EON AI VENTURES · WORK INTELLIGENCE · OIL & GAS

EON Universal

Facility-Agnostic Training & Field Intelligence

*Turning any worker into a **multi-year expert.***

A composable equipment ontology for the industrial enterprise.

EON AI Ventures

White Paper Companion Deck · Version 1.0 · July 2026

THE OPPORTUNITY

Any worker. Any facility.

The people who hold thirty years of judgment are retiring. The people replacing them are green — in places where being wrong is a **safety and escalation problem**, not an inconvenience.

Recognise

Names every component on sight.

Guide

Composes the **correct procedure**, step by step.

Escalate

Stops and **hands off to a human** when unsure.

The worker is green. **The guidance is not.**

THE CORE INSIGHT

Composition, not enumeration

A facility isn't a monolith to be memorised. It's a graph assembled from a **finite library of known components**.

Think of a language. You could memorise every full sentence you'll ever need — endless and hopeless. Or you learn the **words** and build any sentence. EON Universal learns the **components** — then composes any facility.

Enumeration — model every facility

- Scales with the number of facilities — **unbounded**
- Every **new site is a new modelling** effort
- **Permutations** are effectively **infinite** — hopeless

Composition — model the vocabulary

- Scales with **component classes** — bounded, ~50 to start
- **Recognise** nodes, infer topology, **compose**
- Every job makes the system smarter — it **compounds**

You don't program 5,000 locations. **You program the vocabulary they're built from.**

THE BOUNDED LIBRARY

Fifty classes, not five thousand locations

~50	15	80%+
equipment classes to start	top classes carry most daily value	of real field interactions covered

Built on ISO 14224 — the petroleum industry's own equipment taxonomy. When **the system recognises a component**, its output maps straight into the customer's reliability and maintenance data. It speaks their data language on day one.

TIER 1

~50 classes

Core gear a tech touches — 80%+ of interactions

TIER 2

~300 types

Variants & subtypes — rarely surprised

TIER 3

1,000–2,000

Maintainable items: seals, bearings, actuators

*Each class carries a **six-layer competence record** — see next.*

WHAT 'KNOWING A COMPONENT' MEANS

The six-layer competence record

1 Identity
ISO class, aliases, tag pattern

2 Geometry
3D model + multi-angle imagery

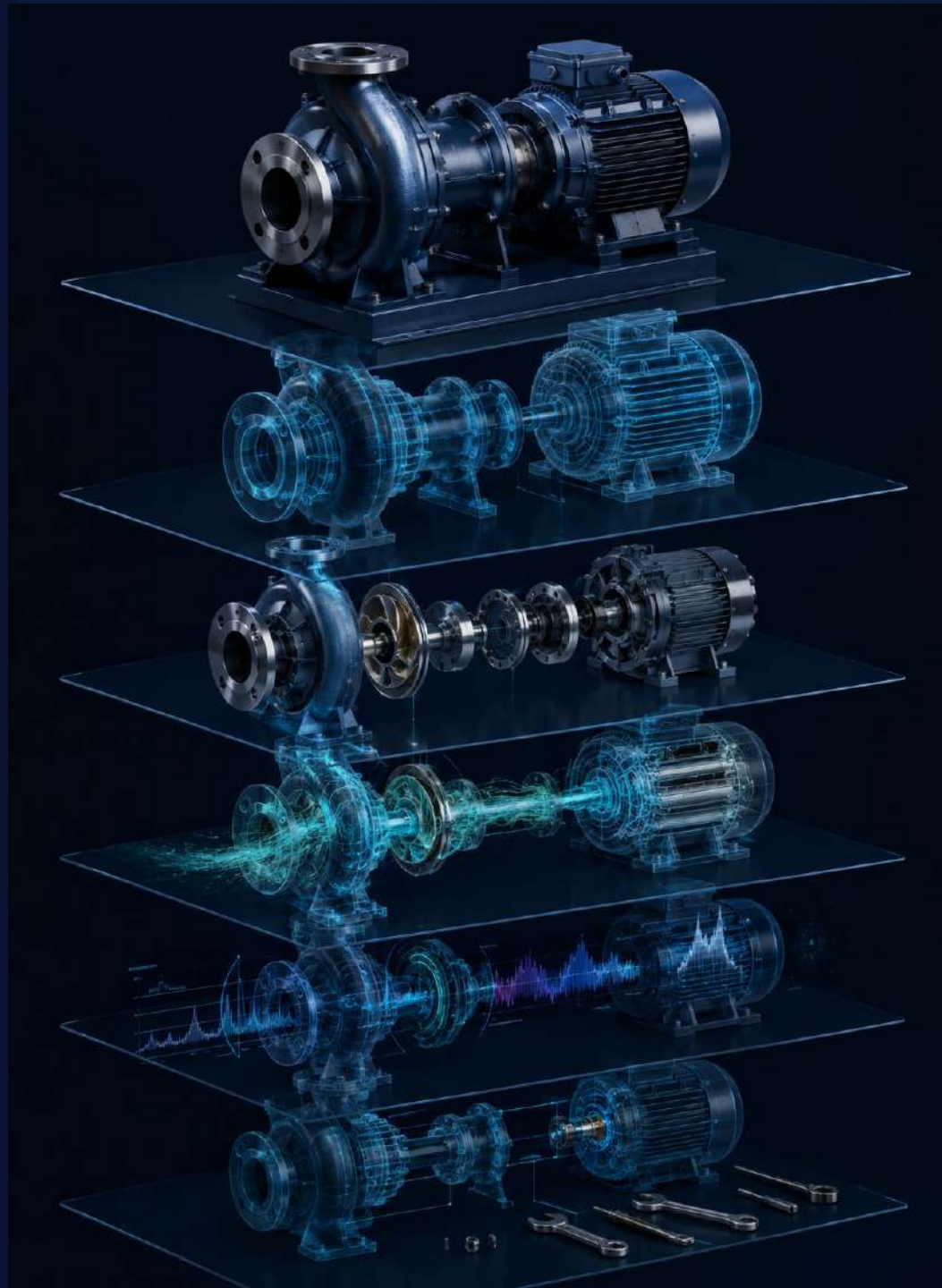
3 Anatomy
Subcomponents & boundary

4 Function
What it does; operating envelope

5 Behavior
How it responds to upsets

6 Procedure
Operate · inspect · isolate · fix

Recognition keys on layers 1–2. Guidance composes from layers 3–6.



ONE METHOD, EVERY HEAVY INDUSTRY

The same engine, beyond oil & gas

Because the system understands components rather than memorising facilities, the **method transfers to any industry** built from a **finite part**s vocabulary. Learn the parts once; help every site built from them.

Petrochemical

~50 classes · ISO 14224

PROVEN —now

Mining & heavy equipment

~40–60 core classes*

Next adjacent vertical

Aerospace & MRO

Bounded part taxonomy*

High-reg, high-value

Power & energy

Turbines, switchgear, BOP*

Same composition logic

**Illustrative — petrochemical is the proven, built library; adjacent verticals follow the same bounded-vocabulary method.*

THE DIFFERENCE

Genesis shows the steps. EON Universal understands the work.

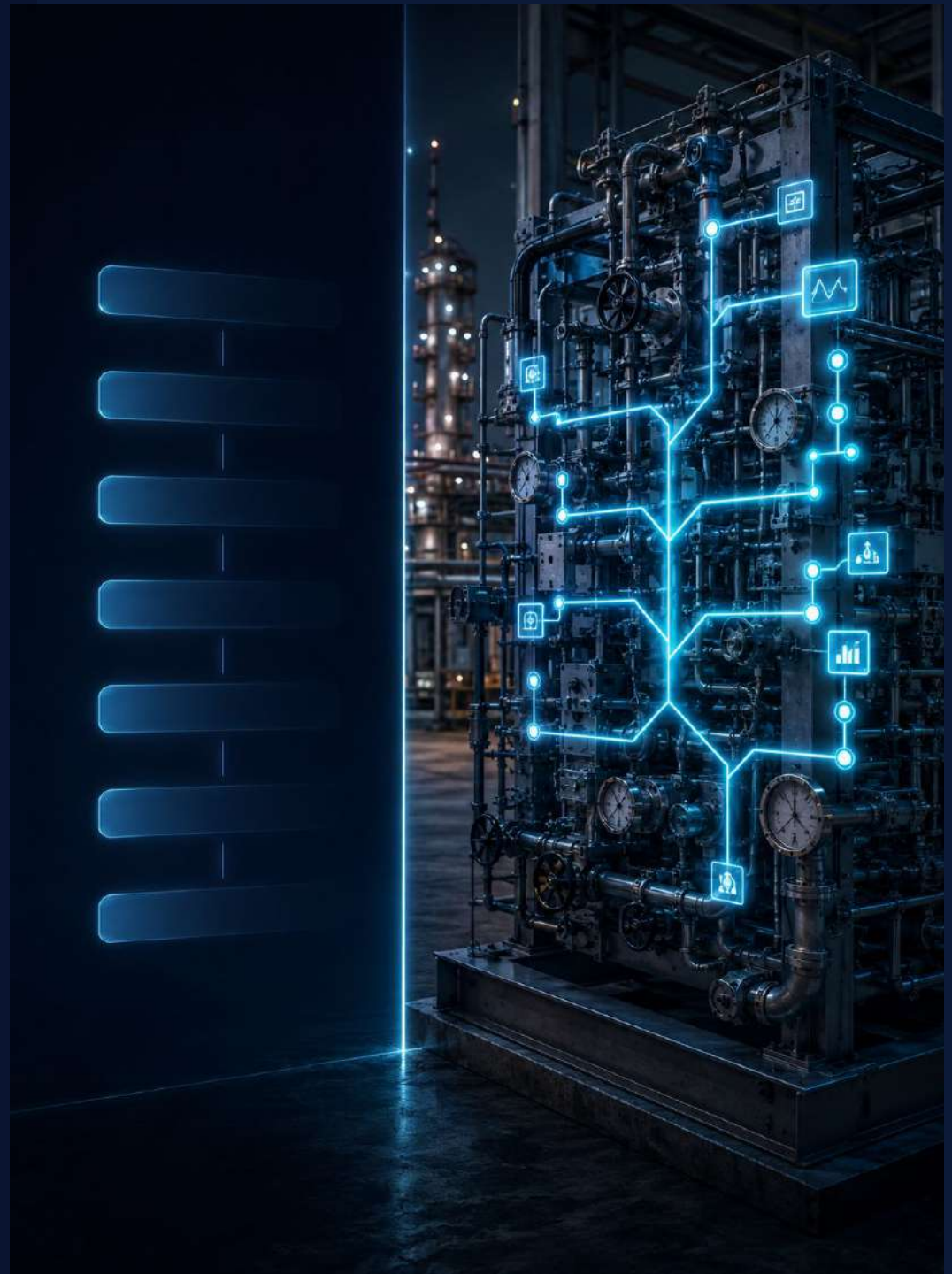
GENESIS — the core engine

- **Needs 3D models** supplied to it
- Handles **sequential SOPs** only — not conditional
- **Knows what to do simulator**/show, but not why
- **Cannot configure** different capabilities
- **Does not recognize** things in real life

EON UNIVERSAL — intelligence + library

- The **component library** + **the configurator**
- **Conditional SOPs** that branch on live conditions
- **Explains why** each step matters
- **Generalizes** to skids it has never seen
- **Recognizes** equipment on sight — feeds FieldIQ + Holodeck

This is the step nobody has taken — not even a simulator. **That understanding is the entire product.**



IN THE TRAINING CENTER

What EON Universal makes possible

Each part **explains what it is**, how it works — and lets you try it.

Talking components

Branching SOPs with safety gates: release pressure before opening.

Conditional procedures

Inject a fault; the trainee must **recognise and respond**, not follow a script.

Fault diagnosis

Unlimited, engineering-valid skids from one component library.

Generative configurations

Defensible, scored evidence a worker is ready — against the standard.

Certification

Every session improves the shared **library** for the next worker.

Compounds

THE PROOF — USE CASE 3

Conditional SOPs: procedures that branch

A fixed SOP is a straight line. A conditional SOP is a **decision tree with safety gates** — the next action **depends on a live condition**. Only authorable because **Universal understands the equipment.**

De-energise
verify zero energy

›

Pressure still present?
live condition

›

Bleed down
re-check ↻ loop

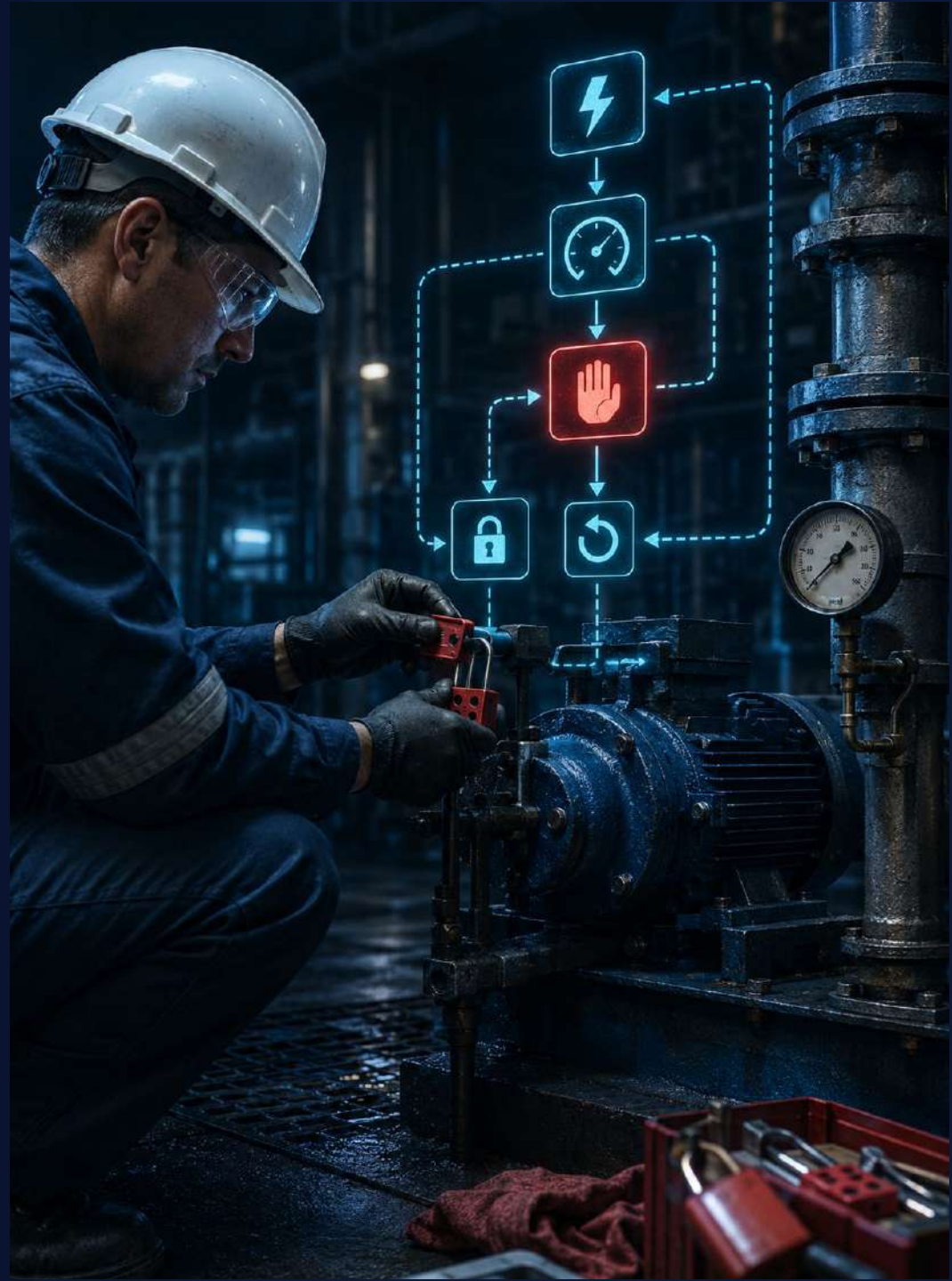
›

Proceed to open
E=0 · P=0 · safe

Abnormal → STOP & escalate (Verdict)

Why this is the proof. The 'pressure still present?' branch only exists because Universal knows a pump stores pressure after power-off. **Genesis has no concept of pressure — so it cannot branch on it.**

Seven training use cases: talking components · guided & scored SOP · conditional SOPs · fault injection · generative skids · AR-only practice · certification



THE PROOF — USE CASE 3

Conditional SOPs: procedures that branch

ONE SYSTEM, THREE SURFACES

Author once — deliver everywhere

ANYWHERE

Phone / AR glasses

AR-only at **1:1 scale.** Practice at home with no physical hardware at all.

ON THE RIG

Tablet/AR Glasses on the Skid/Rig

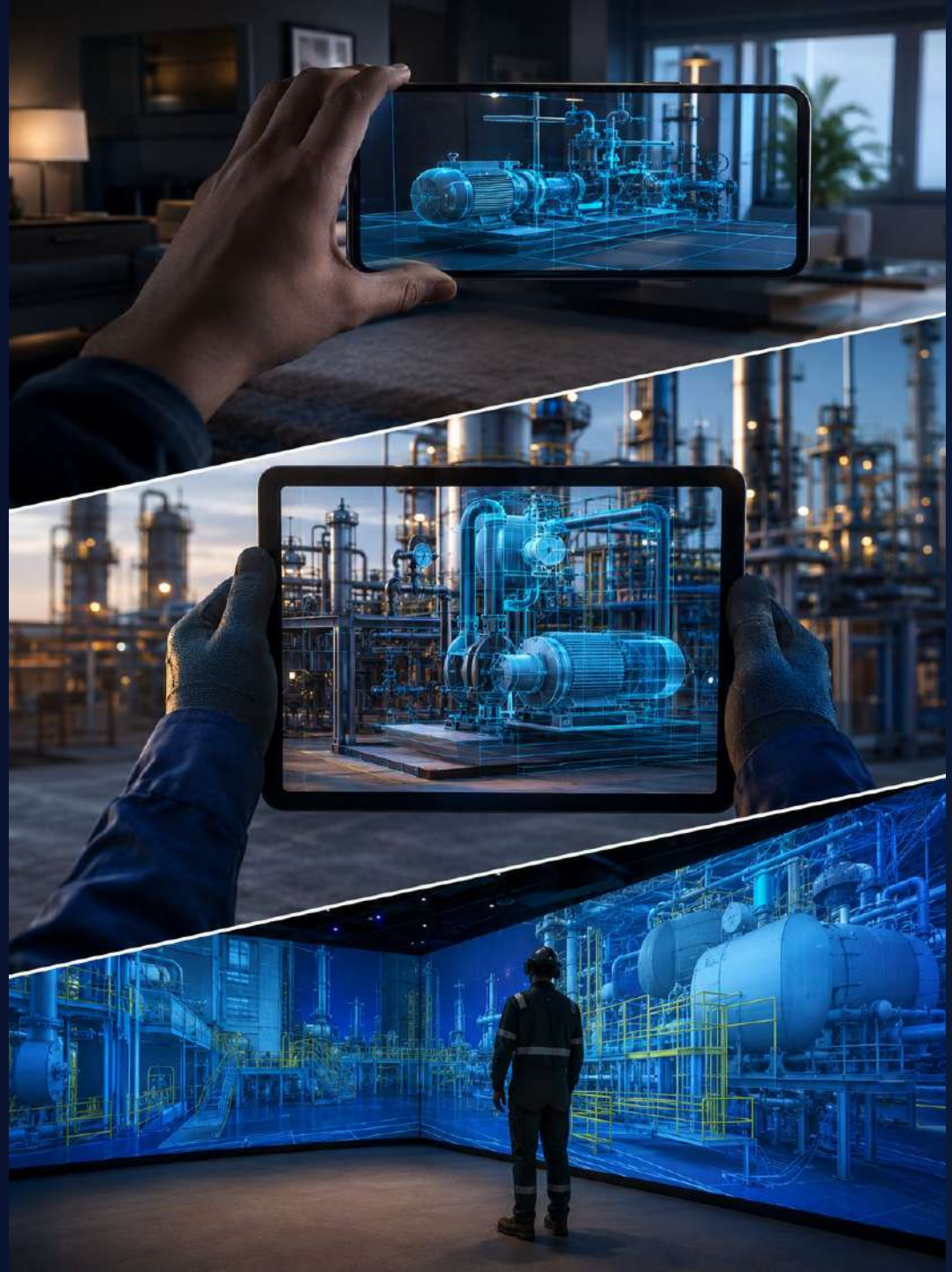
LiDAR overlays **the digital twin** onto the **real skid** — each part tappable.

IMMERSIVE

The CAVE (Holodeck)

LED walls and floor surround the trainee in a generated skid **at scale**.

Phone at home → tablet/AR glasses on the Skid/Rig → CAVE for immersive, infinite training. The same understanding drives all three. The CAVE — a modern LED reborn iCube — is the premium upsell tier.



HOW WE BUILD IT

The Pyramid — layer by layer

6 Field	Use everything in the real field — the eventual goal
5 SOPs	Standard procedures applied on the foundation
4 Foundational skills	Must-know basics, especially safety
3 Function	What each labelled component does
2 Label	Every component identified and tagged
1 3D model	An accurate model — the base of everything

You cannot skip a level. Layers 1–3 understand components, not facilities — which is exactly the bridge to the universal solution.

EON AI Ventures

Own the work, not the weights

Genesis

The core engine. Models, labels, runs step-by-step SOPs.

›

EON Universal

Adds intelligence, the library, the configurator, recognition.

›

FieldIQ + Holodeck

Delivery: field recognition, on-the-spot guidance, scenarios.

- Every job makes the system smarter — a product that compounds.
- Works on facilities it has never seen — recognise, infer, compose.
- A bounded library you own — not a per-site modelling cost forever.

Genesis shows the steps. **EON Universal understands the work.**