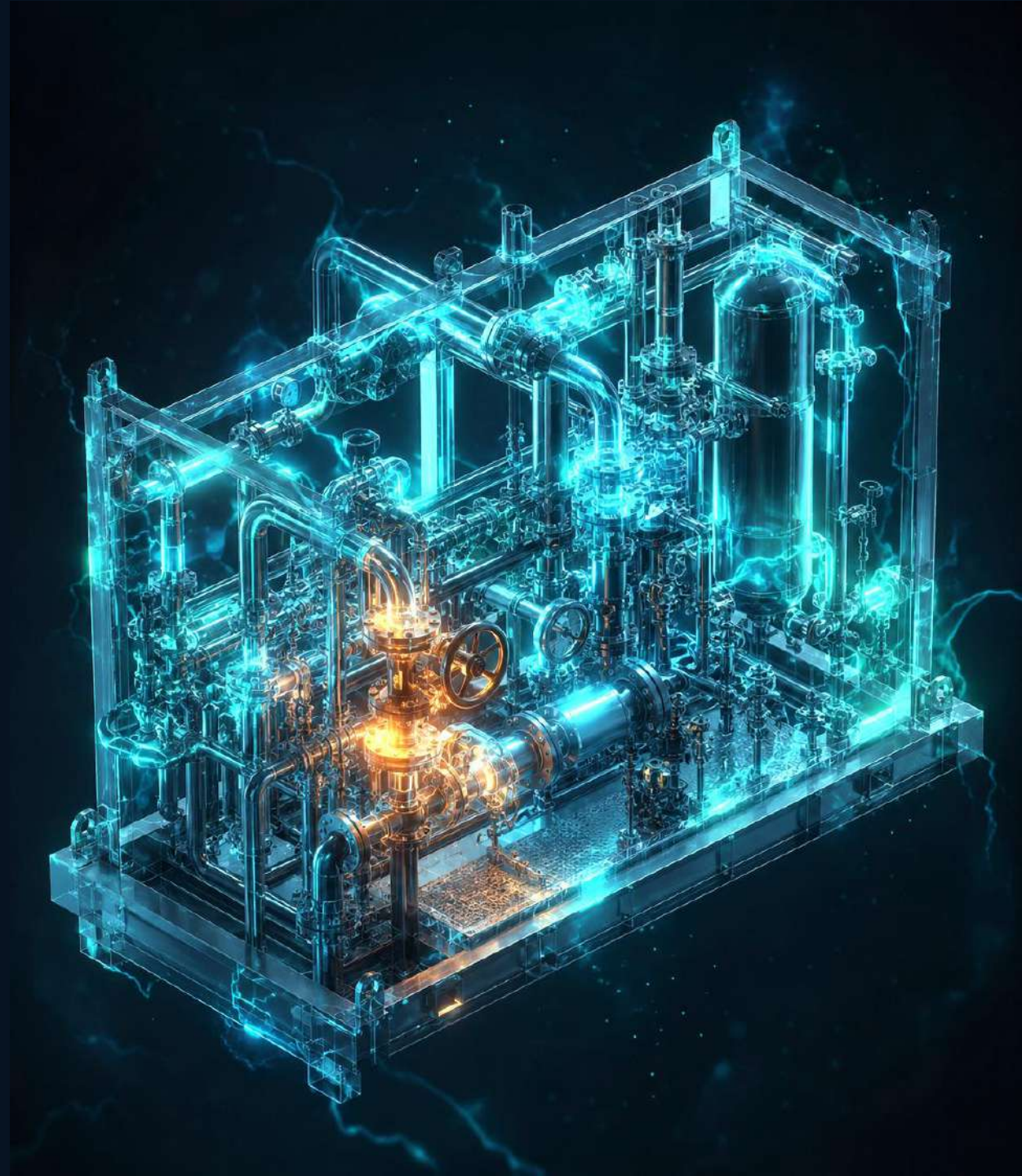
EON AI Ventures

EON AI VENTURES · WORK INTELLIGENCE

EON Live

The plant, running.

The **real-time physics layer** that turns an understood asset into a **living twin** — where **consequences emerge** instead of being scripted.



A Work Intelligence product brief · 2026

THE GAP

An LLM can describe a valve. It can't run the plant.

A **model** that has read every manual still **can't produce a consequence**. It **knows the steps** in order — but **nothing happens** when you follow them. Close the wrong valve and the pressure doesn't rise, the pump doesn't cavitate, **nothing pushes back.**

> ***"Physics doesn't hallucinate."***
>
> **Description is cheap** and everywhere. **Behavior is the moat** — the difference between a recording and a **system that behaves.**

THE REFRAME

Three rungs: replay, understand, run

REPLAYS

Genesis

Plays the steps back in order. A **faithful simulator** of the procedure — but **no concept of pressure.**

UNDERSTANDS

EON Universal

Knows the components and how they isolate. **Authors a branch** because it **knows a fact.**

RUNS

EON Live

Executes that model as live physics. Pressure is present, propagates and decays — the consequence emerges.

WHAT IT IS

A real-time physics runtime for the twin

EON Live sits on the **Babylon engine** and **consumes the component model** EON Universal already produces. It turns each component's properties into **live state — pressure, flow, torque, heat** — integrated every frame across the real piping network. No second capture, no second model.

Universal's model — **EON Live runtime** — **The living twin**

"Physics doesn't hallucinate" *— the same understanding, now executed as behavior you can operate, break and measure.*

SCOPE — READ CAREFULLY

Where Universal ends and Live begins

EON Live does not re-do Universal's understanding — **it executes it**. Live adds only what needs live, simulated state.

UNIVERSAL ALREADY OWNS

- **Recognizes** every component
- **Properties** & connectivity
- Isolation **logic**
- **Composes** valid facilities
- Authors **conditional SOPs**

EON LIVE ADDS

- **Pressure/flow/heat, live**
- **Consequences** emerge unscripted
- **Real-time** transients
- **Telemetry-fed** mirror
- **Scores judgement** from state

ONE MODEL, THREE SURFACES

Author once. Run everywhere.

ANYWHERE

Phone / AR glasses

Practice at home at **1:1 scale**, no hardware at all.

ON THE RIG

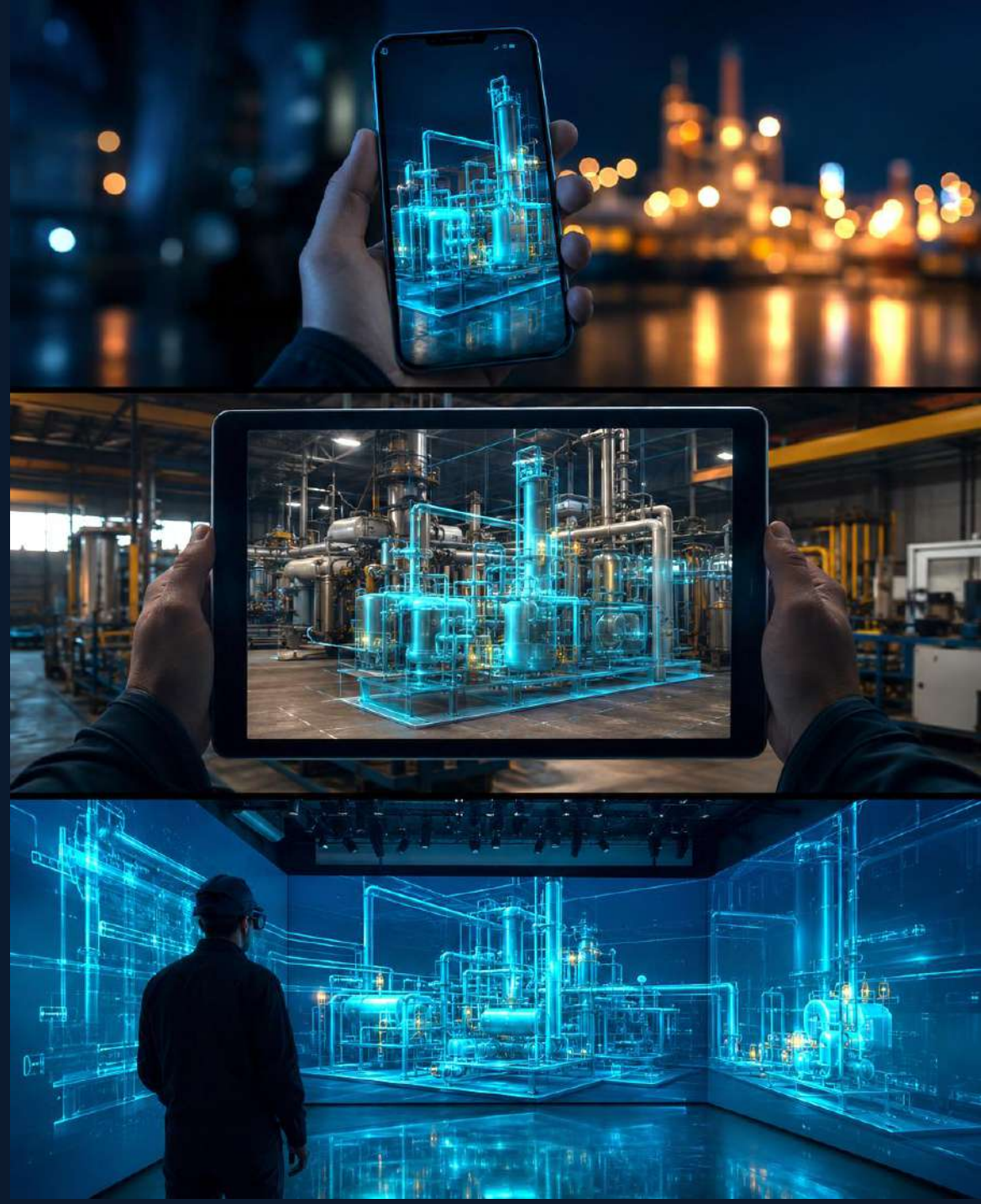
Tablet / AR on the skid

The twin **overlays the real equipment**, part by part.

IMMERSIVE

The CAVE (Holodeck)

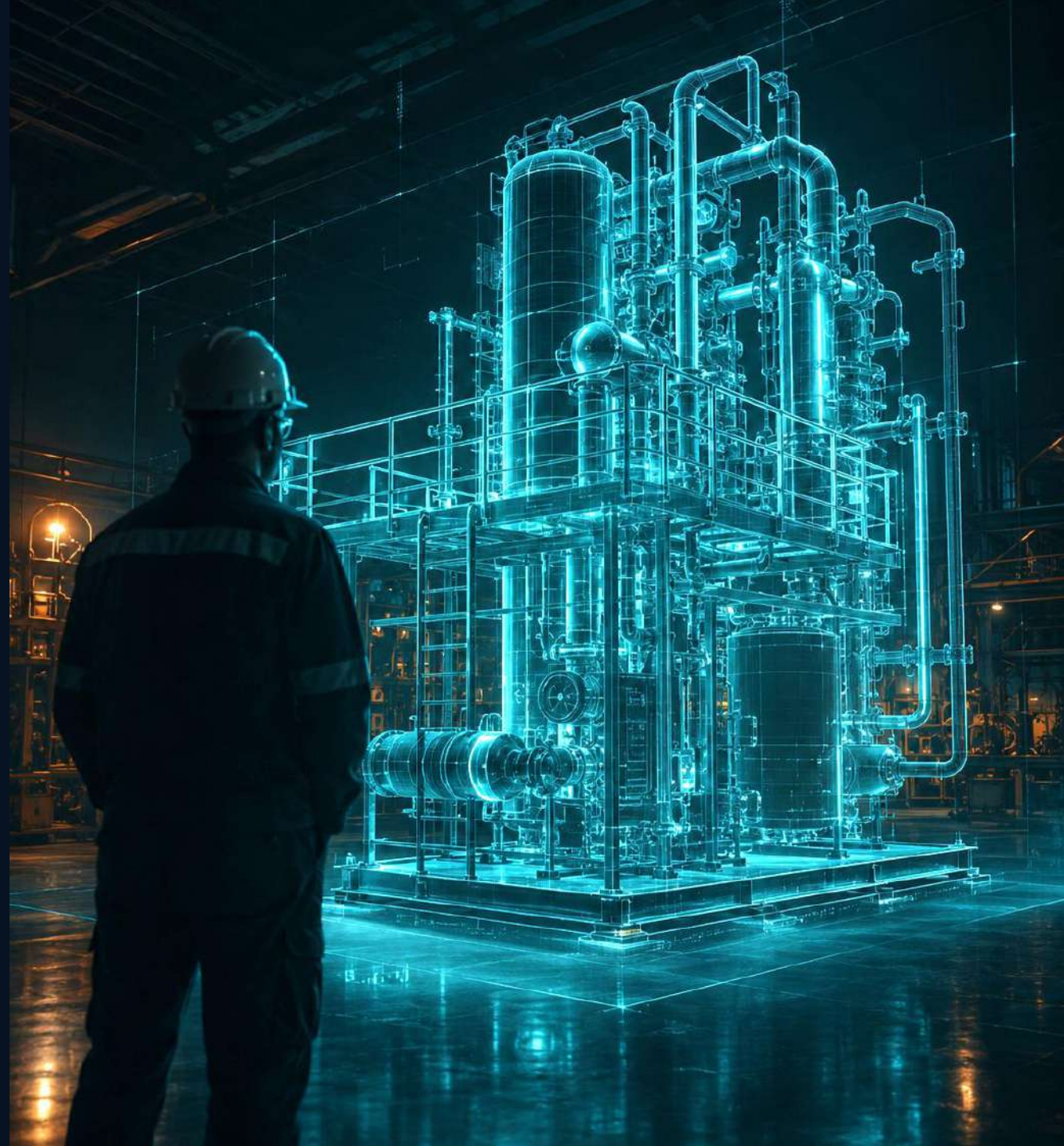
LED walls and floor surround the trainee at scale.



USE CASES

In the training centre

Five ways EON Live changes **how competence is built and proven.**



Consequence-based operation

1

The trainee operates the unit and the **physics decides whether they were right**. A wrong sequence produces a **real, developing upset** — a surge, a cavitating pump, a trip — not a canned “wrong” screen.

WHY IT MATTERS

Competence **you can trust: it’s earned against physics**, not a memorized click-path.

Break-it-safely sandbox

2

Run a pump dry, dead-head it, **water-hammer a line**, or **over-pressure a vessel** until the relief lifts. Impossible on live equipment — and priceless for **building intuition** about where the edge is.

WHY IT MATTERS

The only place a **worker can survive their own worst mistake** and **learn from it.**

Start-up & shutdown transients

3

Rehearse the moment where most incidents happen — managing evolving **pressure, thermal growth and flow** over time — rather than tapping through a fixed list of steps.

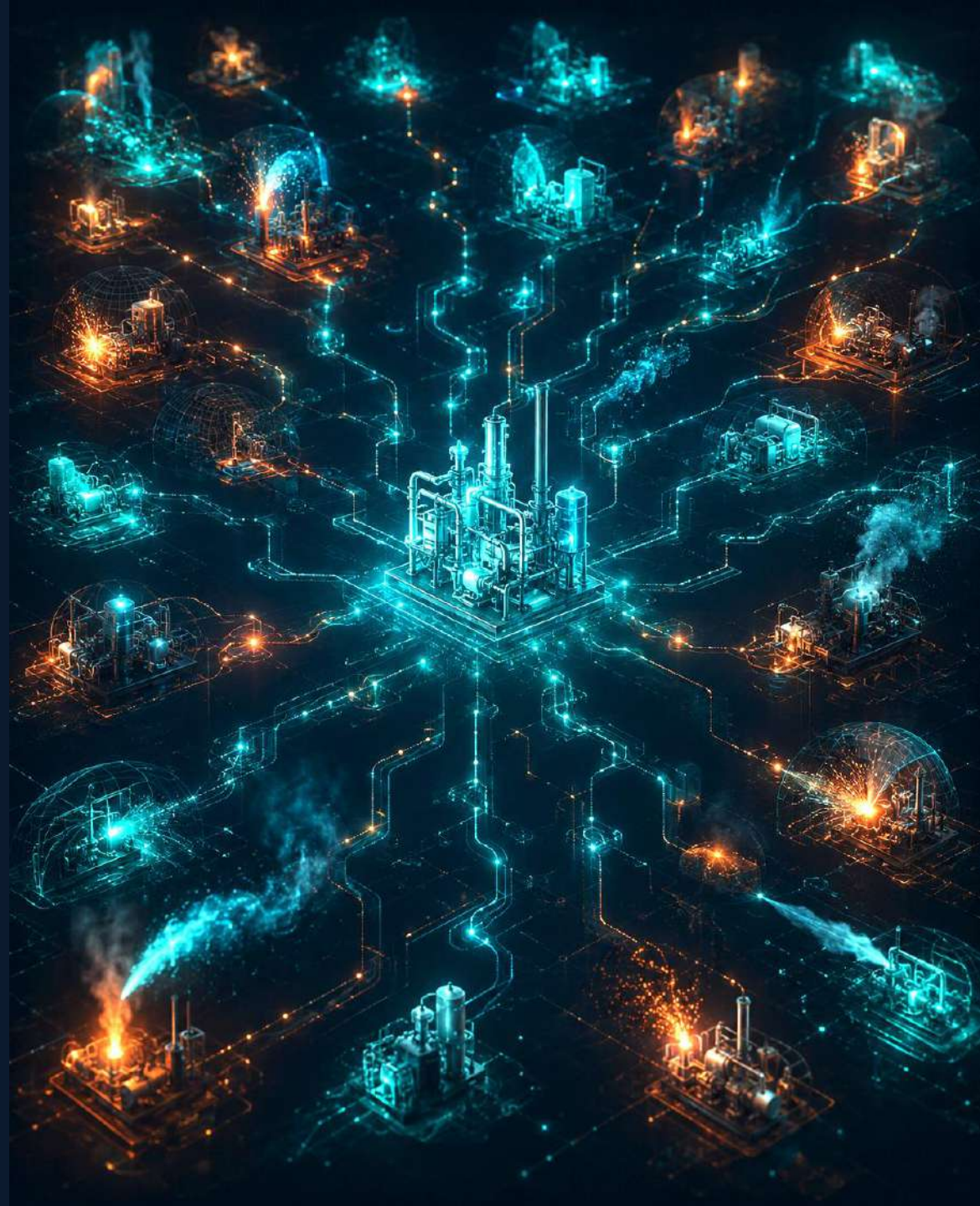
WHY IT MATTERS

Transients cause a large share of **real incidents**, and **can't be drilled on live plant.**

Emergent scenario generation

4

One asset model yields **near-infinite scenarios** from a fault plus physics, with no hand-authoring — giving Assess IQ a bottomless, **varied test bank** drawn from a single skid.



WHY IT MATTERS

An **endless, unrepeatable exam** from one model — **no author required.**

Judgement-based assessment

5

Because the **simulation tracks the full state trajectory**, **competence** is scored on **how a trainee stabilized** an upset — **reaction, sequence, secondary** problems induced — instead of on a quiz.

WHY IT MATTERS

Proof of readiness that stands up to an auditor: **scored on outcomes**, not recall.

USE CASES

On the rig, in the field

Five ways EON Live **de-risks** the next move on **real equipment.**

Pre-action “what-if”

1

Standing at the unit, a **technician asks what happens** if a valve is closed now, and the **twin simulates the consequence** — on the real topology — before anyone touches anything.

WHY IT MATTERS

The **riskiest moment** is the one before you act — **now you can see it first.**

Isolation / LOTO sneak-path finder

2

Because the engine knows connectivity and flow, it **confirms a proposed isolation genuinely isolates** — and **surfaces the sneak path** a person might miss. A **safety capability** on its own.

WHY IT MATTERS

The isolation that **looks safe but isn’t** is exactly **what physics can catch.**

Live-mirror twin

3

Fed real sensor data, the **twin tracks the running asset** and **explains why** a reading is what it is — **flagging a physics anomaly** such as “gauge reads X, but physics says Y, so suspect a blockage here.”

WHY IT MATTERS

Turns a **raw number into an explanation** — and **catches the reading that shouldn’t be.**

Reactive guidance (the first mate)

4

If a technician’s action produces an **unexpected response**, the twin **catches it and re-plans** — moving Field IQ from step playback to **reacting in real time**, like a first mate calling out a bad wave.

WHY IT MATTERS

Guidance that adapts when reality doesn’t follow the script.

Release, dispersion & thermal

5

A gas cloud, a **spreading spill** or fire radiation can be **modelled on the actual plant layout** — for muster-route validation, sensor placement and **evacuation drills.**

WHY IT MATTERS

Plan the emergency on the **real layout** before it ever happens.

USE CASES

Anywhere, and at home

Three ways EON Live moves **rehearsal and design off the plant.**

Turnaround rehearsal

1

The whole **crew rehearses the full sequence remotely** and **multi-user** on the behaving twin. Because physics ties everyone’s actions together, coordination failures surface before the event — not just individual mistakes.

WHY IT MATTERS

The **coordination failures** that cost millions **surface** in **rehearsal**, not on the day.

Test the plan (MOC)

2

An engineer runs a **proposed modification** — a new tie-in, an added pump, a re-route — and watches whether it behaves: dead legs, vibration, pressure drop. The **plan comes alive** before a pipe is cut. This reaches a new buyer in engineering, not only training.

WHY IT MATTERS

Catch the dead leg or vibration **in simulation**, not after the steel is cut.

Remote expert in the twin

3

A subject-matter **expert joins the mirrored simulation**, **demonstrates the fix** inside the simulation, and the field **technician executes it** for real. Physics keeps the demonstration honest rather than hand-wavy over a phone.

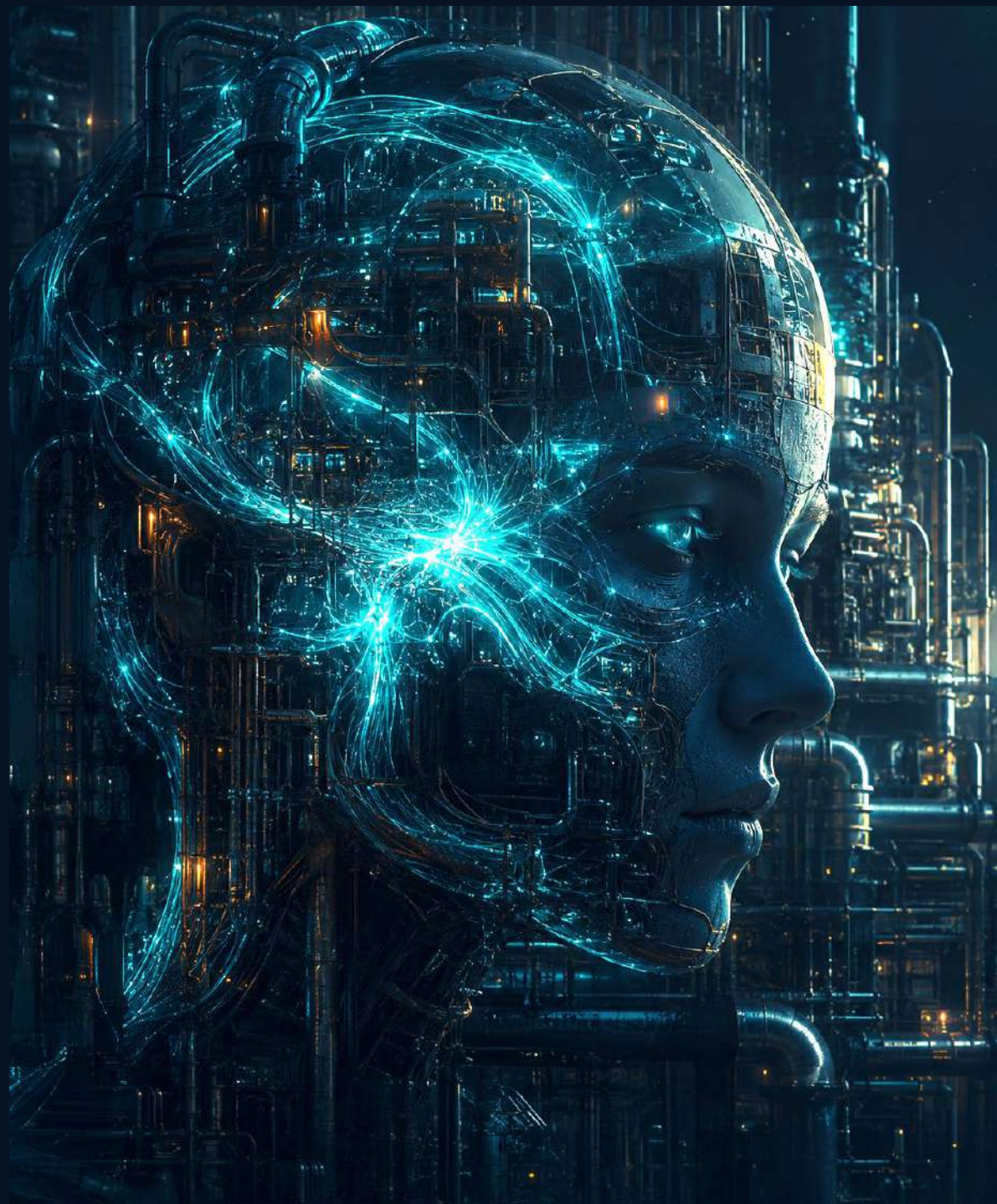
WHY IT MATTERS

Scarce expertise reaches every site without a plane ticket.

NEW CAPABILITIES

Things a parrot could never do

Three capabilities only a running **physics model unlocks**.



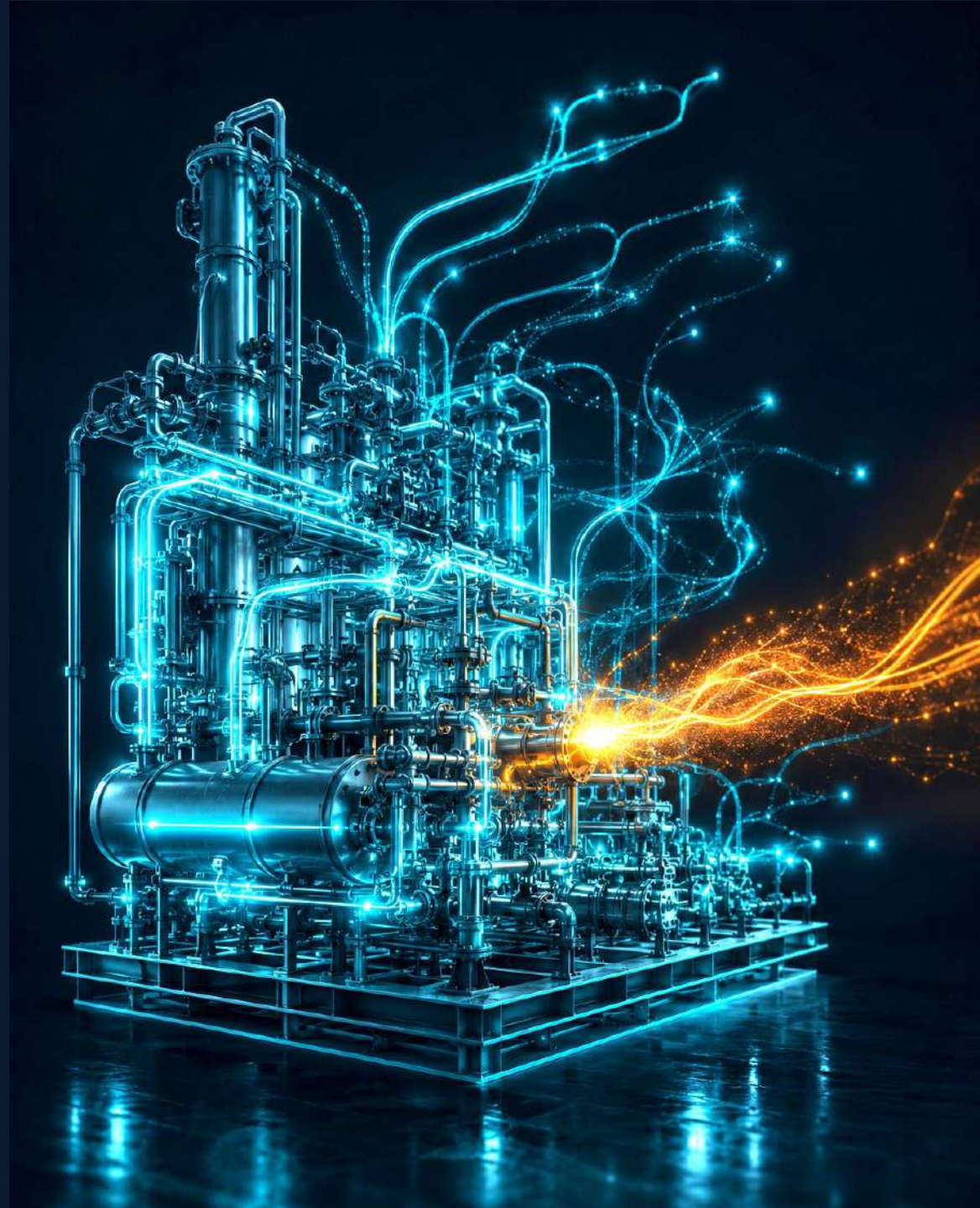
The asset explains itself

1

Ask “why did the pressure spike when I did that?” and it **answers from the running simulation state** — not from a manual. It can **answer questions nobody wrote an answer to.**

WHY IT MATTERS

Answers grounded in a running model — not a plausible-sounding guess.



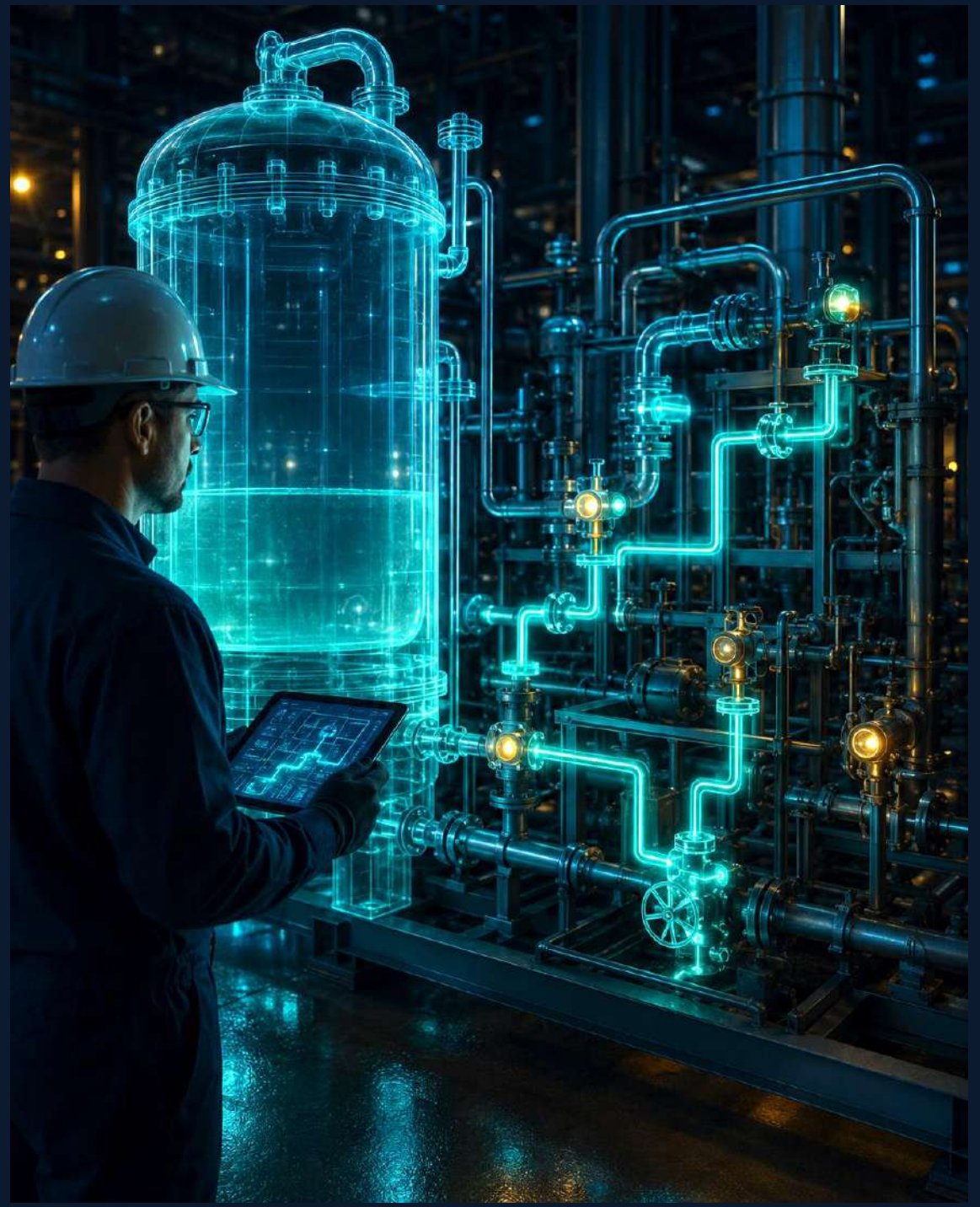
Derive a procedure

2

Give it a goal state — “get this vessel safe for entry” — and it searches the physics and topology to generate a valid, safe sequence for a human to validate. **This is procedure generation, not playback.**

WHY IT MATTERS

The **system proposes the safe path**; the human approves it.



Cheap behaviour at scale

3

A frontier model **specifies each component's behaviour once**; cheaper routed models then instantiate it across every skid. Switchboard economics applied to physics — the **behaviour library compounds instead of costing per site.**

WHY IT MATTERS

Behavior authored once, reused everywhere — the **library compounds**, not the cost.

THE PROOF — BUILD THIS FIRST

The same LOTO skid, now alive

One skid you already **model in the Living Library**. Add a minimal fluid network in Babylon — **valve states gate flow**, one pump curve, one relief set-point — then **run your existing lock-out slide, live**.

TODAY — UNIVERSAL

Branches on an authored “pressure still present?” flag.

Correct — but the pressure isn’t actually there. It’s a label on a decision tree.

WITH EON LIVE

Residual pressure is a real, decaying state variable.

Open the valve early and you get a **real, simulated release**. No branch authored — the consequence emerged.

BEYOND OIL & GAS

One physics engine, many verticals

Oil & Gas	**Pressure & flow networks**, isolation, relief, dispersion
Mining	**Ventilation-on-demand**, dewatering, conveyor & crusher, egress
Power	**Load flow**, transformer thermal, switching sequences
Water	**Hydraulics**, dosing, pump-station control
Process / Pharma	**Batch reactions**, clean-in-place, thermal

It runs typed components, not memorised facilities — so one behavioural runtime compounds across every industry.

BEING STRAIGHT ABOUT FIDELITY

Two tiers of physics — use the right one

TIER 1 · PLAUSIBLE

Real-time. Runs now. On a phone.

The sailing-game class of physics: convincing and interactive, enough to build real intuition. Powers training, field feel and consequence — ~80% of the value, available today. Start here.

TIER 2 · ENGINEERING

Quantitative. For design sign-off.

CFD and thermo-hydraulic accuracy — reduced-order models or coupling to an external solver, not **“Aspen inside Babylon”** on day one. **Reserve it for MOC and real numbers**.

IN THE INTELLIGENCE FLYWHEEL

The physics runtime beneath the flywheel

- Genesis
- Field IQ
- Assess IQ
- Compound IQ
- EON Universal

all consume ↓

- **EON Live** the runtime that **makes them behave**

Conductor orchestrates · **Verdict** gates trust · **Switchboard** governs the models

EON AI Ventures

EON AI VENTURES · WORK INTELLIGENCE

Genesis replays the plant. Universal understands it. **EON Live runs it.**

The plant, running.

First build: the LOTO skid, live — the same slide you present today, now behaving.