ÇIMSA SUCCESS STORY

Transforming Spare Parts Logistics with AI and Wearable Technology

THREAD IN MOTION

2025

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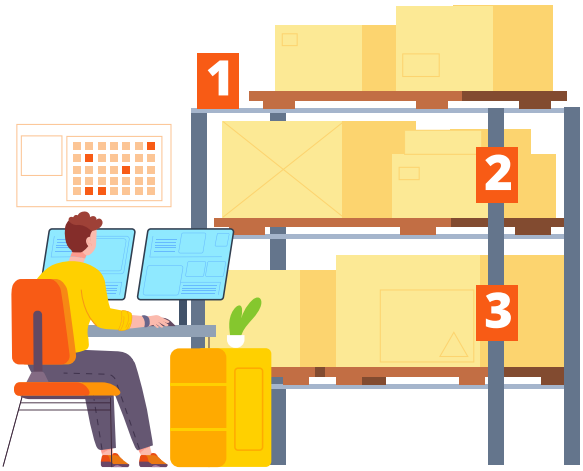
INTRODUCTION

Çimsa Çimento is one of Turkey's leading producers of cement and construction materials. Operating under the umbrella of **Sabancı Holding**, the company manufactures a wide range of products including white and grey cement, as well as ready-mix concrete.

Positioned within the construction materials industry, Çimsa's production facilities rely heavily on large-scale machinery, equipment, and vehicles. To ensure continuous operations and prevent unplanned downtime, the company maintains spare parts warehouses at its plants.

These warehouses are stocked with critical components required for routine maintenance and emergency repairs playing a vital role in maintaining uninterrupted production.

FINANCIAL, OPERATIONAL, AND TIME LOSSES



Spare parts inventory plays a critical role in ensuring the continuity of both production and maintenance processes in heavy industries. At Çimsa's Eskişehir facility, tracking the flow, consumption, and stock levels of thousands of spare parts was becoming increasingly complex.

The traditional processes made it difficult to:

- Prevent losses or misplaced parts.
- Maintain optimum stock levels.
- Track whether the right parts were picked and used in accordance with job cards
- Ensure that all materials issued from the warehouse were authorized and traceable

The company needed a way to gain real-time visibility, eliminate human error, and reduce inventory inefficiencies in its spare parts operation.

CIMSA SUCCESS STORY

DIGITAL TRANSFORMATION IN SPARE PART MANAGEMENT

01 **WISPAR Smart Warehouse Management System:**

A customized digital inventory platform was deployed, fully integrated with Çimsa's existing SAP ERP infrastructure. This integration enabled real-time synchronization of stock movements, ensuring inventory records remained accurate and up-to-date. WISPAR's built-in **Anomaly Detection** module, powered by AI, continuously analyzed stock patterns. The system flagged unexpected usage — such as sudden spikes or irregular depletion in specific spare parts — and generated predictive alerts for warehouse supervisors. This proactive visibility enabled earlier intervention and risk prevention.

02 **AI Assistant Integration:**

The system featured a conversational AI agent, allowing warehouse personnel to interact with the platform using natural language. Staff could ask questions like "What's the current stock level of part X?" or "How many units of item Y were used last month?" The AI agent responded instantly, analyzing real-time data from the WISPAR backend. It was also configured to execute predefined actions, such as initiating reorder requests when a critical threshold was breached — reducing delays and improving responsiveness in inventory workflows.

DIGITAL TRANSFORMATION IN SPARE PART MANAGEMENT

03

Hands-Free Efficiency with Vega-X:

TIM's Vega-X smart gloves were introduced to enhance productivity and ergonomics for warehouse workers. Featuring built-in barcode scanners and a mini embedded computer, the gloves enabled hands-free item picking. Workers no longer needed handheld scanners or paper-based picking lists — all tasks were performed directly through the gloves, ensuring faster, error-free data capture. This upgrade not only reduced physical strain from carrying heavy devices but also improved operational speed and accuracy across the warehouse floor.

04

Fully Digital Operations and Continuous Inventory Control:

WISPAR replaced all paper-based processes with digital workflows. Material requests, stock updates, cycle counts, and quality control forms were managed entirely through the platform. Every material movement including entries, exits, and transfers was logged automatically. Unlike traditional periodic inventory audits, WISPAR enabled continuous inventory reconciliation, helping identify and resolve SAP-stock discrepancies in real time. Quality checks on incoming materials were also digitized and recorded, adding traceability and accountability to the inspection process.

CIMSA SUCCESS STORY

FLAWLESS SPARE PART MANAGEMENT

Order picking times were significantly reduced thanks to the hands-free scanning capability of VEGA-X smart gloves, enabling faster item handling without interrupting movement.

The integration of WISPAR with SAP allowed real-time synchronization between physical inventory and digital records. Continuous inventory tracking and AI-powered anomaly detection minimized stock inconsistencies and data gaps.

By eliminating the need to carry handheld terminals or rely on paper-based tracking, the solution enhanced worker comfort and reduced physical strain — while improving accuracy and throughput.

PREDICTIVE AND PROACTIVE AN

The AI agent within WISPAR enabled real-time insights and decision support. Sudden deviations in part usage or stock levels were detected early, preventing operational delays and supporting preventive maintenance workflows.

From stock movement logs to quality control forms, all workflows transitioned to a paperless format. This improved traceability, reduced manual workload, and aligned operational data with compliance and audit standards.

Warehouse activities — previously handled in siloed or reactive fashion — became fully traceable, enabling managers to make timely and informed decisions based on live system feedback.

A STRATEGIC STEP TOWARDS SMART INDUSTRY

With this transformation, Çimsa took a decisive step toward modernizing one of the most overlooked yet critical parts of its operations: spare parts inventory management. By combining WISPAR's intelligent warehouse platform with AI-powered assistance and wearable technology, Çimsa not only streamlined its internal logistics — it elevated accuracy, agility, and accountability across the board.

This project reflects Çimsa's broader commitment to operational excellence through digital innovation. And with scalable infrastructure now in place, the company is well-positioned to extend similar efficiencies across other facilities and business units.

THREAD IN MOTION

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