

EXCHANGE BETWEEN OIL IT JOURNAL AND DNV REGARDING DIGITAL TWIN COMPLIANCE WITH DNV-RP-A204 (APRIL 2023)

Oil IT Journal

We are doing a short item for our publication, Oil IT Journal based on your [press release](#). What exactly is meant by ‘compliance’ and ‘quality assurance’ as described in the release and what is done to achieve these. Does this mean that DNV is assuming risk in any way as one might expect from DNV as an “independent assurance and risk management provider”?

DNV

DNV has traditionally conducted independent assessments of hardware systems and components like oil and gas facilities, pipelines, offshore wind and power grids. Our view is that the digital transformation is key to safeguarding energy supply while decarbonizing and electrifying the society. As the energy industry becomes more digital there is an increasing need to assure digital solutions. As a response to this challenge DNV together with the energy industry developed the sector's first methodology for quality assurance of digital twins, DNV-RP-A204. The methodology acts as a framework for assurance of the technology and addresses functionality, operations, the digital platform, and capabilities of the organization developing and operating digital solutions. We have used a team of experts on software development, digitalization, cyber security, energy systems and organizational models to independently assess Cognite Data Fusion (CDF) to verify if CDF is in compliance with the requirements in DNV-RP-A204. We have looked at the following aspects:

- *Confidence level*
- *Risk assessment process*
- *Cybersecurity*
- *COTS assessment (Commercial off the shelf)*
- *Data Quality Indicators*
- *Software development maturity including verification & validation process*
- *Verification & Validation*
- *Operational assurance*
- *Assurance of digital twin platform*
- *Asset information model*
- *Data & Data quality*
- *Sensor systems*
- *Platform architecture*
- *Management process*
- *Change management*
- *Organizational maturity assessment*

We gathered evidence based on stakeholder interviews, document review, demonstrations, and audits. Evidence of the initial assessment is documented in the Cognite CDF Assessment Report. Assumptions and conclusions for the final assessment are listed in DNV Statement of Compliance 1881466 issued 2023-03-30.

DNV's liability for the assessment of CDF, like all other independent assessments and verification carried out by DNV, is governed by the contract between DNV and our client, in this case Cognite. We have conducted the assessment to the best of our ability using well qualified personnel and take responsibility

for the work we have executed. Risks and warranties of using CDF will be governed in the contracts between Cognite and their respective clients.