

# Shaping the future of work

## Kongsberg Digital

SVP & GM China– Haifeng Wu

# Kongsberg Digital

1,200\*+

Employees globally

3,000\*+

Connected assets

50,000\*+

Enterprise users



# We position where our customers expects us to be

Our main hubs are in **Norway**, **US**, **India**, and **China**



NUMBERS POST-MARITIME DIVESTMENT:

**~650**

FTEs globally

**~60%**

developers

**~10%**

commercial

**Norway**

Headquarters

**US**

Commercial  
focused

**India**

Developer focused

**China**

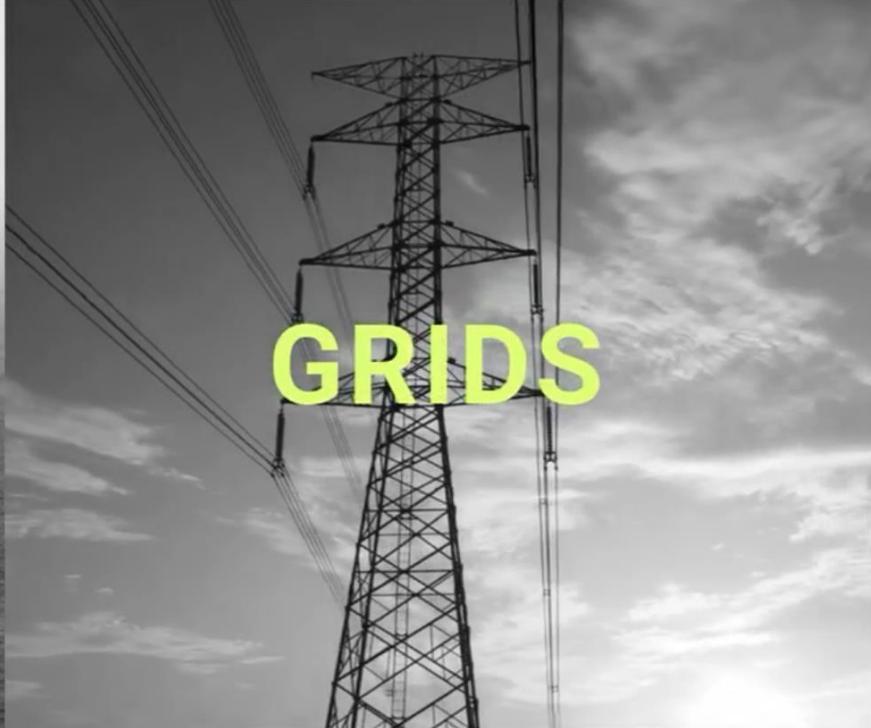
Growth ambition

**Middle East**

Growth ambition



# ENERGY OFFSHORE



# GRIDS



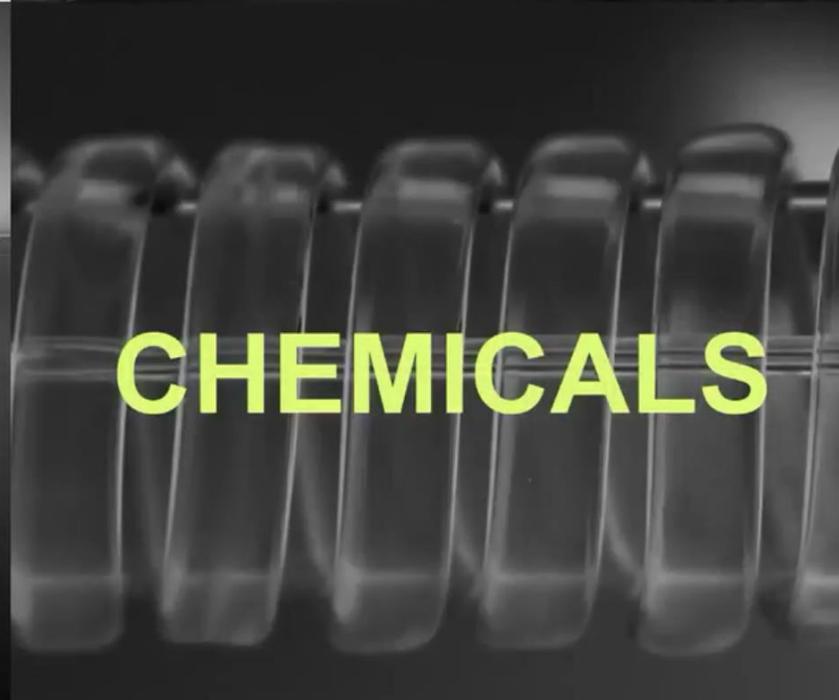
# CCUS



# ENERGY ONSHORE

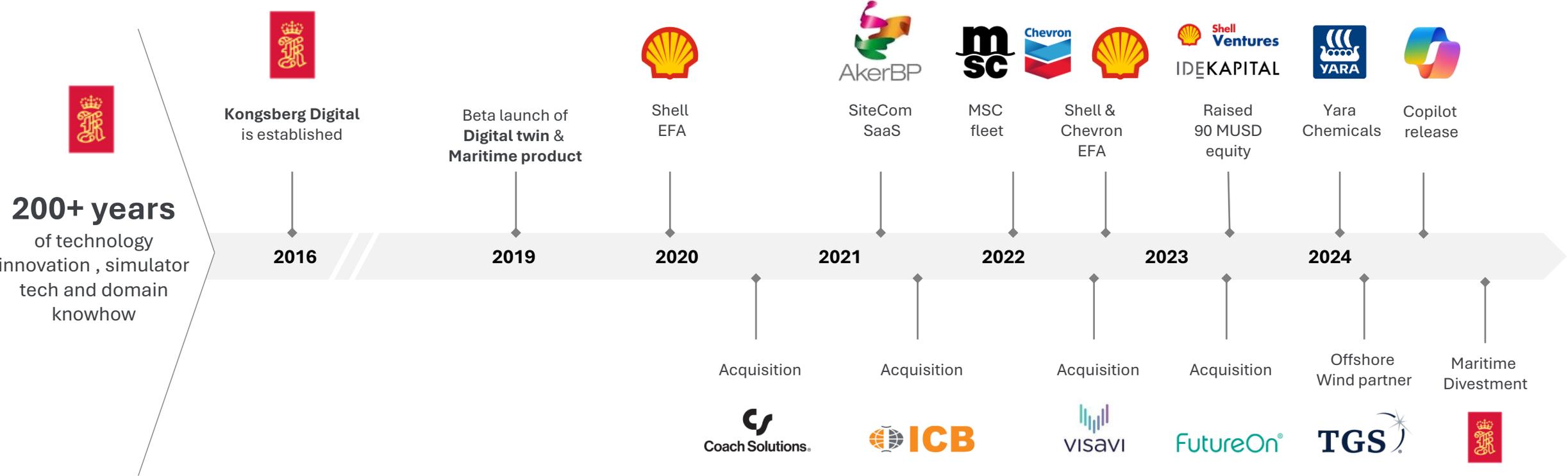


# WIND



# CHEMICALS

# Kongsberg Digital is rigged for the future



# Shaping the Future of **Work**

We make industrial data more  
accessible and meaningful to  
humans and machines to unlock  
better ways of working.

# Heavy-asset industry problem areas

Siloed systems  
&  
Isolated work  
processes

Local optimization  
over global  
consistency

Exponential  
growth in data  
volume  
&  
Energy system  
complexity

Need to attract,  
retain & upskill  
organizations

**15%-30%** efficiency losses

Work needs to become

**smarter, safer, greener.**

# Industrial Work Surface

a comprehensive suite of products covering the asset across its lifecycle

## Concept & Design

### FieldTwin

Early-stage **design and visualization platform** for cost-efficient exploration of design options for heavy asset developments.

## Well Operations

### SiteCom

A **complete ecosystem** for safer and reliable drilling and wells operations

**Generates and contextualizes** real-time drilling data which minimises non-productive time and reduces HSE incidents

## Asset Operations & Optimization

### Kognitwin

A digital twin that enables the future of **asset management**

Provides a digital twin of your asset with an end-to-end experience including your industrial data, operations and a **place to execute your work**

**Enabling end-to-end work processes** from identify and scope, through execution and close-out

## Simulation

### K-Spice

Advanced **process simulator** for understanding process behavior, performance modelling, and optimizing design & operations

### LedaFlow

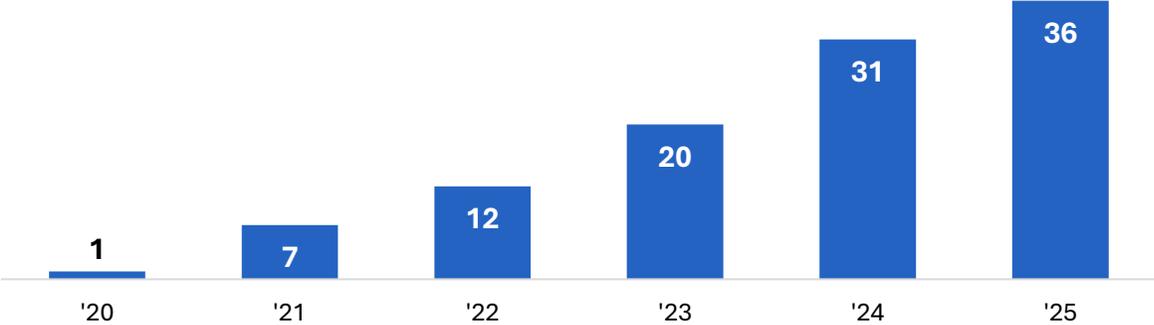
Advanced **multiphase flow simulator** solution to ensure continuous flow of oil & gas from reservoir to the processing facilities

## Data Platform

# Customer example: Shell transitioned from deployment focus to industry-scale product roadmaps



## Digital twin deployment overview



## Key Performance Indicators | KPIs

**NPS**  
**7.8**  
Customer Satisfaction

**Total Users**  
**12 500**  
Customer User Adoption

**Current ROI**  
**3-4x**  
Customer Value

## Global footprint of live digital twins

Total: **36 digital twins live**



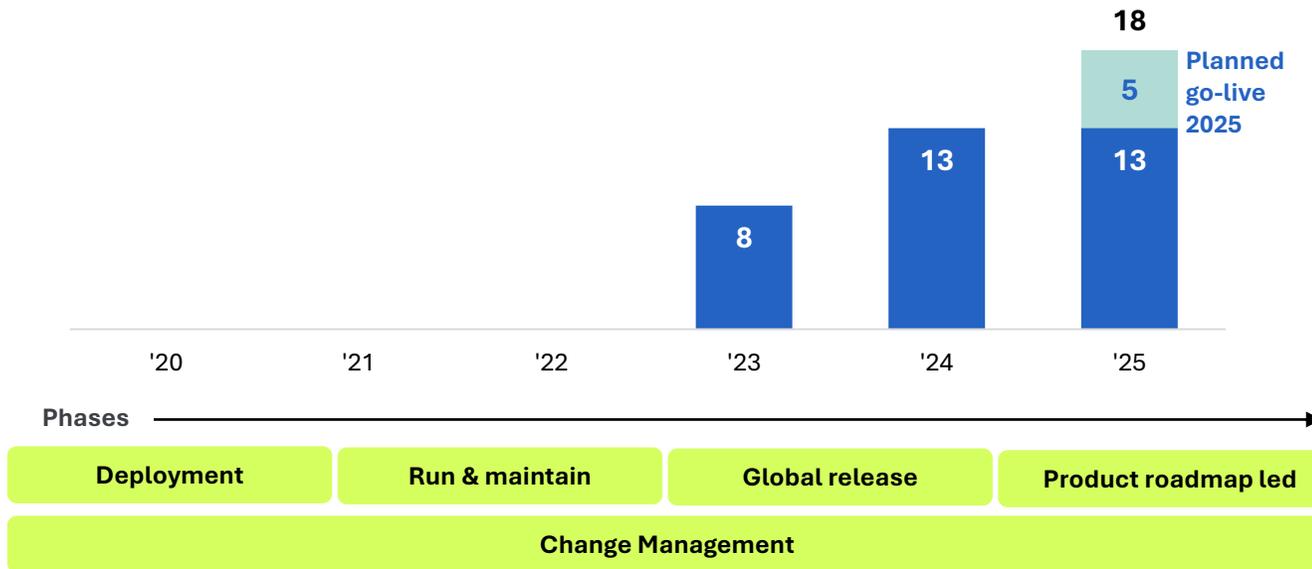
## Customer value observed

- Increased efficiency**
  - Shorter decision cycle time
  - Reduced time spent looking for data
- Cost reduction**
  - Turnaround planning; reduced travel and time spent on site
  - IT cost
- Increased performance**
  - MEG optimization
  - Energy nomination
- HSEQ**
  - Improved risk overview
  - Enabling Remote operations
- Production loss avoidance**
  - Faster recovery from unplanned downtime

# Customer example: Chevron transitioned from deployment focus to industry-scale product roadmaps



## Digital twin deployment overview

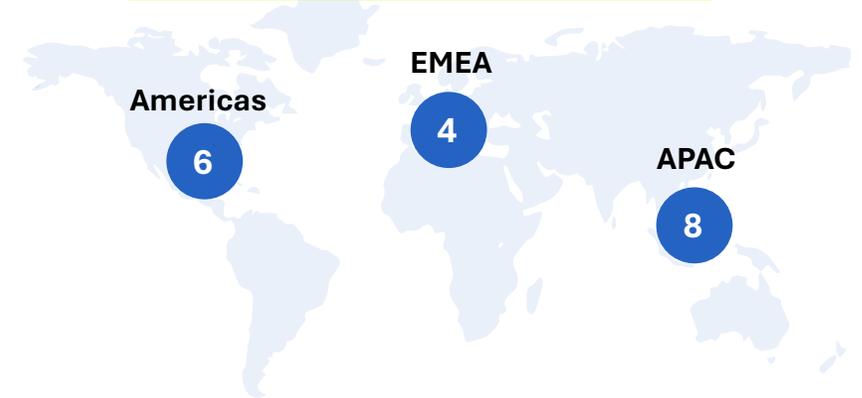


## Key Performance Indicators | KPIs

<p><b>Total Users</b></p> <p><b>10 500</b></p> <p>Customer User Adoption</p>	<p><b>Current ROI</b></p> <p><b>2-3x</b></p> <p>Customer Value</p>
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## Global footprint of live digital twins

Total: **18** digital twins live (5 go live in 2025)



## Customer value observed

### Increased efficiency

Shorter decision cycle time  
Reduced time spent looking for data

### Increased performance

Integrated 3<sup>rd</sup> party simulations  
Energy nomination

### Production loss avoidance

Faster recovery from unplanned downtime

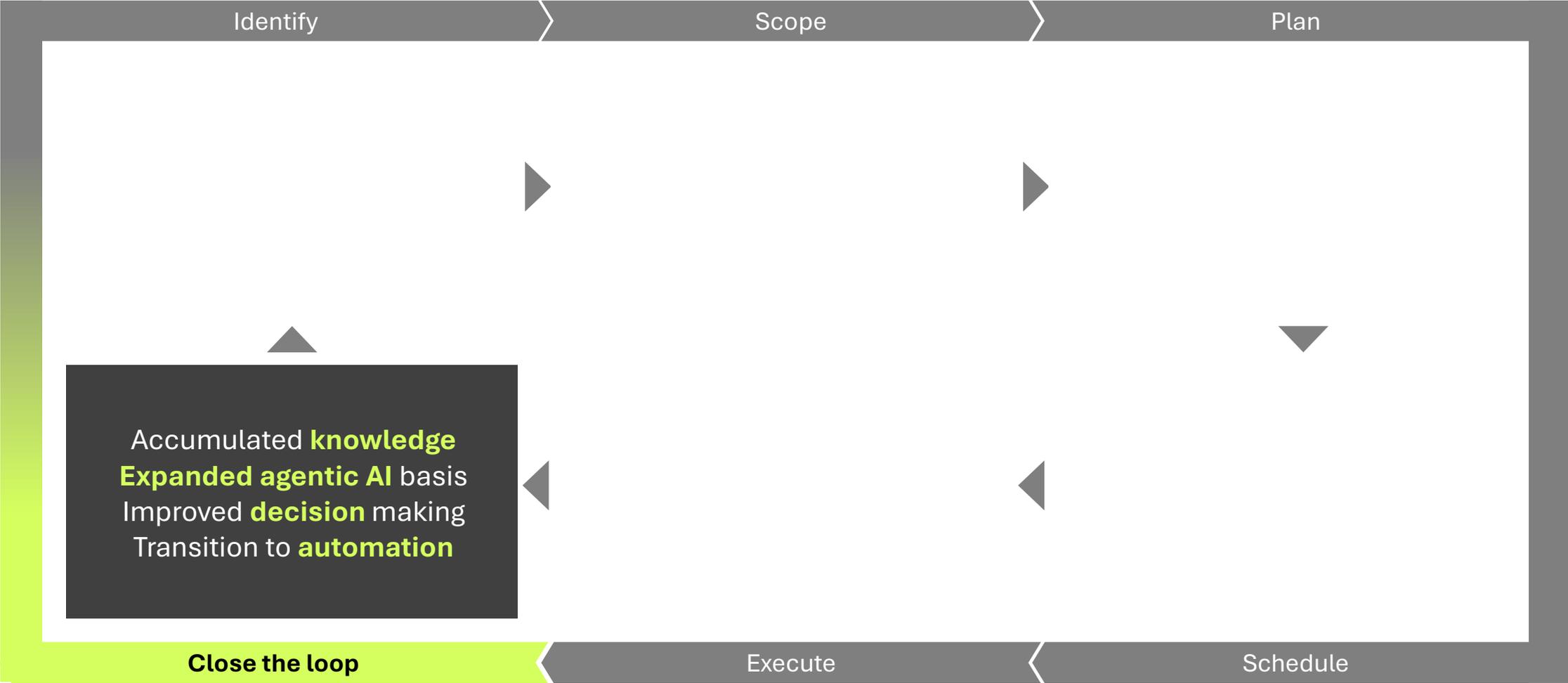
### Cost reduction

Turnaround planning; reduced travel and time spent on site  
IT cost

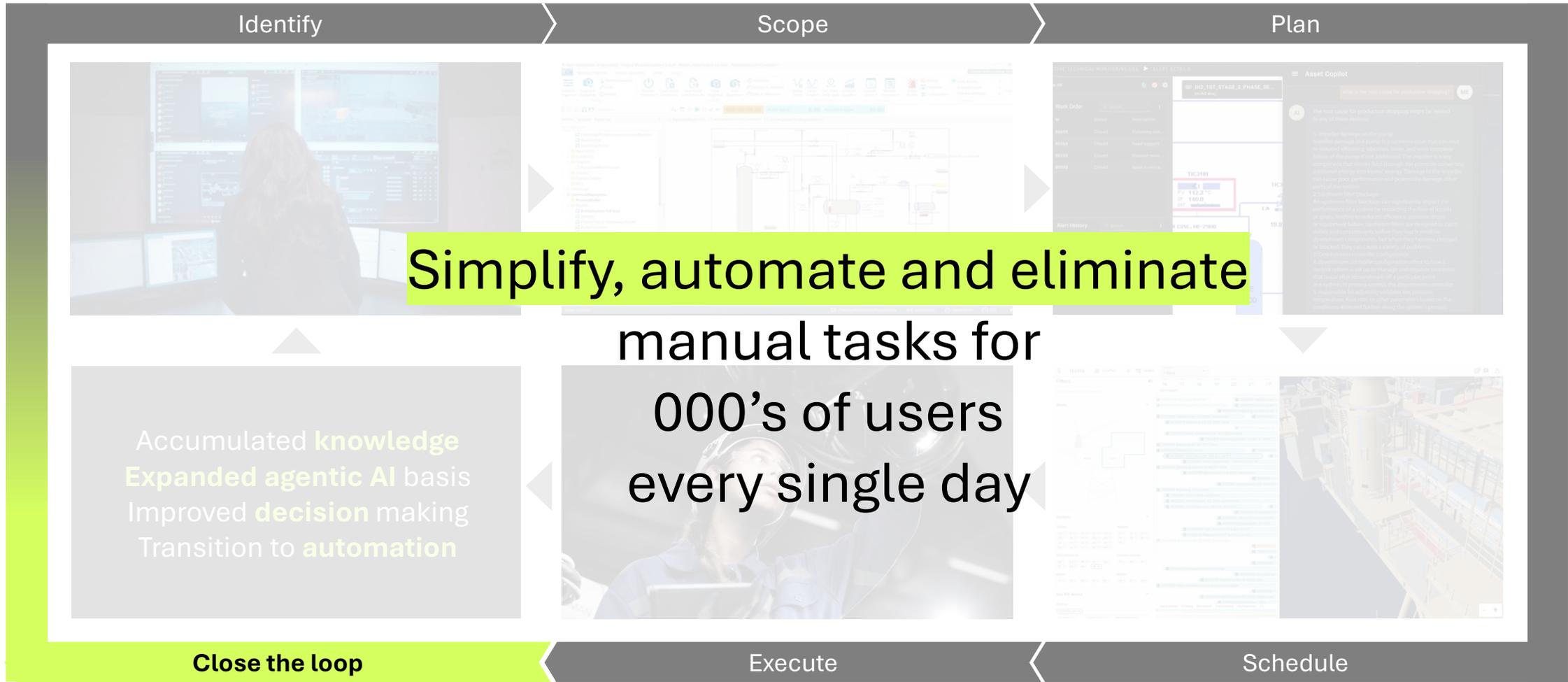
### HSEQ

Improved risk overview  
Enabling Remote operations

# The Industrial Work Surface enables E2E work processes



# The Industrial Work Surface enables E2E work processes



# ..and puts AI to work in an industrial context

The screenshot displays an industrial AI interface. On the left, a 3D model of a plant is shown. In the center, a data panel for tag '20-FT2000' (country:demo:edw) is visible, showing a current value of 84.1 m<sup>3</sup>/h and a line graph of '20FT2000:MeasuredValue' over time. On the right, an 'Asset Copilot' chat window provides AI-generated information. The chat includes a response to a query about tag '24-HA50A' and a user query 'Why do pressure drops happen'.

**Asset Copilot**

The tag "24-HA50A" refers to a WET GAS COOLER on the HULDRA MEZZANINE DECK. Here are the key details:

- **Plant Code:** HUA
- **Process Unit Code:** 24
- **Area Code:** HB
- **Area Description:** HULDRA MEZZANINE DECK
- **Tag Category Name:** SHELL AND TUBE HEAT EXCHANGER
- **Class Name:** MAIN EQUIPMENT
- **Status:** A (Active)
- **Design Comp:** W
- **Production Critical:** YES
- **Safety Critical:** YES
- **Safety Critical Item Group:** C-002
- **Parent Tag:** 24-TEKNISK\_TAGHIERARKI

It is part of several functional and document links and has various connections to other tags.

24-HA50A 24-TEKNISK...

Query by Knowledge Graph

Why do pressure drops happen ME

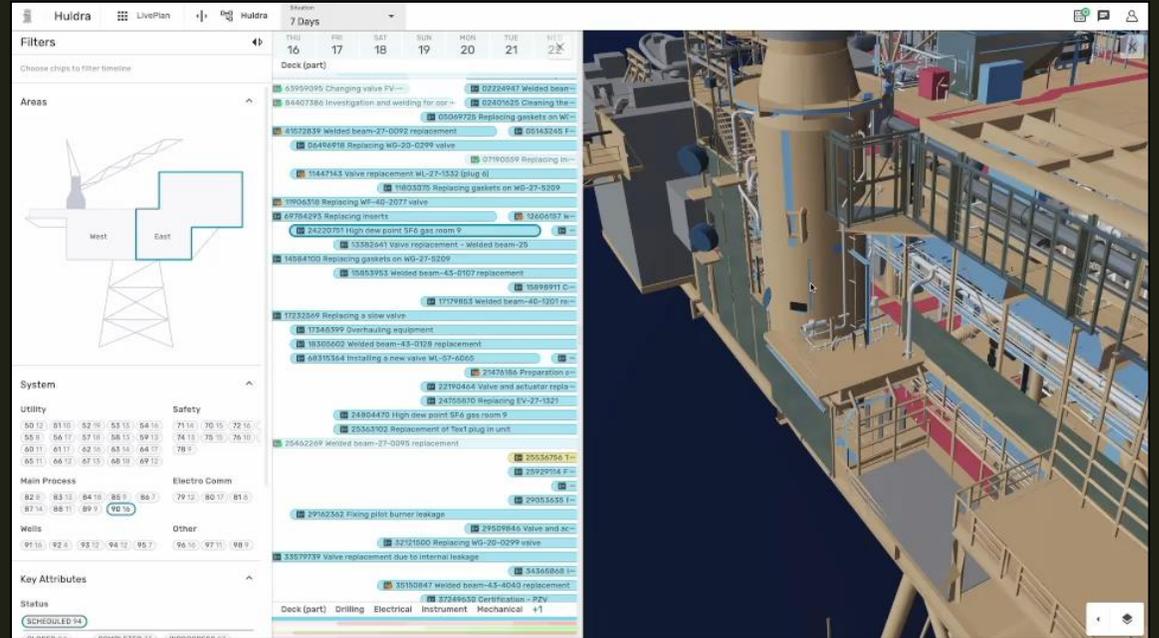
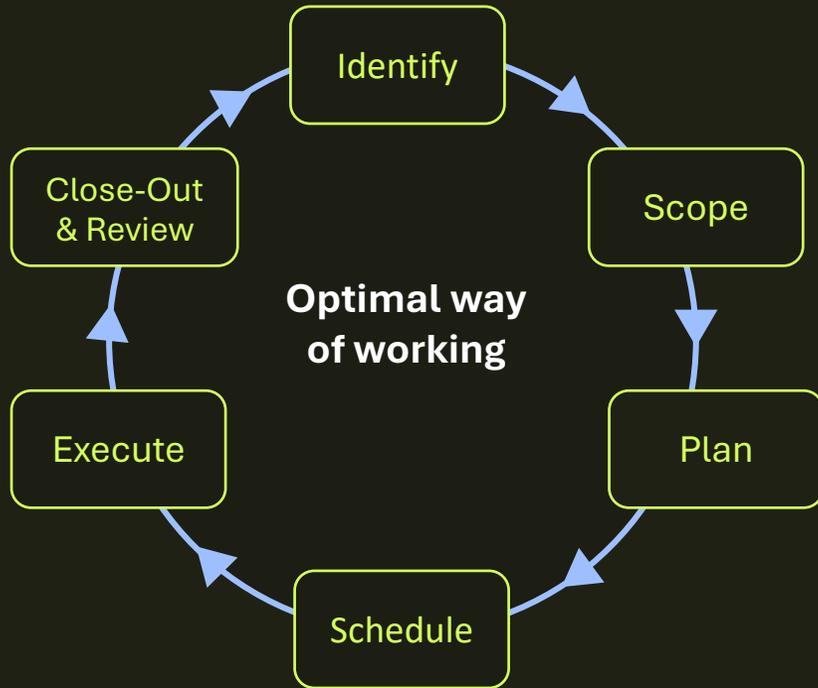
AI Pressure drops in a system can occur due to several reasons, including:

1. **Friction Losses:** As fluid flows through pipes, valves, and fittings, friction between the fluid and the pipe walls causes energy loss.
2. **Pipe Diameter:** Smaller diameters increase resistance and cause higher pressure drops.
3. **Flow Rate:** Higher flow rates lead to increased turbulence, which can result in greater pressure losses.
4. **Pipe Length:** Longer pipes contribute to more frictional resistance, leading to pressure drops.

Message...

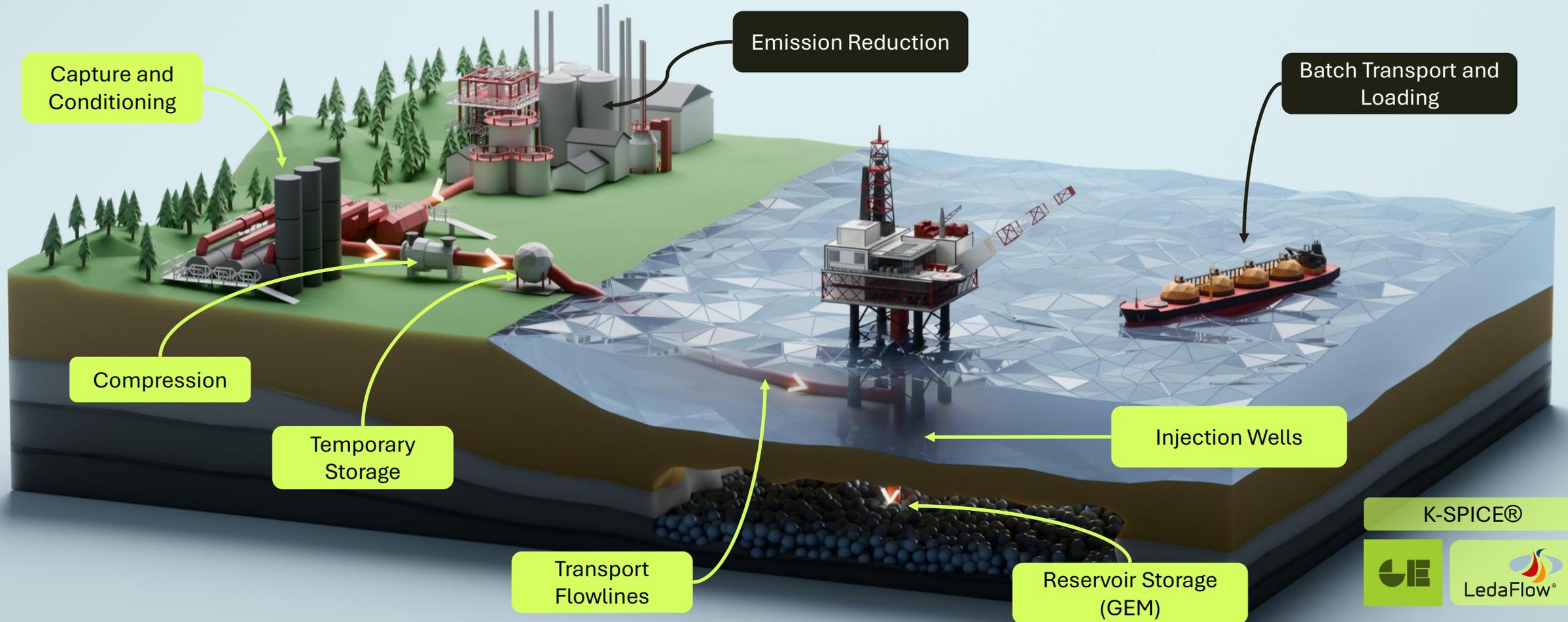
# LivePlan

Future of planning



# K-Spice, Ledaflow and GEM integration

Making CCUS business cases profitable



Emission Reduction

Capture and Conditioning

Batch Transport and Loading

Compression

Temporary Storage

Injection Wells

Transport Flowlines

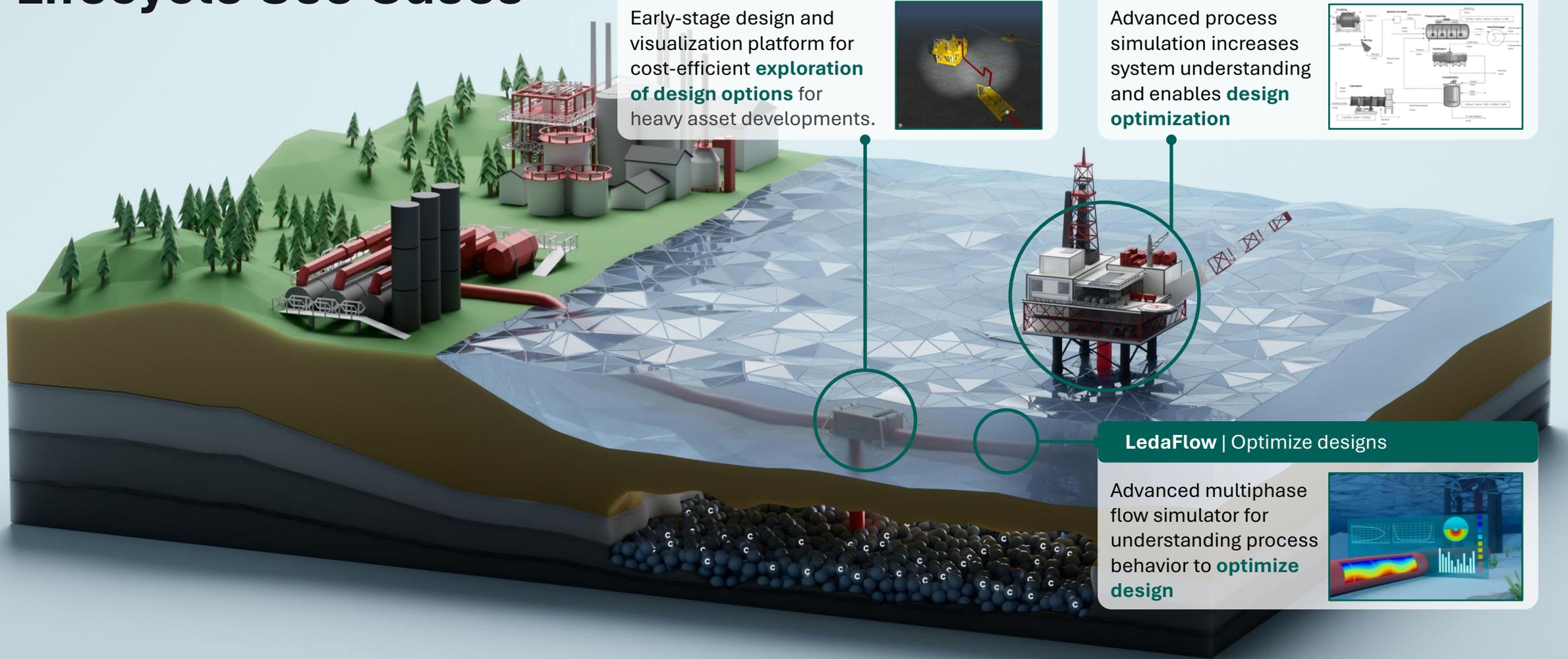
Reservoir Storage (GEM)

K-SPICE®



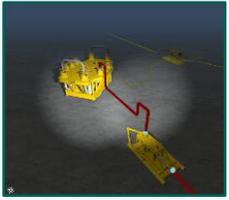
EXAMPLE

# Lifecycle Use Cases



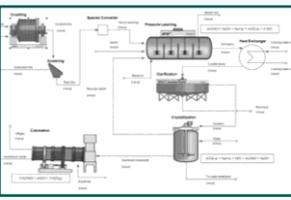
## FieldTwin | Explore design options

Early-stage design and visualization platform for cost-efficient **exploration of design options** for heavy asset developments.



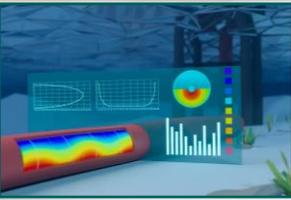
## K-Spice | Optimize designs

Advanced process simulation increases system understanding and enables **design optimization**



## LedaFlow | Optimize designs

Advanced multiphase flow simulator for understanding process behavior to **optimize design**



Lifecycle	Concept & Design	Well Operations	Asset Operations & Optimization
Product	FieldTwin	SiteCom	Kognitwin
	Energy simulators		

# Our uniqueness



Delivering

**Industry-Specific**

End-to-End  
Solutions



Heritage of

**simulation,  
technology and  
Domain  
knowledge**



Proven

**Scalability &  
quality**

for enterprises



Leading the

**AI Transformation**

in Heavy-Asset  
Industries

# Heavy-asset industries offers a multi-dimensional market opportunity

Early innings of how to expand and monetize the totality of the opportunity

Dimensions	Value-add	Examples			
<p><b>100.000.000s</b> of workflows</p>	 <p><b>Automation</b></p>	Data Acquisition	Impact Assessment	Task Sequencing	Work Order Generation
		Alert Generation	Isolation Requirements	Schedule Creation	Stakeholder Communication
		Diagnostic Testing	Permit Approval	Procedure Retrieval	Notification Distribution
<p><b>1.000.000s</b> of workers</p>	 <p><b>Workday Orchestration</b></p>	Field Technician	Reliability Engineer	Maintenance Planner	Field Electrician
		Instrumentation Technician	Installation Manager	Logistics Coordinator	Scaffolding Erector
<p><b>10.000s</b> of assets</p>	 <p><b>Digitization &amp; Analytics</b></p>	Energy	Chemicals	Manufacturing	Mining

See Statement of Proprietary information



# Shaping the future of work

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