VISCO

VCOG

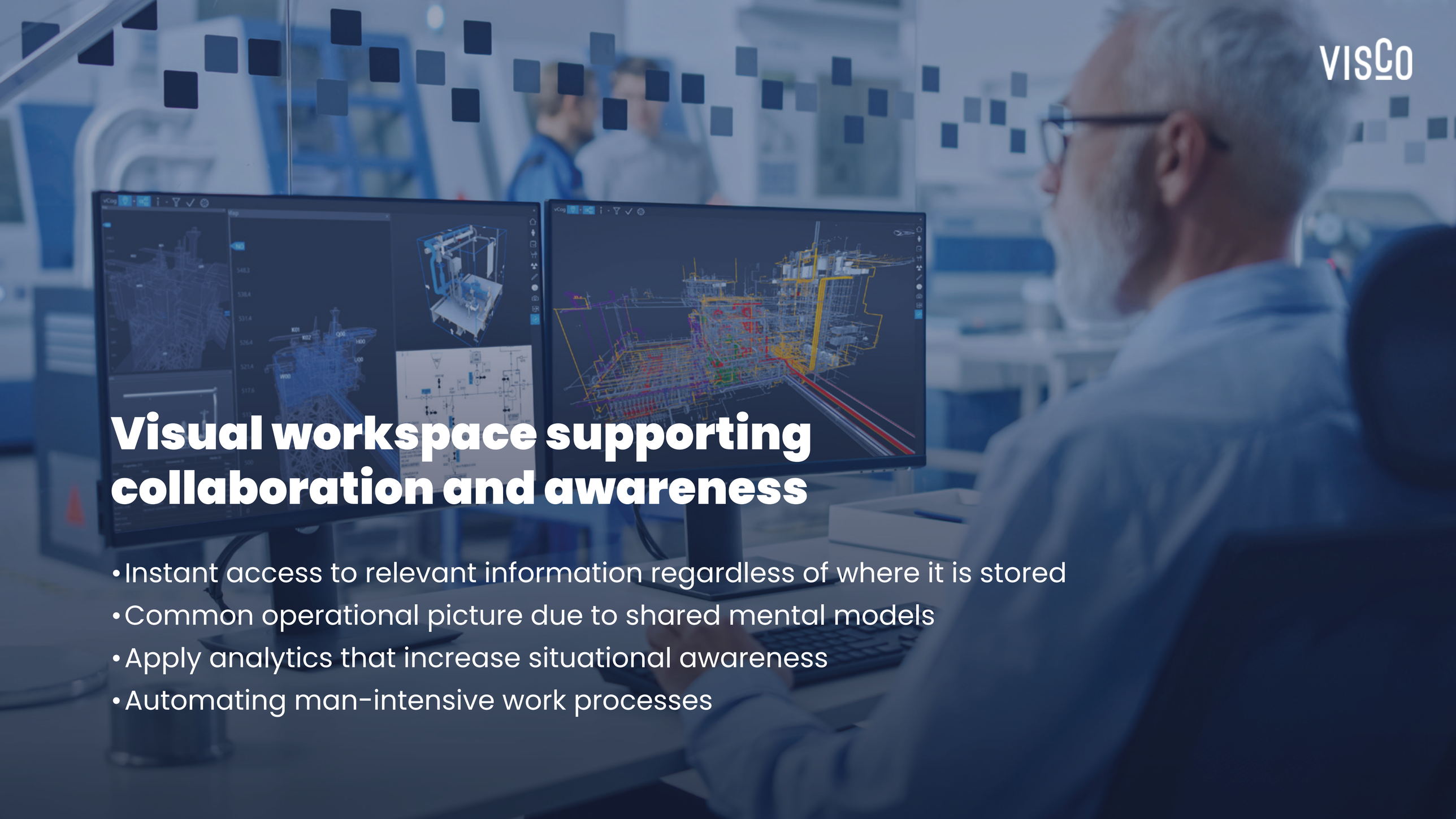
DYNAMIC DIGITAL TWIN SOLUTION

Our definition of Digital Twin for Owner – Operators

A Visual Environment Connected to Relevant Data

presented

with the purpose of providing Instant Insight
Increasing Safety, Driving Efficiency And Reducing POB



Visual workspace supporting collaboration and awareness

- Instant access to relevant information regardless of where it is stored
- Common operational picture due to shared mental models
- Apply analytics that increase situational awareness
- Automating man-intensive work processes

Improve work processes with Discipline Specific COGs

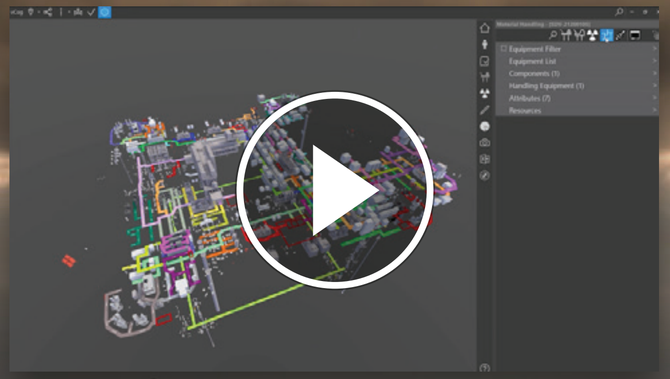
- Commissioning
- Material Handling
- Eq & Skid Packages
- Risk Based Assessment
- Isolation & Shutdowns
- Work-Orders & SJA
- Spare-part handling
- Interventions
- Deck Management
- Work Permits
- Surveillance
- Inspection
- SIMOPS
- Logistic
- Process
- IMR

Supports specific Role-Based Units in planning, familiarization, execution and monitoring with Fit-For-Purpose visualization and relevant data for the job.

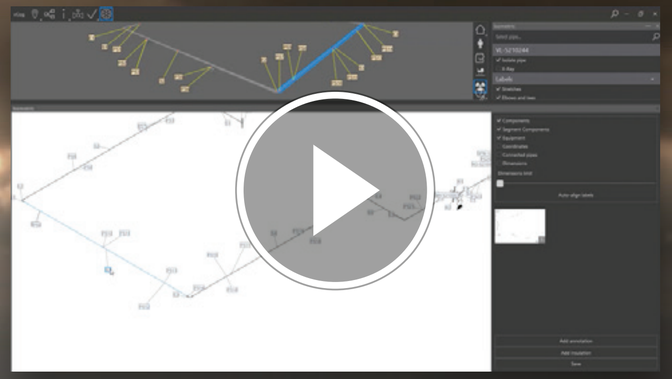
pls see "COGs for VCOG.pdf" for details

Videos

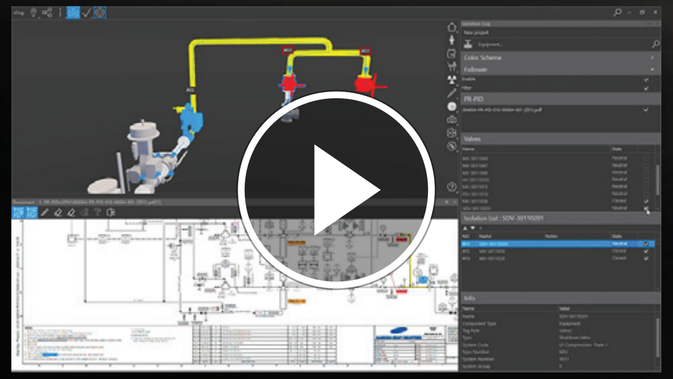
Subsea examples



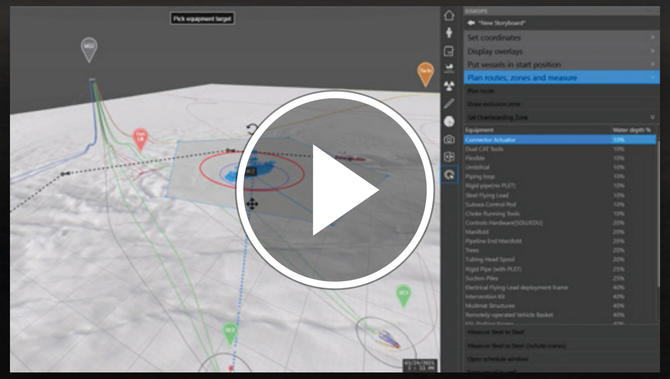
Material Handling COG



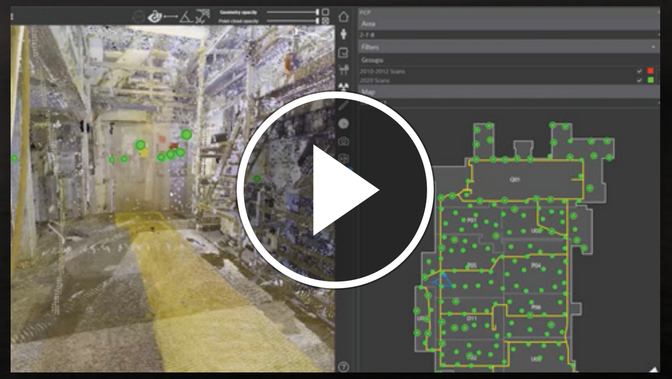
Isometric COG



Isolation COG



SIMOPs Cog explained



PCP Cog explained

What do the users say about vCog?

“Finding position of a subsea valve took me less than a minute in VCOG compared to 45 minutes(+) with our conventional solution”

Oliver Harding
HW Lead Shell

“Inspection: A generic Inspection task including check of 49 valves was according to SAP estimated to 13.5 hour was done in 50 minutes with VCOG.”

Trond Netland Jacobsen
Materials & Inspection | Sr. Inspection Engineer – EKOJ – ConocoPhillips

“Using the Dynamic Digital Twin, this work went from the not-common half an hour to just under three minutes (and that includes the time I took to note my progress)”.

Eric Andersen
Area Authority | BP Argos

“You don’t now how good it is. It’s magic and it helps me in my everyday job”

Ørjan Hoff
Senior Facilities Engineer, Vår Energi AS

“VCOG is transformational and is helping us perform better during project execution, but also in life of a field”

Torgeir Gjersvik
Principle System Engineering, TechnipFMC

“The simplicity of accessing information about equipment with just a click or two is extremely impressive. Offshore maintenance planner position will be transitioning to onshore.”

J.R. Johnson
Maintenance Planner | BP America

Turnkey Execution Strategy

Background: VCOG Digital Twin solution is a leading application in the Owner-Operator domain. Visco has implemented Digital Twin solutions for several major companies. Visco understand the difference in complexities between Surface, Subsea and Sub-Surface installations and have gained experience in their design and roll out.

Our recommentations

PoC and Pilot: To step by step identify costs, benefits, and deployment strategy for a VCOG solution from basic DT through to operations including integration with your IT infrastructure. Expected duration 8 weeks.

Strategy: Visco can help developing a roadmap based on your current digital maturity to optimize existing assets and identify opportunities for cost savings and productivity enhancement

Implementation: Establish a visual environment deeply integrated with underlying data systems. COGs supporting specific mission critical operations are configured together with your SMEs. VCOG Basic is ready within 8-12w assuming high digital maturity. Visco offer Data Cleansing services and 3D modelling for low maturity assets.

Onboarding: We ensure all stakeholders are properly prepared and comfortable operating VCOG.
Follow-Up: SLA that suits your needs, evergreen assets and support for end-users/technical people.
Rollout: Reuse and continuously improve existing transformation and deploy prioritized assets in a fast-track manner.

vCog is delivered as a Turn-key solution

1

vCog Setup

Per Field: Start-up fee
+ free viewer

2

Optional Cogs

Per Cog pr Facility:
Start-up fee + yearly subscription.
Unlimited use

3

Onboarding

Support
Training
Tutorials

4

Follow-up

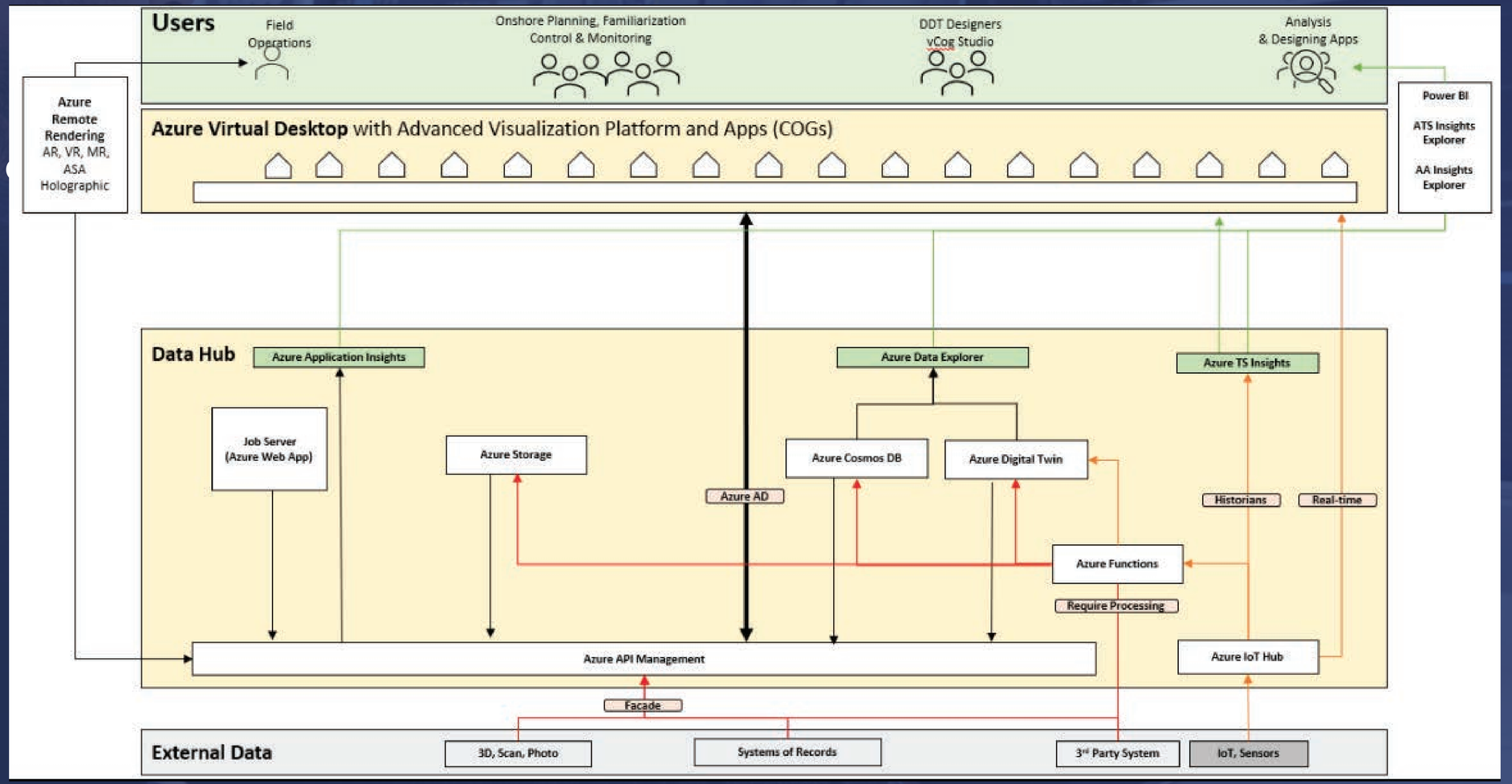
Keep asset as agreed

SLA according to agreement

Architecture

vCog lives inside your cloud environment

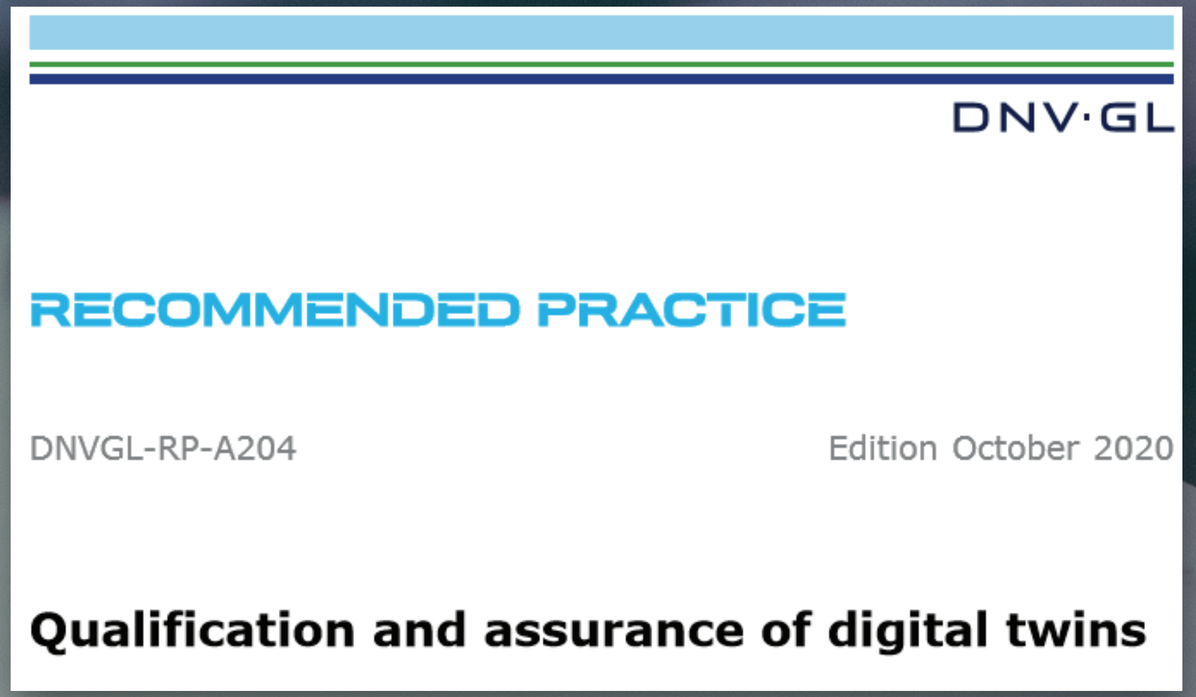
making it easy to connect sensitive data to the visual environment



Different Owner-Operators have different preferences. We recommend Azure hosting environment residing on the inside of our client's firewall. It can also run on a local PC.

Industry Standard

DNV has verified VCOGs “New Way of Working”


DNV·GL

RECOMMENDED PRACTICE

DNVGL-RP-A204 Edition October 2020

Qualification and assurance of digital twins

References

BP

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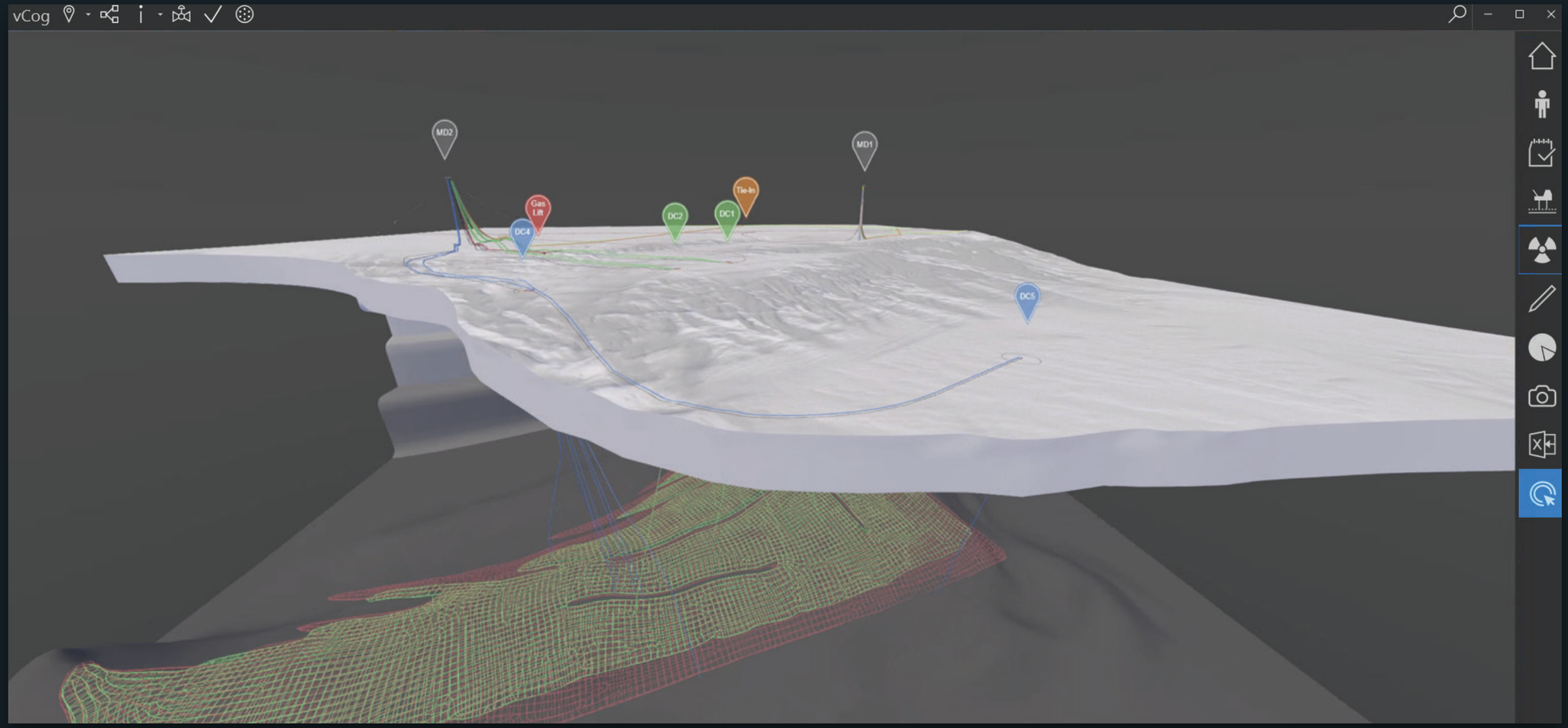
Case Studies

Conoco Phillips – Ekofisk and Eldfisk - Brownfield

Basic setup: 2 field with 10 platforms and subsea field

Case Studies

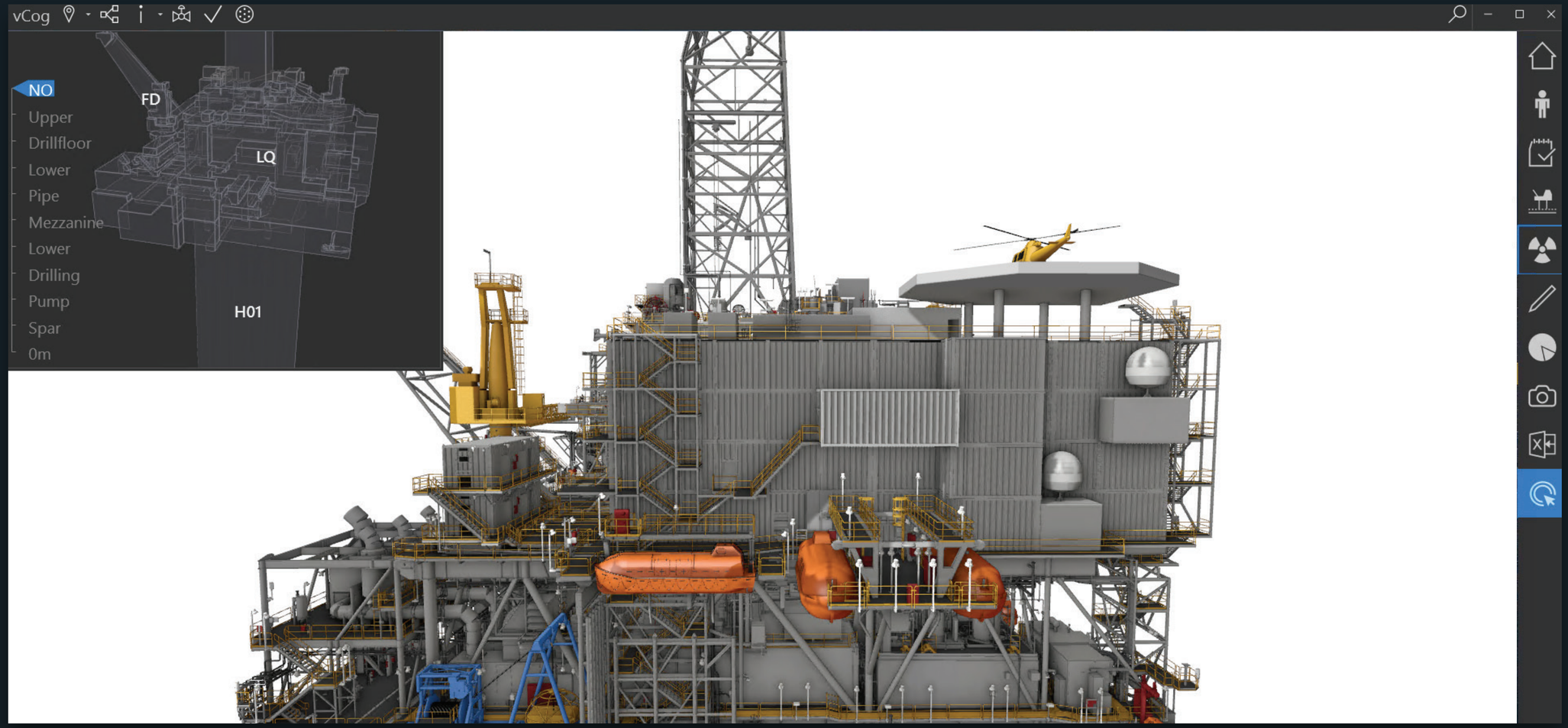
BP - Mad Dog 2 - Greenfield



Basic setup: Surface, Subsea & Sub-surface. COGs: 16 in production, 3 WIP

Case Studies

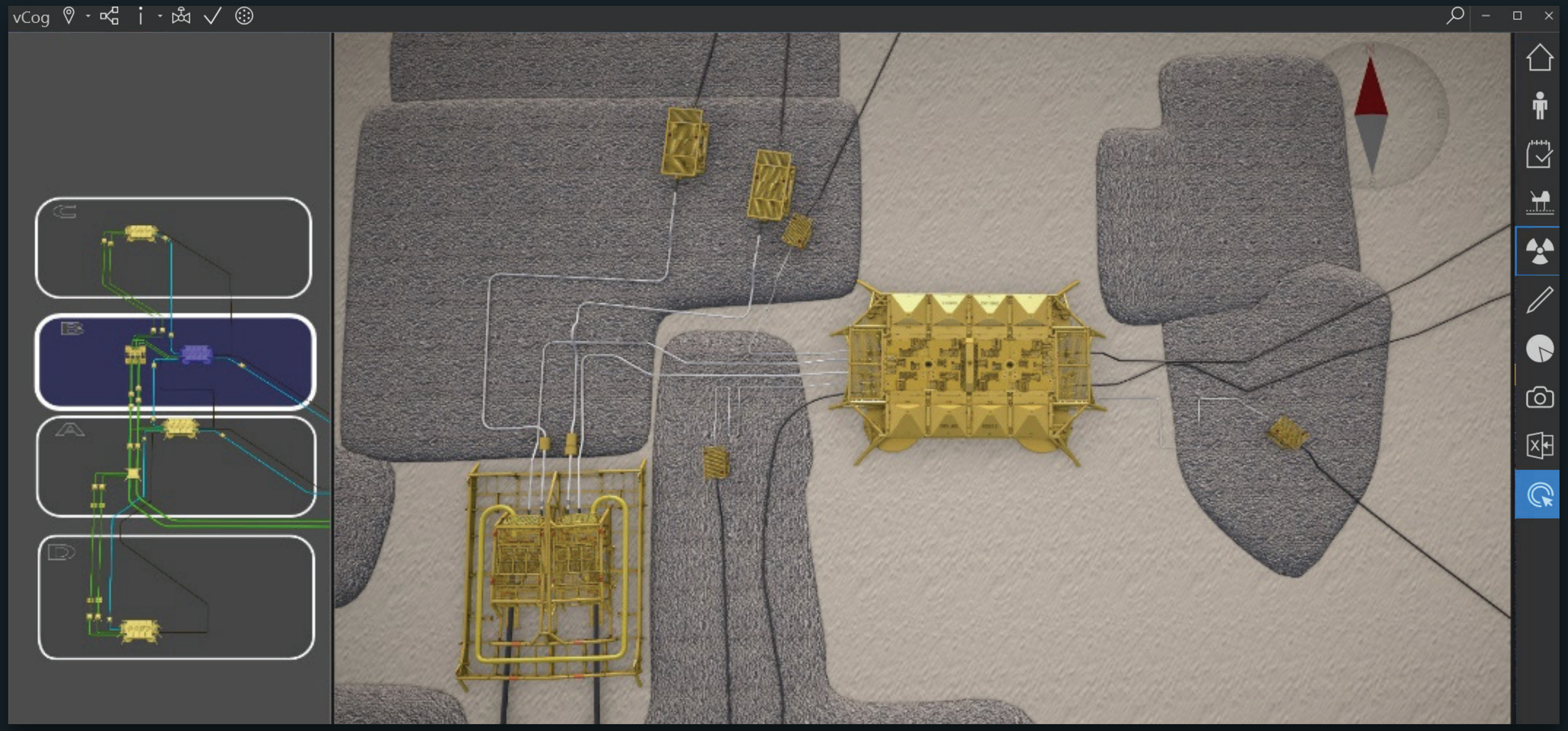
BP - Mad Dog 1 - Brownfield



Basic setup: Spar Platform

Case Studies

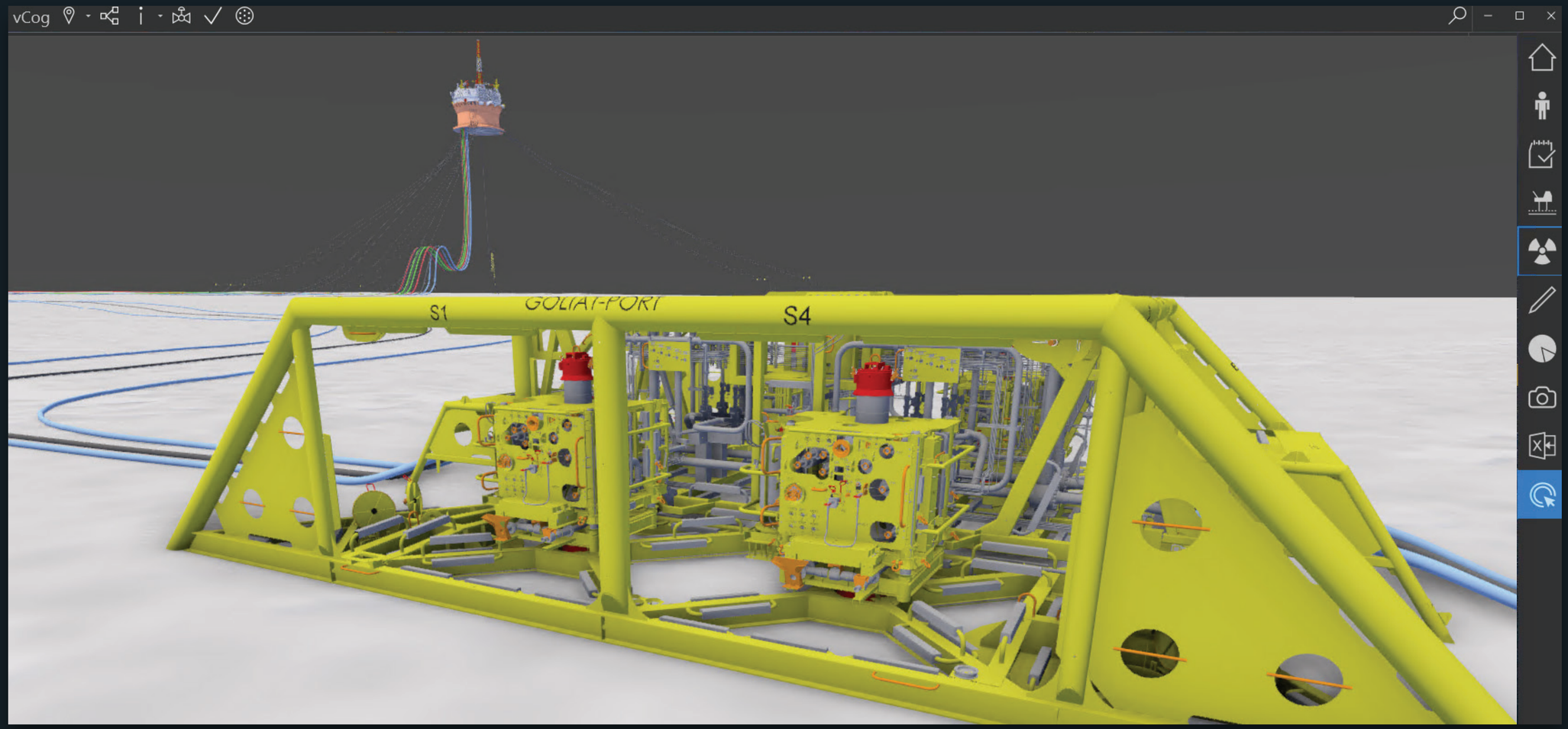
Shell - Ormen Lange - Brownfield / Greenfield



Basic setups: Entire subsea field. COGs: Simulation

Case Studies

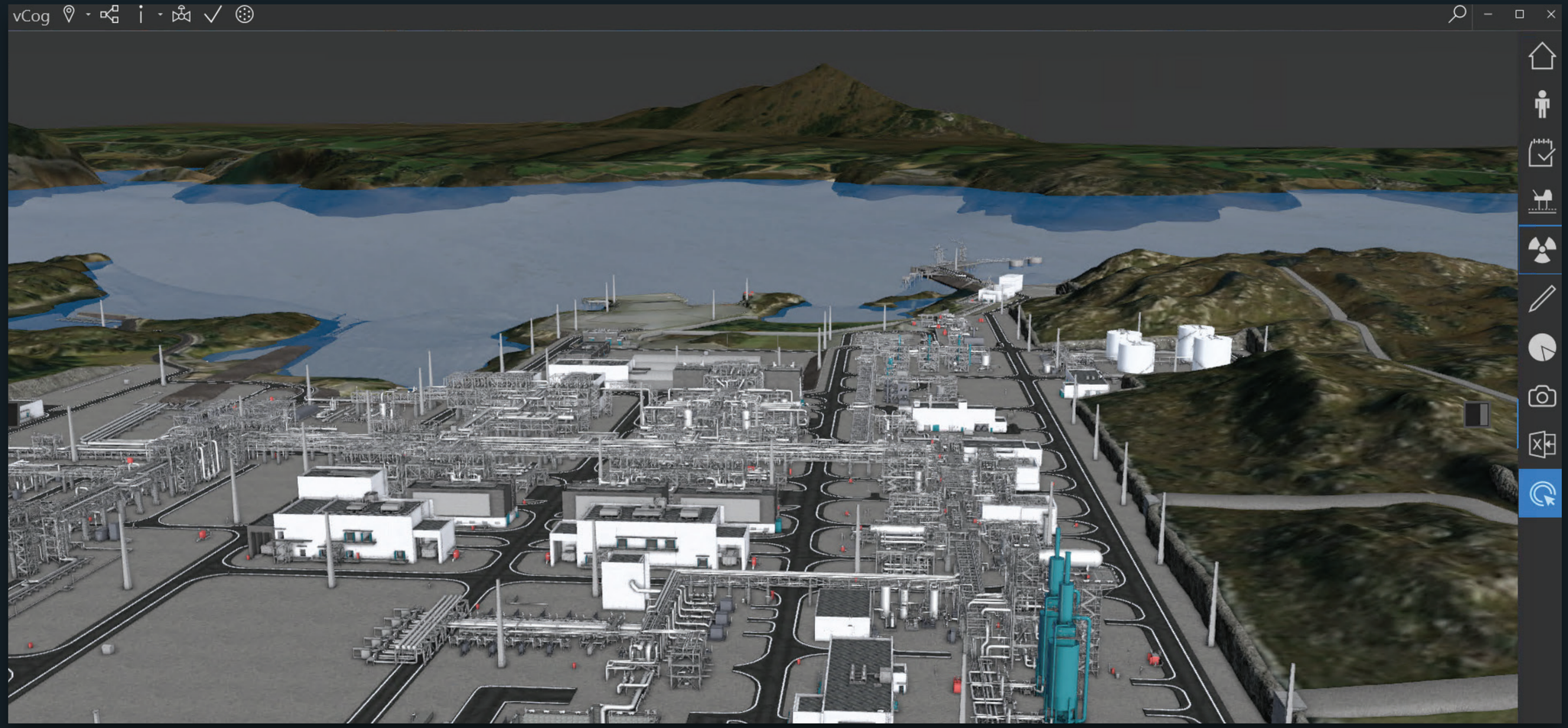
Vår Energi (ENI) - Goliat - Brownfield / Greenfield



Basic setup: FPSO with subsea field and subsurface. COGs: Work-Permit

Case Studies

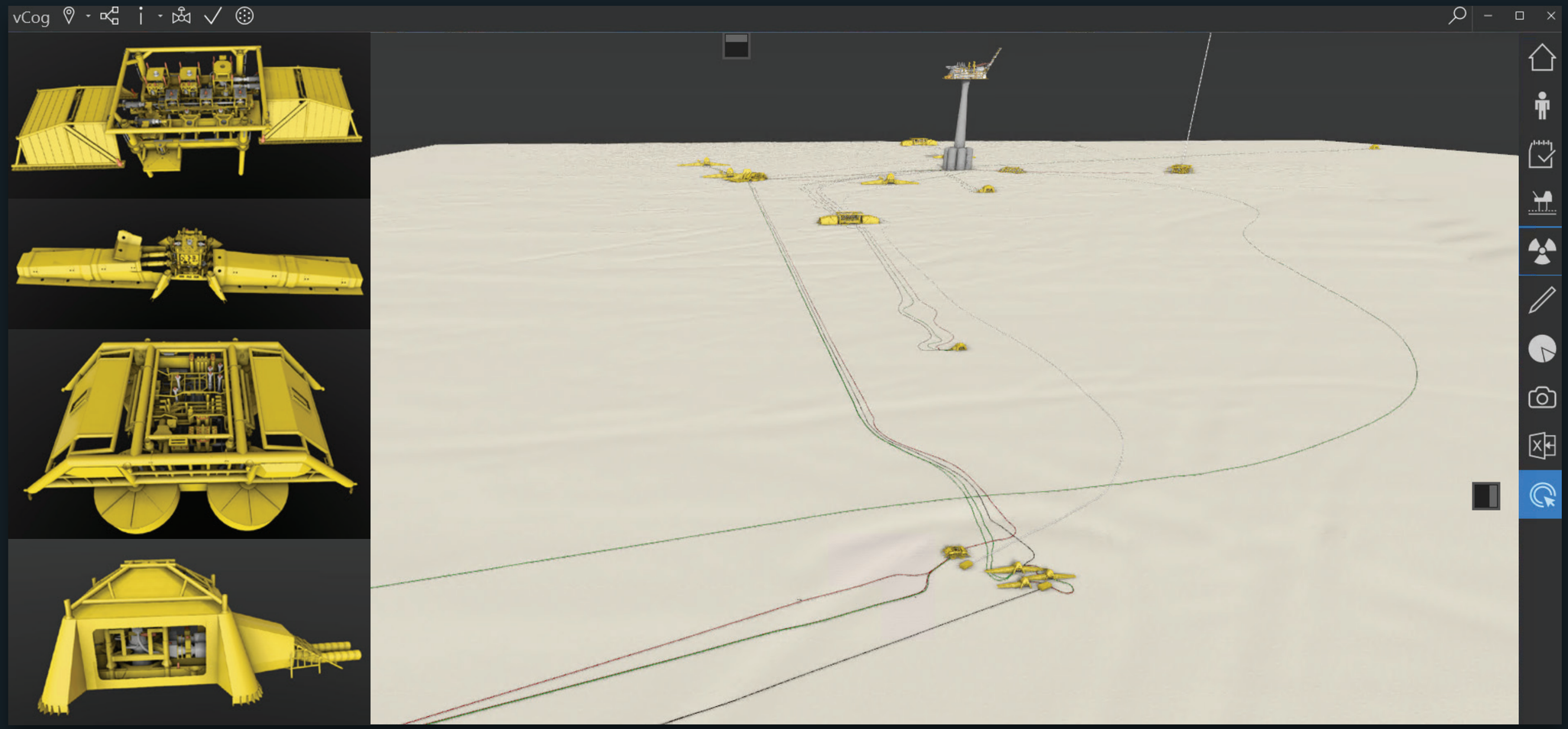
Shell Nyhamna Plant (spec) with subsea field - Brownfield



Basic setup: Entire subsea field. COGs: Inspection , SIMOPs, Work-Order, CUI

Case Studies

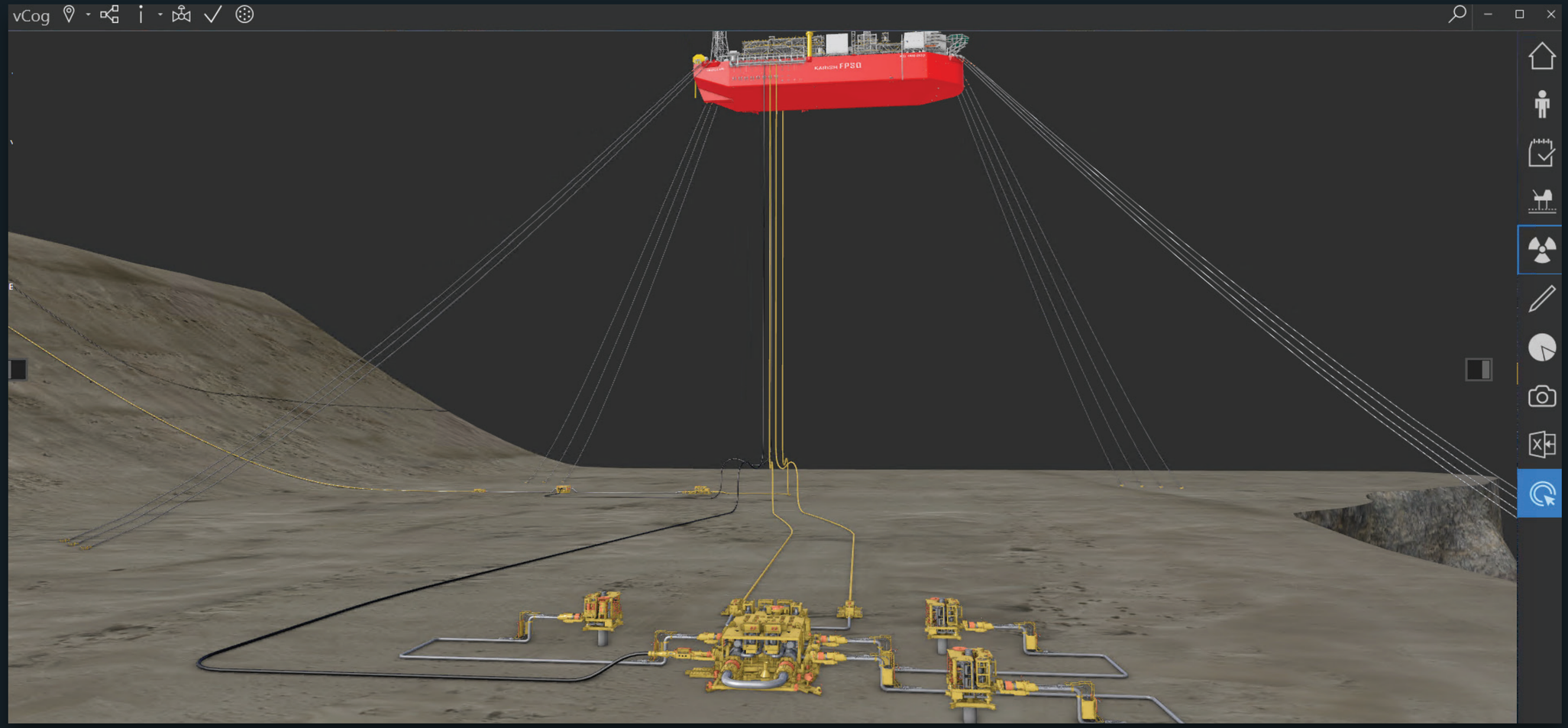
OKEA (previously Shell) – Draugen - Brownfield



Basic setup: Modeling all subsea installations based upon 2D drawings

Case Studies

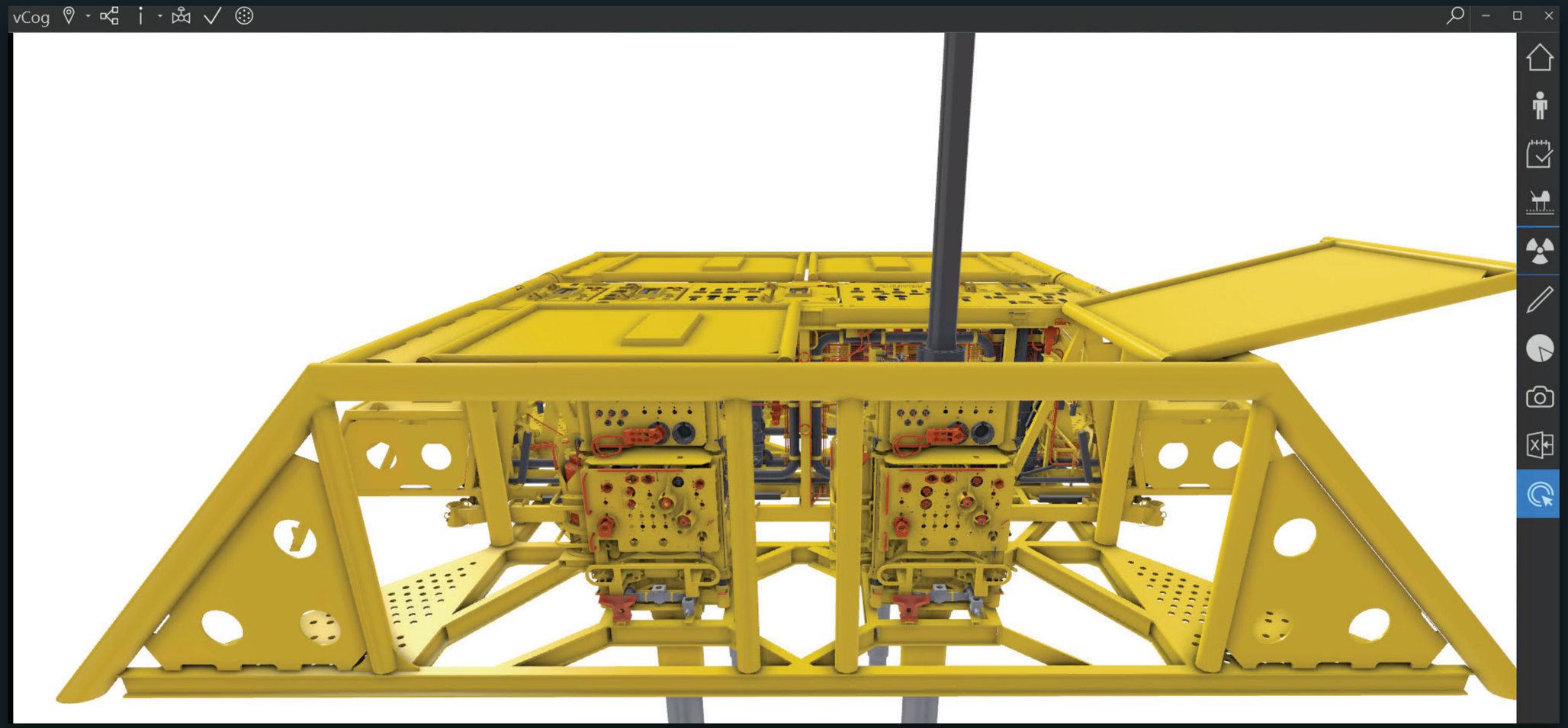
TechnipFMC – Karisch Field - Greenfield



Basic setup: FPSO, Subsea Field and Power station at shore

Case Studies

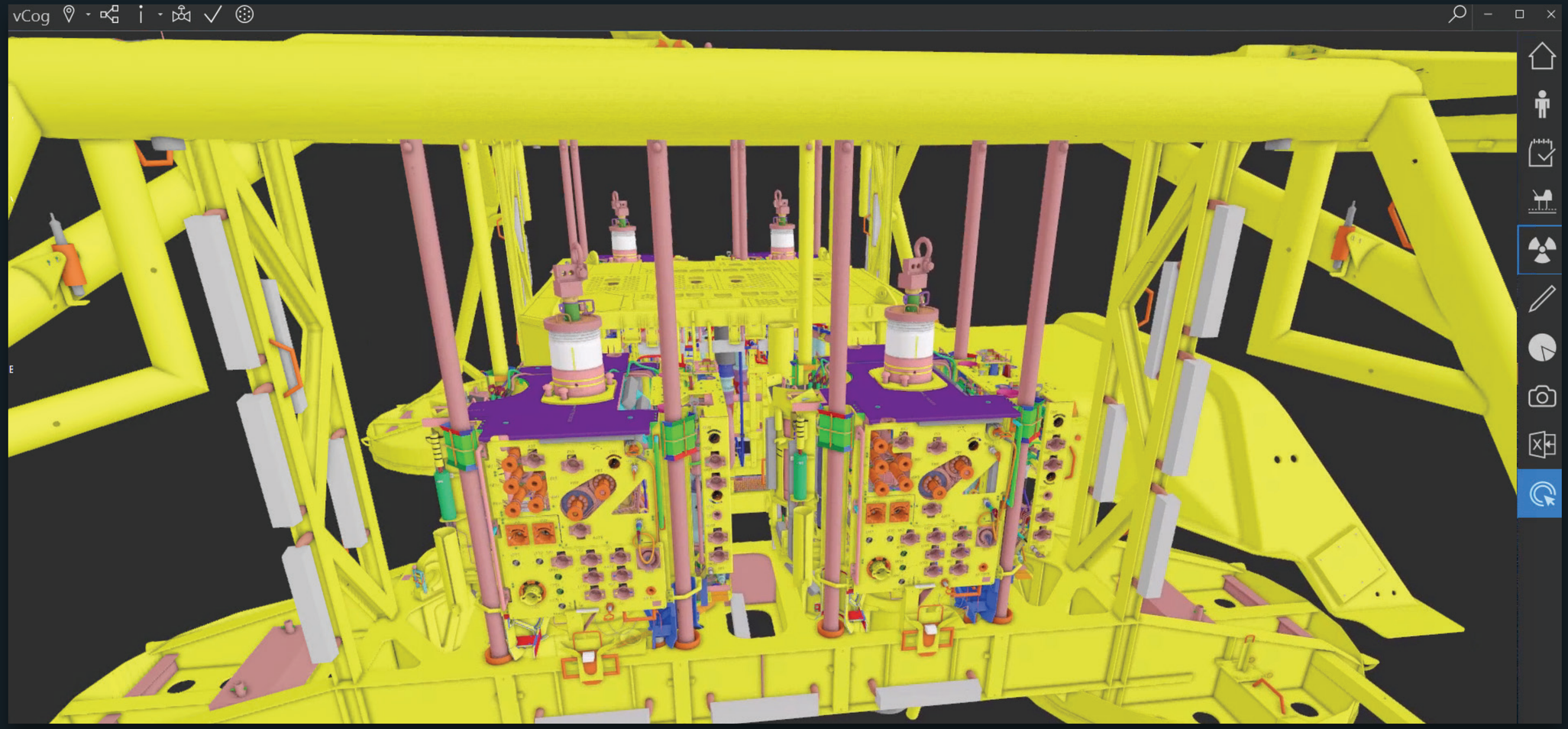
Lundin - Brynhild - Greenfield



Basic setup: Subsea transponders

Case Studies

Conoco Phillips - Tor



Basic setup: Subsea component

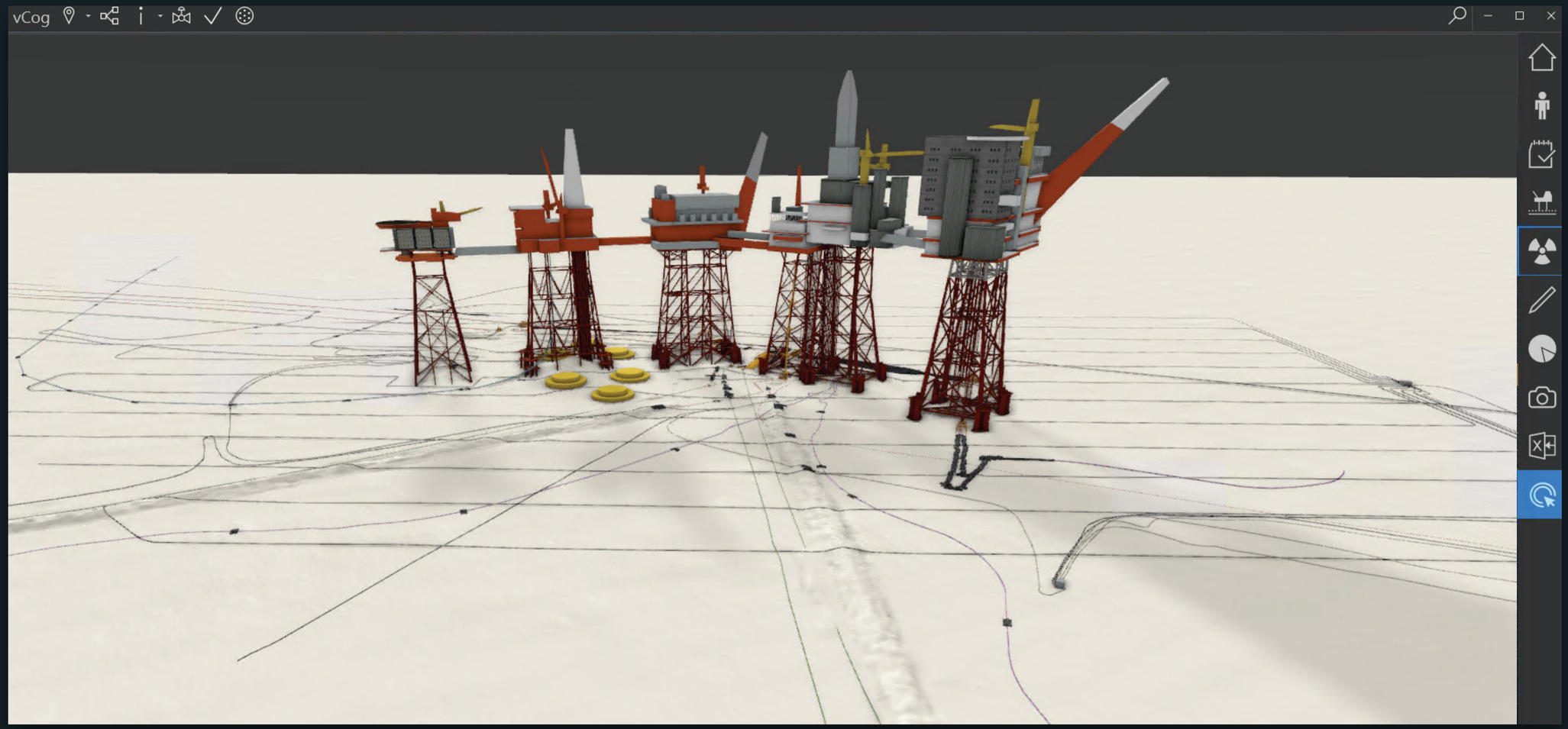
Case Studies

Repsol - Yme - Greenfield

Basic setup: Subsea transponders

Case Studies

BP / AkerBP – Vallhall - Greenfield



Basic setup: Subsea transponders

Case Studies

Equinor – Mariner - Greenfield

Basic setup: Mariner Drilling Platform and CAT J. COGs: Material Handling, Deck Management