



# VISSMANN SUCCESS STORY: Engineering the Human-Centric Smart Factory

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Transforming Assembly Line Traceability  
with Wearable IIoT and AI Analytics



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# A CENTURY OF INNOVATION MEETS INDUSTRY 5.0

Viessmann's Manisa facility operates as an international center of excellence.

With a mandate to execute just-in-sequence manufacturing across high-capacity assembly lines, uncompromised quality assurance and part traceability are non-negotiable.

The existing systems were reliable, but Viessmann's R&D culture demanded the next frontier: optimizing the human-machine interface.



## SCALE

13,000 m<sup>2</sup> Green Building Facility



## THROUGHPUT

200,000 Units Annual Capacity



## MILESTONE

1,000,000th Boiler Produced (Sept 2020)



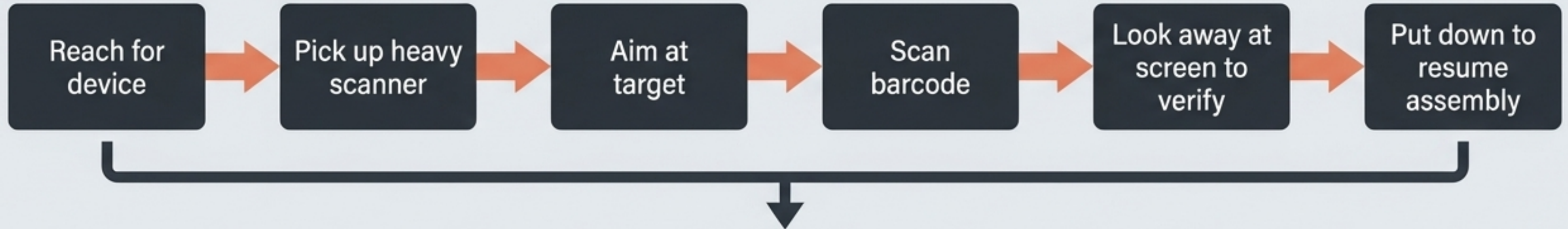
## GLOBAL REACH

Exports 70% of production to premium European markets



# THE HIDDEN COSTS OF OPERATIONAL INEFFICIENCY

## The Conventional Traceability Loop



Wasted seconds and broken cognitive focus multiplied by thousands of daily operations.

## The Ergonomic Tax



### COGNITIVE LOAD

Diverting eyes from the assembly area to verify scans on a terminal screen breaks mental focus and invites errors.



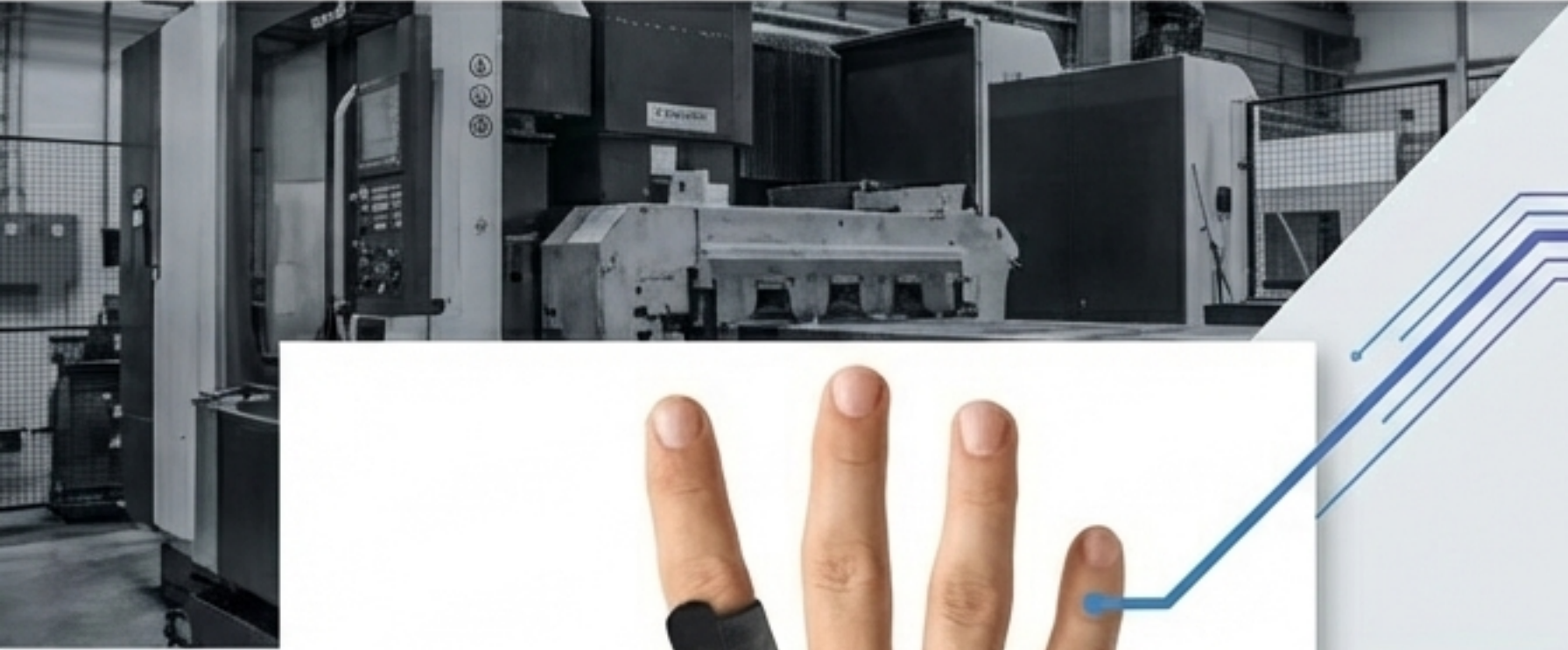
### BIOMECHANICAL STRESS

Repetitively lifting heavy, rigid terminals restricts natural posture, increases the risk of repetitive strain injuries, and limits dual-hand mobility in tight assembly spaces.

**The system was technically sound, but physically limiting.  
The bottleneck was not the data—it was the hardware.**



# FROM MANUAL OPERATIONS TO INTELLIGENT AUTOMATION: THE VEGA SMART GLOVE



## UNRESTRICTED ERGONOMICS

45g ultra-lightweight design acts as a natural extension of the hand. Eliminates repetitive lifting strain and restores full, two-handed assembly mobility.



## PROACTIVE POKA-YOKE

Multi-layered sensory feedback (Haptic vibration, Acoustic alerts, Optical lights) validates actions instantly. **Eliminates the need to look at screens and proactively stops mis-assembly.**

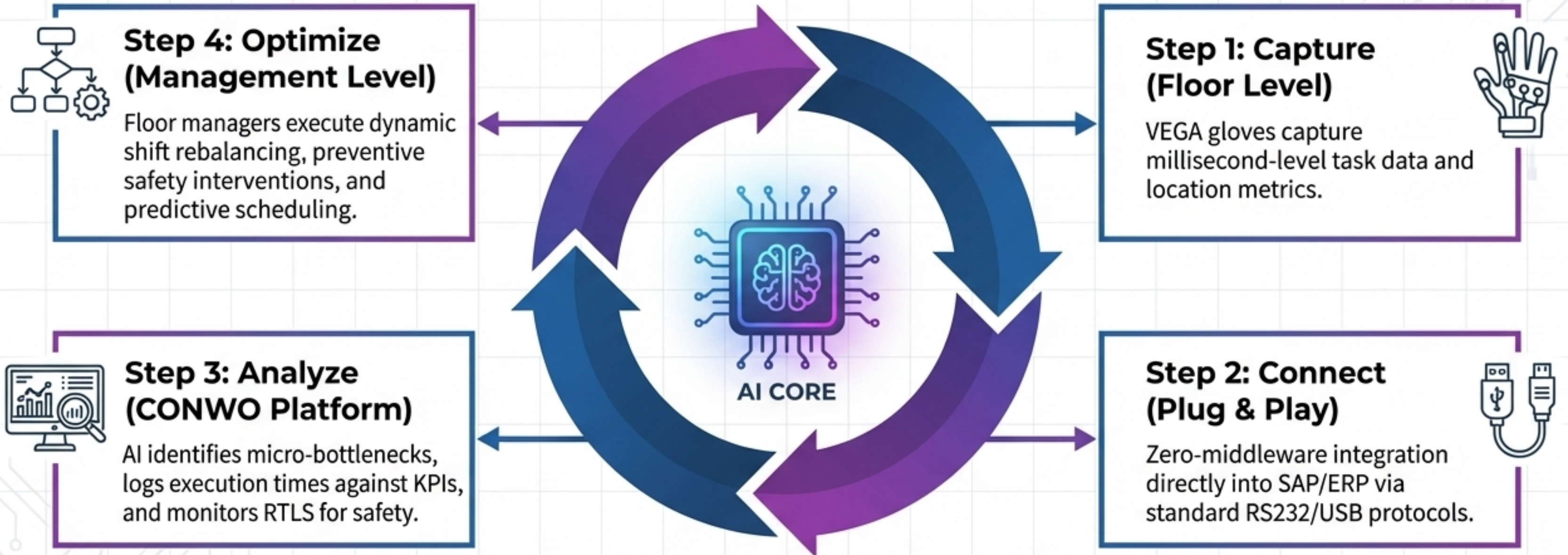


## ZERO-DOWNTIME INFRASTRUCTURE

Dual LoRa & Bluetooth connectivity ensures **uninterrupted** data flow, while **hot-swappable batteries** allow continuous shift utilization.



# DATA-DRIVEN AGILITY: THE CONWO AI PLATFORM



**ENTERPRISE IMPACT:** Transforms siloed manual tasks into a real-time, transparent Digital Twin of the entire assembly sequence.

# MEASURABLE RESULTS & GAINS

## OPERATIONAL VELOCITY

# ~4 SECONDS SAVED

Gained per individual scan, driving massive cumulative capacity utilization across 200,000 annual units.

## PROCESS EFFICIENCY

# 50% REDUCTION

In total scanning and traceability operation time, enabling fluid, uninterrupted assembly lines.

## FLAWLESS QUALITY ASSURANCE

# NEAR-ZERO ERRORS

Achieved through instantaneous haptic/acoustic Poka-Yoke alerts, eliminating the need for end-of-line rework.

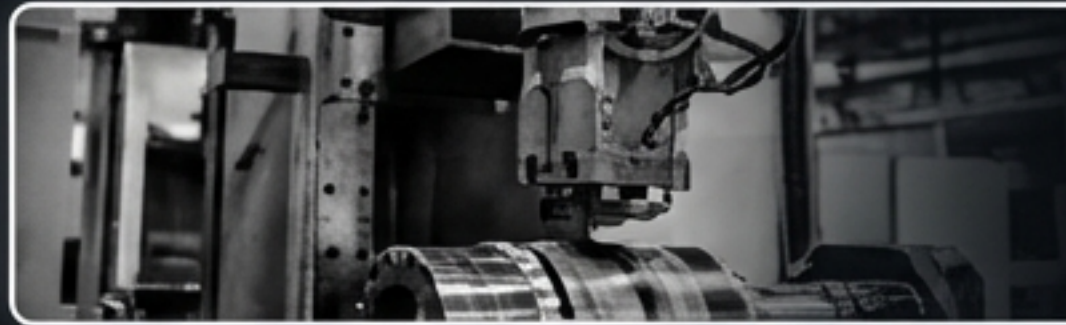
## WORKFORCE WELL-BEING

# 100% ELIMINATION

Of device-lifting biomechanical stress, elevating OHS standards and boosting employee satisfaction and retention.

# STRATEGIC VISION: PIONEERING THE HUMAN-CENTRIC SMART FACTORY

**THE TRUE COMPETITIVE ADVANTAGE OF INDUSTRY 5.0 IS NOT REPLACING THE HUMAN WORKER, BUT SEAMLESSLY AUGMENTING THEM.**



## UNCOMPROMISING QUALITY

Digital safeguards permanently lock in Viessmann's zero-defect manufacturing standards.



## SCALABLE INTELLIGENCE

The CONWO data lake provides actionable blueprints for global facility optimization.



## HUMAN-CENTRIC OPERATIONS

Prioritizing physical ergonomics and cognitive ease as the ultimate drivers of sustainable industrial output.



# GET IN TOUCH WITH US

## Website

[www.threadinmotion.com](http://www.threadinmotion.com)

## Phone

+44 20 4587 4397

## E-mail

[info@threadinmotion.com](mailto:info@threadinmotion.com)

## HQ address

7 Henrietta Street,  
WC2E 8PS, London,  
United Kingdom