

AKÇA LOJİSTİK

Transforming Logistics at Scale

Eliminating manual bottlenecks through wearable IoT and seamless WMS integration to drive 35%+ efficiency gains.

A Strategic Case Study on
Operations Transformation

Executive Agenda



I. Enterprise Context

Analyzing market position, current challenges, and operational baseline.

Identifying key stakeholders and strategic imperatives.

II. The Hidden Costs of Legacy Technology

Quantifying technical debt, maintenance expenses, and operational inefficiencies.

Highlighting risks of system obsolescence and data silos.

III. From Manual Operations to Intelligent Automation

Mapping processes for automation, introducing AI/ML capabilities, and optimizing workflows for efficiency. Enabling human-machine collaboration.

IV. Quantifiable Business Impact

Measuring ROI, cost savings, revenue growth, and productivity gains. Showcasing key performance indicators (KPIs) and metrics improvement.

V. Strategic Impact and Vision

Defining long-term competitive advantage, future roadmap, and scalability. Aligning technology strategy with overall business goals for sustained growth.



Enterprise Scale Amplifies Micro-Inefficiencies

As a premier 3PL/4PL provider, Akça Lojistik manages highly complex distribution networks. Operating at this massive volume means standardizing workflows is critical.

However, legacy hardware introduced systemic friction into the foundational order picking and inventory management processes, creating a strict ceiling on total operational velocity.

Scale & Scope

30+

Warehouses nationwide

2,000+

Blue-collar workforce

3PL / 4PL

Core service model

The Friction of the Legacy Workflow

The foundation of warehouse velocity relies on continuous movement. Traditional handheld terminal scanners forced workers into a repetitive, fragmented physical loop. This constant interruption consumed critical seconds per scan, destroyed operational momentum, and compromised end-to-end traceability by separating data entry from product handling.

Pure Waste: Lost seconds per pick compounding at scale



The Hidden Costs of Legacy Technology

Triad of Operational Drag

Throughput Bottlenecks

The fragmented scanning motion capped the maximum velocity of high-volume order fulfillment, acting as a hard ceiling on daily warehouse output.

Ergonomic Strain

Workers were required to repeatedly lift 1-2 kg handheld devices throughout long, demanding shifts, accelerating fatigue and increasing the risk of musculoskeletal strain.

Error Propagation

Lacking immediate error-correction mechanisms, mis-scans or wrong-item picks were not caught in real-time, leading to downstream inventory discrepancies and costly rework.

The Paradigm Shift to Hands-Free IoT

Akça Lojistik eliminated physical workflow friction by deploying VEGA-X smart gloves. Operating as a wearable micro-computer, this IoT intervention fundamentally redesigned the workflow, allowing scanning and material handling to occur in one continuous, fluid motion.



Integrated Hand-Mounted Scanner

Eliminates the 1-2kg handheld terminal, freeing both hands.

Multi-Protocol Connectivity

Plug-and-play Wi-Fi, Bluetooth, and LoRa integration with existing WMS.

Rapid Enterprise Rollout

Entire 2,000+ workforce equipped and trained in approximately 30 days.

Real-Time Synchronization and Poka-Yoke Architecture

Seamless WMS integration ensures continuous data capture without manual data entry, providing management with end-to-end operational visibility.

Diagnostic Comparison Matrix



Workflow Integration

Interrupted, distinct physical steps.

Error Prevention

Reactive, downstream discovery.

Data Latency

Batched or delayed synchronization.

Intelligent Wearables

Single continuous grabbing/scanning motion.

Error Prevention

Instant Poka-Yoke via multi-modal feedback (optic, haptic vibration, acoustic alerts).

Data Latency

Real-time WMS telemetry.

Quantifiable Impact on Throughput and Precision

Efficiency Gain

>35%

Efficiency Gain

Hands-free operations completely eliminated terminal-handling time, accelerating picking velocity and order fulfillment by over one-third.

Errors

Near-Zero

Errors

The proactive multi-sensor feedback loop (vibrations, lights, sound) virtually eliminated wrong-item picks by catching human errors in real-time before they propagate.

Traceability

100%

Traceability

Continuous, automated data capture generates flawless real-time visibility into item movements and inventory accuracy without manual entry.

Workforce Augmentation and Operational Resilience

By replacing cumbersome legacy hardware with lightweight, human-centric design, Akça Lojistik elevated its operational safety and ergonomic standards toward a zero accident environment.



Ergonomic Relief

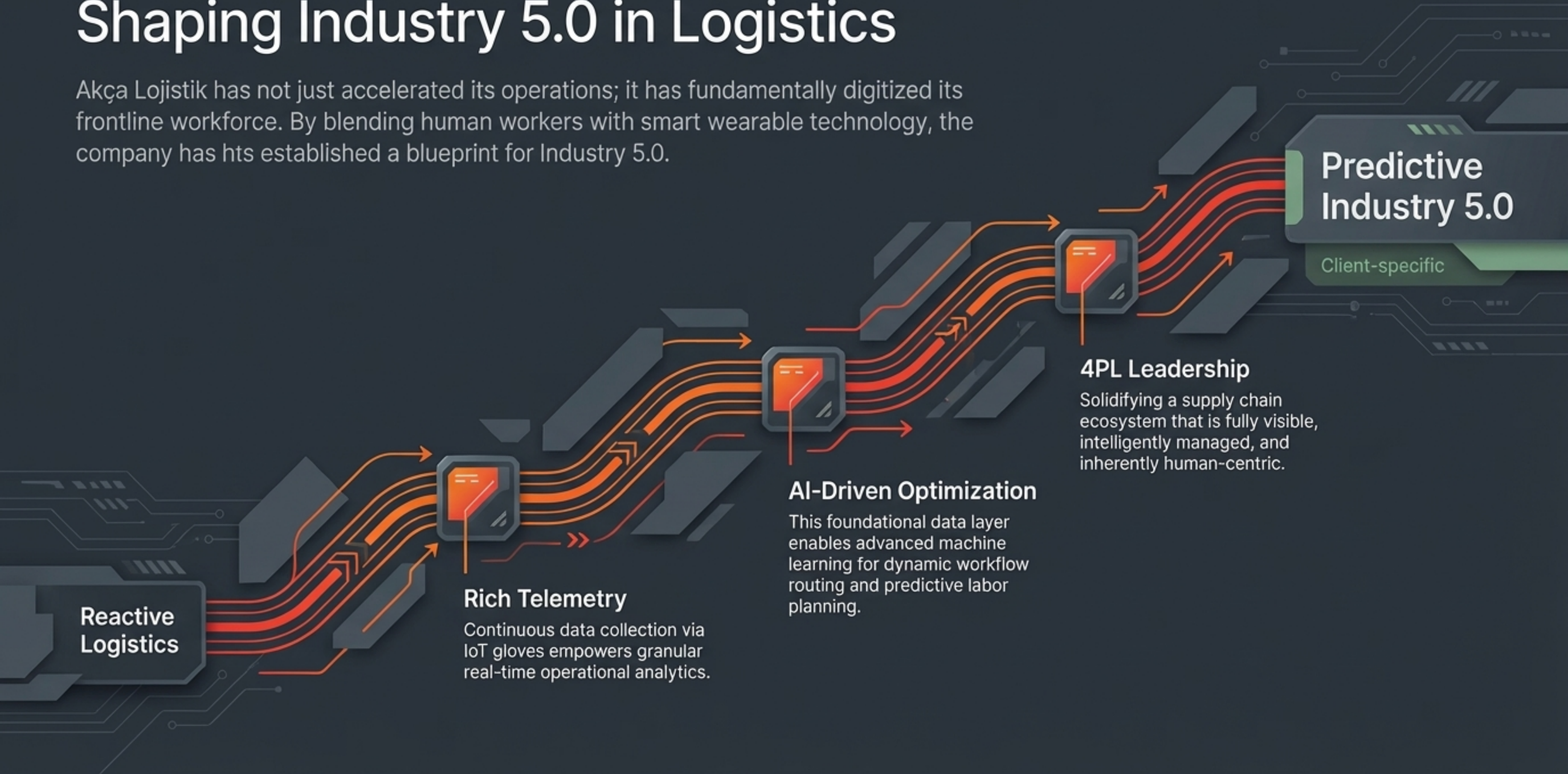
Replacing 1–2kg handheld terminals with lightweight wearables drastically reduced musculoskeletal strain and fatigue over long, demanding shifts.

Advanced Safety Protocols

Integrated IoT sensors actively monitor worker welfare, featuring automatic fall detection and instant distress signal capabilities for immediate supervisory response.

Shaping Industry 5.0 in Logistics

Akça Lojistik has not just accelerated its operations; it has fundamentally digitized its frontline workforce. By blending human workers with smart wearable technology, the company has established a blueprint for Industry 5.0.



Ready to transform your operations?

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Discover how intelligent wearables can unlock hidden capacity in your supply chain.