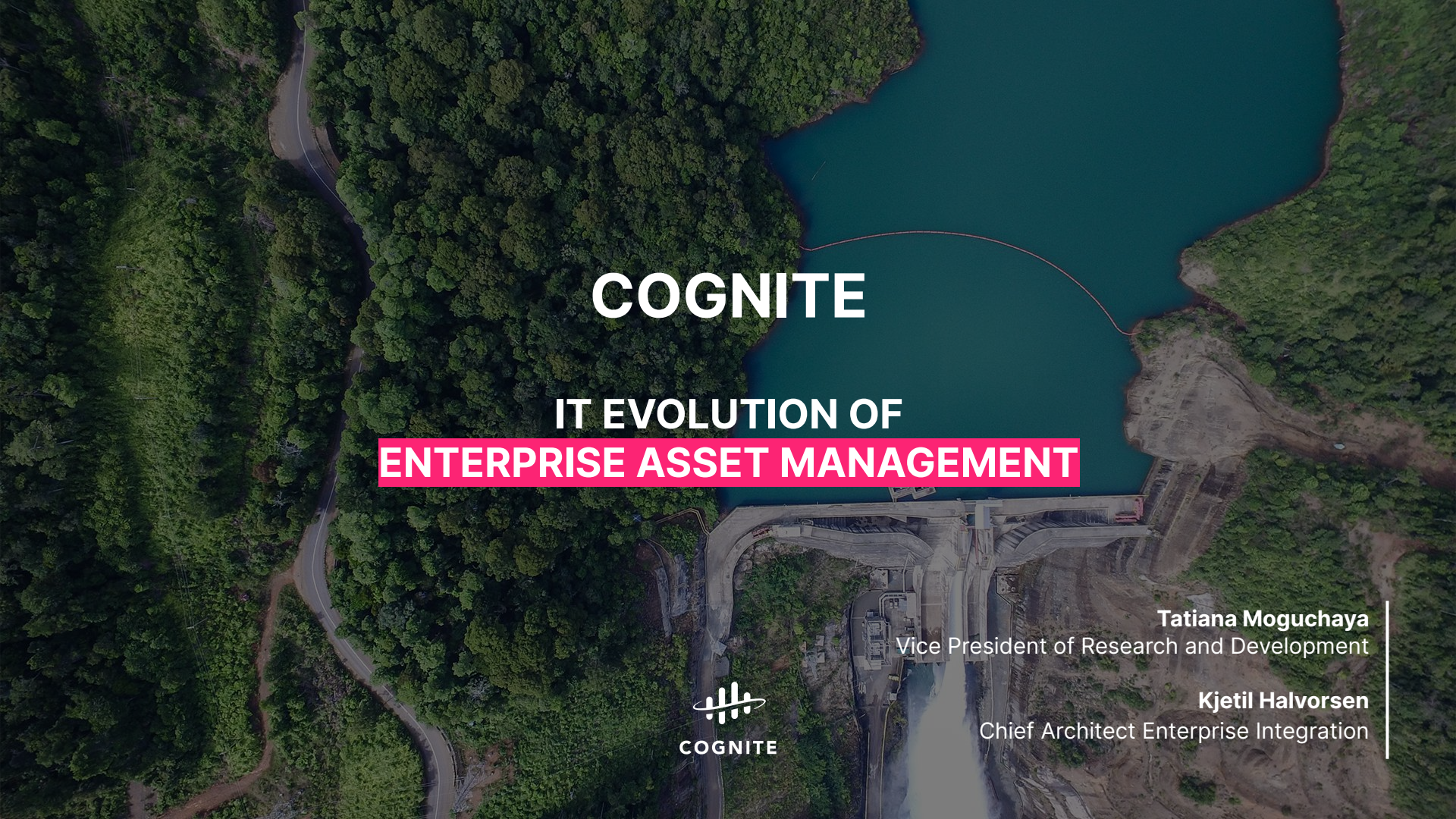


An aerial photograph of a large concrete dam structure spanning a river. The river is a deep teal color, and the surrounding landscape is covered in dense green forest. A winding road is visible on the left side of the image. The title text is overlaid on the center of the image.

COGNITE

IT EVOLUTION OF ENTERPRISE ASSET MANAGEMENT



Tatiana Moguchaya
Vice President of Research and Development

Kjetil Halvorsen
Chief Architect Enterprise Integration

BRIEFLY ABOUT

COGNITE

BORN FROM INDUSTRY TO TRANSFORM INDUSTRY

COLLECT. CONNECT.
OPERATIONALIZE. SCALE.

450+

Employees. The fastest growing
tech company in Scandinavia.



Main owner. Norway's largest
conglomerate with 180 years
industrial heritage

Accel

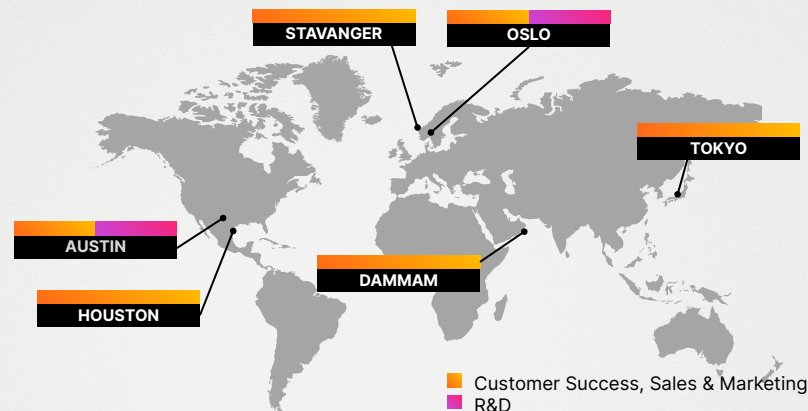
New VC Partnership to Define
Industrial DataOps SW
Category



Cognite is Norway's first
Microsoft Global ISV partner

LOCATIONS

World Wide Presence



CUSTOMER-DRIVEN EXPANSION ACROSS HEAVY ASSET INDUSTRIES

OIL & GAS	POWER & UTILITIES	INDUSTRIALS	SHIPPING
 ExxonMobil PEMBINA Lundin Energy 	Statnett Ringerikskraft 	 AARBAKKE Epiroc 	 KVERNER

WHILE CONSUMER BUSINESSES HAVE BEEN CONNECTED...



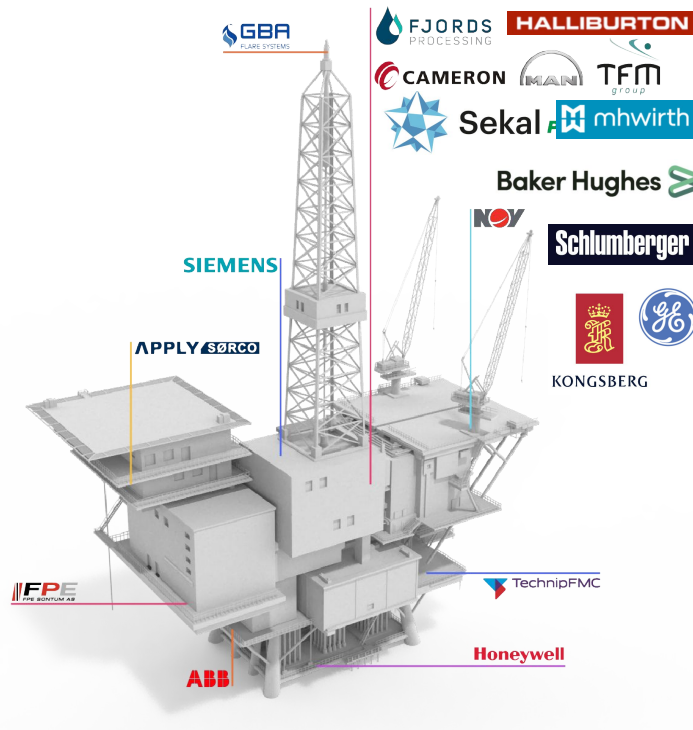
INSTANTLY
ACCESSIBLE DATA
ON DIFFERENT
DEVICES



DATA ACCESSIBLE
FROM MULTIPLE SOURCES



MACHINE LEARNING



...INDUSTRIAL REALITY
REMAINS DISINTEGRATED

TECHNOLOGY TRENDS

COMPETITIVE
ADVANTAGE
SHIFTING FROM
GREASE TO
CODE

RISE OF
BUSINESS
TECHNOLOGIST
OVER CENTRAL
IT

EXPONENTIAL
GROWTH IN
APPLICATION
SOFTWARE
DEVELOPMENT

INDUSTRIAL REALITY

Most industrial companies have ran at least a handful of AI proof-of-concepts (PoC).

Many PoCs are considered successful

Few PoCs ever make it into production

Very few PoCs ends up providing substantive ROI (by becoming Proofs of Scale)

CHALLENGES



OT/IT/ET data divide



IT/data science divide



Poor data quality



Linear FTE cost to scale

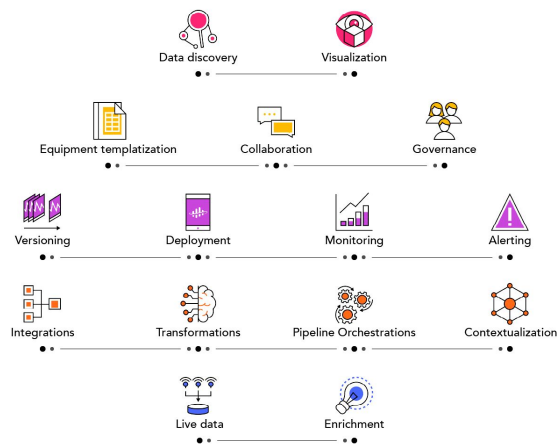


Slow, expensive or entirely failed transitions from proof-of-concept to production

COGNITE DELIVERS INDUSTRIAL DATA OPERATIONS & DATA CONTEXTUALIZATION FOR OPEN INDUSTRY 4.0

COGNITE DATA FUSION

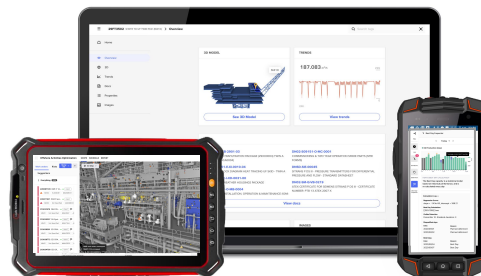
The **DataOps for Industry** Platform



APPLICATION FRAMEWORKS

Packaged, customizable own business applications (with open sourced libraries)

Collaboration and partnerships with low code and dashboarding leaders



OPEN STANDARDS EVERYWHERE



Making Data Available, Usable, & Valuable

COGNITE PARTNER ECOSYSTEM



SERVICES



wood.

BCG

Baringa

McKinsey
& Company



accenture

BAIN & COMPANY

Deloitte.



INDUSTRY



YOKOGAWA



KONGSBERG

SIEMENS

Honeywell

wood.



AkerSolutions

TechnipFMC



APPLICATIONS

Power BI

Spotfire

ABB

AiZe



TURBULENTFLUX

Seeq

OSIsoft.

Bentley



SIEMENS

OLIASOFT

HEXAGON
PPM

Honeywell

VISAVI
TECHNOLOGY

wood.

aspentech

OSIsoft.

VISIONNOVA

AVEVA

inprocess

NETSCENARIO

4subsea

SAP

AkerSolutions

Schlumberger

documentum

proarc

IFS



TECHNOLOGY

Microsoft

Google

outsystems

Grafana

BostonDynamics

...OR IN GARTNER'S WORDS



"Cognite Data Fusion is an industrially specialized DataOps and AI platform that optimizes manufacturing facilities intelligently"

"Through integrated hybrid AI analytics tools, advanced visualization in real-time dashboards and low-code application development services"

"Cognite Data Fusion enables heavy asset customers to operationalize and scale their digital programs to unlock ROI at scale."

Source: Gartner Cool Vendors in Manufacturing Industry Solutions, 11 May 2020

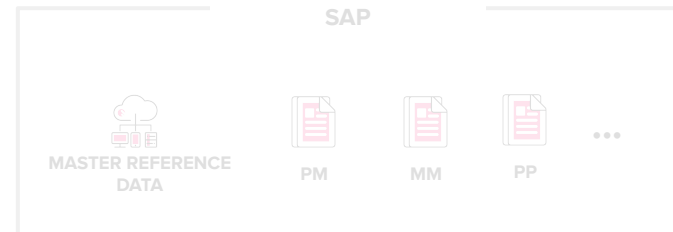
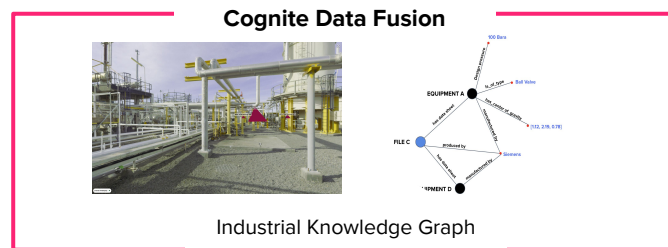
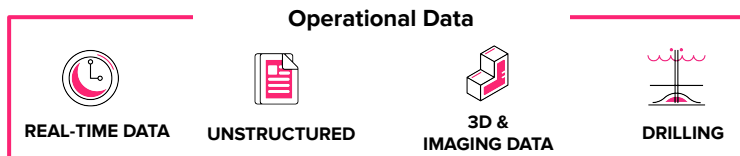
Gartner

SAP INTEGRATION

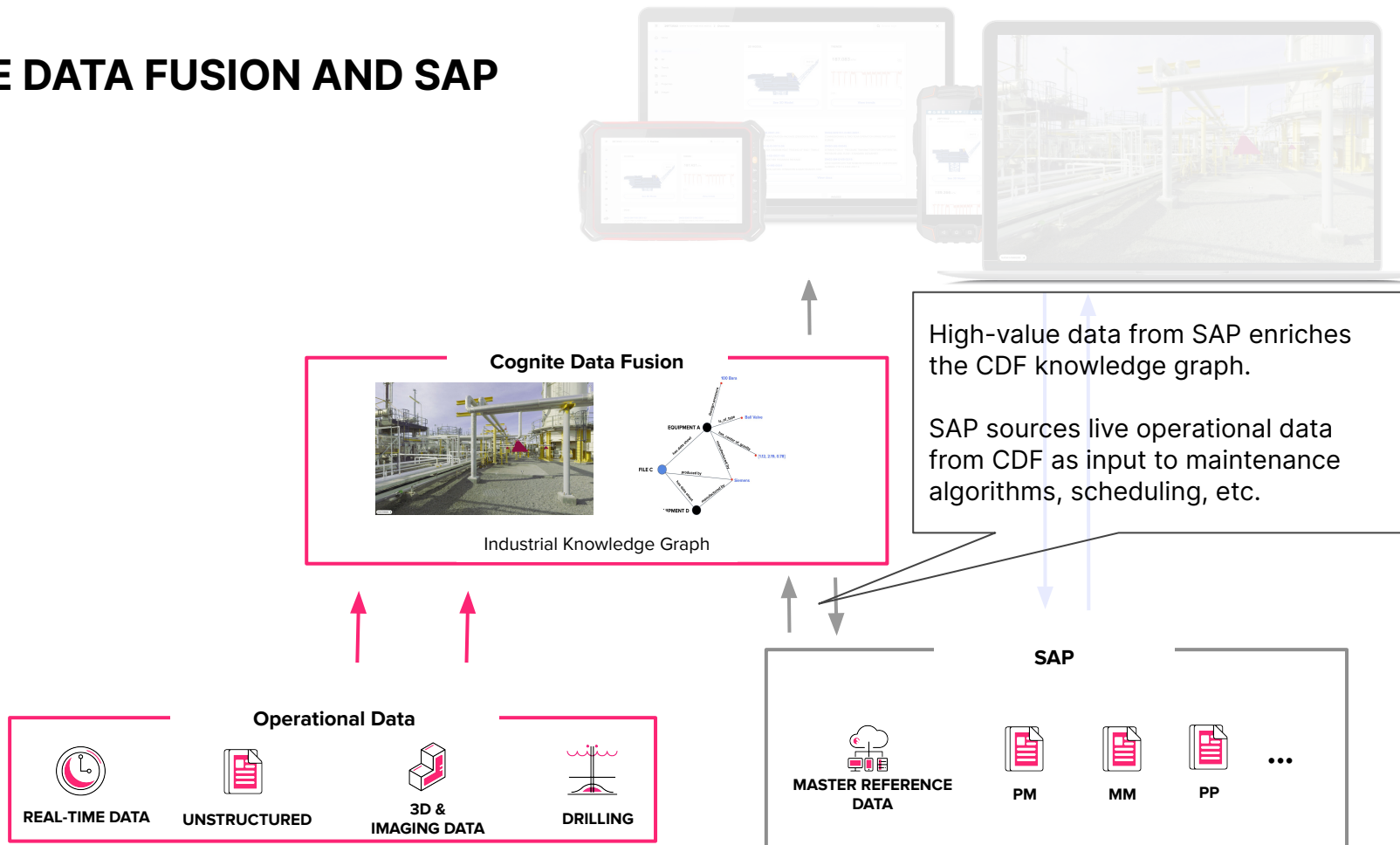
VALUE PROPOSITION AND HIGH-LEVEL ARCHITECTURE

COGNITE DATA FUSION AND SAP

Data is normalized and contextualized into the CDF knowledge graph



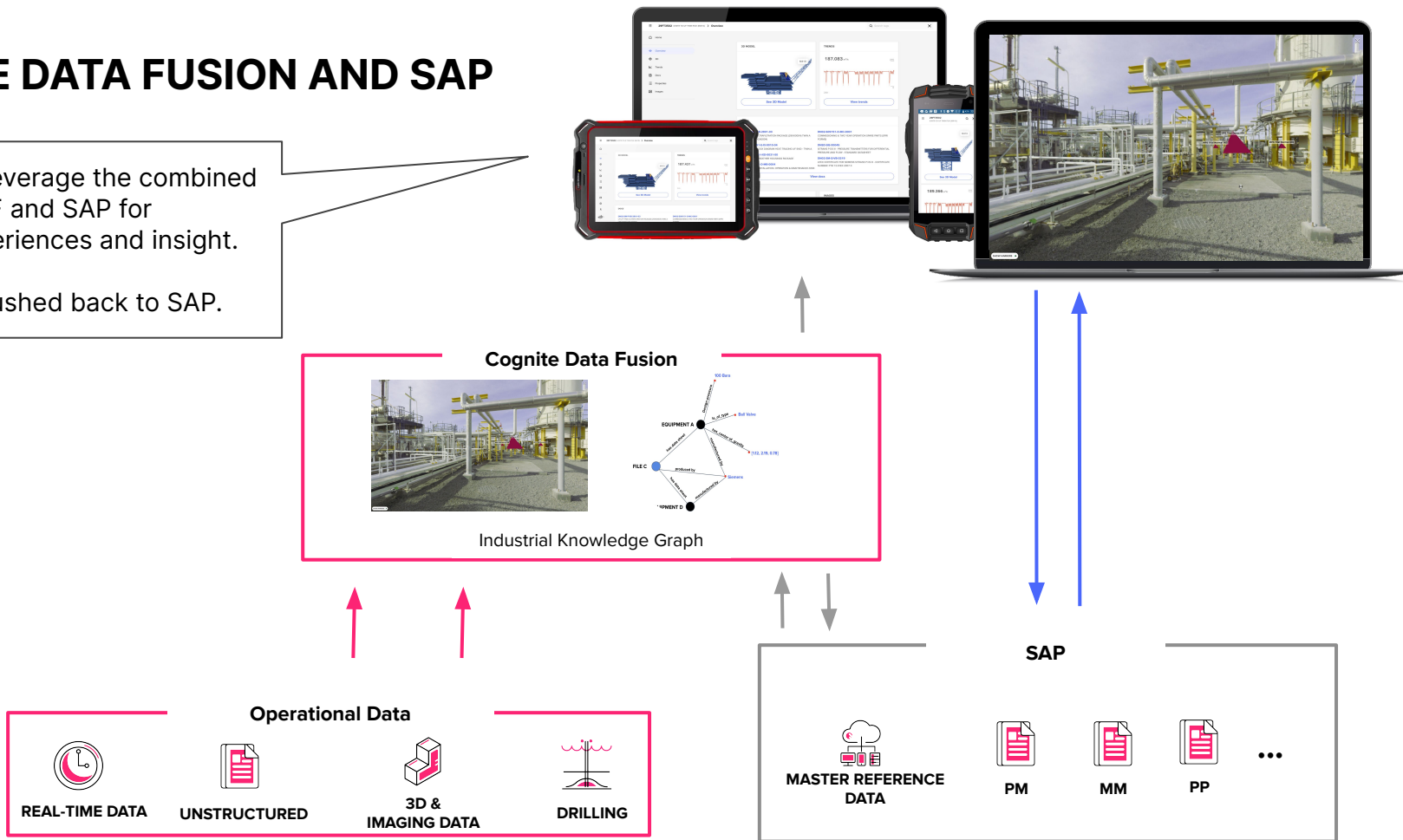
COGNITE DATA FUSION AND SAP



COGNITE DATA FUSION AND SAP

Applications leverage the combined data from CDF and SAP for improved experiences and insight.

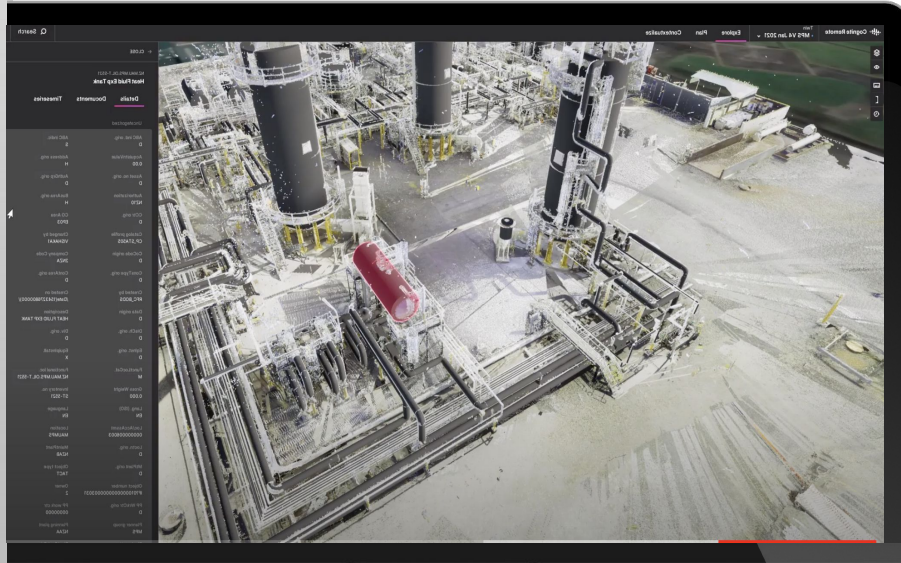
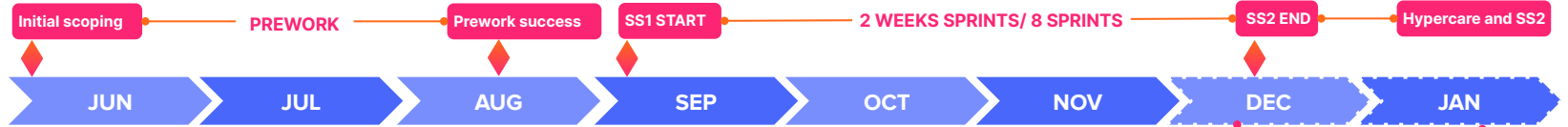
Insights are pushed back to SAP.



COGNITE - EVORA

SAP INTEGRATION FOR OMV

DEVELOPMENT IN Q3-Q4 2020 (OMV NZ) - RECAP



VISIBILITY & COLLABORATION

- Server-side rendering
- Shared sessions
- Comments



3D HOLISTIC DIGITAL TWIN

- Support of numerous data types
- High-fidelity rendering
- Intuitive navigation
- Contextualization



INSPECTION PLANNING

- Markups
- Plans



VISUAL CONTEXTUALIZATION

- Automatic creation of 3D models from point clouds
- R&D packages to extract semantic data and create ontology



ANOMALY DETECTION

- Utilizing CV to detect text, corrosion, etc...

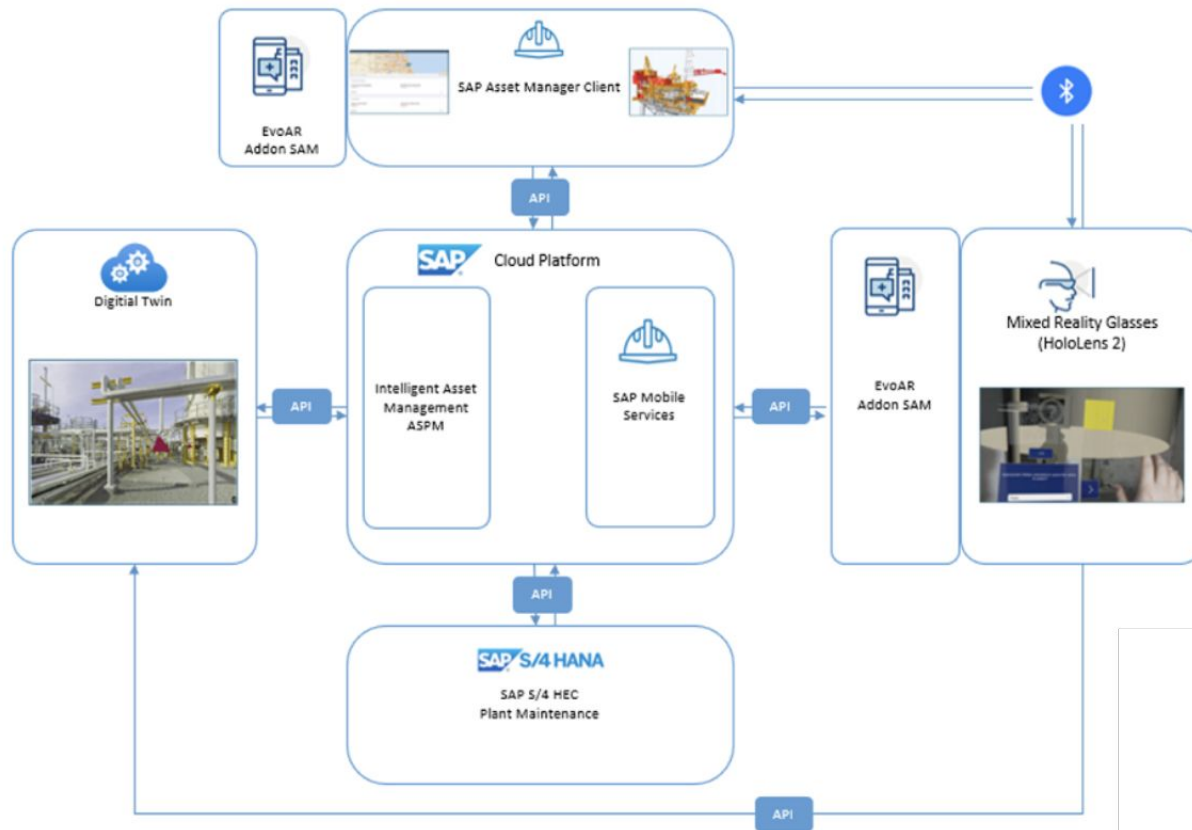
**ROLL-OUT TO SUPER
USERS FOR
ACCEPTANCE
TESTING**

*"Very impressive. I
want everyone in
organization using this
application" OMV*

TARGET USERS GROUPS

- Control Room Operator
- Inspectors
- QA Engineer
- Site Supervisor
- Integrity engineers
- Inspection engineers
- Senior managers
- Inspection planners

COGNITE - EVORA COLLABORATION FOR OMV

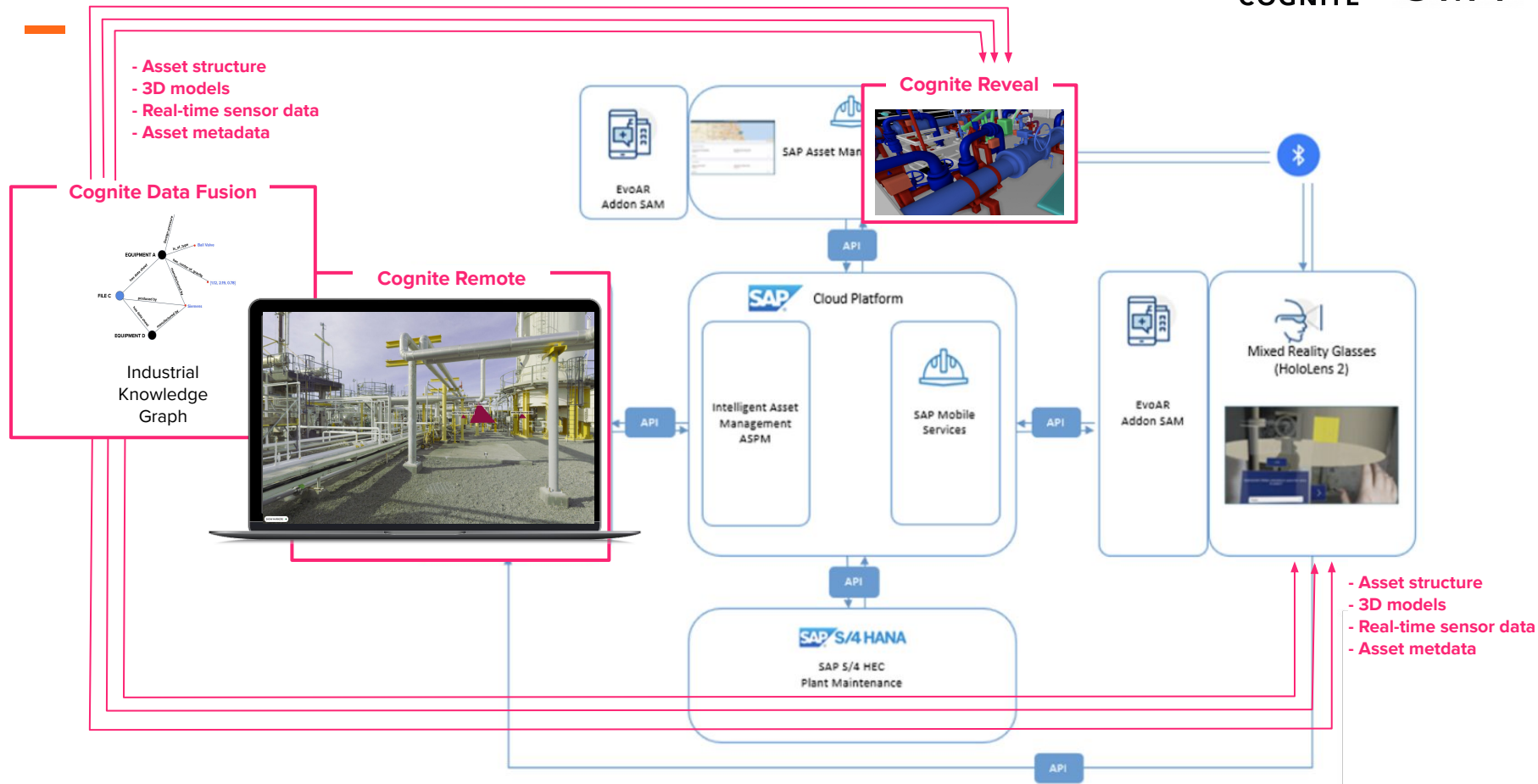


COGNITE - EVORA COLLABORATION FOR OMV

evora
— IT SOLUTIONS —

COGNITE

OMV



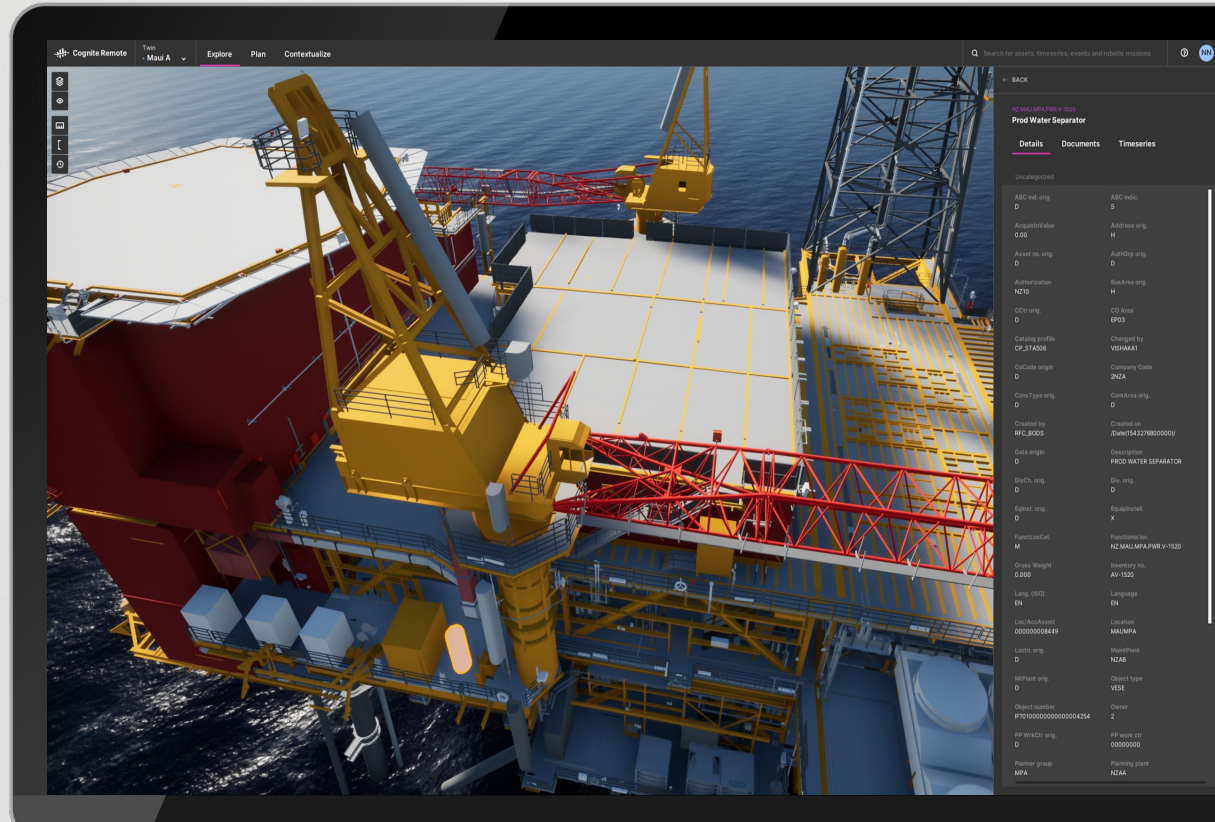


Cognite Remote

Cognite Remote **breaks down** traditional data and organizational **barriers** to bring **3D Digital Twins** powered by **AI and seamless collaboration** into your remote operations

Integrity & Availability -
Sustainability & HSE -
Agility in changing workflows -
Remote at scale

Value Capture
20-30% savings in operations
10-20% savings in construction,
commissioning and handover
50% travel cost reduction





TIMELINE

X Off

Period

CLOSE

NZ_MALMFA-TSL-V-0560

Train 5 Low Temp Separator

Details

Documents

Media

Timeseries

NZ_AZSC-0560	2/3/21, 12:32 PM
Trn 05 LTS PCV Closed	0
NZ_AFIC-0560/MODE	2/3/21, 12:31 PM
Trn 05 LTS flow ctrlr MODE	8
NZ_ATCV-0560A	2/3/21, 12:31 PM
Trn 05 LTS Hot Water Vlv	98.42 % CLOSED
NZ_APCV-0560	2/3/21, 12:28 PM
Trn 05 choke vlv posn	41 % OPEN
NZ_AFIC-0560/A_status	2/3/21, 12:24 PM
Trn 05 LTS Offgas Flow - signal status	128
NZ_API-0560/A	2/3/21, 12:24 PM
Trn 05 LTS Pressure	49.955 Barg
NZ_ATT-0560A	2/3/21, 12:32 PM
Trn 05 LTS Bath Temp	22.198 deg C
NZ_ATIC-0560A/SP	2/3/21, 12:24 PM
Trn 05 LTS Bath Set Pt	22 deg C
NZ_ATE-0560	2/3/21, 12:30 PM
Trn 05 Hot Water Out Temp	33.067 deg C
NZ_AET-0560/B	2/3/21, 12:24 PM
Train 5 MB Hours Prod	0 Hrs
NZ_AET-0560/A	2/3/21, 12:24 PM
Train 5 MA Hours Prod	23.983 Hrs
NZ_AFT-0560A/DP	2/3/21, 12:32 PM
Trn 5 LTS offgas flow FT-0560A DP	13.917 mbar
NZ_AFI-0560B	2/3/21, 12:24 PM
Train 5 B Gas Flow	0 Sm3/s
NZ_AFIC-0560/SP	2/3/21, 12:32 PM
Trn 05 LTS Flow Set Pt	3.164 Sm3/s
NZ_AFIC-0560/A	2/3/21, 12:32 PM

Go back in time to view historic sensor values

A HIGHLY CONFIGURABLE APPLICATION, **POWERED BY CDF AND DYNAMIC 3D DIGITAL TWIN**
 - TO PROVIDE SECURE ENVIRONMENT TO LOCATE, NAVIGATE AND UNDERSTAND CONTEXTUALIZED DATA FROM MULTIPLE DATA SOURCES
 AND CONDUCT **ASSET MANAGEMENT AT SCALE** Cognite **Remote**

Contextualized holistic
high-fidelity 3D digital twin

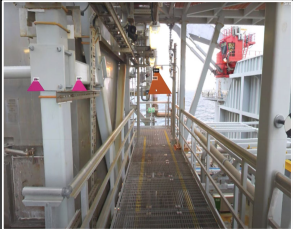
Streamlined asset integrity
activities & decision support

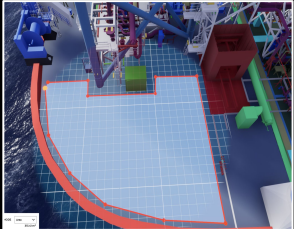
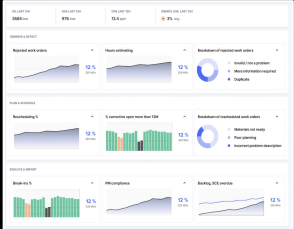
Collaboration in real time

Performance KPIs & trends

Operationalized Use Cases
fueled by Data Science

Remote data capture





Ecosystem including third party providers

CDF



INSIGHTS TO AND FROM THE FIELD

FROM CDF/COGNITE REMOTE TO SAM & HOLOLENS2

- ✓ Work orders
- ✓ Checklists
- ✓ Asset structure
- ✓ Asset data
- ✓ Real-time sensor values
- ✓ Contextualized 3D models

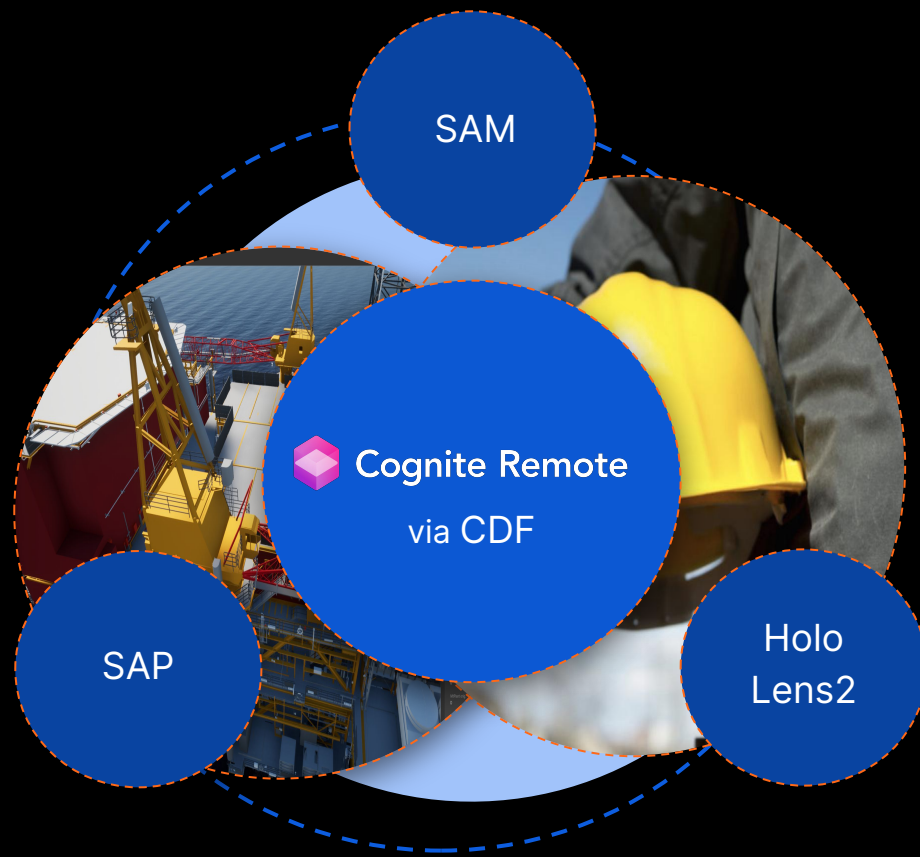
FROM SAM & HOLOLENS2 TO CDF/COGNITE REMOTE

- ✓ Soft tags
- ✓ Imagery data
- ✓ Annotations

evora
— IT SOLUTIONS —


COGNITE


OMV



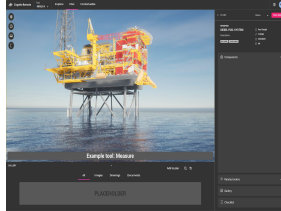
STREAMLINE AND ENABLE REMOTE ASSET INTEGRITY AND ENGINEERING

Take work from the field to the front office



- ✓ CAPEX reduction of at least 25-50%.
- ✓ OPEX reduction of 50-80%.
- ✓ Up to \$90M annual cost savings singularly based on reduction in onshore headcount

Increase efficiency



- ✓ Accelerate execution, achieve higher quality of asset integrity tasks
- ✓ Improved availability >97%
- ✓ 90% reduction of rework
- ✓ Increased quality, flexibility and resolution

Improved data flow & knowledge capture



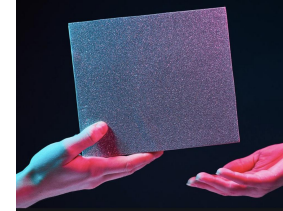
- ✓ Continuously enhanced trustworthy digital twin leverages the quality, fidelity and reliability of the data.
- ✓ Trust. Scale. Security.

Enable distributed collaboration and remote training



- ✓ Simplification and accelerated collaboration
- ✓ Support shared working sessions
- ✓ Provide insights and artifacts generated in Cognite Remote to the field, through mobile applications and HoloLens2

Out-of-the-box SaaS product



- ✓ Delivered as a SaaS product removing need for project implementation

Improve sustainability



- ✓ Reduce environment footprint and HSE exposure
- ✓ Reduce human exposure to confined spaces and dangerous areas and improve safety.

COGNITE REMOTE

ENABLING AND ACCELERATING
REMOTE OPERATIONS



Cognite Remote Explainer Video: https://drive.google.com/file/d/1ohOuVf4RjSvePam_Ze_SORdbuUd3BVJ1/view?usp=sharing
Cognite Remote Promo Video: <https://youtu.be/Ti7epxnCH9g>

Thank You!

Questions?



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