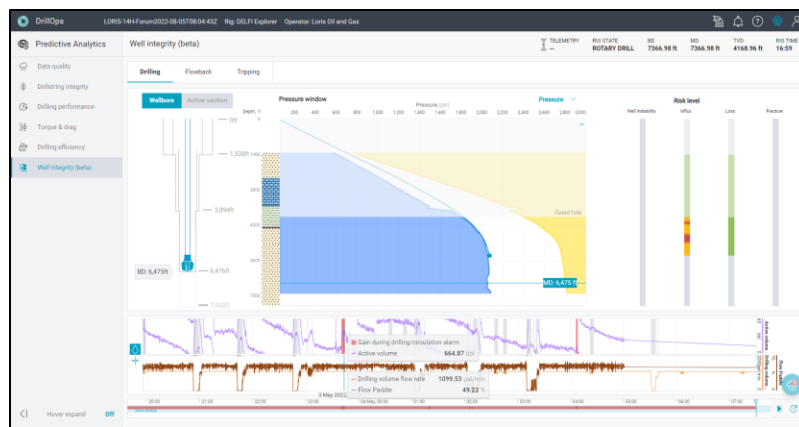
closed-loop workflow



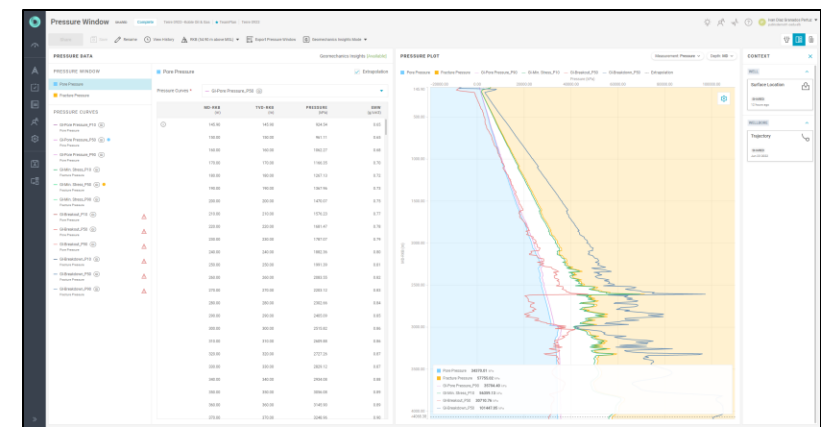
 DELFI | Petrotechnical Suite



 Geomechanics Insights



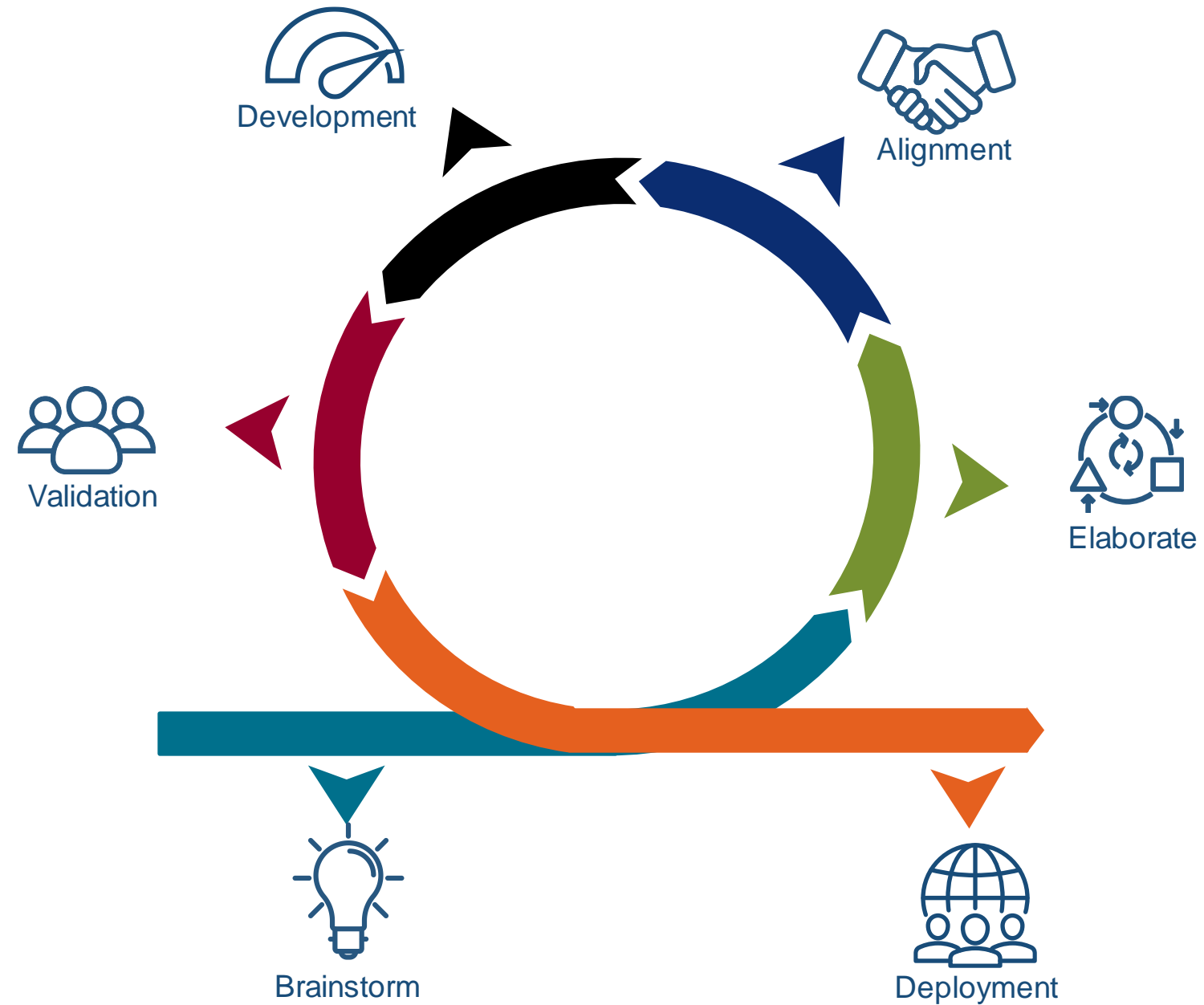
 DrillOps



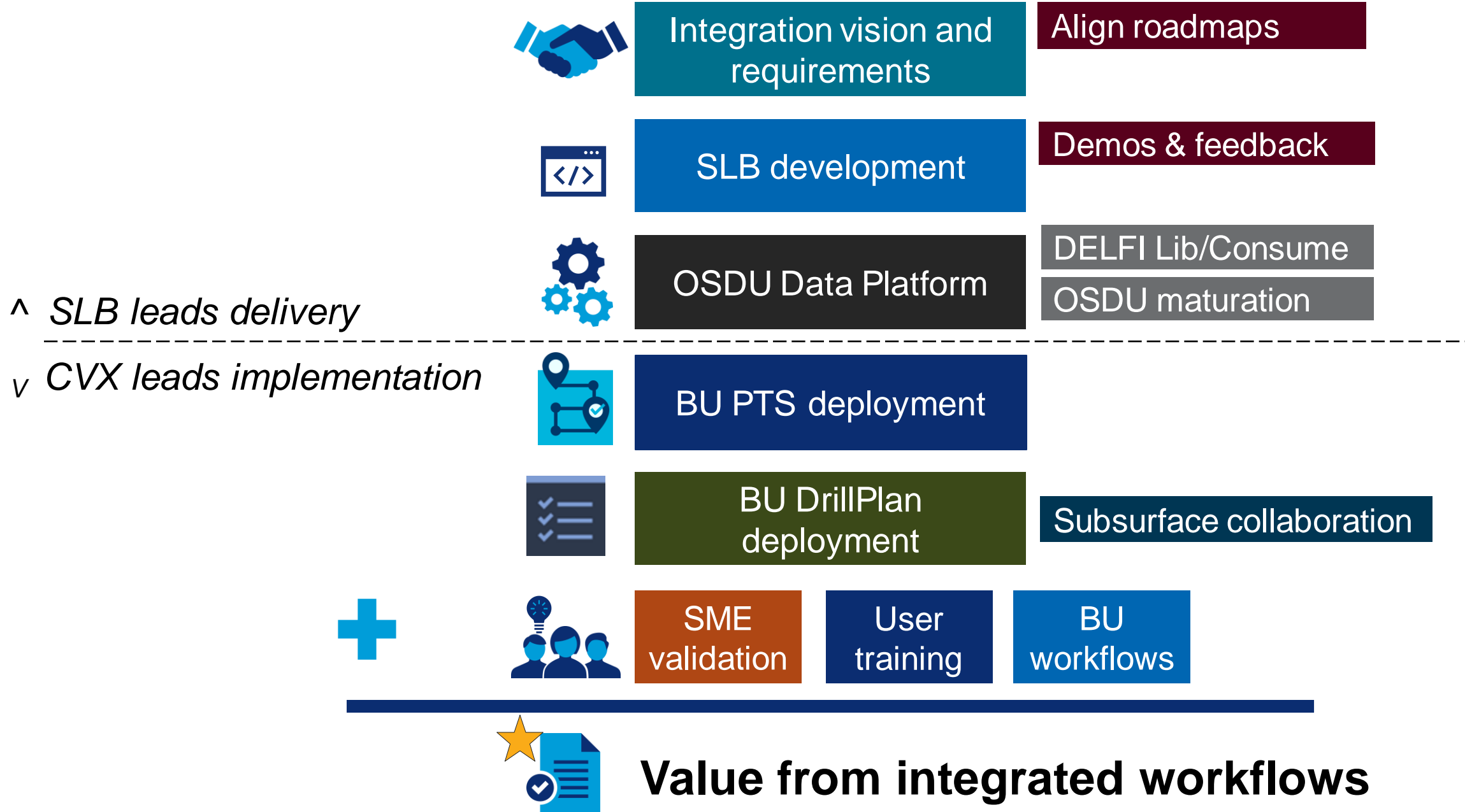
 DrillPlan



workflow development cycle



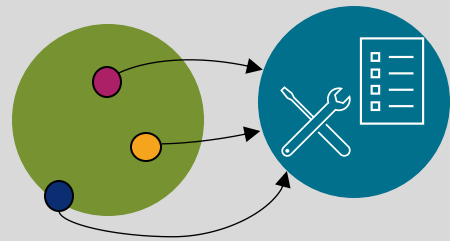
Integration partnership and dependencies



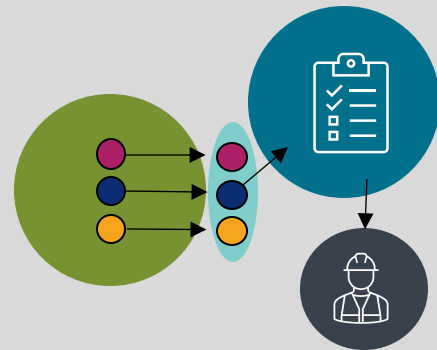
integration vision

accelerating the data foundation and expanding possibilities

Today
↓



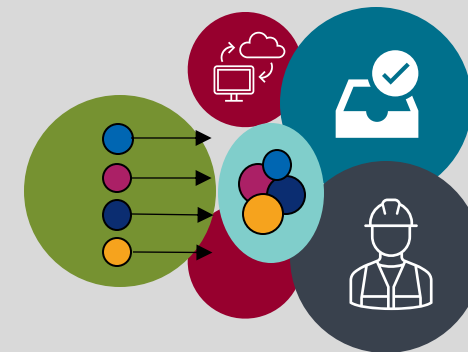
connect



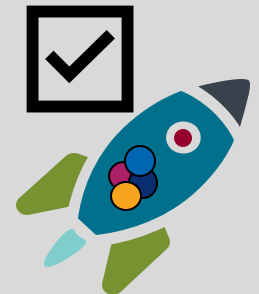
liberate &
integrate



expand & couple
integrations

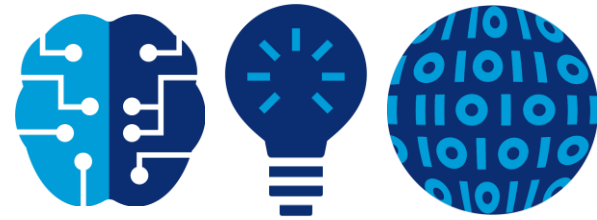


augment &
optimize



automate

OneTeam well planning



central data model



partnered
development



enabling our
people



the future, faster

the future is liberated, the future is integrated