

USE TECH



Empowering The Next Generation Of **Smart Manufacturing**

Why Manufacturing Growth Becomes Harder to Control



Fragmented visibility

Limited real-time, end-to-end visibility across operations.



Delayed decision-making

Production data arrives too late to support high-speed environments.



Scaling inefficiencies

Operational losses increase with growth.



Rising operational risk

Greater throughput amplifies safety, downtime, and cost exposure



Reactive quality control

Quality issues are identified after impact instead of prevented upstream.

Global



- Only **16%** of manufacturers have real-time, end-to-end production visibility
- Unplanned downtime consumes **~11%** of revenue

Saudi Arabia



- **66%** of organizations report weekly disruptions from core IT gaps
- **245.7 / 100,000** workers: non-fatal injury rate

Key Facts

What Smart Manufacturing Really Means

Smart Manufacturing is the systematic use of real-time data to drive faster decisions, tighter operational control, and predictable outcomes.

Connects machines, processes, and systems into a unified data layer

Transforms raw data into actionable insights in real time

Enables closed-loop decision-making

Shifts operations from reactive to predictive and autonomous



SMART MANUFACTURE: From Production to Control

Control on-time

Decide faster

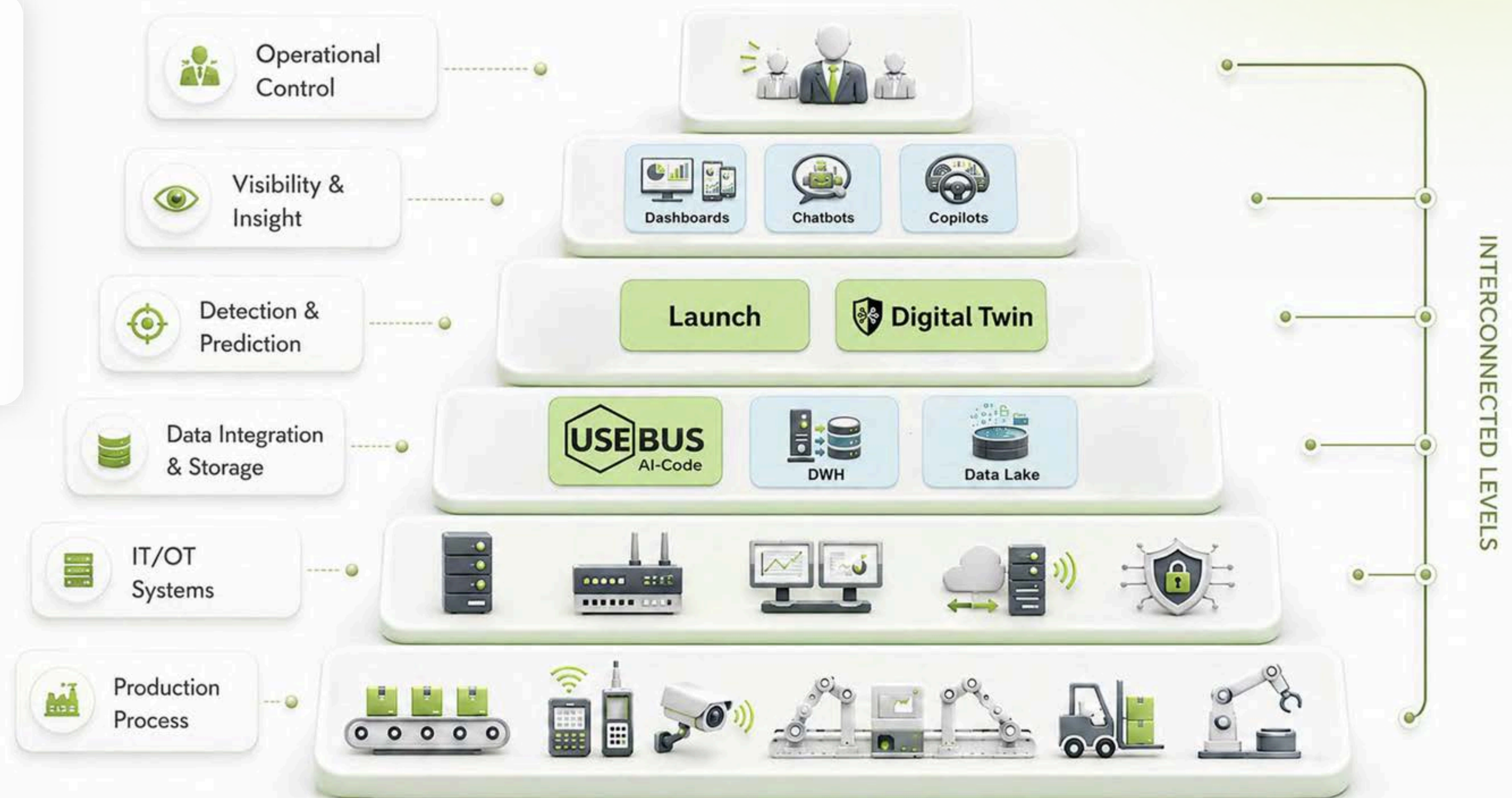
Detect earlier



Our Technology Portfolio for Smart Manufacturing

A modular, end-to-end portfolio covering the critical capability layers required to build, scale, and operate Smart Manufacturing.

- Custom Solutions
- Platform Solutions



Expanding on Top of Existing Infrastructure



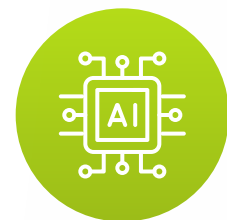
Toolset extension, not replacement. Maximize value from existing machines and systems



End-to-end visibility. Unified, real-time view from shop floor to enterprise dashboards



Closed-loop operations. Insights translate directly into actions on the production floor



Embedded AI. Computer vision, predictive maintenance, and digital twins integrated into daily workflows



Security by design. Zero trust, full traceability, and compliance across all layers



Cost-efficient scaling. Leverages existing Usetech components to reduce integration effort and operating cost



Integration Backbone



Data Integration & Storage Layer for Smart Manufacturing

USEBUS is a middleware that reliably connects systems, data and events at scale - in real time and with AI-assisted automation

Connects fragmented systems



Enables real-time integration



Transforms and routes data



Applies security and control across data exchange



Dramatically reduces time-to-market for integrations and process automation tasks - from weeks or months to just hours - cutting creation and maintenance costs by an average of **30%-50%**

USEBUS:

Food Industry Company Case Study

INDUSTRIAL USE CASE

Before (Challenges)

- Point-to-point integrations: siloed systems, hard to scale
- High complexity: costly, time-consuming integration efforts
- Limited governance: low visibility and control over data flows

After (Business Impact)

4x

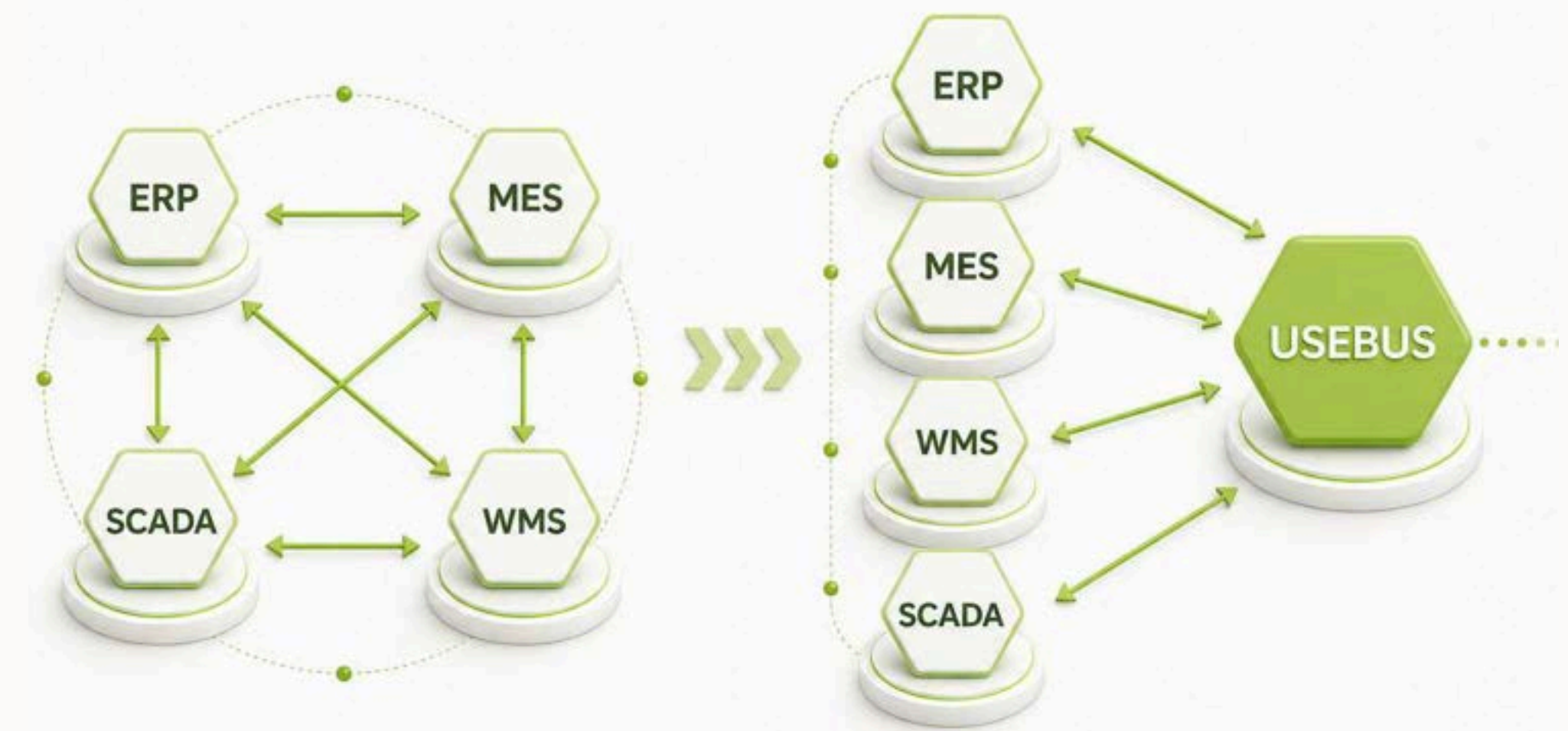
faster integration delivery

Up to 40%

lower Total Costs of Ownership (TCO)

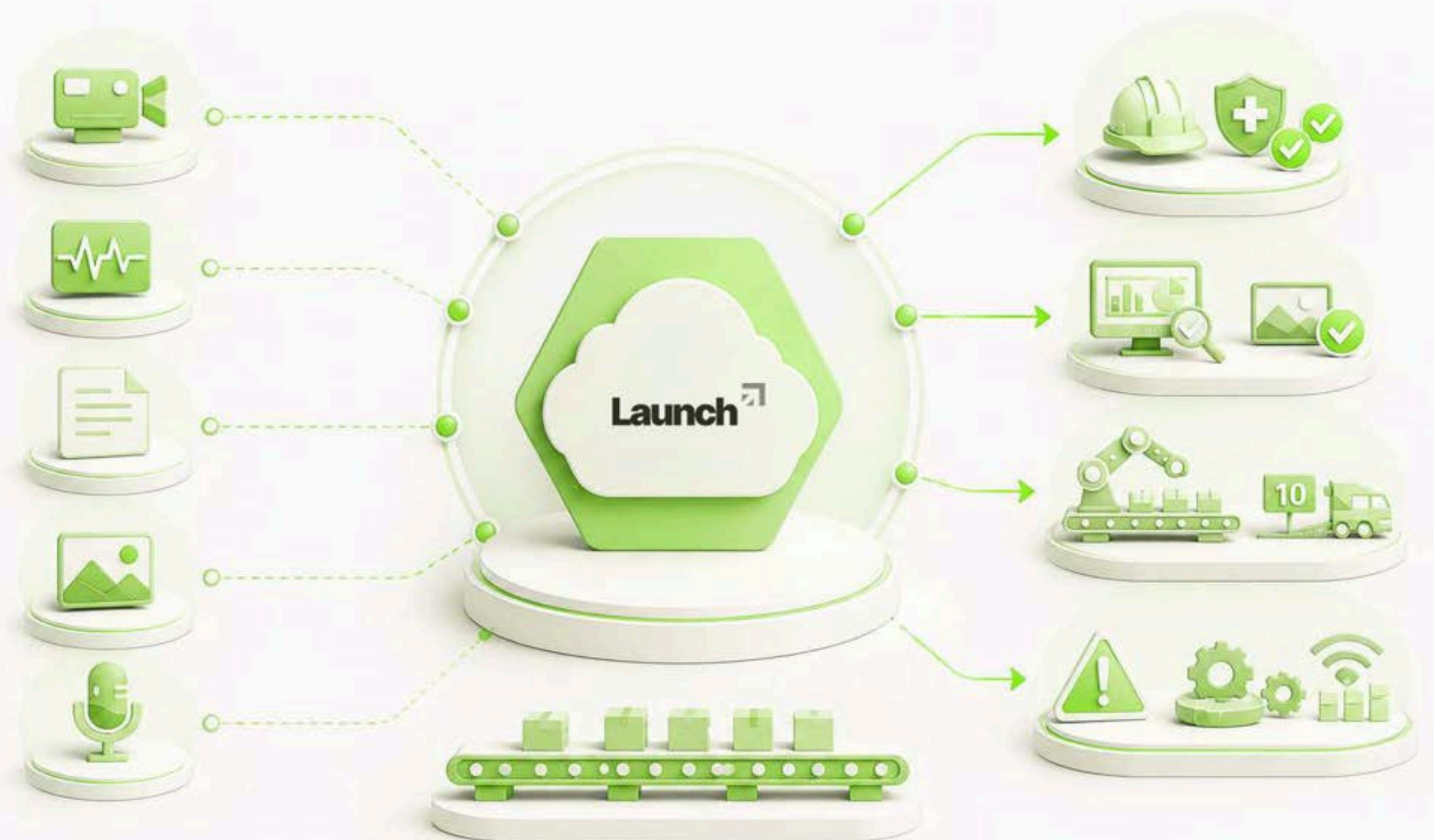
+30%

improvement in system reliability



Launch

AI/ML Analytical Platform



Real-time monitoring with instant response to any anomalies

AI/ML Analytical Platform – a unified AI platform for video, audio, document and image processing, powered by ready-to-use library of ML models, enabling companies to prevent incidents, automate routine process and increase productivity

Video Analytics



PPE recognition, human action and behaviour analysis, object detection and tracking, defect recognition, asset and equipment monitoring, process and conveyor flow analysis, real-time safety and HSE control

Document Intelligence



Document recognition, data extraction, automated processing of structured and unstructured documents

Audio Analytics



Speech recognition and audio event detection for monitoring communications and operational signals

Image Analytics



Object and defect recognition, visual inspection and analysis of still images for quality and operational control

PPE Compliance and Safety Monitoring for a Heavy Industry Company

INDUSTRIAL USE CASE

Before (Challenges)

- Limited visibility: PPE compliance and unsafe behaviors not consistently tracked
- Manual oversight: Heavy reliance on human monitoring
- Delayed response: Safety violations identified too late

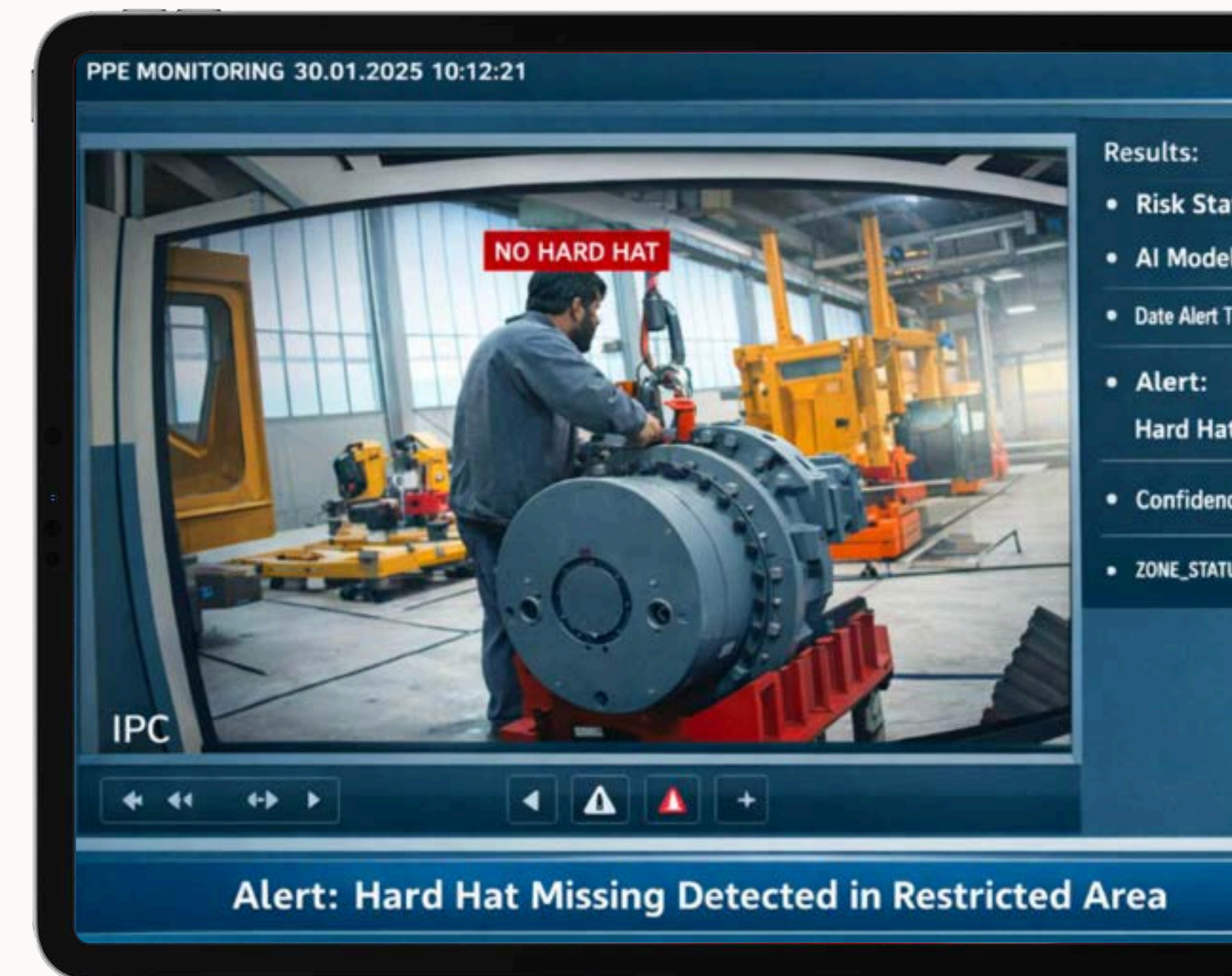
After (Business Impact)

2×

reduction in PPE non-compliance incidents

Up to 90%

reduction in manual monitoring effort



Packaging Quality Inspection for a Food Industry Company

INDUSTRIAL USE CASE

Before (Challenges)

- Inconsistent defect detection: Packaging issues hard to catch at production speed
- Manual inspection: Labor-intensive and error-prone processes
- Rework and losses: Labeling and packaging defects driving avoidable cost

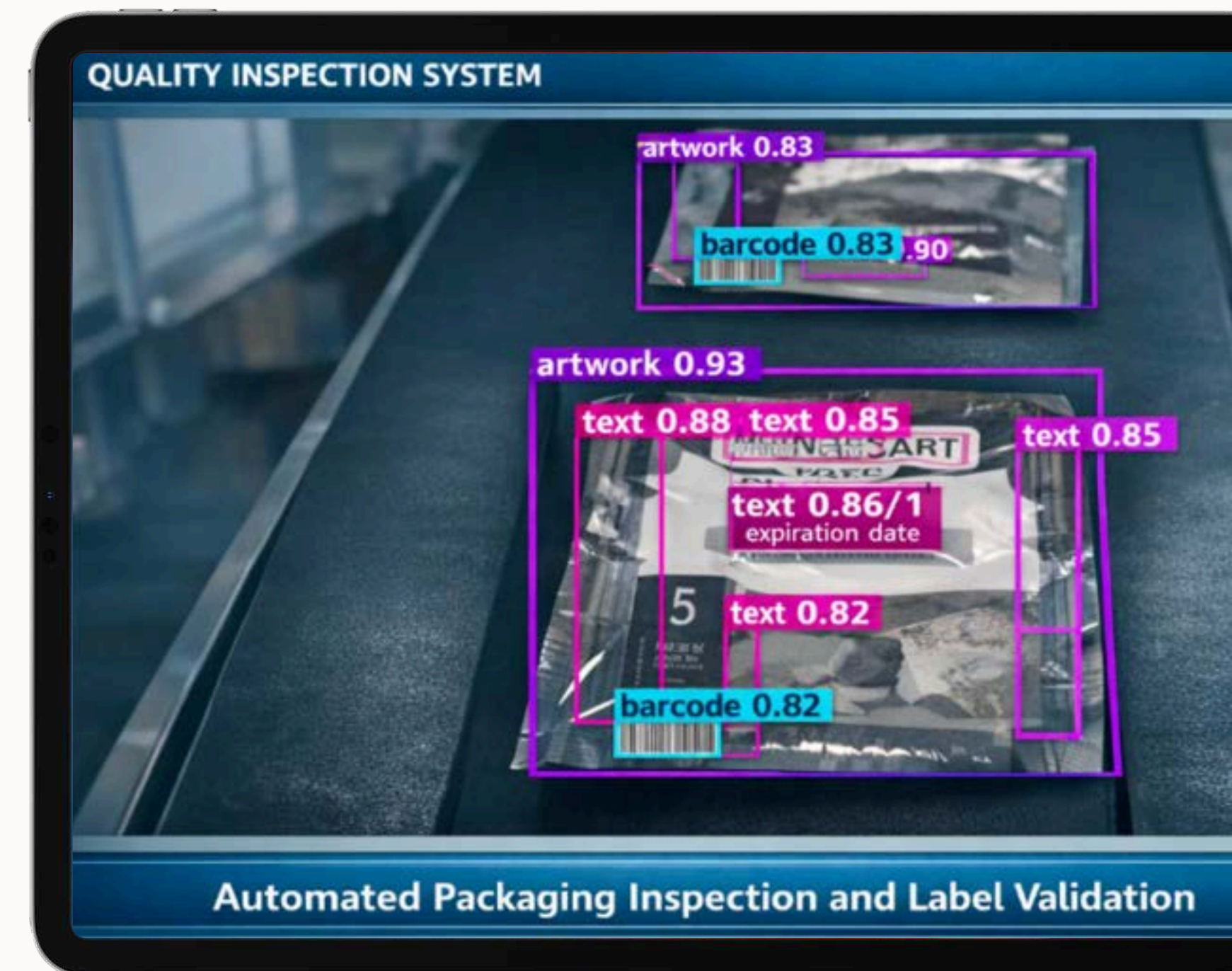
After (Business Impact)

40% reduction in packaging errors

Up to 80% reduction in manual inspection effort

Real-time defect detection at production speed

Consistent, standardized quality control



DigitalTwin

Optimization, Risk and Impact Modeling



Detection & Prediction Layer for Smart Manufacturing

Risk Digital Twin is a digital copy of a physical object or a process that contains necessary information in terms of functions, flows, components and other criteria that allows a risk simulation to be undertaken, identifying the risks (failures) of a system during operation and their path of propagation through the system.

Conducting thorough risk analysis and assessing the probability of their occurrence



Identifying the most vulnerable areas within the production system



Developing sophisticated threat models to anticipate potential issues



Selecting and implementing effective measures to avert emergency situations



Predicts risk before it becomes reality

DIGITALTWIN:

Risk Prediction System For a Big Chemical Company

DigitalTwin

INDUSTRIAL USE CASE

Before (Challenges)

- **Limited risk visibility:** No clear link between equipment condition, barrier degradation, and overall plant risk
- **Disconnected insights:** Technical signals not translated into safety or financial impact
- **Slow decision-making:** Reactive, non-data-driven risk mitigation

After (Business Impact)

Higher accuracy in risk prediction

Up to 10% reduction in Loss of Production Income (LPI)

Early detection of critical degradation and risk exposure zones

Risk-based prioritization of mitigation actions



DIGITALTWIN:

Optimization Of Energy Consumption For Oil Refining Company

INDUSTRIAL USE CASE

Before (Challenges)

- Low energy efficiency: Poor visibility into real-time energy consumption drivers
- Excess fuel usage: Higher emissions and unnecessary operational cost
- Process variability: Inconsistent operating conditions impacting product quality

After (Business Impact)

Energy demand forecasting
accuracy <2% error

Optimized gas consumption in
processing operations

Improved product quality
and process stability

Automated equipment operating
modes based on real-time conditions



Infrastructure Impact of Smart Manufacturing

As **smart manufacturing** scales, demand for compute, storage, and processing capacity grows rapidly — turning infrastructure into a critical lever for cost efficiency, performance, and scalability.

Higher demand for compute, storage,
and real-time processing capacity



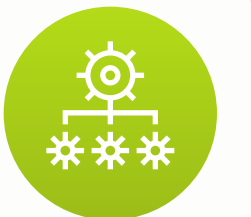
Low utilization and poor resource allocation
create hidden inefficiencies and cost leakage



Infrastructure becomes a major cost driver
alongside data, AI, and operational workloads

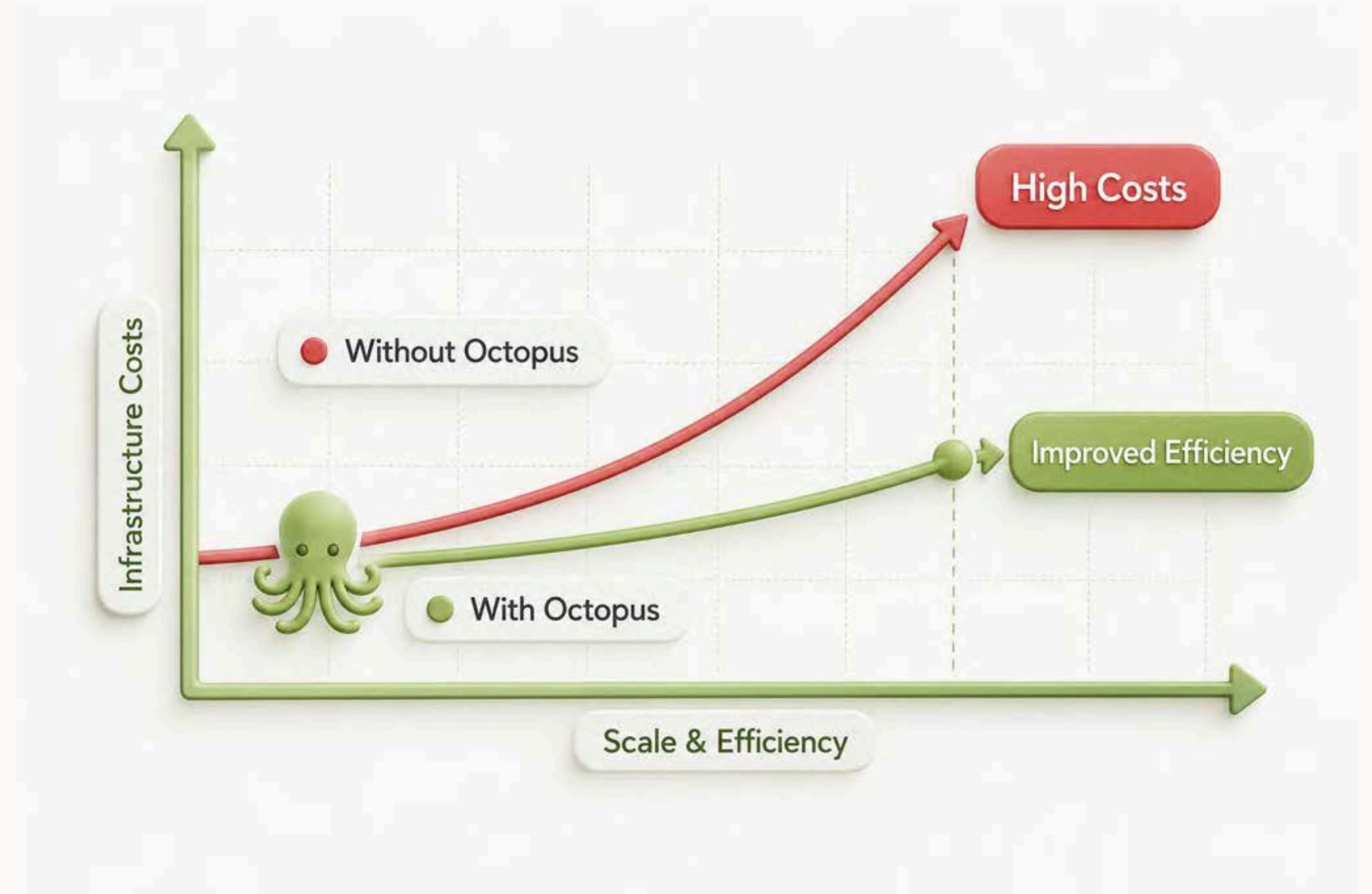


Infrastructure optimization is essential
for scalable and cost-efficient growth



OCTOPUS

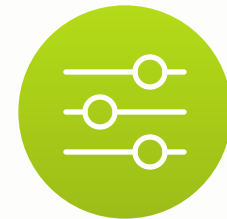
Optimizing Infrastructure



Reducing Infrastructure and energy costs for Smart Manufacturing

Octopus - is a universal platform for transparent management and AI-based optimization of IT resources allocation in Data Centers. It continuously analyses real workloads and automatically balances virtual machines across physical hosts to maximize utilization, efficiency, and stability.

Optimizes VM parameters (vCPU, RAM, network usage) in realtime based on actual load profile



Reduces hardware investments and operational expenses



Predicts and prevents resources over- and under-utilization



Cuts down data center power consumption and energy footprint



Unlocks **up to 30%** data center capacity and reduces power consumption — without buying new hardware

OCTOPUS:

International Energy Company

INDUSTRIAL USE CASE

Before (Challenges)

- Strict requirements for availability and fault tolerance
- Increasing demand for compute resources
- Manual balancing of workloads across systems
- Growing energy consumption and operational costs

After (Business Impact)

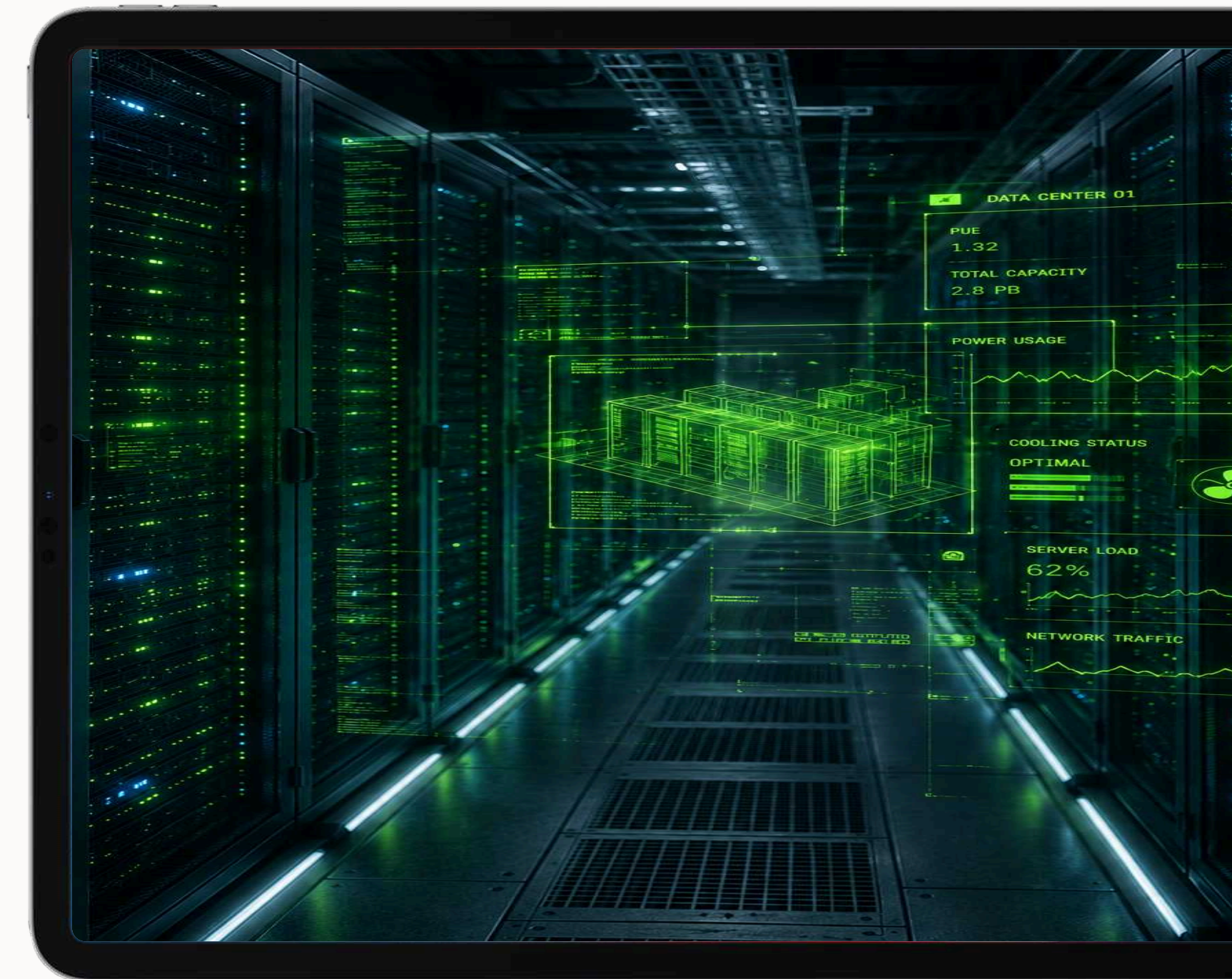
100% continuity of core systems

34% projected reduction in infrastructure expansion costs

8% reduction in system failures related to overload

Additional available capacity without new hardware

Reduced energy consumption





Driving Adoption of Smart Manufacturing



Operational Behavior Alignment for Smart Manufacturing

TealHR new tools, processes, and digital initiatives are understood, adopted, and sustained across the workforce

Employee engagement through recognition and incentives aligned with desired behaviors



Continuous communication and feedback loops between workforce and management



Promotion of operational behaviors consistent with company and production goals



Measurement of engagement and adoption through surveys and analytics



Smart Manufacturing Transformation Roadmap



Start your journey — contact me today.



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