



WHITEPAPER · METHOD

Why the Whiteboard Still Wins on Most Shop Floors

An IIIOT Infotech analysis, grounded in deployment data from MES — Manufacturing Execution System implementations.

IIIOT INFOTECH · BUILDING CONNECTED SUSTAINABLE ECOSYSTEMS

THE PROBLEM

Where this starts

A production schedule is only as good as the plant's ability to react when it breaks — a machine goes down, a material shipment is late — and most plants still rebalance that disruption with a phone call and a whiteboard, hours after the disruption actually happened.

>99% INVENTORY ACCURACY	<2 Days TURNAROUND TIME	>95% MATERIAL AVAILABILITY	Real-Time SHOP FLOOR VISIBILITY
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Figures reflect outcomes reported across comparable MES Platform deployments.

What's actually going on

The gap between planning software and shop-floor reality

Most plants have perfectly capable production planning software. The gap isn't planning — it's the hour-by-hour reality of a machine breakdown, a late material delivery, or an operator absence, and how fast the plan re-adjusts. Static planning tools answer "what should happen"; they rarely answer "what should happen now, given what just went wrong."

Why closing the maintenance loop changes the OEE conversation

When preventive, predictive and breakdown maintenance data all feed back into the scheduling engine that generated the original plan, a maintenance window stops being a scheduling interruption and starts being a scheduling input — planned around, not reacted to.

What good practice looks like

4M traceability as a quality prerequisite, not a compliance afterthought

Genealogy tracking (Man, Machine, Material, Method) is often treated as a compliance checkbox. In practice, it's the dataset that makes root-cause analysis possible when a quality issue surfaces — without it, "which batch, which machine, which operator" becomes a multi-day forensic exercise.

What "real-time" has to mean to be worth the investment

A dashboard that refreshes every 15 minutes isn't real-time in any way that helps a scheduler react to a breakdown. The bar is: can the system detect the disruption, recalculate affected orders, and surface a rebalanced plan before the floor supervisor finishes their own manual workaround?



HOW IIIoT HELPS

MES — Manufacturing Execution System

Real-time production intelligence, dynamic scheduling, and shop-floor visibility for Industry 4.0 operations.

Dynamic Scheduling & Rebalancing

Machine and labour scheduling with capacity planning and load balancing — the system rebalances remaining orders automatically when a machine goes down.

Quality Management (QMS)

Statistical Process Control with real-time control charts, Non-Conformance Management (hold/quarantine/rework/scrap), and CAPA workflows — closing the loop between what's scheduled and what's produced to spec.

Integrated Maintenance (CMMS)

Time-based (preventive), condition-based (predictive, IIoT sensor-triggered) and corrective (breakdown) maintenance all feed MTTR, MTBF and MTBA back into the scheduling engine.

Material Flow & 4M Traceability

Full genealogy — Man, Machine, Material, Method — tracking work order reference, cycle time, and throughput from inbound gate entry through issuance.

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