EON AI Ventures

From Bits to Atoms

The Intelligence Flywheel and the Rise of Physical AI

How operational competence — the asset that already accounts for most of an industrial company's value — becomes the defining advantage of the Physical AI era, and how EON's Intelligence Flywheel turns it into a compounding, ownable asset.

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Executive Summary

Forty years ago, the personal computer arrived doing what looked, at the time, like trivial work: spreadsheets, memos, slides. It manipulated representations of the world, not the world itself. Over the following decades the locus of value migrated — from shuffling bits to controlling atoms, from documents to the machines, vehicles, grids, and factories that computing now runs. The companies that made the early, faintly absurd bet — that the computer would one day operate the physical world — built the most valuable layer of the modern economy.

Artificial intelligence is at exactly that inflection today. The current wave — chatbots, copilots, document and code generation — is AI's spreadsheet era: extraordinary, lucrative, and confined to the screen. The next wave, which NVIDIA and others now call Physical AI, is AI that perceives, reasons, and acts in the physical world.

This paper argues three things. First, that the bridge from bits to atoms is **competence** — the tacit, physical-world know-how that lives in people and in no public dataset, and that already represents the overwhelming majority of an industrial company's real value[1]. Second, that capturing and compounding this competence requires a closed loop — the **Intelligence Flywheel** — that runs in both directions: bits to atoms, and atoms back to bits. Third, that EON is uniquely positioned to own this layer, defended by four compounding moats and proven across 25 years of operations.

The prize is large and concrete. A single industrial major represents tens of millions of dollars in annual recurring revenue across authoring and field operations; the top hundred target accounts represent a multi-billion-dollar opportunity; and the fully addressable operations layer across heavy industry exceeds one hundred billion dollars per year — before the same captured competence is sold a second time, as training data for robots. The vision is simple to state: while others automate the screen, EON builds the intelligence layer for the physical world — for people first, and machines next.

[1]Ocean Tomo, Intangible Asset Market Value Study (updated 2025): intangible assets rose from roughly 17% of S&P 500 market value in 1975 to approximately 92% by the end of 2025.

1. The 1981 Inflection

When the IBM PC launched in 1981, its killer applications were a spreadsheet and a word processor. To a factory manager or a field engineer, this was a curiosity. The machine could model a budget, but it could not turn a valve, weld a seam, or guide a hand. For years, computing lived entirely in the realm of representation — numbers, text, and images about the world, never the world itself.

That boundary did not hold. Decade by decade, computing crossed from bits into atoms: numerical control on the shop floor, embedded systems in every machine, robotics in the warehouse, software in the car, intelligence in the grid. The center of economic gravity moved with it. The desktop-productivity layer remained enormous — it made Microsoft one of the most valuable companies on earth — but the larger, deeper prize turned out to be the layer where computing reached into the physical world and ran it.

> *Every general-purpose technology begins in representation and matures into physical control. Value compounds fastest at the transition — and accrues to whoever owns the bridge.*

This is the pattern worth holding in mind. A new general-purpose technology arrives, is first used for thin, symbolic tasks, is dismissed as a toy by serious operators — and then, over years, learns to act on the physical world, at which point it becomes infrastructure. The fortunes were made by those who saw the transition early and built the connective layer between the new intelligence and the old, physical economy.

2. AI Is at the Same Inflection

AI is repeating the trajectory of the PC, only faster. NVIDIA frames the progression in four stages: perception AI that recognizes images and sound; generative AI that produces text, images, and code; agentic AI that reasons, plans, and acts; and, finally, **physical AI** — systems that understand the laws of physics and operate in the real world[2]. Today's headline AI — the chatbots and copilots — is the spreadsheet era of this curve: it lives on the screen, it serves the white-collar desk, and it is, broadly, the contest the large language-model providers are fighting over.

The frontier, however, is atoms. The same observers now describe a "ChatGPT moment" arriving for robotics and physical systems, with the industrial robotics market alone projected to grow roughly nine-fold this decade[3]. The white-collar layer is being won on the screen. The physical-world layer — operations, field work, the trillions of dollars of global GDP that run on energy, mining, manufacturing, aerospace, and infrastructure — is wide open.

EON's upgrade on the pattern

The PC took the physical world in one direction over forty years: bits slowly learned to control atoms. EON's thesis is that the decisive architecture for Physical AI runs in both directions and closes the loop. Knowledge held as bits becomes competent action on atoms; that action is captured back as new bits; and those bits make the next action sharper. Bits to atoms, and atoms to bits — a loop, not a pipeline. That loop is the Intelligence Flywheel, and running it in both directions is what separates a compounding platform from a one-way tool.

[2]NVIDIA, Jensen Huang, CES 2025 keynote: AI's progression from perception to generative to agentic to physical AI; "the ChatGPT moment for robotics."
[3]Astute Analytica, Industrial Robotics Market report (cited 2025): projected growth from ~$27.0B (2024) to ~$235.3B (2033).

3. The Bridge Is Competence

For AI to act on the physical world, it needs something it cannot scrape from the internet: the know-how of people who actually do the work. This is not the procedure written in the manual. It is the judgment, the feel, and the thousand small corrections that separate the document from reality — what a master operator does that the standard operating procedure never says.

The philosopher Michael Polanyi gave this its enduring name. “We know more than we can tell,” he wrote[4]: the most valuable expertise is *tacit* — it resists being fully written down, and so it lives in people’s hands and instincts rather than in any record. The gap between the written procedure and what an expert actually does is precisely this tacit knowledge. It exists in no training corpus on earth. It is the asset.

Competence is most of the value, and none of the balance sheet

This is not a soft claim. The share of corporate value held in intangible assets — know-how, process, intellectual capital — rose from roughly 17% of the S&P 500 in 1975 to about 92% by the end of 2025[5]. The physical assets an industrial company reports — the rigs, plants, and machines — now account for less than a tenth of its market value. Consider any resource or industrial business: the extraction rights are a commodity available to anyone with capital; the machinery is financeable and identical to a competitor’s; what actually distinguishes the company is the competence to run it safely, at uptime, without the incident that erases a quarter. That competence is the bulk of the value — and it appears nowhere on the balance sheet.

The competence gap is the binding constraint of the Physical AI era

Two forces are converging to make this urgent. The workforce that holds the tacit knowledge is retiring: in manufacturing, roughly a quarter of workers are 55 or older, and the overwhelming majority of employers report acute concern about the loss of expertise as they leave — the so-called “Great Crew Change”[6]. At the same time, the World Economic Forum finds that the skills gap is now the single largest barrier to business transformation, named by 63% of employers, with nearly 40% of core skills set to change by 2030 and 59 of every 100 workers needing reskilling[7]. Capital is abundant; equipment is available; what is scarce — and getting scarcer — is competence. Whoever can capture, verify, and redeploy it owns the constraint.

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[4]Michael Polanyi, The Tacit Dimension (1966).
[6]Industry surveys on the “Great Crew Change” and manufacturing brain drain: roughly a quarter of U.S. manufacturing workers are 55+, and ~97% of manufacturers report concern over knowledge loss from retirements.
[7]World Economic Forum, Future of Jobs Report 2025: 63% of employers cite the skills gap as the leading barrier to transformation; ~39% of core skills change by 2030; 59 of every 100 workers need reskilling; 170M roles created and 92M displaced by 2030 (net +78M).

4. The Intelligence Flywheel

EON's answer is a closed loop of four motions, each a product, each a stage of the wheel:

- **Encode — Genesis.** AI-authored digital twins and step-by-step procedures: the gold standard of how the work should be done, built fast.
- **Deploy — FieldIQ.** Live guidance delivered to the worker in the field, on glasses or screen, where bits become competent action on atoms.
- **Capture — AssessIQ.** Ambient capture of what actually happened, measuring the delta between the gold standard and reality — turning atoms back into bits.
- **Compound — the data asset.** Each captured delta feeds back into the twin and the procedures, so the next worker starts sharper than the last.

The loop is spun by EON Conductor, which orchestrates the cycle, and gated by EON Verdict, which adversarially verifies content before it is trusted — the precondition for letting the wheel turn on safety-critical work with little human oversight. The result is not a product list but a single, self-reinforcing system: buy one piece without the others and the wheel cannot turn.

> *A product list answers what we sell. A flywheel answers why all of it has to exist together — and why the advantage widens with every turn.*

The outcome of the wheel is what EON calls Human 2.0: people made measurably more capable by the man–machine pairing — not replaced, but multiplied. The thesis (bits to atoms to bits) is the direction; the flywheel is the engine; Human 2.0 is the payoff.

5. Four Compounding Moats

Each motion of the flywheel sits on a distinct, defensible advantage. Together they are why the lead widens rather than erodes.

Moat	What it is	Why it is defensible
Creation Genesis / Encode	36 years of XR and simulation depth plus an AI-native world-manipulation layer: automatic procedure generation, component identification, SOP-linking, and conversational authoring.	Anyone can render a twin; nobody else can author and operate it this way. Accumulated depth cannot be shortcut by a well-funded fast-follower.
Data AssessIQ / Capture	The delta between procedure and reality — proprietary, unscrapeable, compounding, and owned by the customer.	Foundation models absorb enterprise knowledge into a shared model; EON inverts this — your competence stays your owned, on-balance-sheet asset. The data network effect deepens per account with every cycle.
Deployment FieldIQ / Deploy	Ambient capture on commodity hardware already on site — fixed plant cameras and worn glasses — not a $6,000 headset that publishes PDFs to a visor.	No capital-expenditure wall. Rides on whatever device is on the worker, so it scales to every site and every worker as hardware commoditizes.
Lock-in xAPI / Govern	The audit-grade ledger of who can safely do what, integrated into compliance, HR, and safety systems via xAPI.	Once EON is the system of record for verified competence, switching cost grows the longer the loop runs. Embedded and sticky.

The three an investor underwrites hardest are the data moat, the closed compounding loop, and the system-of-record lock-in — the trio that makes EON more defensible over time, which is precisely what commands a premium.

6. Human 2.0 and the End of the LMS

The traditional learning management system was built to answer a weak question: did the worker watch the content? Learning science has long known this is the wrong target. Ebbinghaus's forgetting curve shows that knowledge decays rapidly without reinforcement; Ericsson's research on deliberate practice shows expertise is built through feedback-rich repetition, not content consumption; Kolb's experiential learning model shows that competence forms by doing and reflecting, in context. Completion is not competence.

EON replaces the question. Instead of "did you watch the video," the flywheel verifies "can you actually do it — measured against the gold standard, in the real environment." That is a category replacement, not a feature war: it makes the traditional training model obsolete by addressing what it never could.

This is also why the market framing matters. The global corporate LMS market is only on the order of $11–$15 billion[8]. "Replacing the LMS" is the recognizable comparison — but it undersells EON by roughly seven-fold, because the flywheel does not stop at training. It runs into operations, where the value is created and where the far larger market lives.

[8]Precedence Research / Custom Market Insights (2025): the global corporate LMS market is estimated at roughly $11–$15 billion in 2025, growing ~19–20% annually.

7. The Market, in Three Concentric Circles

The economics are anchored in real enterprise demand. Each account carries two revenue lines: authoring (Genesis), a multi-million-dollar engagement that lands the account; and operations (FieldIQ), a recurring per-worker subscription that is roughly ten times larger and grows with deployment.

Circle	Basis	ARR potential
One anchor account	Authoring (~$3–$5M) plus operations at 10–30k field users ($2,000 / user / year).	**~$25–$60M** per major, fully deployed
Top 100 accounts	Each landing at a modest ~$25M blended deployment across the target list.	**~$2.5B** from 100 logos
Heavy-industry ceiling	50M+ frontline workers across energy, mining, aerospace, chemicals, refining, manufacturing, utilities and maritime, at $2,000 / year. [9]	**~$100B / year** operations layer ceiling

> *The cleanest way to state it: $1 billion in recurring revenue is roughly 40 accounts. With 4,400 institutional customers and a concentrated target list, that is a sales-execution number — not a moonshot.*

Above this ceiling sits a second, uncapped market that requires no new product: the same captured competence, sold as training data to robotics makers. The operations layer is the recognizable prize; robotics is the optionality stacked on top.

[9] IEA, World Energy Employment: the oil and gas industry employed approximately 12.4 million people worldwide (2023).

8. Track Record and Proof

This is not a thesis being tested from zero. EON brings a 25-year operating history, built on a team with 36 years in XR and simulation — the accumulated depth that the creation moat depends on.

- 4,400+ institutional customers across 80+ countries; 136M+ platform downloads; $800M+ in cumulative revenue.
- A defensible patent position: five granted U.S. XR/VR patents and four pending applications.
- Genesis in production: world-centric authoring with a large library of interaction primitives, templates, and courses across 17 industry segments.
- Anchor enterprise engagements with global energy majors, including ExxonMobil and Saudi Aramco, validating the flywheel in the most demanding, safety-critical environments.

A new entrant would have to build the capture methodology, accumulate the data library, and earn the enterprise relationships — from nothing. EON starts with all three, and the relationships are what keep the library growing.

9. The Frontier: From Human 2.0 to Physical AI

The loop is embodiment-agnostic. The competence captured to make a human more capable today is the same competence that becomes a robot's curriculum tomorrow. As Physical AI matures, the digital twin built in Genesis becomes the environment a robot learns in, and the verified field execution captured by AssessIQ becomes its training set. The consumer of the flywheel's output simply shifts from a human to a machine; the loop does not change.

And the further work moves from the familiar — offshore, into the arctic, into autonomous plants, eventually to the moon and to orbital infrastructure — the higher the scarcity premium on competence, because there is no expert to fly in. Encapsulated competence, delivered to a worker's glasses or to a robot's controller, becomes the binding constraint of the entire operation.

> *While others automate the screen, EON builds the intelligence layer for the physical world — the system of record for how work is actually done well, for people first and machines next.*

That is the whole of it. AI is crossing from bits to atoms, as computing did before it. The bridge is competence. The engine is the Intelligence Flywheel, run in both directions so the advantage compounds. And the company positioned to own that layer — with the depth, the data, the deployment model, and the track record to defend it — is EON.

Sources

Full citations appear as footnotes throughout. Primary sources include: Ocean Tomo, Intangible Asset Market Value Study (2025); World Economic Forum, Future of Jobs Report 2025; International Energy Agency, World Energy Employment; NVIDIA / Jensen Huang, CES 2025 keynote on Physical AI; Michael Polanyi, The Tacit Dimension (1966); and corporate LMS and industrial-robotics market analyses (Precedence Research, Custom Market Insights, Astute Analytica). Figures are rounded; market-size estimates vary by source and are presented as ranges where appropriate.