

Track and Trace for Manufacturing and Warehouses

Smart | AI-powered | IoT-driven



Powered by: HCLTech Integrated Asset Tracking and Management platform

Overview

A recent study on the importance of track-and-trace of materials in supply chains showed that:



There are unpredictable order-to-cash (O2C) cycles, impacting financial performance



Inadequate inventory control causes outdated visibility into material movement



Accurate access to asset information is difficult



There are increased stockouts and suboptimal inventory levels



RFID chips and other technologies are appearing on more and more products, establishing important roles in track-and-trace solutions

Today, manufacturing organizations face the ongoing challenge of a lack of real-time visibility of their raw materials, sub-assemblies and finished product inventories with no traceability of the materials.

Our Solution

Track and Trace for Manufacturing and Warehouses

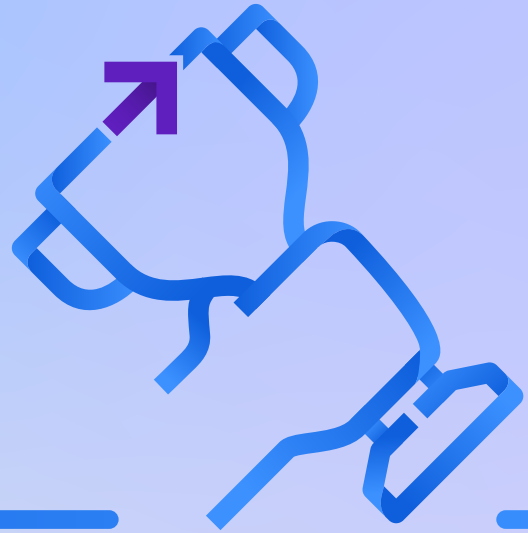
is an advanced IoT-based track and trace solution designed for industries with significant material movement. It addresses the challenges of material visibility and manual tracking errors by providing automated tracking and a consolidated inventory view.

Powered by HCLTech's IATM platform – the solution is smart, AI and IoT-driven and is available on multi-cloud platforms like Microsoft Azure and AWS Marketplace and can also be deployed on-premises. The solution enhances productivity, reduces wastage and lowers capital costs by improving asset location accuracy and operational efficiency. It is scalable to track up to 1,000,000 assets, integrates with third-party systems via Application Programming Interface (APIs) and offers flexible commercial models.

Generative AI and AI-driven features assist material managers in performing daily operational tasks, accurately predicting inventory shortfalls and excesses and ensuring required inventory service levels. Additionally, these features forecast future inventory projections and holding costs



Awards and Recognitions



IoT Breakthrough
**Industrial IoT Solution of the Year
Award, 2025**

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IoT Evolution
Excellence of the Year Award, 2024

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IoT Evolution
Business Impact of the Year Award, 2023

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IoT Evolution
Asset Tracking of the Year Award, 2023

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Features



Real-time asset traceability

Enables zone-wise traceability of materials between different areas in large manufacturing facilities having AI and GenAI assisted operational features



Consolidated floor layout view

Ensures inventory visibility and location across the facility as a single pane of glass and facilitates operators in finding and locating materials and assets



FEFO/FIFO search capabilities

Prioritizes movement of materials based on First Expired First Out (FEFO) or First In First Out (FIFO)



Automated audit and stock check

Reduces need for manual counting



Open APIs for enterprise application integrations

Seamless integration to customer's existing Enterprise Resource Planning (ERP) and other third-party systems



Solution Workflow



Key Benefits

With a strong focus on materials management and resource optimization, the solution facilitates data-driven decisions with streamlined real-time asset tracking and cost reduction.

- + 10-15%**
Reduction in inventory holding cost
- + 75-90%**
Increase in inventory accuracy
- + 50-60%**
Reduction in wastage
- + 70-75%**
Improvement in cycle count
- + 15-18%**
Boost in productivity
- + 80-85%**
Faster time to locate assets



Case Studies

Success story

1

The objective:

A healthcare industry leader sought to boost efficiency by digitalizing material handling processes, enhancing inventory visibility and minimizing manual tracking. They further wanted to reduce inventory wastage and optimize operations with data driven intelligence.

The solution:

The customer adopted track and trace for manufacturing and warehouses solution for real-time material tracking across manufacturing and warehouse zones. Integrated reports and ERP integration ensured accurate inventory management and streamlined processes.

The impact:

- 80%-85% improvement in inventory accuracy and elimination of discrepancies
- 10%-20% boost in productivity due to workflow automation
- Automated audit and reconciliation process and reduced wastage through the solution's unique FEFO/FIFO feature
- Improved inventory metrics and optimized material workflows facilitated the adoption of new technologies and automation



Success story

2

The objective:

An oil and gas giant aimed to enhance remote accessibility to equipment, streamlining manual inspection processes and automating data entry and reconciliation.

The solution:

We implemented an omni-technology track and trace solution combining RFIDs, barcodes and BLE, including RFID readers on trucks for tracking assets within 20 meters, ATEX-certified tags and integration with various management systems that optimized reader placement, validated performance and developed a custom application for processing RFID data.



The impact:

- 90% reduction in time in on-site inspections
- Enhanced workforce safety by reducing worker exposure to hazardous environments
- Increased operational efficiency by achieving higher productivity through streamlined processes

Success story

The objective:

A global leader in technology, with operations over 175 research labs globally strived to improve asset tracking, utilization visibility and gain faster insights into movement management to streamline operations and optimize asset efficiency across labs.

The solution:

The track and trace for lab asset solution leveraged fixed RFID readers for movement tracking and notifications. Regular automated inventory audits improved accuracy and enabled enhanced asset location even in cluttered environments.

The impact:

- 100% tracking of assets at lab entry and exit points
- 20% reduction in missing or lost assets
- 90% increased operational efficiency of planned audits
- Improved data quality in ServiceNow
- Enabled the generation of detailed asset utilization reports



Success story

The objective:

A large multinational technology giant sought a solution to enhance operational efficiency by automating manual inventory tracking, improving traceability of misplaced devices and obtaining real-time data on device status and utilization across their 60 labs and five stores.

The solution:

The track and trace for lab asset solution leveraged fixed RFID readers for movement tracking and notifications. Regular automated inventory audits improved accuracy and enabled enhanced asset location even in cluttered environments.



The impact:

- 100% tracking of assets at entry and exit points
- 20% reduction in missing or lost assets
- Enabled the upgrade of firmware /software and triggered OTA updates for connected devices

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