

IX[®] Case Study
Foundry Operations Improvement



IMPLEMENTATION
ENGINEERS[®]
BEYOND CONSULTING



14%
increase in
throughput

\$1.5M
annualized
cumulative cost
savings

Implementation Engineers collaborated with a connectors facility that operates a foundry to execute a comprehensive improvement initiative to improve on-time delivery and long lead times. The project spanned operations, quality (scrap and rework reduction), warehouse management, and supply chain optimization. Additionally, a comprehensive training and coaching program was integrated into the project work, encompassing business process training for the newly integrated tools, specialized training for operators, and the creation of a tailored onboarding program to enhance employee retention rates.

Implementation Highlights

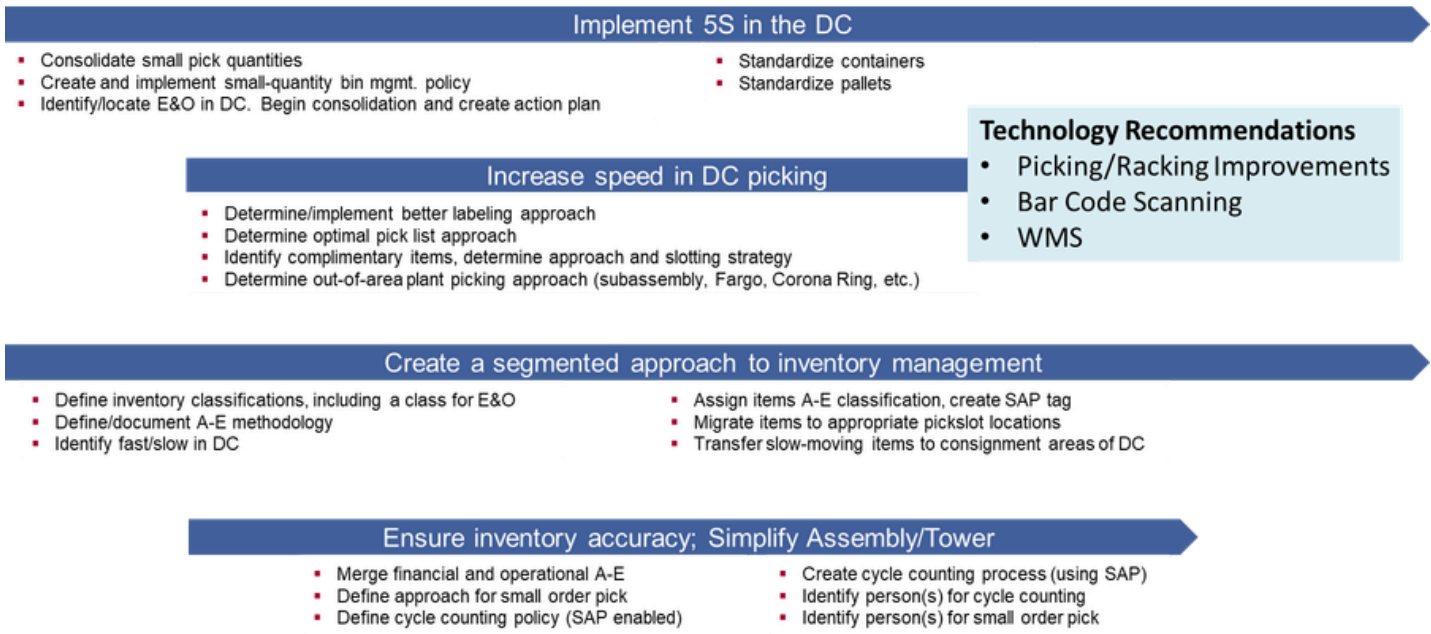
				
Inventory & Warehouse Management	Planning & Scheduling	OEE Improvement	Lean Principles	Management Operating System
+17% improvement in warehouse complexity	75% reduction in open work orders	40% - 60% reduction in sand system variability	14% throughput improvement	Visual Boards
Cycle Counting Program	Demand Visibility	New Measurement System	Control Critical to Quality (CTQ) and Critical to Throughput (CTT) Controls	Daily Huddles
Picking Strategy	Work Order Scheduling & Sequencing	RCCA Meetings		Gembas
				Coaching
				Performance Reviews

Inventory & Warehouse Management

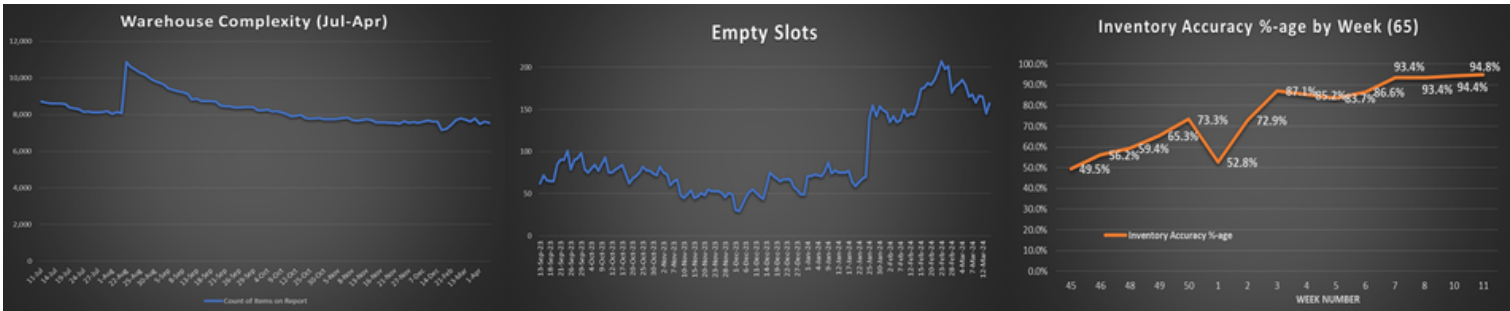
Our client faced challenges with a cluttered and disorganized warehouse that was not optimized for efficiency. Items were scattered across multiple locations, the storage approach was non-standard, and minimal pick quantities were stored in pick locations. System and physical inventories were out of sync, and the picking process was not streamlined for speed. Additionally, inventory was not segmented into fast/slow/dead categories, leading to inefficiencies in managing different types of items. To address these issues, Implementation Engineers partnered with our client to revamp their warehouse operations and implement strategic solutions for improved efficiency and organization. Activities during implementation included:

- Conducted inventory accuracy programs such as cycle counting and consolidation
 - Improved the pick list approach with labels, routing, and common items optimization
 - Implemented SKU segmentation, stratification, and classification
- Merged A-E classifications for better organization
 - Identified and strategized for excess and obsolete inventory
 - Enhanced small order processing for increased efficiency

Implementation Roadmap



Results During Implementation



17% reduction warehouse complexity

172% increase in storage capacity

95% inventory accuracy

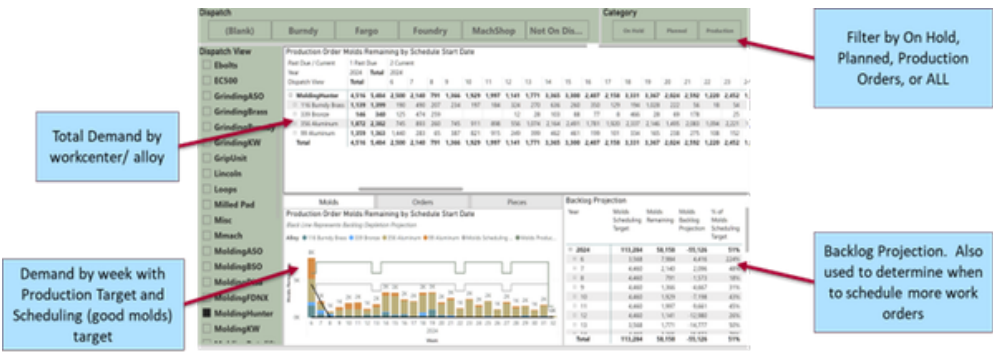
Planning & Scheduling

Our client was facing significant challenges in their planning and scheduling processes. They had limited demand visibility, with master schedulers lacking the necessary tools to view mid-term and long-term operational targets. This lack of alignment led to output constraints and secondary operations being starved for work. Additionally, a large percentage of past due work orders were delayed due to parts availability issues, and production order dates did not accurately reflect execution timelines. Schedule attainment was not being effectively tracked, and there was a need to synchronize SAP capacity parameters with the factory. In partnership with Implementation Engineers, our client was able to address these issues and implement solutions to improve their planning and scheduling efficiency. Activities during implementation included:

- Enhanced demand visibility by workcenter / workcenter group
 - Optimized workorder sequencing
 - Streamlined communication and execution of workorders
- Enhanced SAP capacity and planning parameters usage
 - Improved feedback to customer service

Power BI Tools Implemented & Trained On

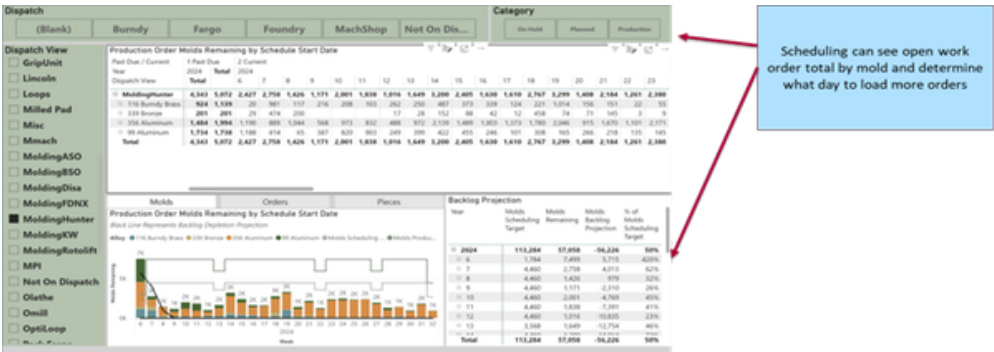
Demand Visibility



Work Order Scheduling & Capacity

75% reduction in open work orders

28% reduction in work order aging



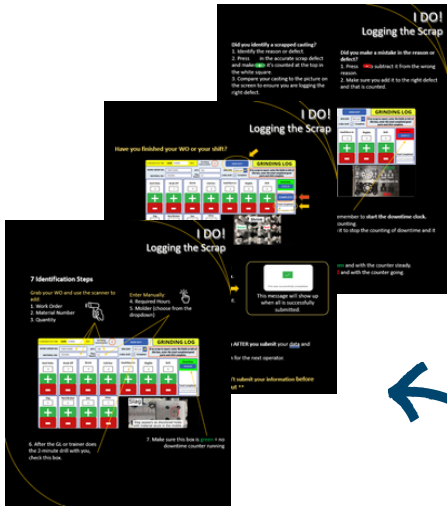
Scheduling KPIs



40% improvement in work order schedule compliance

IX® in Action (continued)

Quality & Loss Measurement System Implemented



- Facilitated RCCA meetings based on new data and trained participants in analytical tools such as the Ishikawa diagram used to identify possible causes of top scrap reason codes
- Trained participants on how to use Action Logs to create accountability around getting things accomplished in a timely manner

- Conducted training workshops on new tool to record scrap
- Developed training materials for new scrap collection process into onboarding

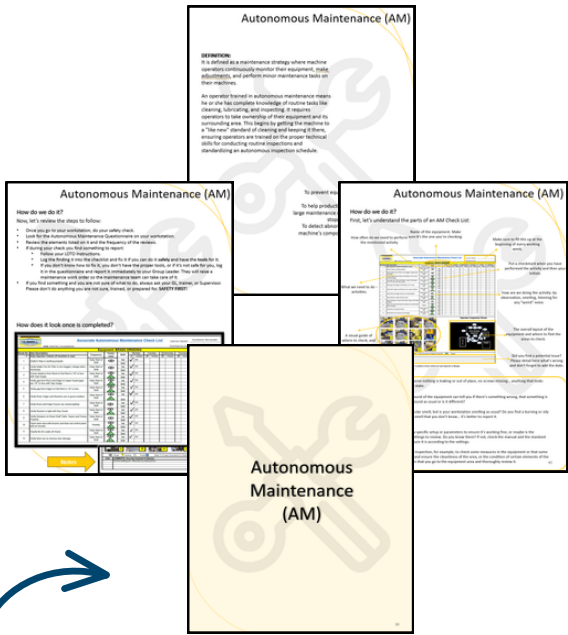


Operator Training

By incorporating tailored functional training into a holistic improvement program, IE significantly boosted throughput and quality outcomes. Notably, the implementation of an advanced autonomous and preventive maintenance program led to operational efficiencies. Operators were skillfully trained on utilizing specialized AM/PM checklists for diverse equipment types, alongside the introduction of standardized work instructions for sand system operations.



Autonomous Maintenance Checklists



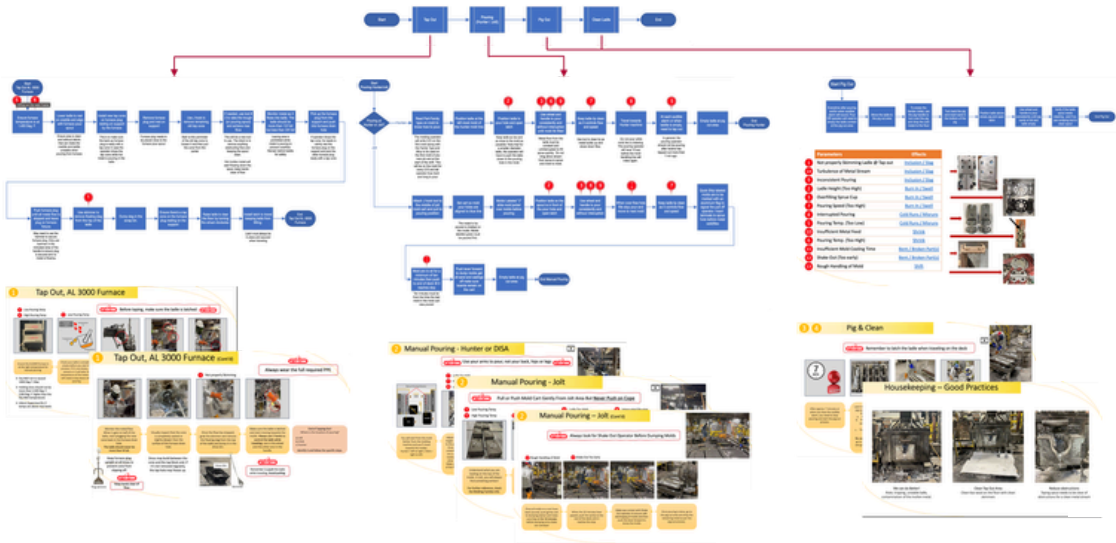
Autonomous Maintenance Training

Lean Principles & Standard Work

We addressed key challenges in our client’s molding and pouring practices the successful implementation of Lean principles. By focusing on reducing variation stemming from tribal knowledge, eliminating wasteful activities such as waiting for cores and handling patterns, and streamlining onboarding processes for new hires, our client realized improvements in efficiency, productivity, and overall performance. Key activities during implementation included:

- Controlled Critical to Quality (CTQ) and Critical to Throughput (CTT) Controls
 - Standardized pouring activities (Tap & Pour)
- Implemented Kanban for cores and patterns
 - Implemented visual management

Pouring Process & Work Instructions



Work Step	Met Lab	Sand Systems: ASO, BSO, KW	Equipment	New Lab	Equipment	Equipment	Equipment
Step 1: Data and Sample Collection							
Step 2							
Step 3							
Step 4							
Step 5							
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Implemented Standard Work Instructions & Trained Operators

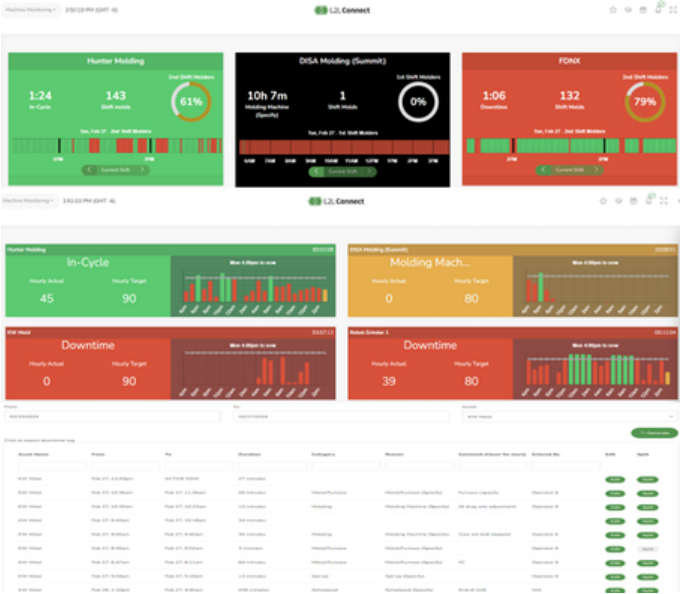
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7

Management Operating System

We partnered with our client to implement a redesigned and updated Performance Management System that supported and sustained production results, identified root cause issues, ensured quality assurance, provided structure, and brought about behavioral change to make it effective and sustainable for our client. Key activities during implementation included:

- Updated and redesigned KPIs
- Redesigned and updated the Meetings Structure
- Designed and installed a Supervisor Toolkit
- Redesigned and updated visual management
- Designed and implemented a shift handover system
- Designed and installed an on-the-floor coaching process
- Implemented Leader Standard Work



Daily Huddles implemented where the purpose was to check in with team members about what the day will look like and share safety, quality, delivery and people information relevant to the shift

Visual Management Board Structure

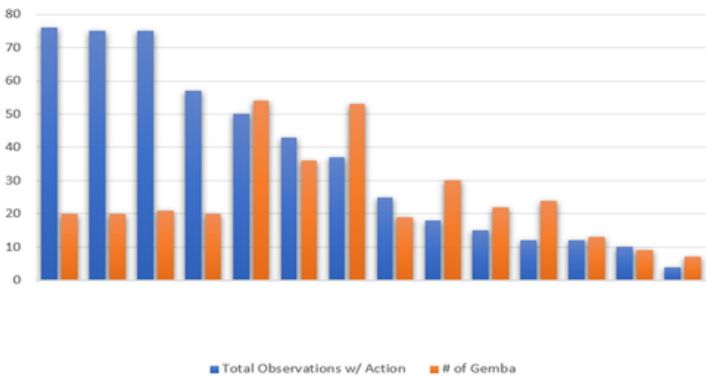
Performance Review meetings

implemented which were multifunctional team reviews discussing recurring problems affecting production, deciding course of action to solve, and assigning responsibility to appropriate person/group

The primary focus of Gemba sustainability was to ensure that leaders conducted Gemba walks every 2 hours, as indicated on the weekly scorecard. The quality of the Gemba was maintained by ensuring that leaders actively identify and address issues during their walks, also reflected on the weekly scorecard.

Gemba Weekly Scorecard

Documented Observations with Actions



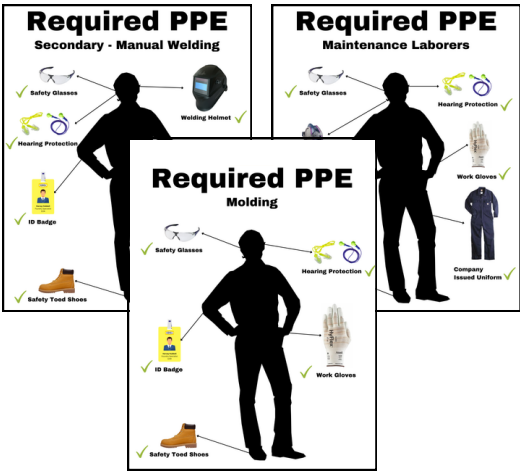
Training & Coaching

In addition to implementing Lean principles, IE partnered with our foundry client to design and implement an in-house training system that improved the employee experience, capabilities, and qualifications and allows a proper follow-up to increase retention, promote development and improve productivity.

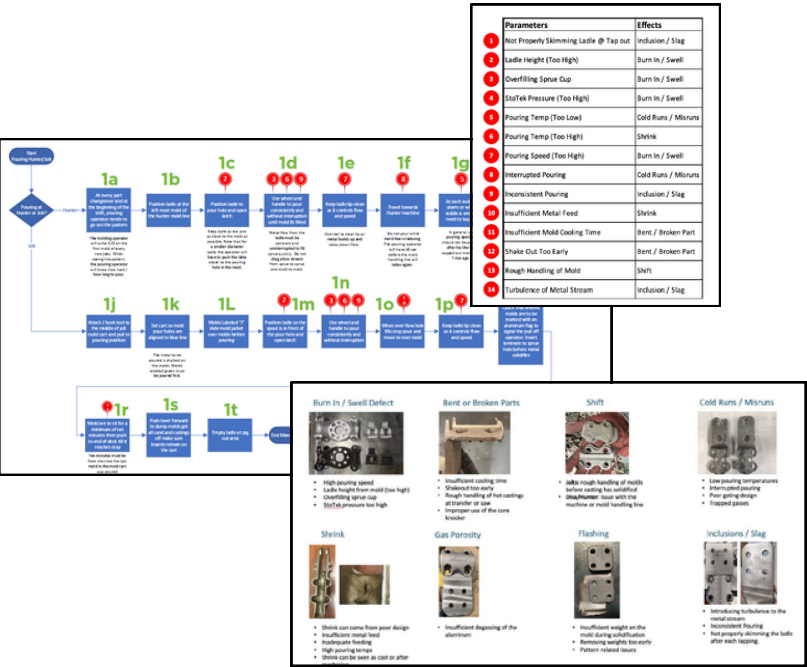
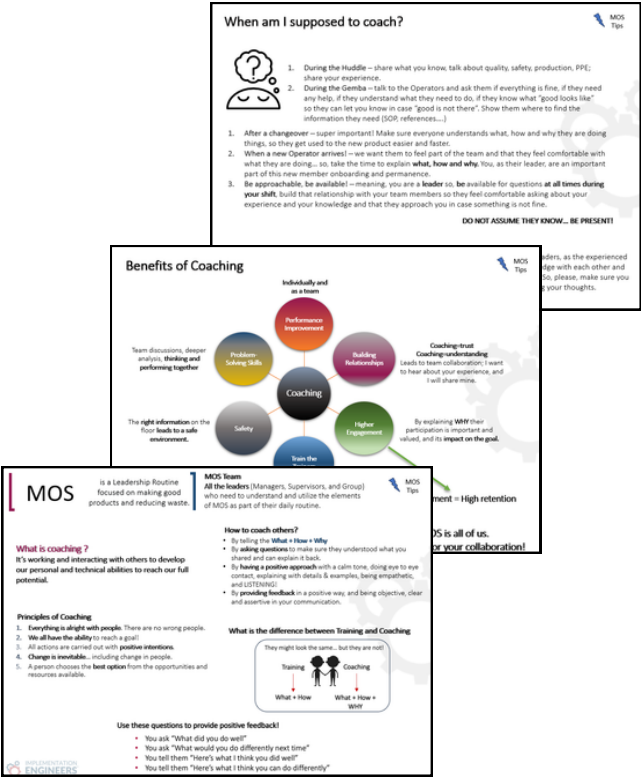
Job Descriptions



Onboarding Job Training Materials



Safety Training Material



Custom Coaching Material

Process Maps with Potential Defects

Sustainable Results

Through our comprehensive implementation for our client, they experienced significant improvements in planning and scheduling, OEE, and workforce retention through comprehensive training and the application of Lean principles.

Next Steps

- Schedule a meeting with our team to discuss how Implementation Execution (IX®) can help your organization achieve its goals. Submit an IX® request on our website at www.implementation.com
- Visit www.implementation.com to read more about IX® and how we have helped our clients create sustainable results
- Follow us on LinkedIn to stay up to date with the latest industry insights and updates. Join our network to access exclusive content and stay connected with our team of experts

Learn More: www.implementation.com



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