

A grayscale photograph of a large industrial warehouse or factory. In the foreground, a large, light-colored rectangular object, possibly a piece of machinery or a large box, is visible. It has the Trendyol logo on its side. In the background, there are various industrial structures, pipes, and equipment, creating a sense of a busy, large-scale manufacturing or logistics environment.

# TRANSFORMING E-COMMERCE LOGISTICS WITH WEARABLE TECHNOLOGY

A Strategic Masterclass on Operational Scaling at Trendyol

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## Introduction: Scaling High-Volume E-Commerce Operations

- ✦ **The Scale Challenge:** In high-volume e-commerce logistics, "packing and final quality control" stations dictate the absolute speed of outbound operations.
- ✦ **The Verification Imperative:** Prior to dispatch, every individual item requires rigorous barcode verification to maintain quality standards and consumer trust.
- ✦ **The Bottleneck:** Reliance on conventional handheld terminals creates a physical limitation, capping the maximum throughput capacity of human operators at the packing desks.

# Hidden Costs of Operational Inefficiency: The Packing Station Bottleneck

## Compounding Time Loss

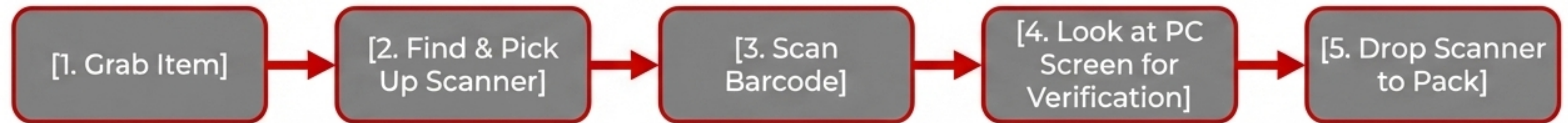
- ❖ The repetitive necessity to pick up and put down conventional scanners creates severe operational drag.

## Quality Risk

- ❖ Error alerts strictly bound to static computer screens increase the probability of incorrect shipments during high-tempo operations.

## The 'Al-Birak' (Pick-and-Drop) Elimination Timeline

### The Old Way (High Motion Waste)



### The New Way (Continuous Flow)



# FROM MANUAL OPERATIONS TO INTELLIGENT AUTOMATION: THE VEGA INTEGRATION

## Anatomy of the VEGA Integration

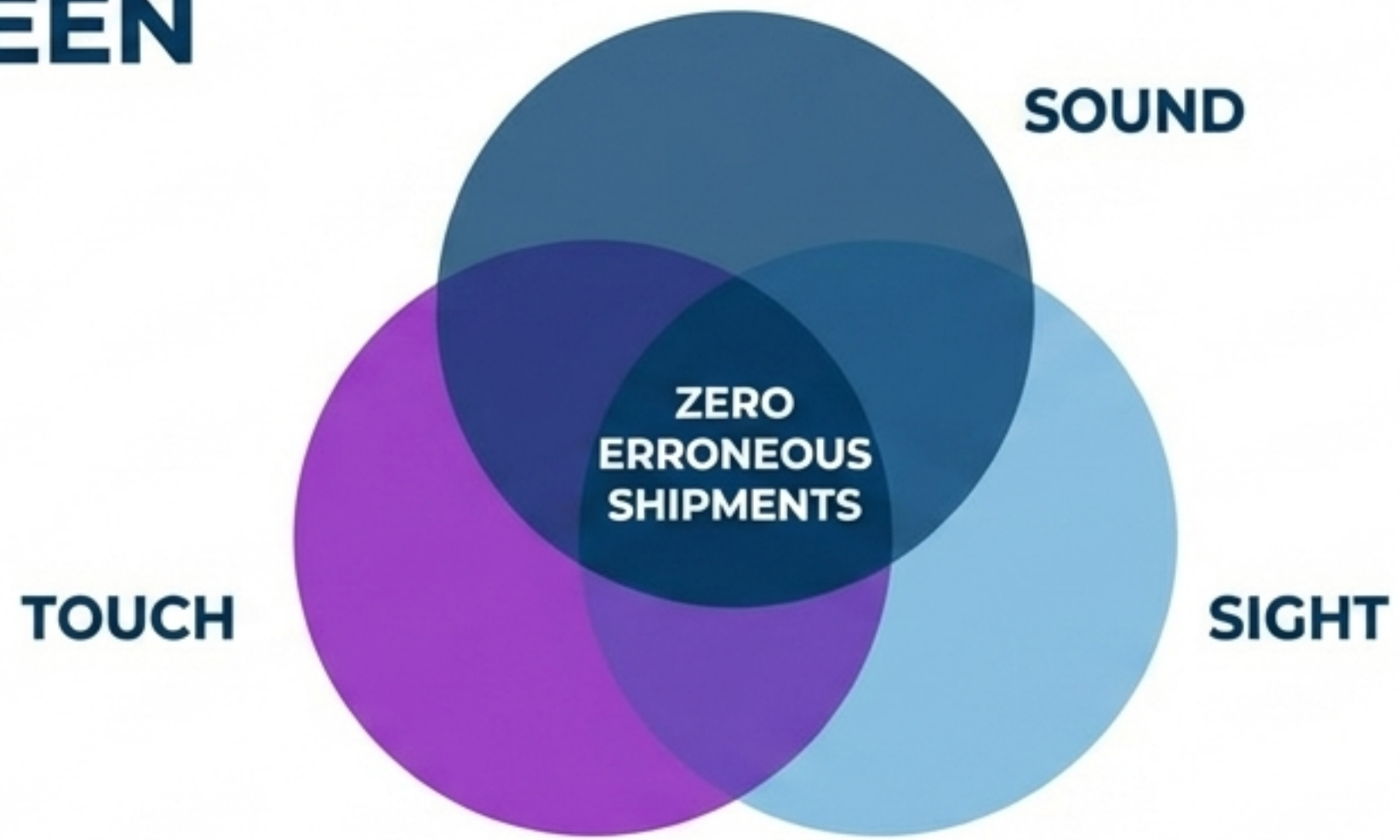
◆ **Integrated Keypad & Scanner:** Enables natural, continuous motion without interrupting the packing flow. 100% Hands-Free.

◆ **Ergonomic Wearable Architecture:** Eliminates the physical strain of constantly lifting heavy, conventional scanning equipment.



◆ **Direct System Communication:** Communicates seamlessly and continuously with packing station computers without requiring visual screen-checks.

# ELIMINATING SCREEN DEPENDENCY: THE TRI-SENSORY FRAMEWORK



## ✦ Haptic (Touch)

Real-time vibration alerts immediately notify the worker of a mismatch, triggering an intuitive physical response.

## ✦ Acoustic (Sound)

Distinct audio cues confirm successful scans or highlight errors, removing the need to break eye contact with the physical package.

## ✦ Optic (Sight)

Instant LED visual indicators on the glove itself replace the need to search for alerts on a distant computer monitor.

**SUMMARY INSIGHT:** By distributing feedback across three distinct sensory channels, VEGA creates a foolproof cognitive net against shipping errors in high-pressure environments.

# MEASURABLE IMPACT: SPEED, PRECISION, AND ERGONOMIC EXCELLENCE

Diagnostic Comparison Matrix	TRADITIONAL HANDHELD	VEGA SMART GLOVE
1 Hand Availability	Occupied	<b>100% Free</b> ✨
2 Error Alert Mechanism	Screen-dependent	Wearable Tri-Sensory
3 Motion Waste	High 'Pick-and-drop'	<b>Zero</b> ✨
4 Cognitive Load	Divided Attention	Task-Focused

## OPERATIONAL VELOCITY

Achieved maximum operational speed at packing stations via continuous, uninterrupted workflows.

## FLAWLESS EXECUTION

100% elimination of wrong-item shipments through instant, screenless verification.

## HUMAN-CENTRIC ERGONOMICS

Delivered a physically sustainable, highly motivated, and strict OHS-compliant working environment.

A black and white photograph of a male worker in a warehouse. He is wearing a white hard hat, a white polo shirt, and dark overalls. He is looking down at a handheld device (likely a PDA or scanner) in his right hand. The background shows industrial shelving units filled with boxes and materials.

# A Strategic Step Towards Smart Logistics

- ✦ By deploying Thread in Motion's wearable AI architecture, Trendyol successfully modernized one of the most critical friction points in e-commerce fulfillment.
- ✦ The transition from fragmented manual scanning to an intelligent, hands-free automation ecosystem elevated accuracy, agility, and accountability.
- ✦ With this scalable, micro-friction-free infrastructure in place, operations are future-proofed to handle exponentially increasing e-commerce volumes with zero compromise on quality or human ergonomics.

# GET IN TOUCH WITH US



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