



Production Overview

Week FPIB Overview

IX[®] for Digital Management Operating Systems

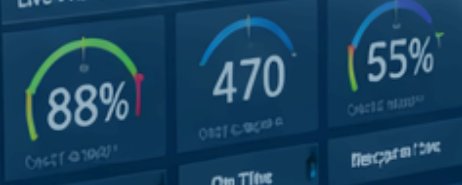
PERFORMANCE TRENDS



PERFORMANCE CHARTS



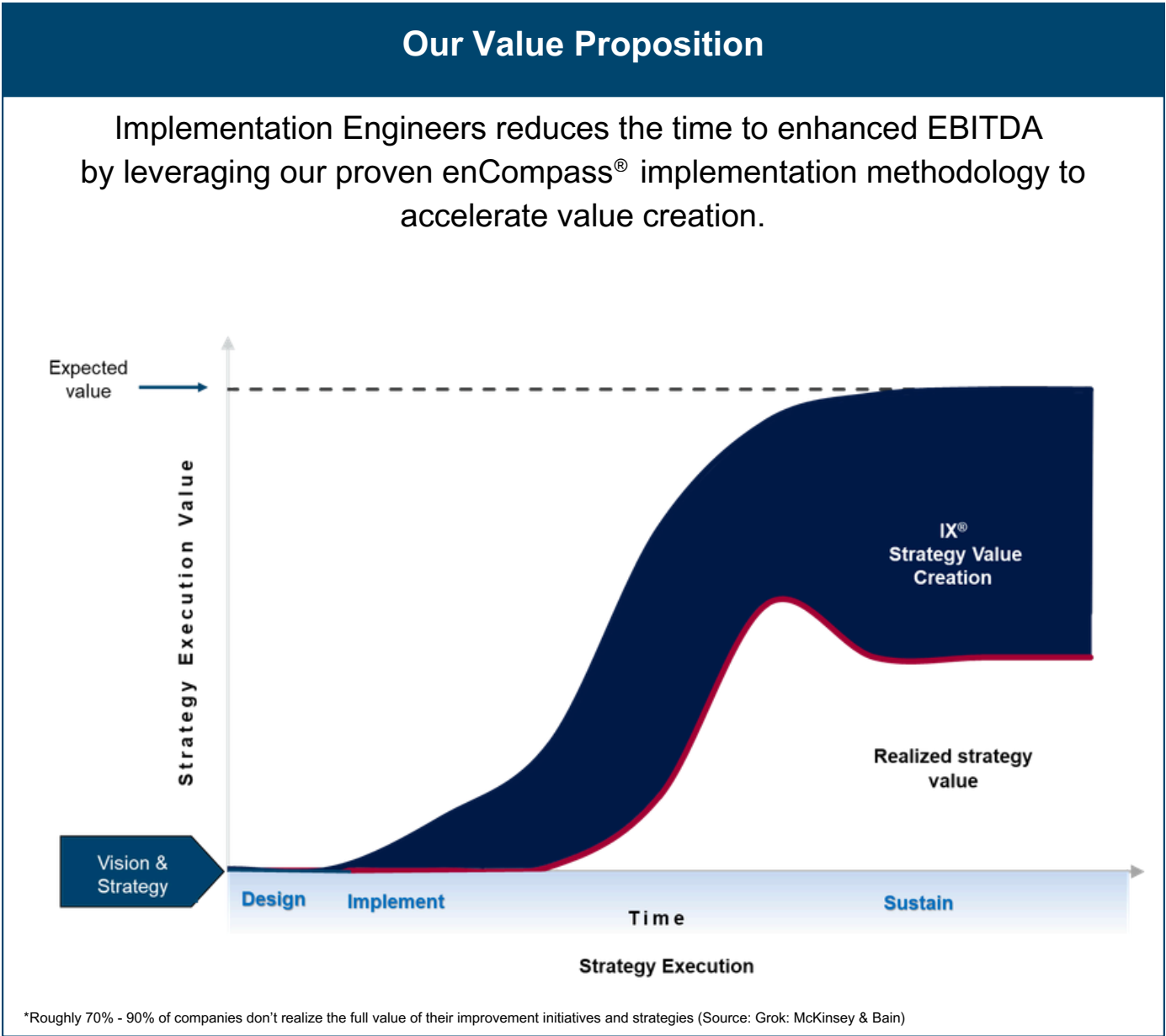
Live KPI Dashboard



IMPLEMENTATION
ENGINEERS[®]
BEYOND CONSULTING

Introduction to IE

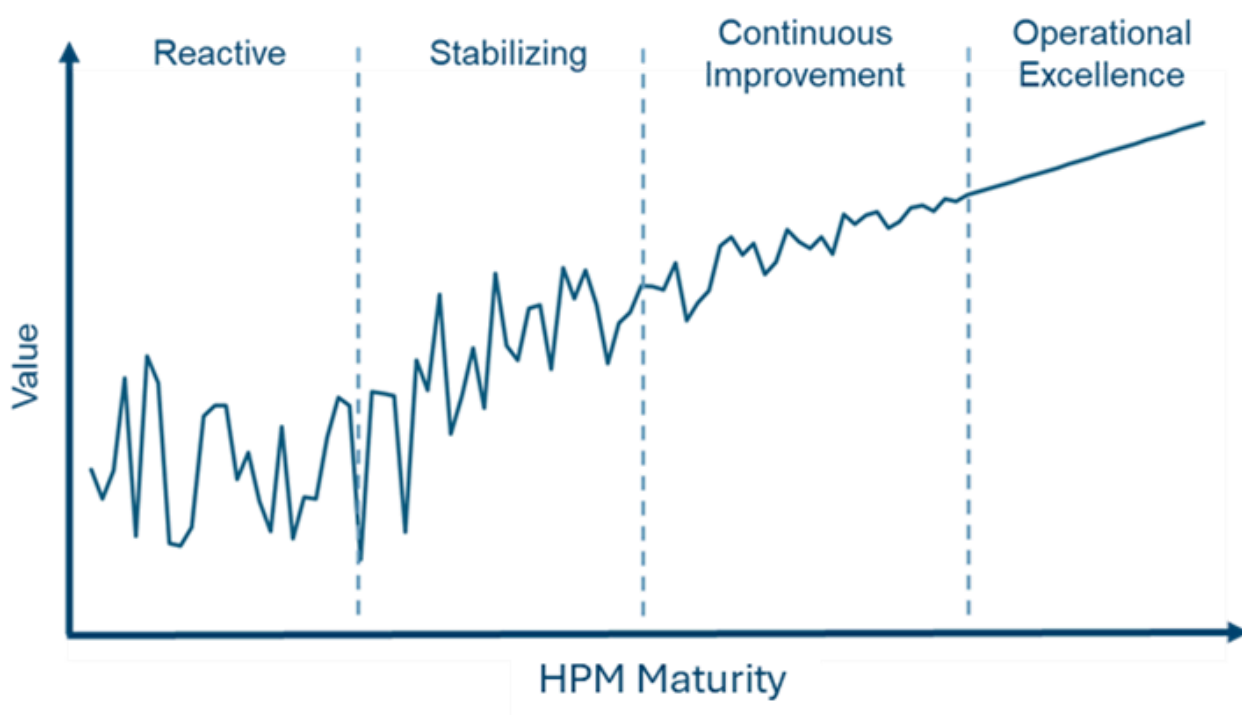
Implementation Engineers is not a consulting or advisory services firm. We are an Implementation Execution (IX[®]) services company dedicated to helping our clients accelerate value creation through the implementation of Vision and Strategy. Research has shown that a significant 90% of strategic initiatives fall short of achieving their intended value. At Implementation Engineers, we are here to assist leaders who recognize gaps in their implementation capabilities that are crucial for realizing the full potential of their business vision and strategy. By streamlining the strategy design process from months or years to mere weeks, we enable faster implementation. Our approach involves leveraging enCompass[®], our structured, disciplined, and sustainable implementation methodology, to ensure successful implementation. Our core value proposition is centered around expediting the realization of Vision and Strategy, resulting in sustainable achievement of expected value.



When Effort Is High, but Results Are Inconsistent

What Leaders Experience

- Leaders forced to use time chasing data instead of managing priorities.
- Different dashboards tell different stories about performance.
- Meetings report what happened but rarely drive clear decisions.
- Escalation is informal, inconsistent, or too late to impact.
- Leaders stay pulled into details because they don't trust the system.
- Results depend on heroics, not a repeatable way of running the business.



What this Creates

- Hard-working teams with inconsistent outcomes.
- Leaders reacting to yesterday instead of managing today.
- Decisions delayed while data is debated.
- Problems reappear across shifts and weeks.
- Strategy exists, but doesn't reliably show up in daily execution.

High Performance Management: (HPM) IE’s Branded Management Operating System

Know where you stand in 30 seconds — without digging for data.

HPM is Implementation Engineers’ proven Management Operating System that connects:

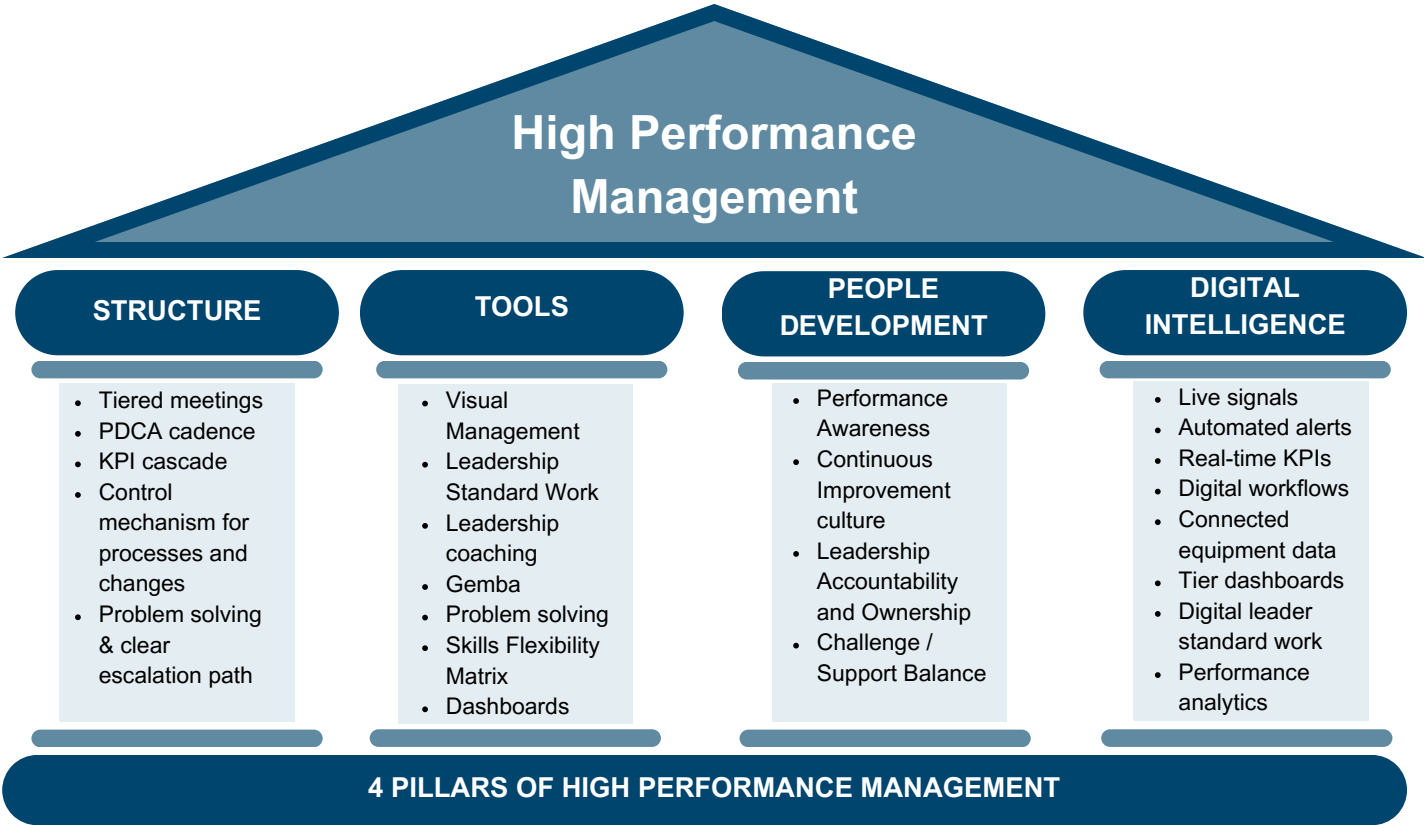
- Leadership routines
- Lean operating discipline
- Clear accountability
- Digital intelligence

Into one coherent system for running the business.

Instead of disconnected tools and reports, HPM creates:

- ✓ One operating rhythm
- ✓ One version of the truth
- ✓ One clear path from strategy to the shop floor

High-performing operations don’t rely on tools alone.
They integrate structure, behavior, and technology into a single system.

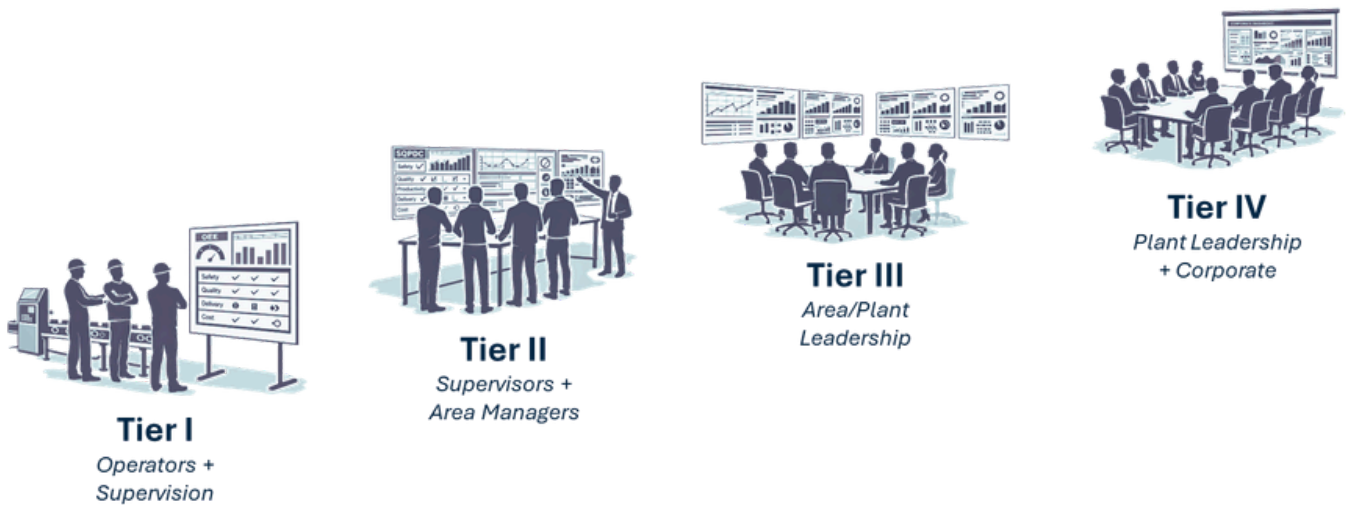


When all four work together, performance becomes repeatable — not reactive.

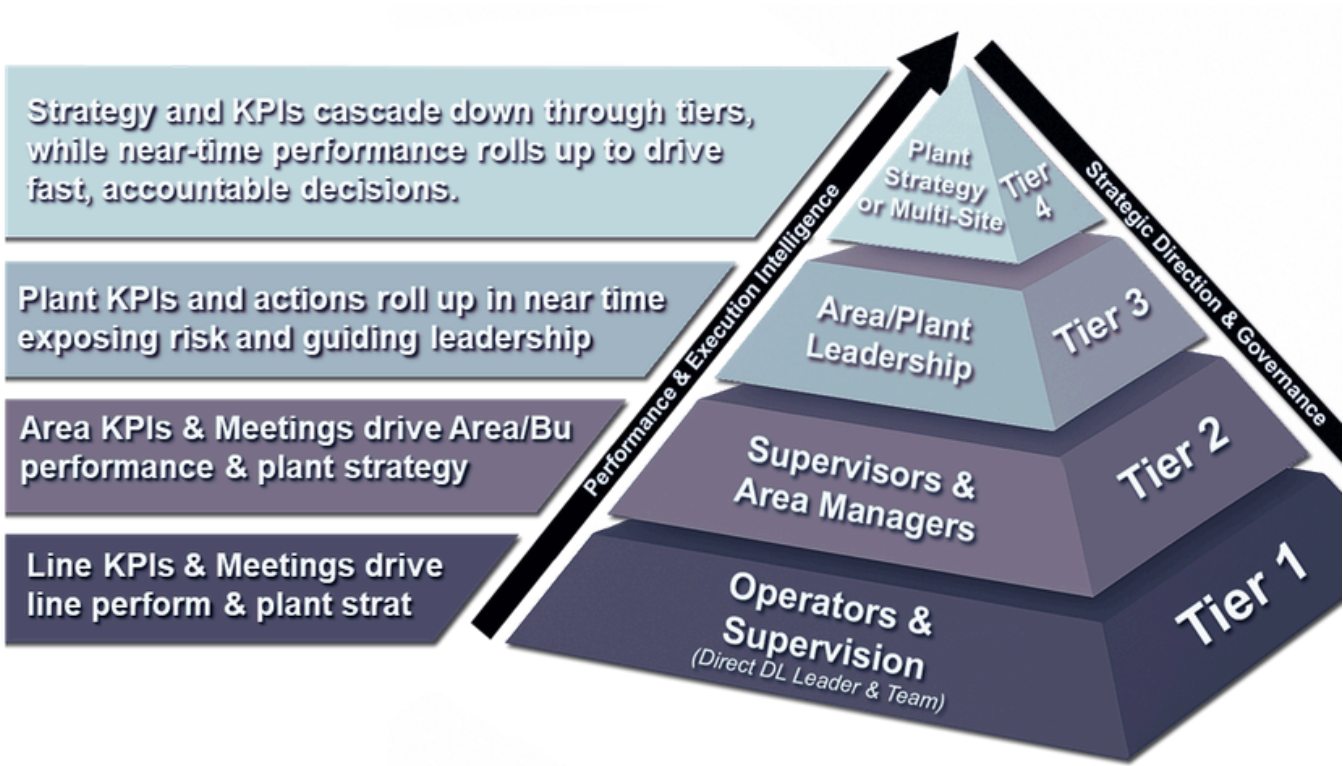
Where Strategy Meets Daily Execution

HPM establishes a tiered operating rhythm that connects every level of the organization.

- **Tier 1** – Operators manage the hour
- **Tier 2** – Supervisors manage the shift
- **Tier 3** – Managers manage daily constraints
- **Tier 4/5** – Leaders manage priorities and resources



Information flows up.
Decisions flow down.
Accountability flows both ways.



Everyone knows what matters. Every day. Every shift.

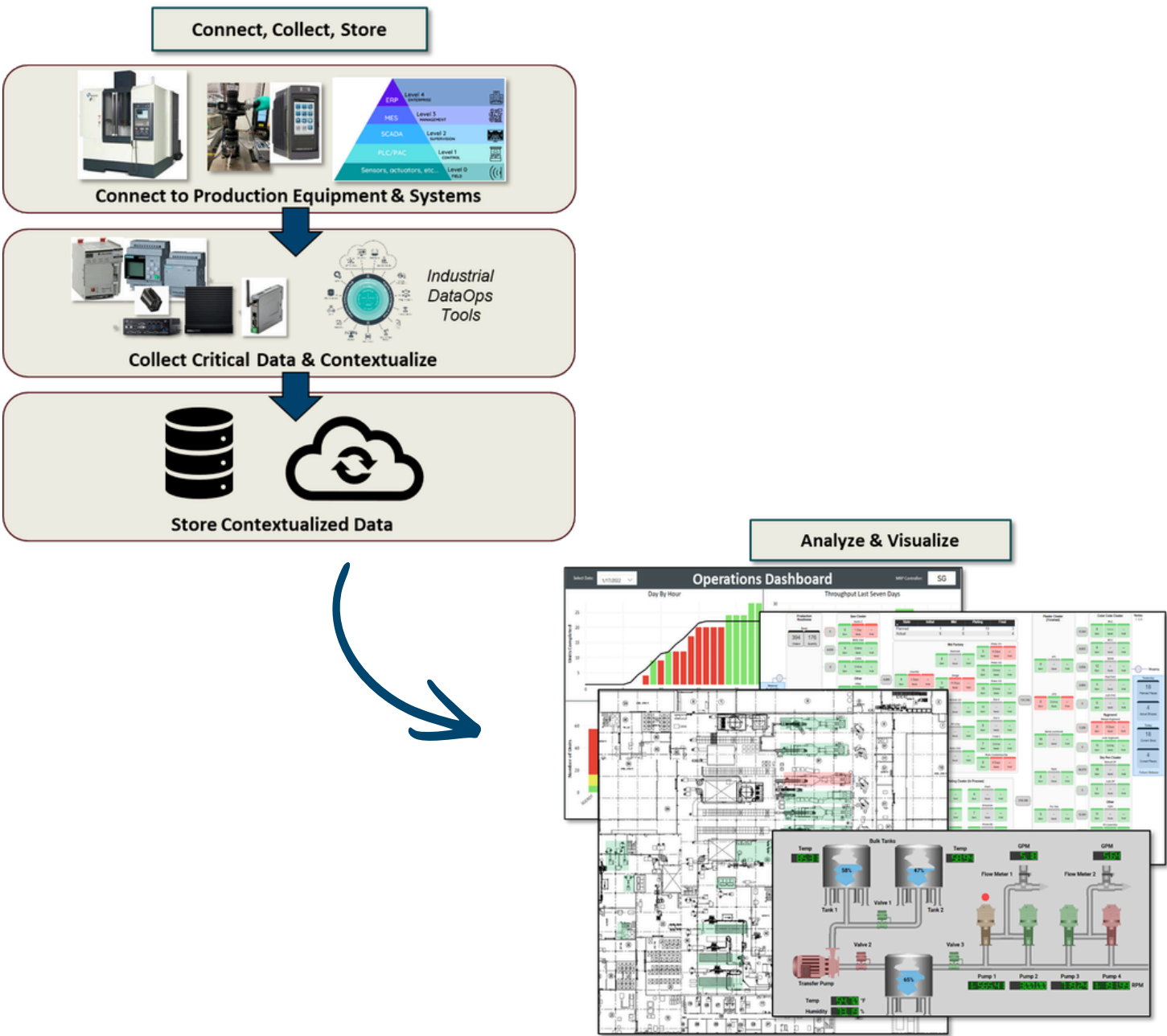
A Visual Factory Powered by Real-Time Data

Today’s leaders shouldn’t spend time chasing information.

With a digitally enabled MOS:

- Performance is visible instantly
- Issues surface automatically
- Alerts replace manual reporting
- Leaders focus on decisions — not data collection

From digital tier boards to automated ANDON and live KPIs, your management system becomes proactive instead of reactive.



Leaders are pulled by signal — not flooded by noise.

Structure

IX[®] in Action

2

sites

Leadership
engagement

Meeting efficiency

A global aerospace and defense manufacturer, with annual revenues of \$500 million and ambitions to reach \$1 billion, operates multiple facilities across the United States and the United Kingdom. Specializing in managing product lines acquired from other manufacturers, the company delivers high-value solutions to its customers. However, rapid growth and a historically flat organizational structure had led to operational inconsistencies and a lack of standardized processes. With two UK sites piloting an early-stage management operating system (MOS) and two US sites operating without a formal system, the client recognized the need for a cohesive, scalable solution to maintain control and support future expansion.

The Challenge

In discussions with Implementation Engineers, the client outlined a clear goal: establish a unified “Production System” to standardize operations across all four sites while preserving each site’s unique characteristics. The UK sites had begun implementing a tiered meeting structure—branded with aviation-themed names like Takeoff, Climb, and Altitude—but the approach was still in its infancy. Meanwhile, the US sites relied on informal communication with limited follow-up. Key challenges included:



Inconsistent Processes

The UK sites had a basic tiered system, but the US sites depended on ad-hoc leadership engagement without a structured framework



Cross-Functional Gaps

Functions like Quality and Purchasing were excluded from existing processes, creating operational disconnects



Growth Risks

Without a structured MOS, the company risked losing control as it pursued its \$1 billion revenue target

The Solution

Our client sought a standardized yet flexible system that reduced complexity, integrated critical functions, and retained the company’s aviation-inspired branding. Implementation Engineers collaborated with the manufacturer to design and implement a tailored Management Operating System—the “Production System”—across two US sites and two UK sites. Building on the client’s insights and the UK’s early framework, the solution included:

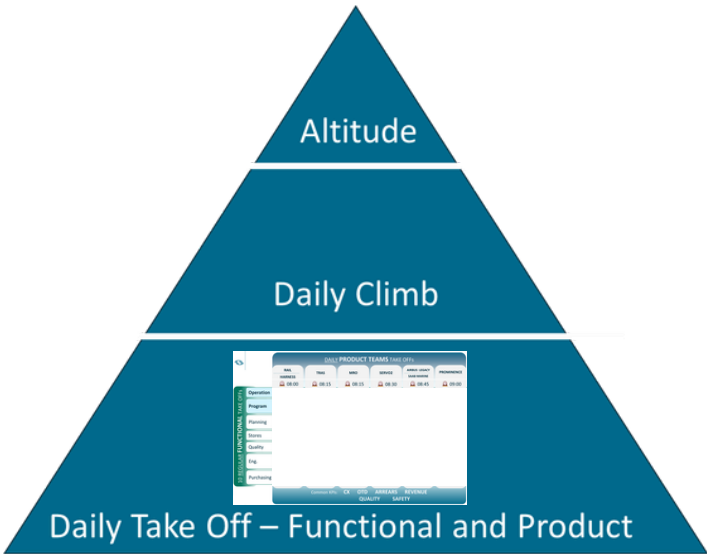
- **Tiered Meeting Structure:** Standardized daily Takeoff (cell-level), Climb (mid-tier), and Altitude (senior-level) meetings, with escalation to a constraints-focused leadership meeting
- **Visual Management:** Deployed digital visual boards powered by business intelligence tools, integrating defined KPIs for real-time visibility
- **Problem Solving & Action Tracking:** Established triggers, criteria, and digital dashboards to escalate and resolve issues efficiently
- **Gemba Walk Program:** Formalized leadership standard work (LSW) and Gemba walks to enhance accountability and engagement
- **Meeting Effectiveness:** Introduced governance protocols and a meeting reduction initiative to streamline communication
- **Coaching & Feedback:** Delivered hands-on coaching to embed the system into daily operations
- **MOS Audit Process:** Implemented audits to ensure system integrity and drive continuous improvement

Implementation Engineers facilitated a collaborative design process, including a leadership alignment session with General Managers to define a standard yet adaptable framework. The resulting Production System balanced consistency with site-specific needs, incorporating the company’s existing tools and branding.

Power BI Supporting Dashboards for Meeting Structure



Tiered Meeting Structure



The Results

The Production System delivered significant improvements across all four sites within months, enhancing efficiency, throughput, and cost savings. Key outcomes include:

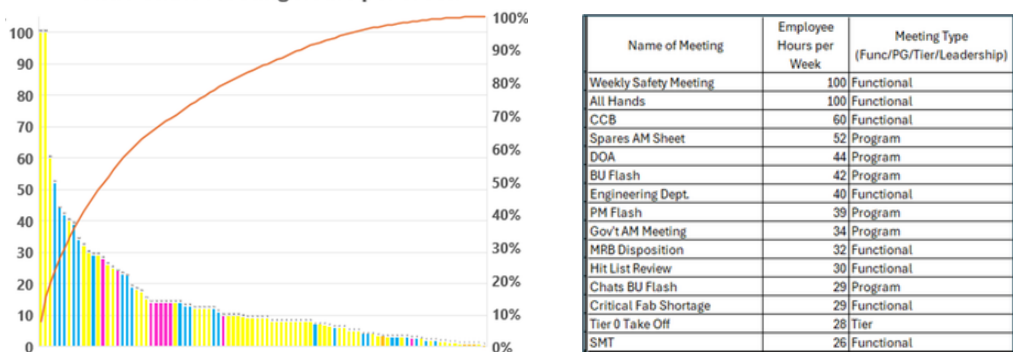
US Sites

- **Site 1:**
 - 20% increase in throughput for a key product line, reaching an all-time high
 - \$500,000 sustained reduction in repair and inspection backlog
 - 238% improvement in units to stock, optimizing production flow
- **Site 2:**
 - 42% improvement in units to stock, improving inventory readiness.
- **Operational Enhancements:**
 - Launched 14 digital visual boards with integrated KPIs
 - Defined and embedded KPIs into tiered operating reviews
 - Initiated Tier 2 value stream and functional meetings with coaching support

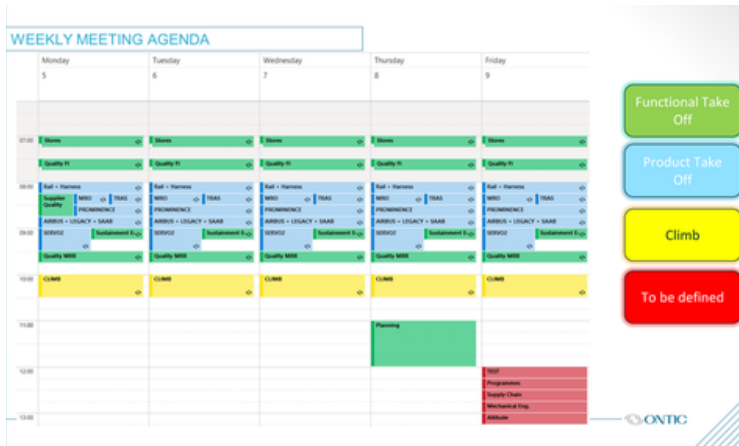
UK Sites

- **Site 1:** Achieved a 38% reduction in meeting time, redirecting effort to value-added tasks
- **Site 2:** Saved 100 people-hours per week through meeting optimization, boosting productivity
- **Process Standardization:** Both sites fully adopted the Production System, enhancing their early MOS efforts with digital dashboards and Gemba walk processes

Meeting Hours per Week Baseline



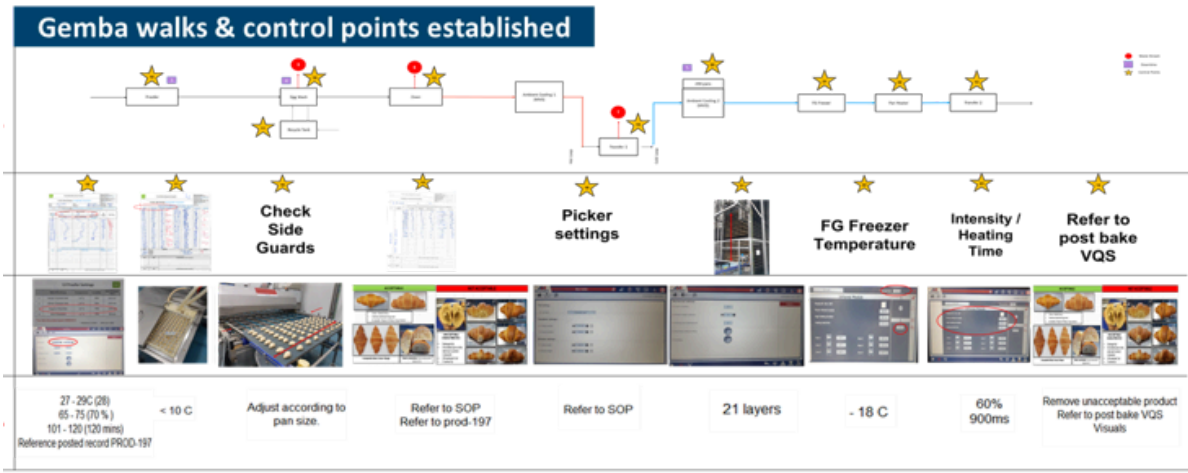
Optimized Meeting Structure



By partnering with Implementation Engineers, the aerospace and defense manufacturer transformed its operations from a mix of informal practices and early-stage systems into a unified, high-performing Production System. The solution addressed immediate operational needs while establishing a foundation for sustainable growth, delivering measurable results and strategic value. For a company aiming to double its revenue and ensure long-term success, the Production System provided the structure, adaptability, and impact needed to excel in a competitive industry.

Tools

A primary element of the operating system, and a direct tie-in to performance improvement efforts, are the tools used in the organization. Examples of these tools include visual management, leader standard work, Gemba (typically integrated into the daily supervisor routine), and problem solving techniques. We custom fit problem solving methods to each client, and often draw on tools such as A3, 5-Why, Fishbone, and Lean / Kaizen. The objective with these tools is to support the personnel that integrate into the management system to be as effective as possible, moving to proactive from reactive, and identifying and addressing issues along the way.



IX[®] in Action

20%
throughput
improvement

3
shifts Leader
Standard Work
implemented
including
supervisors &
group leads

**Visual
management
tools**

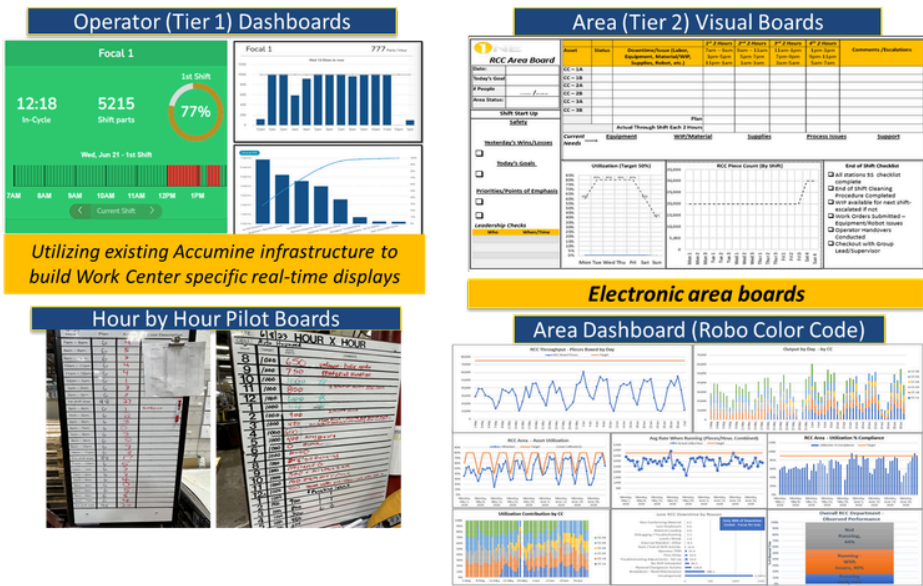
Our client specialized in steel fabrication, welding, electronic assembly and switch assembly and had several challenges within their management operating system. These challenges included a lack of clarity and direction for supervisors in their daily tasks, which resulted in reactive rather than proactive behavior. Additionally, visual boards were not being utilized effectively to manage shifts, supervisors were burdened with manual work, coaching and mentoring efforts were insufficient, and communication with group leaders lacked consistency and purpose. The goal of implementation was to redesign and update a High Performance Management System that supported and sustained the production results, identified root cause issues, quality assurance, provided structure, and brought behavioral change to make it effective and sustainable. IX[®] included the following activities:

- Redesigned and cascaded KPIs
- Implemented tiered structure meetings
- Designed improved Visual Management
- Developed and implement Leader Standard Work
- Improved GEMBA process
- Conducted coaching workshop
- Developed coaching templates
- Conducted Train the trainer workshop for Supervisors and Team Leads
- Designed and implemented the Sustainability Model

IX® in Action (continued)

IE implemented leadership "Check In" tools tailored for each operating area of our client. These tools provided a script for supervisors to follow, guiding them on what to look for, what to check, and what to ask during their check-ins. This helped supervisors proactively identify and address any issues or challenges.

Visual Management



Leader Standard Work

IE implemented Leader Standard Work for our client which refers to the routine tasks performed by leaders with the aim of driving results and promoting continuous improvement. It is used to create the right behaviors and habits. The benefits of implementing leader standard work include the ability to identify and address process-related problems, fostering open communication for issue identification and improvement ideas, closing down communication barriers, enabling leaders to teach team members problem-solving skills, taking responsibility for problem-solving, coaching team members to enhance their skills and knowledge, and emphasizing both process and people in the improvement efforts.

Leader Standard Work Plan - ASO Supervisors

Leader Name:Title or Role:ASO Supervisor (List Job)

Daily and Weekly Activities

Activity	Type	Location	Frequency	Time	Duration	Priority	Owner	Responsible	Target	Start	Stop	Start	Stop	Stop
Check in with team	Meeting	Shop Floor	Daily	08:00	10:00	High	ASO Supervisor	ASO Supervisor	Check in with team	08:00	10:00	08:00	10:00	08:00
Review production	Review	Shop Floor	Daily	10:00	11:00	High	ASO Supervisor	ASO Supervisor	Review production	10:00	11:00	10:00	11:00	10:00
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Check in with team	Meeting	Shop Floor	Daily	15:00	16:00	High	ASO Supervisor	ASO Supervisor	Check in with team	15:00	16:00	15:00	16:00	15:00
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Check in with team	Meeting	Shop Floor	Daily	17:00	18:00	High	ASO Supervisor	ASO Supervisor	Check in with team	17:00	18:00	17:00	18:00	17:00
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Leader Standard Work Plan - Mold Group Leaders

Leader Name:Title or Role:ASO Molding Group Leader (List Job)

Daily and Weekly Activities

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Review production	Review	Shop Floor	Daily	30:00	31:00	High	ASO Molding Group Leader	ASO Molding Group Leader	Review production	30:00	31:00	30:00	31:00	30:00
Check in with team	Meeting	Shop Floor	Daily	31:00	32:00	High	ASO Molding Group Leader	ASO Molding Group Leader	Check in with team	31:00	32:00	31:00	32:00	31:00
Review production	Review	Shop Floor	Daily	32:00	33:00	High	ASO Molding Group Leader	ASO Molding Group Leader	Review production	32:00	33:00	32:00	33:00	32:00
Check in with team	Meeting	Shop Floor	Daily	33:00	34:00	High	ASO Molding Group Leader	ASO Molding Group Leader	Check in with team	33:00	34:00	33:00	34:00	33:00
Review production	Review	Shop Floor	Daily	34:00	35:00	High	ASO Molding Group Leader	ASO Molding Group Leader	Review production	34:00	35:00	34:00	35:00	34:00
Check in with team	Meeting	Shop Floor	Daily	35:00	36:00	High	ASO Molding Group Leader	ASO Molding Group Leader	Check in with team	35:00	36:00	35:00	36:00	35:00
Review production	Review	Shop Floor	Daily	36:00	37:00	High	ASO Molding Group Leader	ASO Molding Group Leader	Review production	36:00	37:00	36:00	37:00	36:00
Check in with team	Meeting	Shop Floor	Daily	37:00	38:00	High	ASO Molding Group Leader	ASO Molding Group Leader	Check in with team	37:00	38:00	37:00	38:00	37:00
Review production	Review	Shop Floor	Daily	38:00	39:00	High	ASO Molding Group Leader	ASO Molding Group Leader	Review production	38:00	39:00	38:00	39:00	38:00
Check in with team	Meeting	Shop Floor	Daily	39:00	40:00	High	ASO Molding Group Leader	ASO Molding Group Leader	Check in with team	39:00	40:00	39:00	40:00	39:00
Review production	Review	Shop Floor	Daily	40:00	41:00	High	ASO Molding Group Leader	ASO Molding Group Leader	Review production	40:00	41:00	40:00	41:00	40:00
Check in with team	Meeting	Shop Floor	Daily	41:00	42:00	High	ASO Molding Group Leader	ASO Molding Group Leader	Check in with team	41:00	42:00	41:00	42:00	41:00
Review production	Review	Shop Floor	Daily	42:00	43:00	High	ASO Molding Group Leader	ASO Molding Group Leader	Review production	42:00	43:00	42:00	43:00	42:00
Check in with team	Meeting	Shop Floor	Daily	43:00	44:00	High	ASO Molding Group Leader	ASO Molding Group Leader	Check in with team	43:00	44:00	43:00	44:00	43:0

People Development

People Development is all about coaching, in both group and one-on-one settings. It is the repetitious reinforcement of understanding and usage of HPM elements to support adoption. We work side-by-side the workforce to not only support their understanding of how to use the structure and tools effectively, but also illuminate how it improves the day-to-day life. Less firefighting and admin work. More proactive and information-driven leadership.

Early in the project the coaching tends to be group-based, which is a time efficient way to quickly spread awareness and understanding of general concepts. As the project progresses, repetition of one-on-one coaching helps reinforce consistent daily usage of tools, and more effective meetings, handovers and shift starts.

IX[®] in Action

45
basis point
improvement
in on-time
delivery



83%
decrease in
overall cycle
time

79%
decrease in
WIP

Our client, a leading international defense, aerospace and security company, partnered with IE at one of its facilities as it transitioned from a research and development facility to a manufacturing environment. Our client faced several challenges around its management operating system. There were a lack of actionable Key Performance Indicators (KPIs) that were monitored, reviewed, and visible to all employees. Without these KPIs, variance management disciplines were non-existent and our client struggled to identify and address deviations from their desired performance. As part of the holistic project with IE, High Performance Management was implemented at our client’s site and IX[®] included the following activities:

- Installed visual management system
- Implemented variance to target management
- Installed issue identification and resolution RCCA process
- Designed and Implemented Key Performance Indicators for each key area
- Designed and implemented Roll Up Performance report
- Implemented Standard Work, Short Interval Controls, Escalation process and Skills Flex Matrix

Times	Monday	Tuesday	Wednesday	Thursday	Friday	Weekends
6:30 AM	Position Review	Position Review	Position Review	Position Review	Position Review	
7:00 AM						
7:30 AM	SAC Week	SAC Week	SAC Week	SAC Week	SAC Week	
8:00 AM						
8:30 AM						
9:00 AM						
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The diagram illustrates a process flow starting from Management at the top, moving down through Support, VMS, ED, and Planning layers. The Support layer contains four main functional areas: Solvability Lifeguards, IT, Engineering, Supply Chain, and Maintenance. These areas are interconnected by red arrows indicating a flow or dependency. A central box labeled "We need more help" receives input from several areas and leads to a "Decision Point" diamond. From the Decision Point, one path leads to "Wait?" and another to "More Task?". Below the main flow, there are five colored boxes representing different states or resources: Green (0.08 HPU), Yellow (0.07 HPU), Blue (0.25 HPU), Red (0.13 HPU), and Grey (0.08 HPU). A timeline at the bottom shows a sequence of events represented by icons: a clock, a smartphone, and a tablet.

The image shows a sample of a coaching plan form. At the top, there are fields for 'Date', 'Name', and 'Shift'. Below these are three colored horizontal bands: an orange band labeled 'Shift Plan', a yellow band labeled 'Walks' (with a sub-label 'Coaching Area'), and a green band labeled 'Action Log - Short Term'. Each band contains a table with columns for 'Time' and 'Status'. Callout boxes with speech bubbles pose questions about task completion, cherry picking, and support functions on deck.

Date: **Name:** **Shift:**

Shift Plan **Coaching Plan**

Walks Coaching Area

Time	Status
1:00 PM	0
1:15 PM	0
1:30 PM	0
1:45 PM	0
2:00 PM	0

Action Log - Short Term

Time	Status
2:15 PM	0
2:30 PM	0
2:45 PM	0
3:00 PM	0
3:15 PM	0
3:30 PM	0
3:45 PM	0
4:00 PM	0
4:15 PM	0
4:30 PM	0
4:45 PM	0
5:00 PM	0
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10:00 PM	0
10:15 PM	0
10:30 PM	0
10:45 PM	0
11:00 PM	0
11:15 PM	0
11:30 PM	0
11:45 PM	0
12:00 PM	0

Callouts (Speech Bubbles):

- Are we on task?
- Cherry picking?
- Can we deliver on time?
- Are support functions on deck?

[illegible]

- Operator Logs
- Daily Plan
- Capacity Planning
- Opportunity Log
- White Boards (e-Boards)
- Skills Flex Matrix

-

- 13

Digital Intelligence

Technology only creates value when it changes behavior.

Implementation Engineers integrates fit-for-purpose digital solutions directly into your operating routines:

- Automated KPI capture
- OEE and throughput tracking
- Digital LSW and Gemba
- Real-time alerts
- Connected equipment data

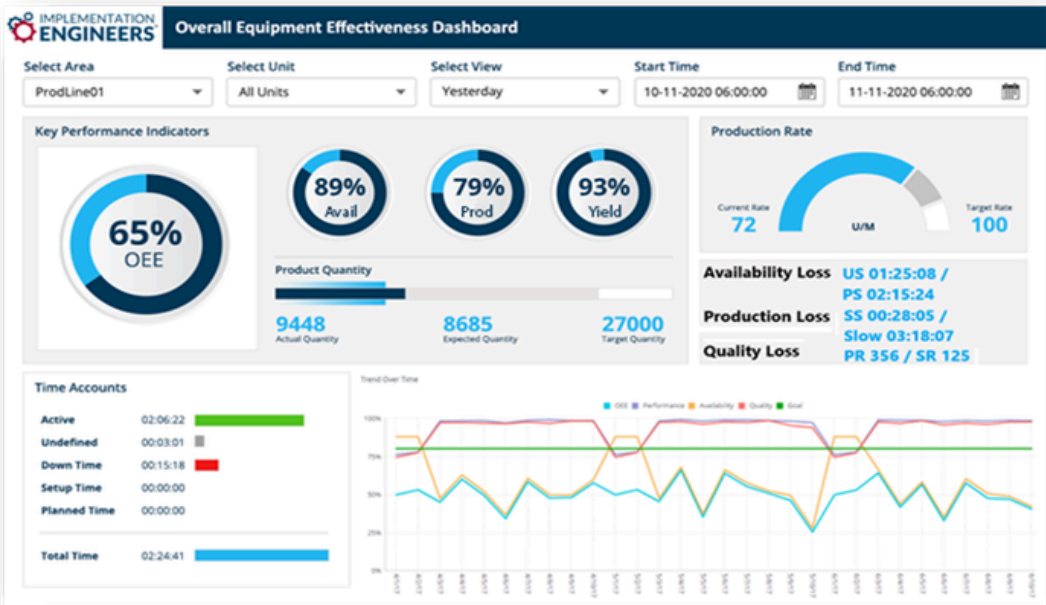
We design systems operators can actually use —not software that sits unused.

Whether our clients are seeking OEE, TEEP, Productivity, or another measured solution, we can deliver a simple, cost-effective approach that automates, standardizes, and elevates their current and future KPIs.



Low-Cost Technology Implementation:

it doesn't have to be expensive or complex to look really cool and be very effective



Digital tools only matter if they improve execution. That’s where we focus.

IX[®] in Action



A global electronics manufacturer supporting large-scale data center infrastructure was facing severe operational strain as demand for its data server racks rapidly increased. Production output was significantly below plan, quality performance was unstable, and leadership lacked real-time visibility into execution across assembly, test, retest, and material flow.

Implementation Engineers was engaged to stabilize operations, increase throughput, and build a sustainable operating model that combined **hands-on operational execution**, a robust **Management Operating System (MOS)**, and **digital operations tools** that enabled leaders to manage performance in real time.

Digital Operations Enablement

Digital tools were deliberately designed to **support the MOS**, not replace it. The goal was to give leaders real-time visibility so problems could be addressed immediately on the floor.

Andon Digital Dashboard (Rack & Server Assembly)

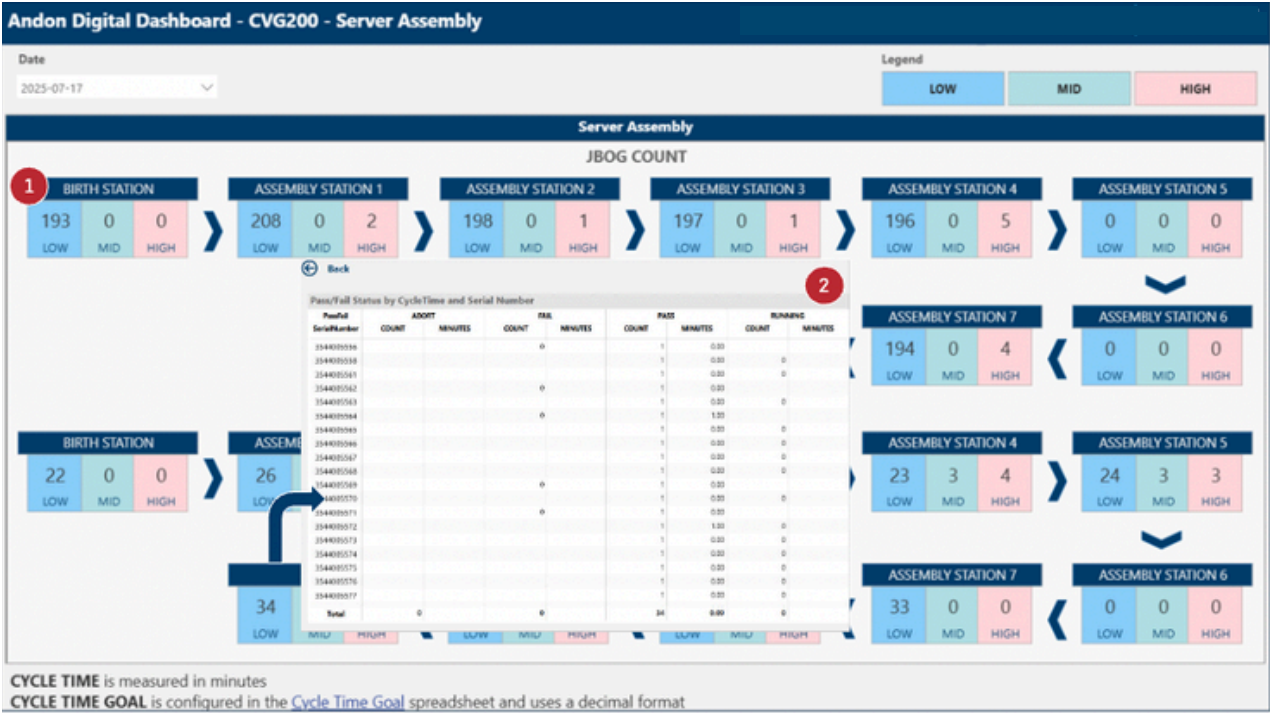
Implementation Engineers designed and deployed a **Power BI Andon dashboard** providing real-time production visibility.

Key capabilities included:

- Real-time view of units **within cycle-time goal, within tolerance, or exceeding plan**
- Standardized cycle-time classifications tied directly to engineered standards
- Drill-down to **serial-level detail**, enabling immediate root cause analysis
- Visibility by model, route step, and work area

A defining feature was the **cycle-time-to-plan report**, which compared actual cycle times against defined targets for every major process step. This became a central management tool used daily by supervisors and leaders during CACs and Gemba walks.

Dashboard Enabling Cycle-Time Control

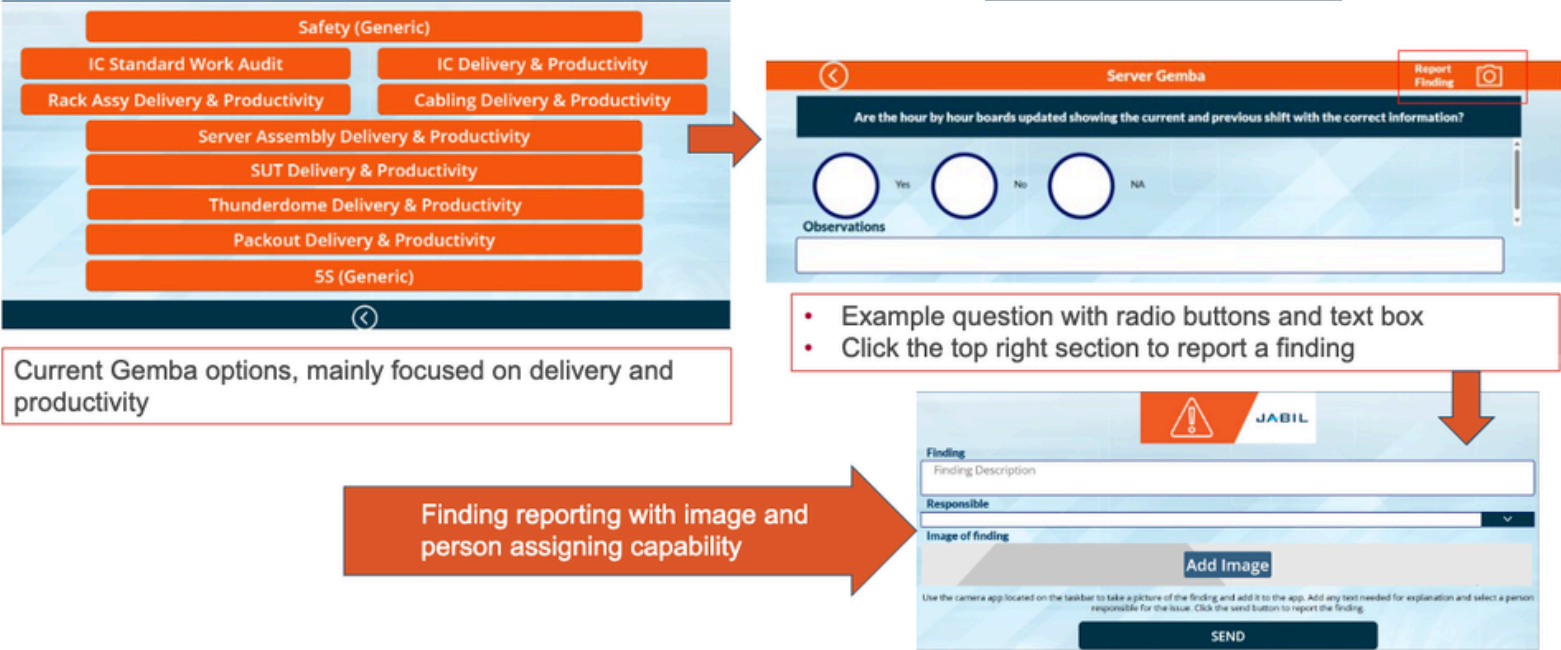


Digital Gemba Enablement

Leaders were equipped with tablets and a **Digital Gemba App** that reinforced leader standard work, ensured consistent execution of Gemba routines, and tied observations directly into CAC actions.

This closed the loop between what leaders saw on the floor and what was discussed in daily management meetings.

Digital Gemba App

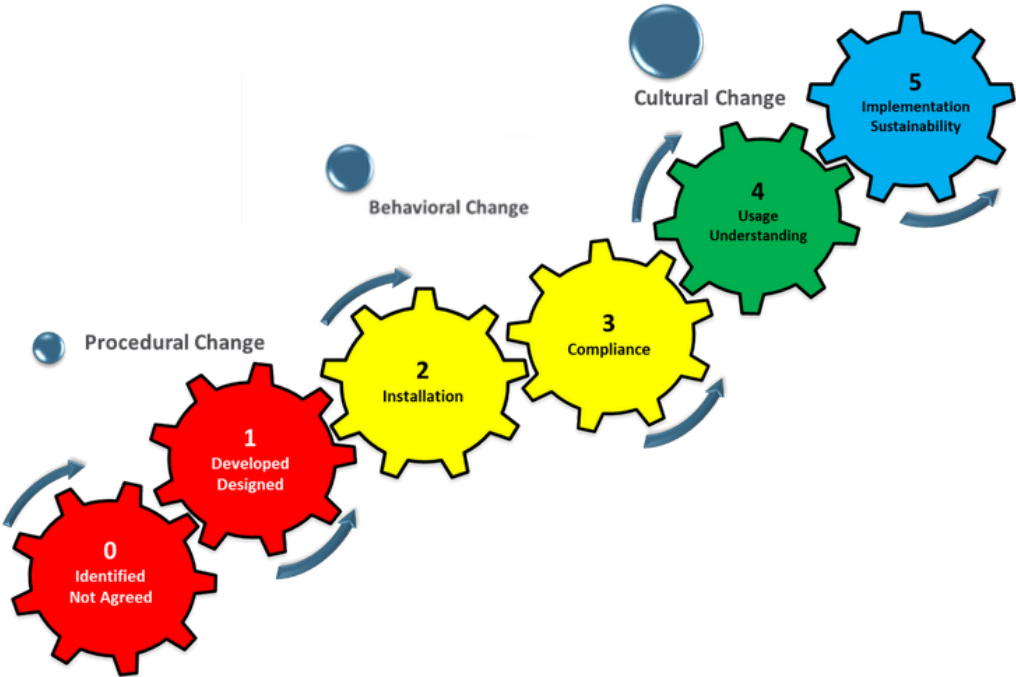


Level of Implementation Status (LIS)

Lastly, we not only plan for behavioral change but we measure it. We use a tool called Level of Implementation Status (LIS) to track behavioral adoption of process improvements during the project, which ultimately drives cultural change and program sustainability.

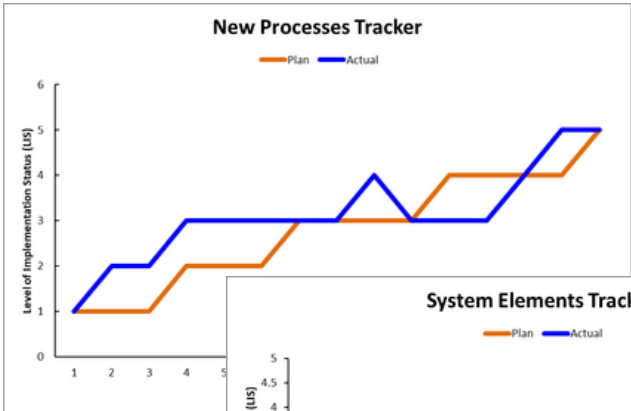
Level of Implementation Journey

Each of the six levels shown in the gears to the right is underpinned by objective attributes we look for to understand which level we are at. The coaching plan that is developed directly supports migration from Levels 0 and 1 up to Levels 3, 4 and 5. During the project, this is measured and reported on at the Steering Committee meetings.

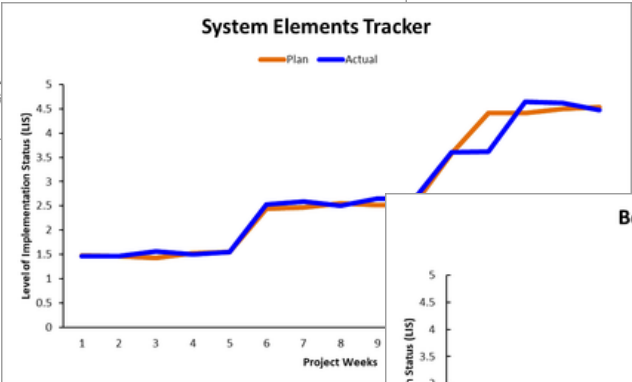


IX® in Action

During our client’s project, we measured the behavioral change through our LIS tool. Examples of some of the system elements included in this client’s LIS tool were the Variance Report, Standard Work and Escalation Process. Behavior changes that were tracked included variance analysis, Root Cause Analysis Review and the act of following up.

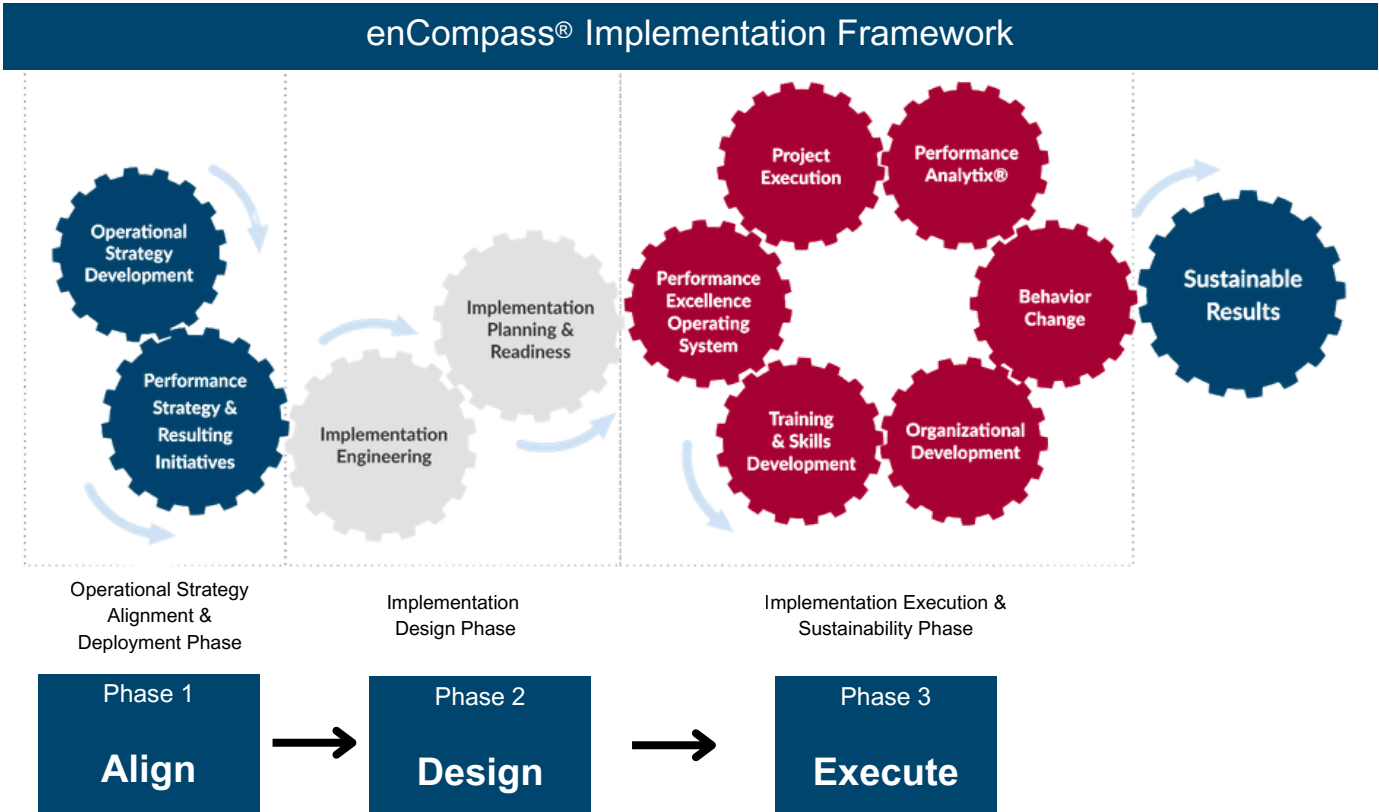


After 15 project weeks, our client reached an LIS level 4.5 for System Elements and Behaviors and a 5 LIS for New Processes.



Our Implementation Approach

While Implementation Engineers is not a strategy firm, we collaborate with leaders to enhance strategic thinking and assess the feasibility of implementing various strategies to achieve expected value. Our enCompass® framework offers a comprehensive Align-Design-Execute model to drive value realization. In contrast to traditional approaches, we advocate for a bottoms-up value creation process where each improvement is valued, and the collective impact of these solutions forms the expected value. Leveraging cutting-edge i4.0 principles throughout the value stream, we implement improvements and evaluate the necessary skills and behaviors essential for sustained value realization.



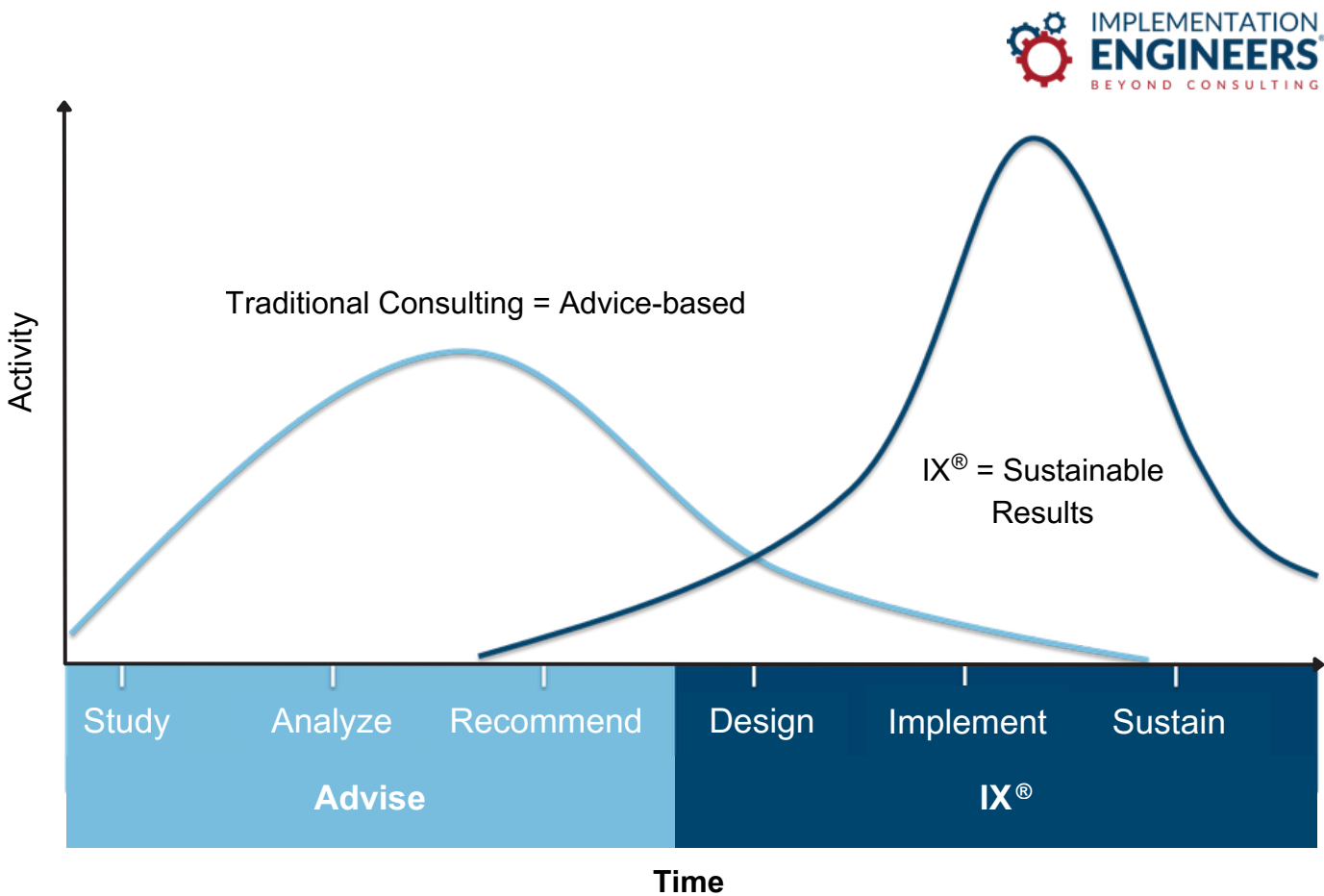
Our People

People make the difference. With record growth over the last many years, we are attracting the best talent to meet our customers' needs. Our IX® experts have been in industry most of their careers and know how to work with your teams to get things done. With over 20 years experience on average, our people bring the experience, skills and capabilities needed to complement your organization to deliver sustainable results.



IX[®] Is A New Service Paradigm For Value Creation

In summary, IE is not a consulting or advice service firm. We do not lay on the ground and look at the clouds in the sky to draw pictures of the perfect world. Instead, we are face down in the cactus working seamlessly with your people to get done what needs to be done to drive value creation. We accelerate the alignment of your people to focus on the hard work of executing the strategies that matter for your business. Some people believe that IE is a new professional service paradigm supporting organizations and leaders that don't need advice, just results. Finally, there is an Implementation Execution (IX[®]) services firm when you need one.



**Implementation Engineers works
Beyond Consulting[®] to drive value creation.**

Let's Turn Your Vision Into Results

At Implementation Engineers, we don't just execute projects - we transform your vision into operational reality. Our proven 3-phase approach - **Align, Design, Execute** - delivers lasting value, from aligning your team on strategic goals to optimizing operations and driving measurable outcomes. Whether you're aiming to lead your market, boost efficiency, or maximize shareholder value, we're here to make it happen, step-by-step, side-by-side.

Ready to Get Started?

Let's explore how we can bring your vision to life. Contact us today to schedule a conversation. Together, we'll chart the path to your success.

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ENGINEERS®**
BEYOND CONSULTING