workerbase
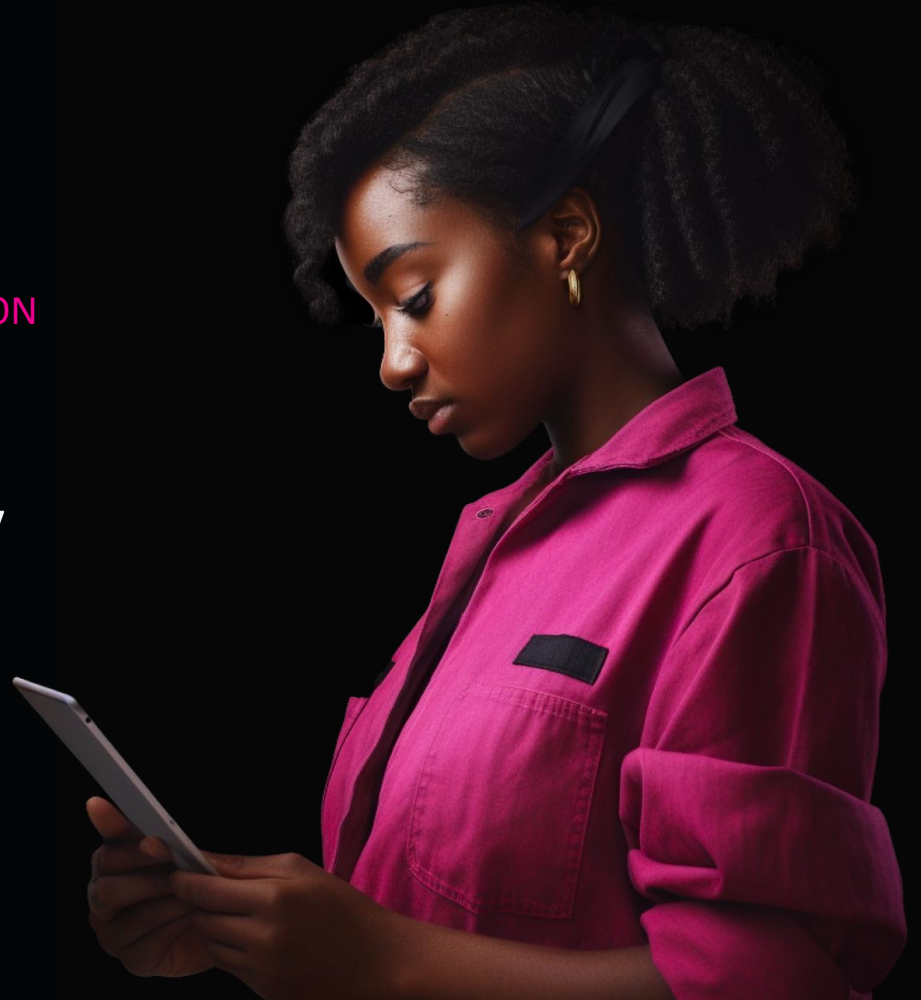
HUMAN-CENTRIC DIGITAL TRANSFORMATION

Good practises to maximizing
business value with
Connected Worker technology

V1.0
2024–11

The true costs of the
Disconnected worker

Disconnected Worker

does not have access to realtime information and is not supported by digital workflows

We have encountered **disconnected workers** at all of our customers...

Example statements from leading manufacturers

We write tasks on paper and assign them based on gut feeling.

We have many IT tools but still our operators are constantly searching for information.

Many workers don't speak English, so it's hard to provide understandable instructions.

We have enough dashboards. We need a way to turn data insights into actions.

All knowledge is in the workers head. We need a way to capture this knowledge.

It's difficult to identify where goods were damaged in the process and sometimes it's not possible at all.

We need to collect feedback on work steps with comments, images or videos.

Most production systems have execution gaps and do not solve these challenges

SYSTEMS

Not focused on the end-user
Frontline operators are expecting intuitive, easy-to-use interfaces. Lack of transparency and real-time data visibility.

Long Implementation times for system changes
With all-or-nothing MES approach, value is delayed for years. Small updates take months.

Siloed IT architecture with inflexible processes
The underlying monolithic architecture is limiting.

The disconnected workforce
makes it hard to....

React to customer requirements

Improve operational performance

Reduce inventory

Decrease cost and improve liquidity

Common challenges

Enhance worker productivity

Optimize quality

Ensure traceability and compliance

Harmonize IT landscape
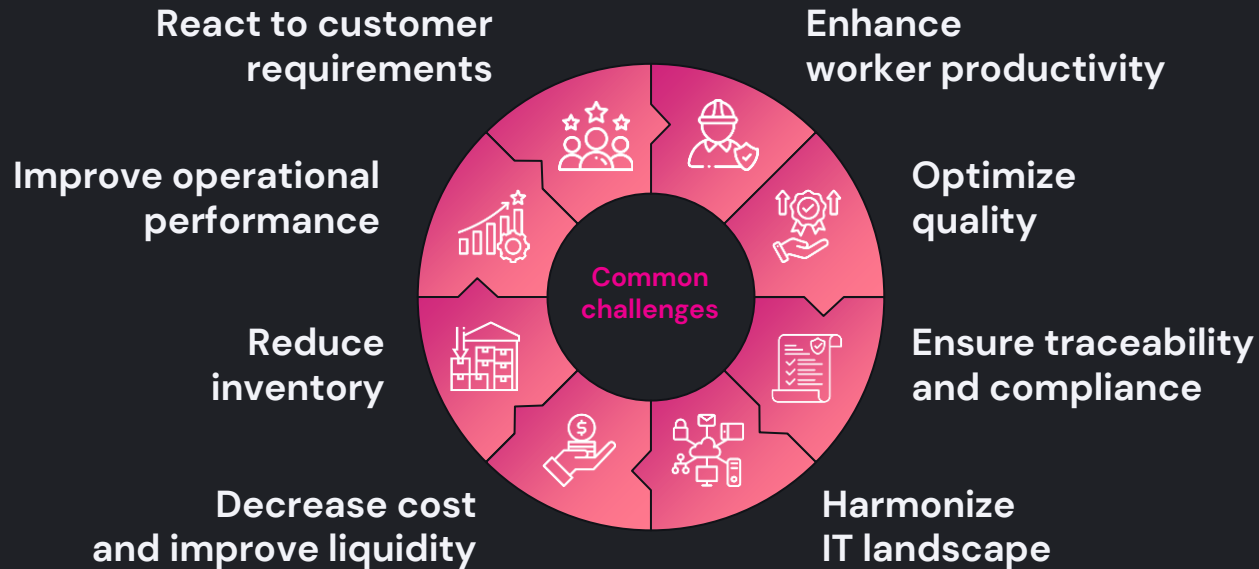
Workerbase closes the execution gaps by connecting workers with real-time workflows

**EXISTING
SYSTEMS & MACHINES**

**CONNECTED WORKER
PLATFORM**

**WORKFLOW APPS
WITH UNIFIED INTERFACE**

OPC UA

MQTT

infor

SAP

HTTP Webhooks

ORACLE

Fast system integration
Use your existing systems and connect them without any migration

Low-Code App Editor
Configure existing app templates to create custom solutions

Workflow automation
Leverage new and existing data for real-time workflow apps
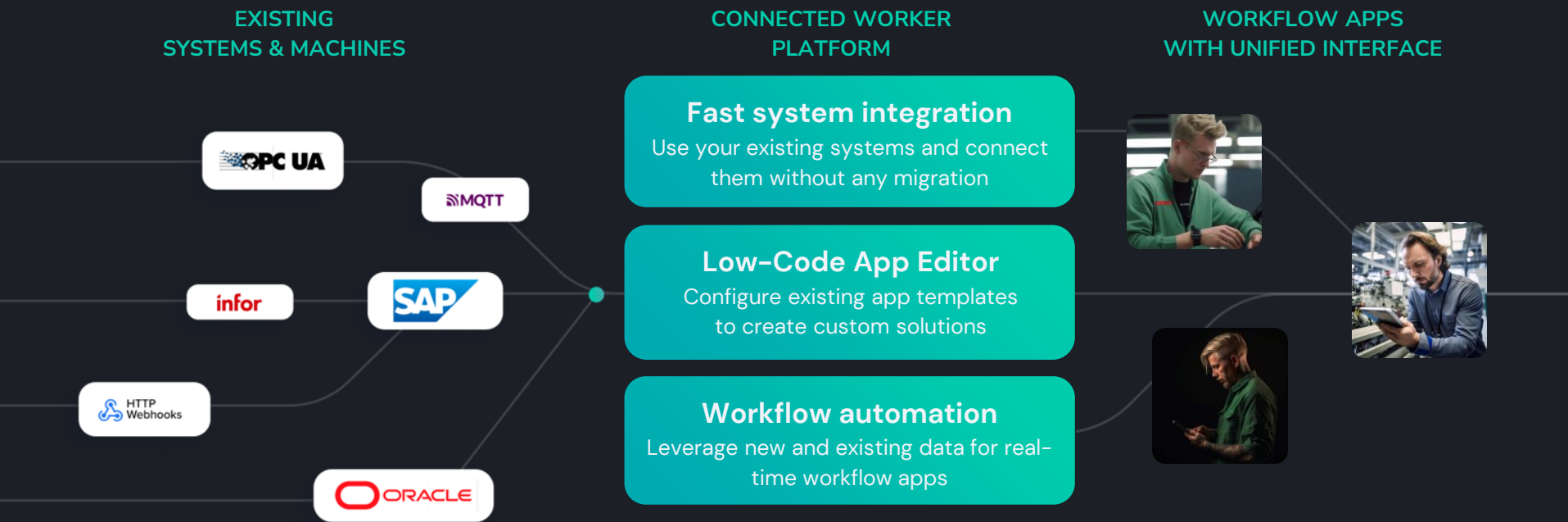
Our platform is suited to cover a wide range of use cases across different departments

Solution modules with App templates	Machine operations	Andon	Assembly	Material Management	Knowledge Management

Connected Worker features				
	Digital work instructions	Forms & Checklists	Quick Access	Skills & Training
	Issue management	Event logs	Reports	Dashboards

Core features			
	Workflow Automation	No-Code Editor	AI speed-ups

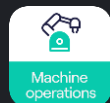| Integration					
	REST	MQTT	IOT / OPC UA	ERP / MES	Databases	AI

Configurable App templates run on top of our Powerful Connected Worker platform
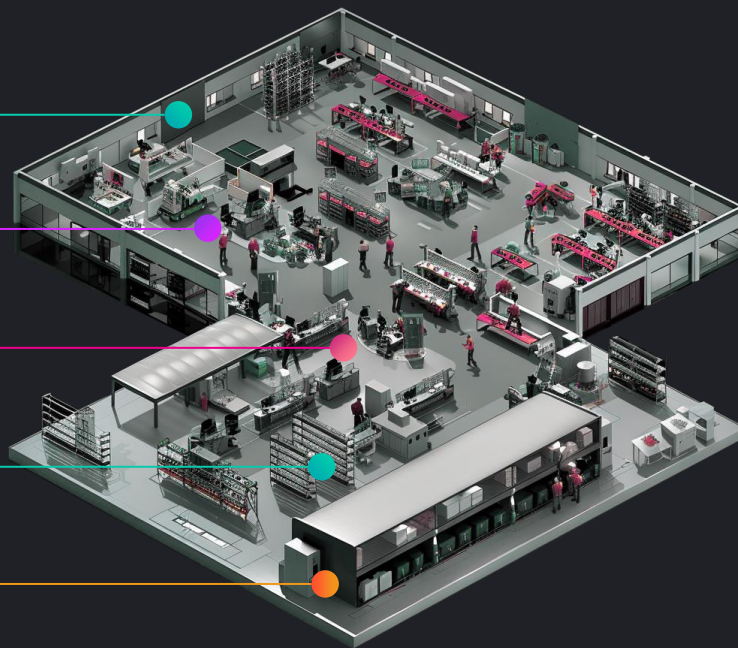
APP TEMPLATES

Machine operations — **Machine Alarms**

Assembly — **Work instructions**

Andon — **Support Requests**

Knowledge management — **Forms & Checklists**

Material management — **Material Requests**

CONNECTED WORKER PLATFORM

- Fast system integration
- Low-code app editor
- Workflow automation

Our platform is built around 6 solution modules and ~25 use cases

Solution Module	Use cases		Exemplary KPIs
1 Digital Andon	1A Support call 1B Transport request 1C Missing material	1D Maintenance request 1E Quality request 1F Digital Andon board	Throughput, OEE, MTTR, Unplanned Downtimes, Cycle Time, Worker Productivity
2 Machine Operations	2A Machine alarms 2B Machine info 2C Machine changeover	2D Machine maintenance 2E Tool management 1 Digital Andon	Manufacturing Cost, Throughput, OEE, Unplanned Downtimes Changeover Time, MTTR, Cycle Time
3 Quality	3A Quality process coordination 3B Rework coordination		Cost of Quality, FTR, Scrap Rate, Rework Rate, Internal NCs
4 Assembly	4A Assembly instructions 4B BOM for line balancing	4C Digital product pass 1 Digital Andon	OEE, Unplanned Downtimes, MTTR, FTR, Cycle Times, Worker Onboarding
5 Material Management	5A Asset traceability 5B Transport coordination 5C Block material	5D Material flow management 5E Picking and packing instructions 1 Digital Andon	Safety or Buffer Stock, NWC, WIP, Stockout Rate, Time to locate Asset
6 Shopfloor Management	6A Checklists 6B Shift handover	6C Manufacturing dashboards 6D Work coordination	Capacity Utilization, Worker Productivity, Unplanned Downtimes, internal NCs

Structured approach to maximize business value
Use-case-oriented approach that places business value at the center

1 **Business impact**

Value lever — **Strategic actions** to drive significant improvements and create value

KPIs — Measures **value creation** and helps to track progress towards the strategic goals

Our value framework helps to identify relevant KPIs across 8 value levers

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2 **Challenges**

Execution gaps — **Shortfall in execution** due to various barriers and inefficiencies

Root causes — Reason for the **execution gaps**. Identifying and addressing these root causes is essential for improving performance

Improve operational performance
Deep-dive value levers and KPIs (1/6)
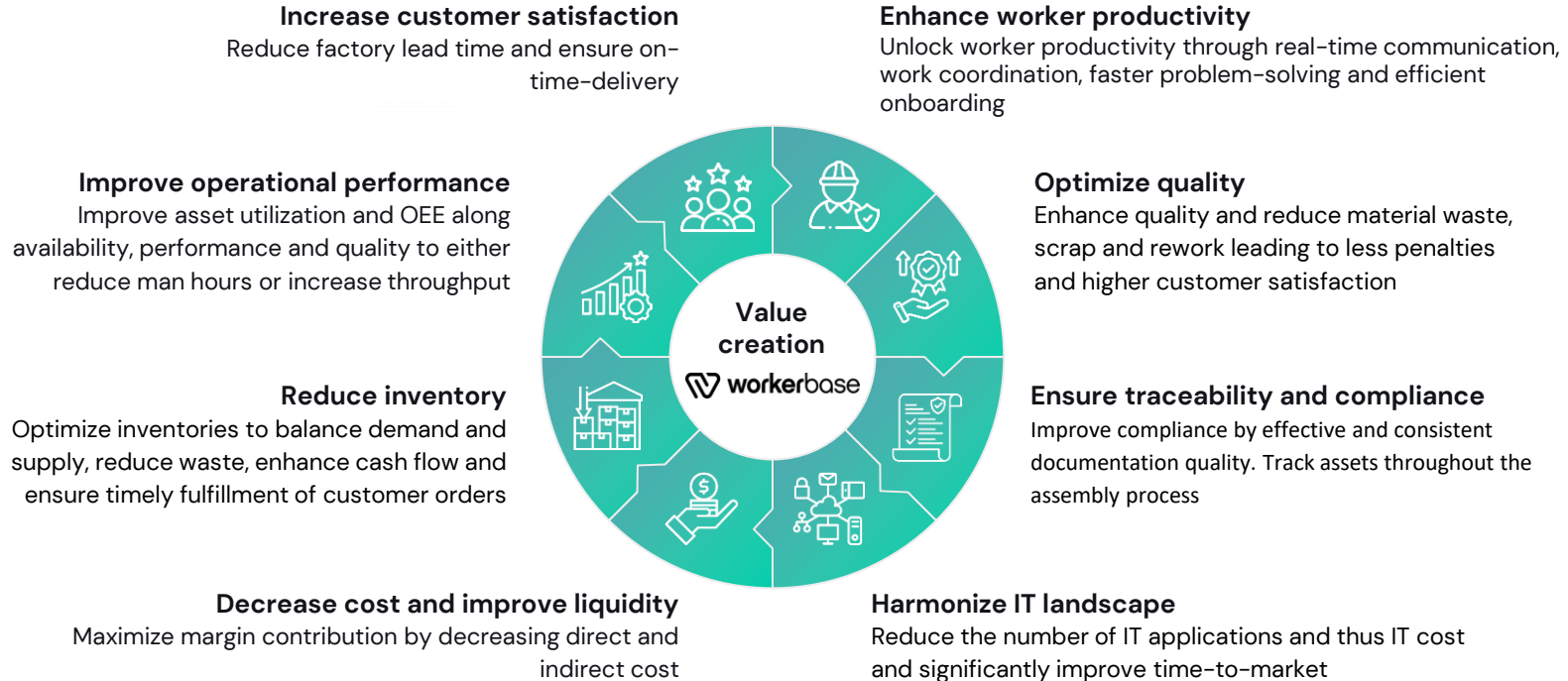
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3 **Use cases**

Plattform & Apps — Typically a **combination of apps** to improve and reinvent production processes by **solving specific execution gaps and its root causes.** Use cases are clustered into modules

We will identify relevant KPIs depending on the scope of the use cases

Our value framework helps to identify relevant KPIs across 8 value levers

Increase customer satisfaction
Reduce factory lead time and ensure on-time-delivery

Enhance worker productivity
Unlock worker productivity through real-time communication, work coordination, faster problem-solving and efficient onboarding

Improve operational performance
Improve asset utilization and OEE along availability, performance and quality to either reduce man hours or increase throughput

Optimize quality
Enhance quality and reduce material waste, scrap and rework leading to less penalties and higher customer satisfaction

Reduce inventory
Optimize inventories to balance demand and supply, reduce waste, enhance cash flow and ensure timely fulfillment of customer orders

Ensure traceability and compliance
Improve compliance by effective and consistent documentation quality. Track assets throughout the assembly process

Decrease cost and improve liquidity
Maximize margin contribution by decreasing direct and indirect cost

Harmonize IT landscape
Reduce the number of IT applications and thus IT cost and significantly improve time-to-market

Value creation
workerbase

Improve operational performance
Deep–dive value levers and KPIs (1/6)

workerbase

Value lever	KPI	Description and Formula		Module	Use Case
Improve operational performance	Asset utilization	• Efficient and effective use of assets (e.g., equipment, machines) • (Actual Output / Maximum Capacity) x 100		Machine operations	• Machine alarms • Machine changeover • Machine info • Machine maintenance
	Capacity utilization	• How much a line, plant, or factory uses its total production capacity • Actual Factory Utilization / Total Productive Capacity			
	Throughput	• How much a line, plant, or factory produces in a time period • Unit outcome, batches per FTE, cycle time		Digital Andon	• Transport request • Missing material • Maintenance request • Support call
	OEE	• Manufacturing productivity mostly measured across loss categories • Availability x Performance x Quality			
	Unplanned Downtimes	• Unplanned amount of time a line, plant or factory isn't operating • Often calculated in combination with runtime and uptime			
	Cycle times	• Manufacturing speed or time to manufacturer a product • Process end time – process start time		Assembly	• Assembly instructions
	Changeover time	• Speed or time to switch line or plant to manufacture a different product • Net available time – production time			
	MTTR	• Average time required to repair a machine or equipment • Average time in minutes or hours			

Machine operations: Machine alarms

Deep-dive value navigator

Business impact

Improve operational performance
- ⬆ Throughput
- ⬆ OEE
- ⬇ MTTR

Improve worker productivity
- ⬆ Worker productivity

Decrease cost
- ⬇ Direct and indirect costs (e.g., labor, less downtimes)

Challenges

Long reaction times
- Conventional audio or visual signals remain unnoticed
- No real-time alerts
- Inefficient patrols and go-and-see walks

Long resolution times
- Lack of information (e.g., maintenance or alarm history, troubleshooting, error code explanation)

Lack of coordination and escalation
- Conventional audio or visual signals are not tailored to skills, location or availability
- Unclear responsibility
- Manual escalation via phone

Insufficient data insights
- Typically tracked: number of incidents and duration
- Reaction and resolution times as well as roots causes not documented

Use case

Machine alarms
By connecting your machines to an intuitive digital frontend, operators are instantly alerted, and tasks for resolution are automatically routed to the best person based on priority, skill, location.

Client Examples

BOSCH

x% increase of annual throughput translating into **double-digit million revenue** figure by effectively utilizing machine alarms

How this works in practise
Align your project targets with the overall business strategy

1. Strategic Alignment
- Understanding key business challenges
- Identify which value levers are most relevant
- Prioritize areas for immediate impact

2. Use Case Selection
- Match business priorities to specific use cases
- Select appropriate tools from our solution toolbox
- Define clear success metrics

3. Implementation
- Create a roadmap that delivers quick wins
- Plan for scalability across the organization
- Set up measurement systems for chosen KPIs
- Implement solution

Ensure tangible business value
Focused approach that aligns all stakeholders

Our value framework helps to

- Align stakeholders around common goals
- Focus resources on high-impact areas
- Create clear success metrics
- Enable data-driven decision making
- Support scaling across the organization

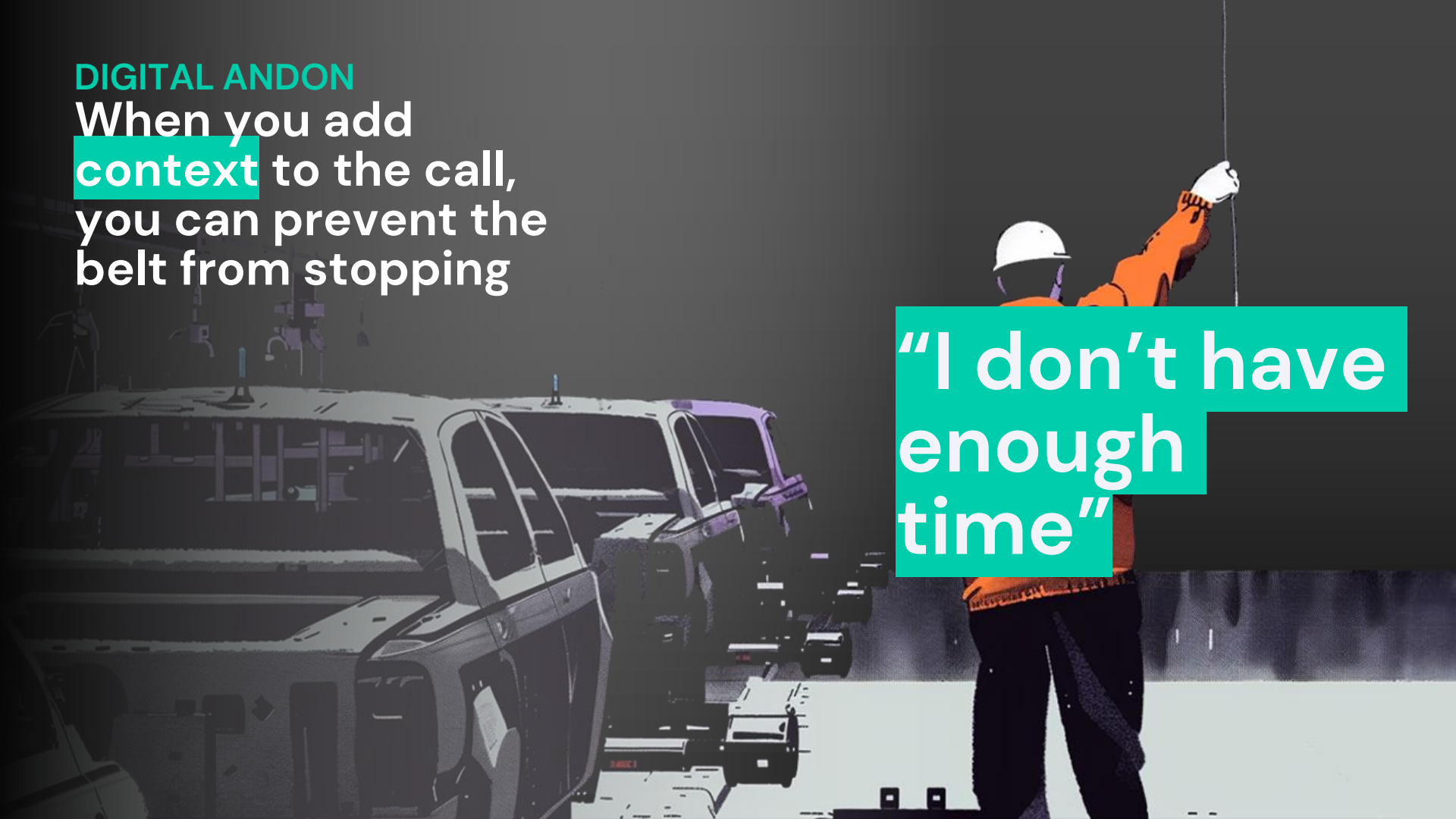|	Targets	Exemplary KPIs	Responsible
Top down	Reduce operating **cost** and increase **liquidity**	Margin, NWC, direct and indirect cost, asset utilization	CTO/CFO
	Improve **operational efficiency** and establish global standard	Production cost per unit, cost of quality, safety	Plant Manager
Bottom up	**Identify improvements opportunities** (e.g., performance, quality, safety)	Plant: Throughput, OEE, capacity utilization, cycle time	Plant Manager
	Ensure **line delivery** performance	Line: Throughput, OEE, capacity utilization, cycle time	Line Manager
	Improve **productivity and quality** Trigger and document **process improvements** Define **new standards**	Worker productivity, setup time, training completion, defect and scrap rate	Shopfloor Manager

DIGITAL ANDON

When you add **context** to the call, you can prevent the belt from stopping

"I don't have enough time"

Digital Andon for direct inline support

Replace visual signals with a digital workflow

Individual alerts with context data

Continuous improvement based on process data

workerbase

Inliner

Team Led

Maintenance

Reference: Automotive OEM
Create significant business value through Connected Worker

Increase productivity

Faster response and processing times for support calls on the line. Additionally, more efficient parking operations and vehicle movements.

Reduce stoppages in line sections

Reduction of line stoppages through direct and efficient communication and problem-solving within the cycle time.

Increase First-pass yield (FPY)

Increase of FPY through direct and efficient communication and problem-solving, thereby reducing errors in subsequent areas.

Full process transparency

Transparency on the frequency and causes of support requests enables continuous improvement measures, thereby reducing support calls.

Example: Business case calculation
4 key levers that validate the business case

Value lever	KPIs	Description	Value potential*
Increase productivity through support calls	• Reaction time	• Operators, team leaders, and supervisors are notified on mobile devices, allowing them to respond more quickly.	• 60–75% faster reaction times
	• Processing time	• Product number, vehicle type, and vehicle color are transmitted to the recipients' devices to accelerate problem–solving.	• 10–40% faster processing time
Reduce stoppages in line sections	• Output	• Reduction of line stoppages through direct and efficient communication and problem-solving within the cycle time.	• 3 vehicles more per week
Increase First-pass yield (FPY)	• FPY	• Increase of DLQ through direct and efficient communication and problem–solving. • Reduction of errors in subsequent areas.	• 3-6 vehicles with less rework per week
Full process transparency	• # Line stoppages • # support calls	• Transparency on the frequency and causes of support requests enables continuous improvement measures, thereby reducing support calls.	Top 3 identified causes: • Defective fastening • Missing part / wrong part • Non-functioning screwdriver

Examples

Example: Business case calculation
4 key levers that validate the business case

Business case, in EUR			2025	2026	2027	Total
Value	Digital Andon	Best-Case	xxxxxx	xxxxxx	xxxxxx	xxxxxx
		Worst-Case	xxxxxx	xxxxxx	xxxxxx	xxxxxx
	Rework coordination		xxxxxx	xxxxxx	xxxxxx	xxxxxx
	Quality checklist		xxxxxx	xxxxxx	xxxxxx	xxxxxx
	Total	Best-Case	xxxxxx	xxxxxx	xxxxxx	xxxxxx
		Worst-Case	xxxxxx	xxxxxx	xxxxxx	xxxxxx
Costs	Workerbase Licenses		xxxxxx	xxxxxx	xxxxxx	xxxxxx
	Total		xxxxxx	xxxxxx	xxxxxx	xxxxxx
Value generated		Best-Case	xxxxxx	xxxxxx	xxxxxx	xxxxxx
		Worst-Case	xxxxxx	xxxxxx	xxxxxx	xxxxxx
Return on Investment (ROI)		Best-Case				9,0x
		Worst-Case				7,5x

Thank you!

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