



LE TECNOLOGIE 4.0 DI SICK PER LA LOGISTICA INTEGRATA

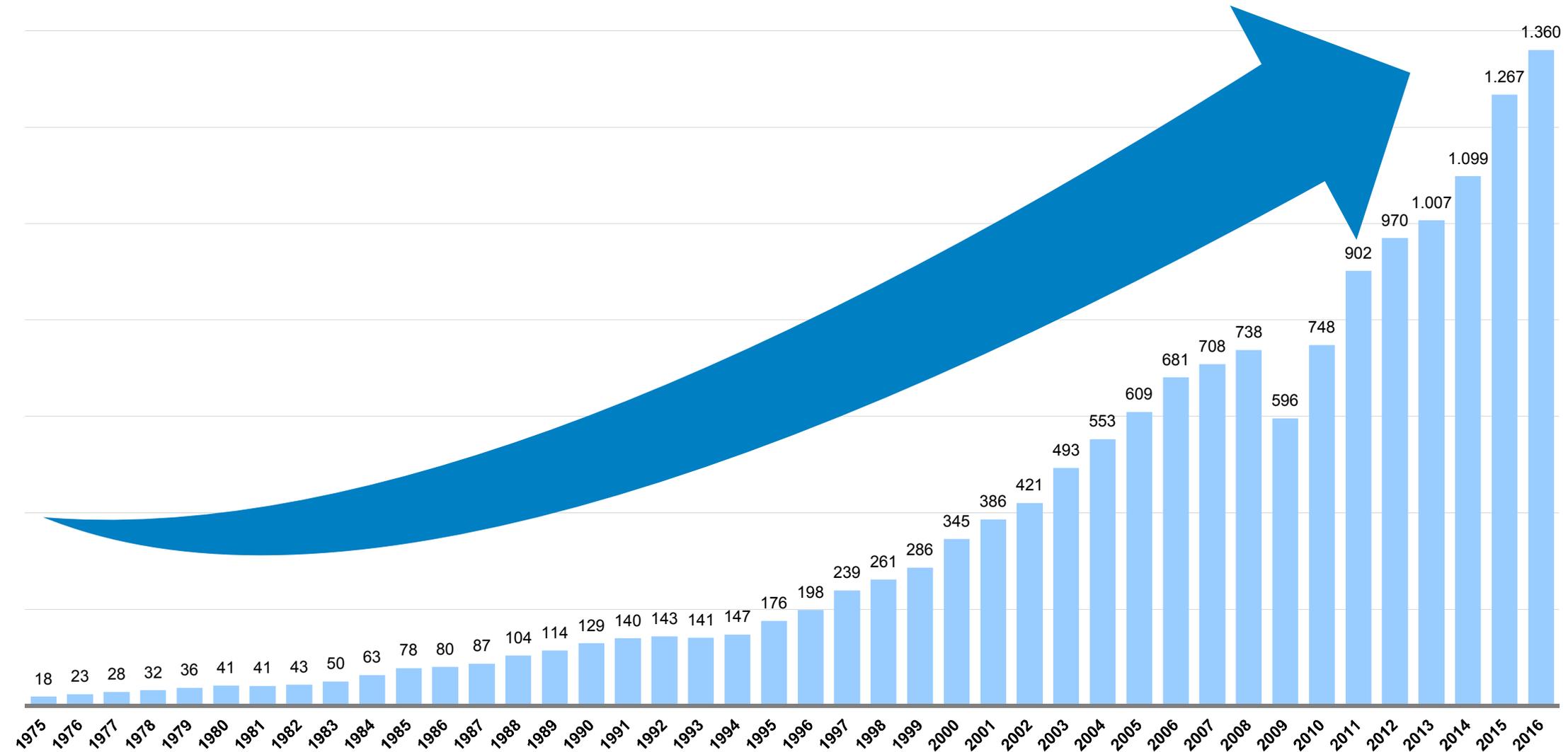
SICK
Sensor Intelligence.

Costantino Ghigliotti

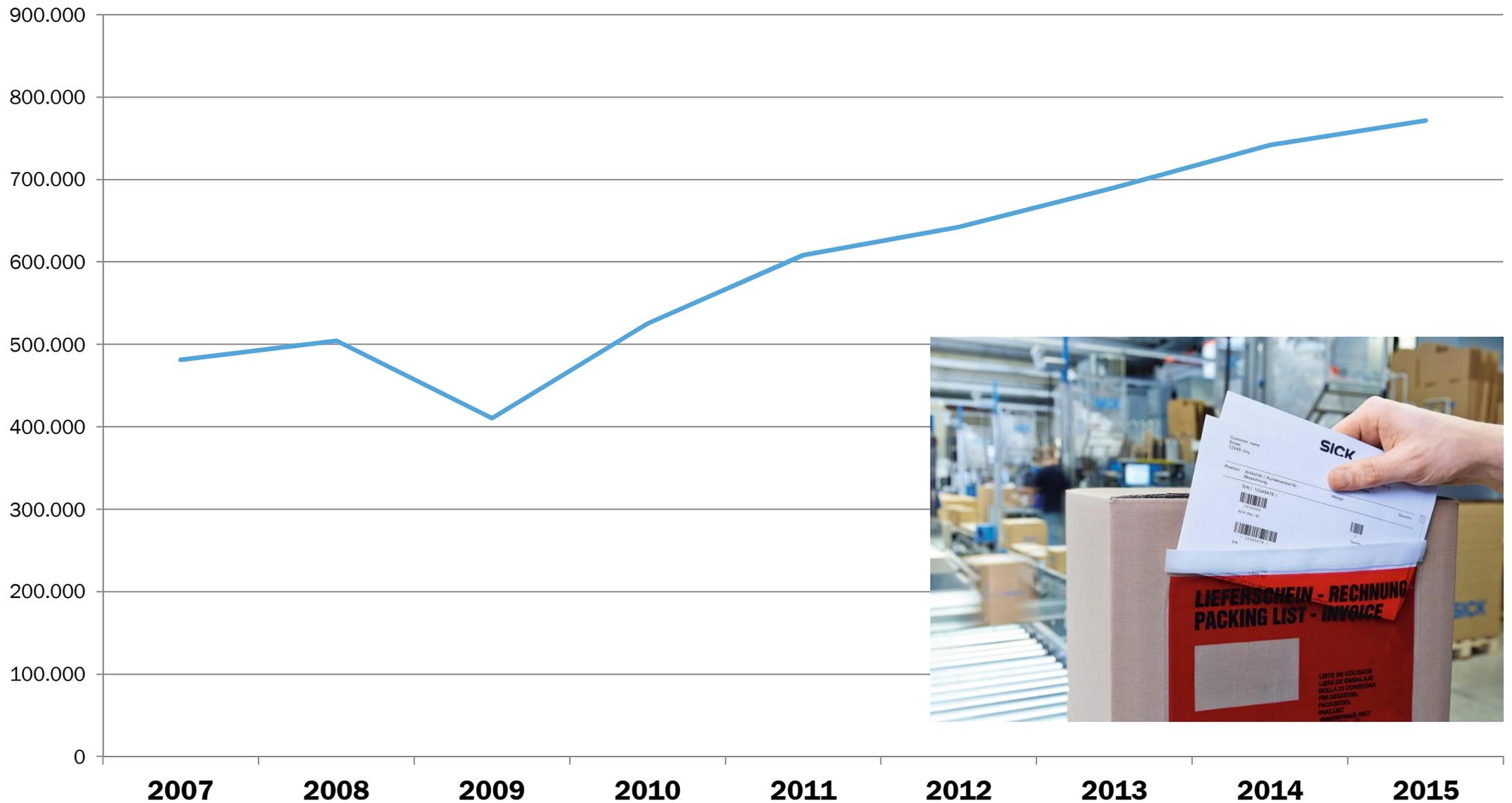
Sales Manager Factory Automation

Villalta di Gazzo (PD), 21 Settembre 2017

THE SICK GROUP HISTORY



Parcels





Globalization
Harmonization
of all processes



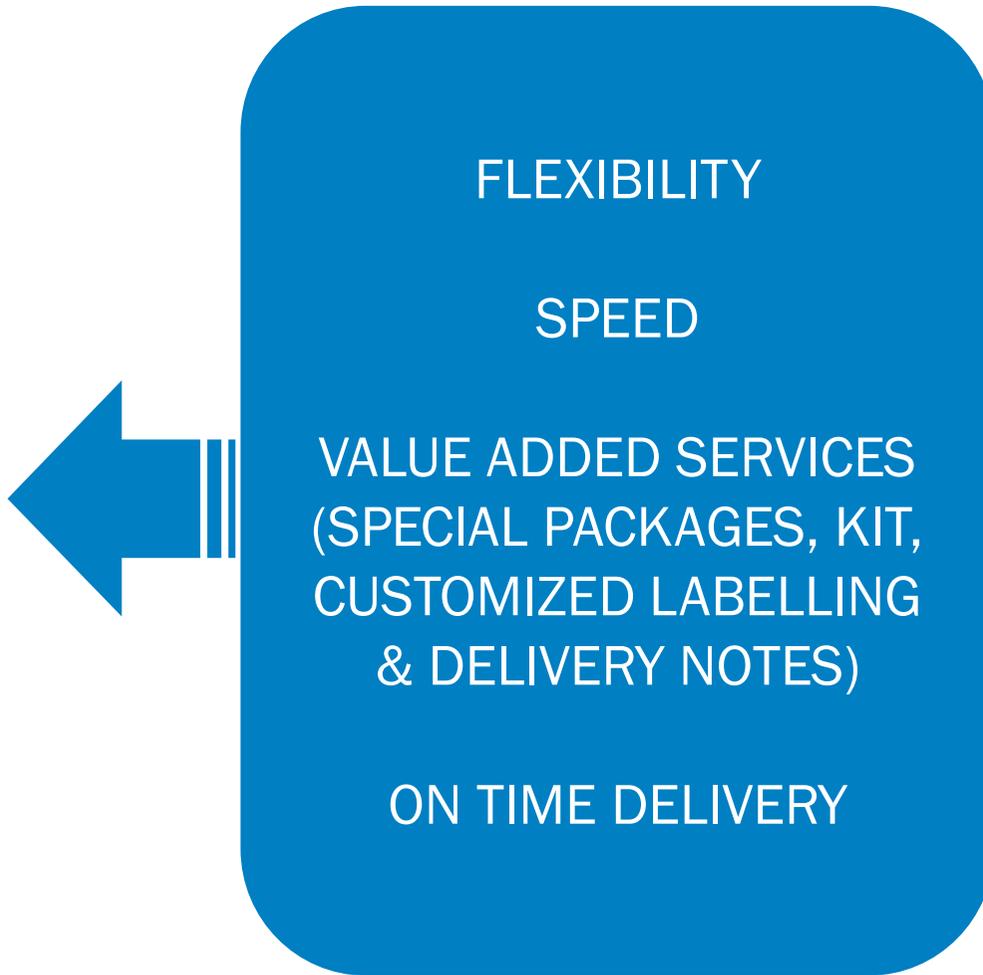
Digitalization
Production and
Business Processes



Cultural Change
Collaboration,
Transparency and
Trust

amazon.com
The Amazon Prime logo features a curved orange arrow pointing from the 'a' to the 'm' in 'amazon.com', and the word 'Prime' in a blue, italicized font below it.

CUSTOMER



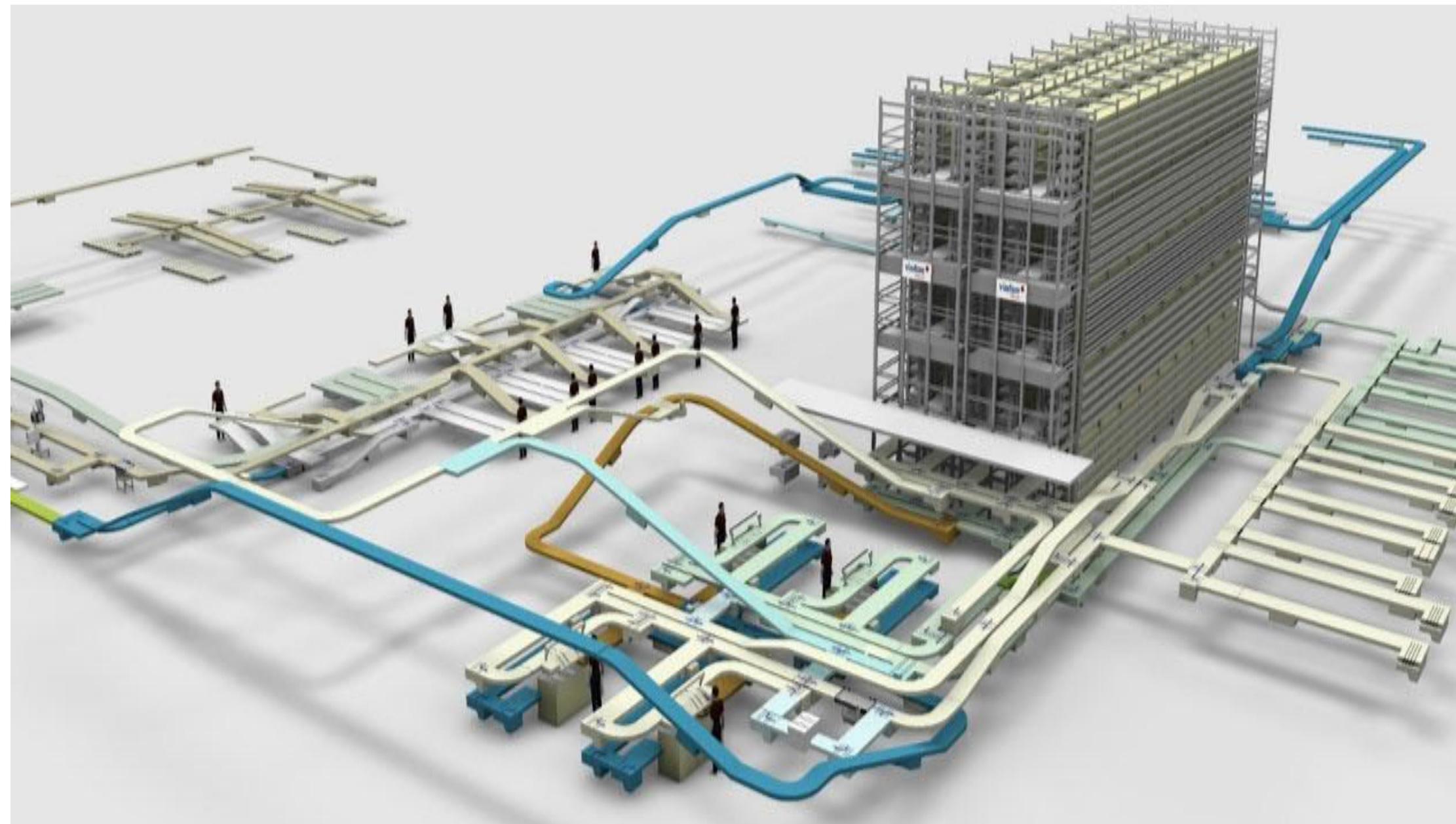


CUSTOMER



SICK
Sensor Intelligence.

SICK DISTRIBUTION CENTER

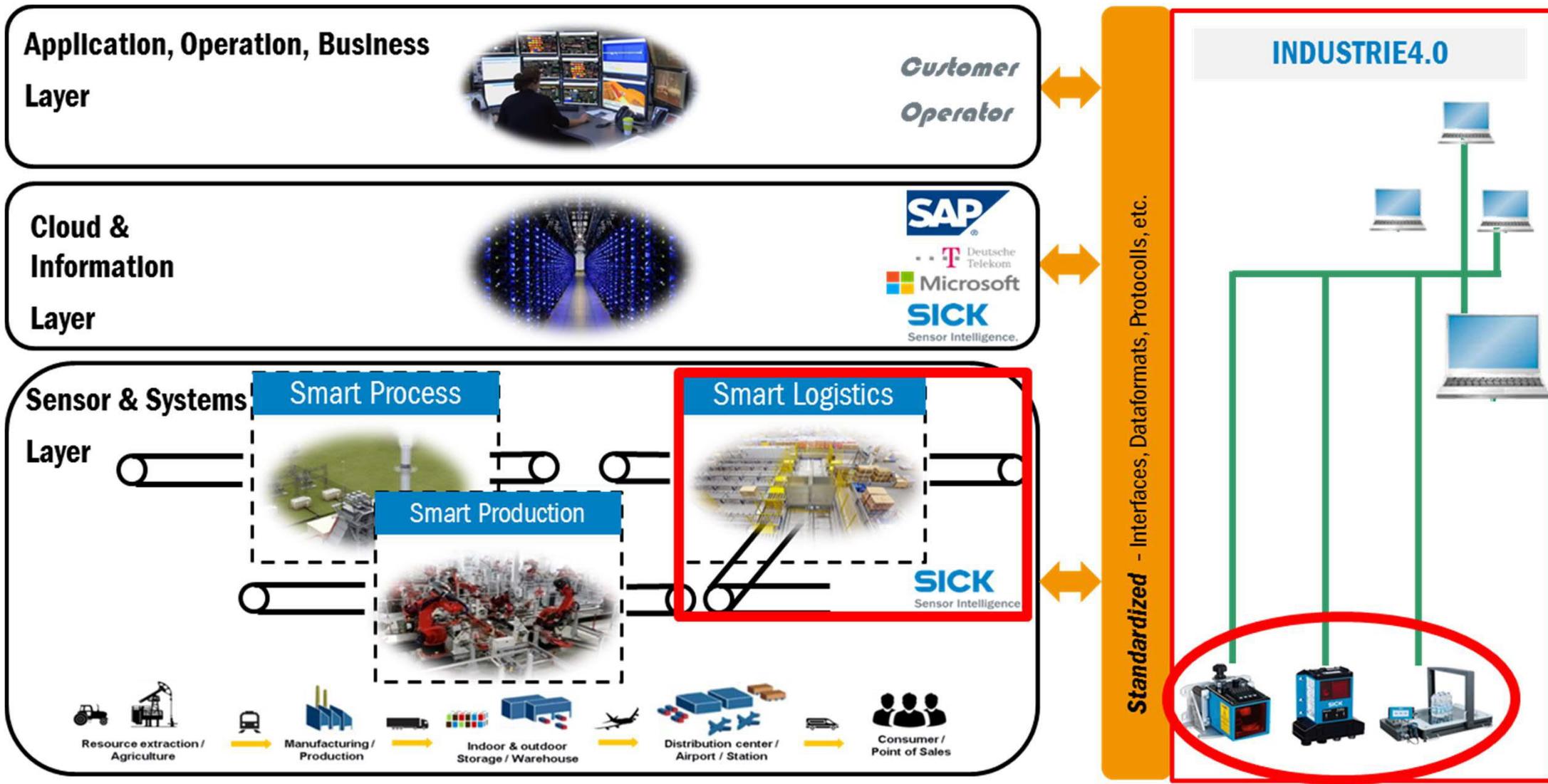






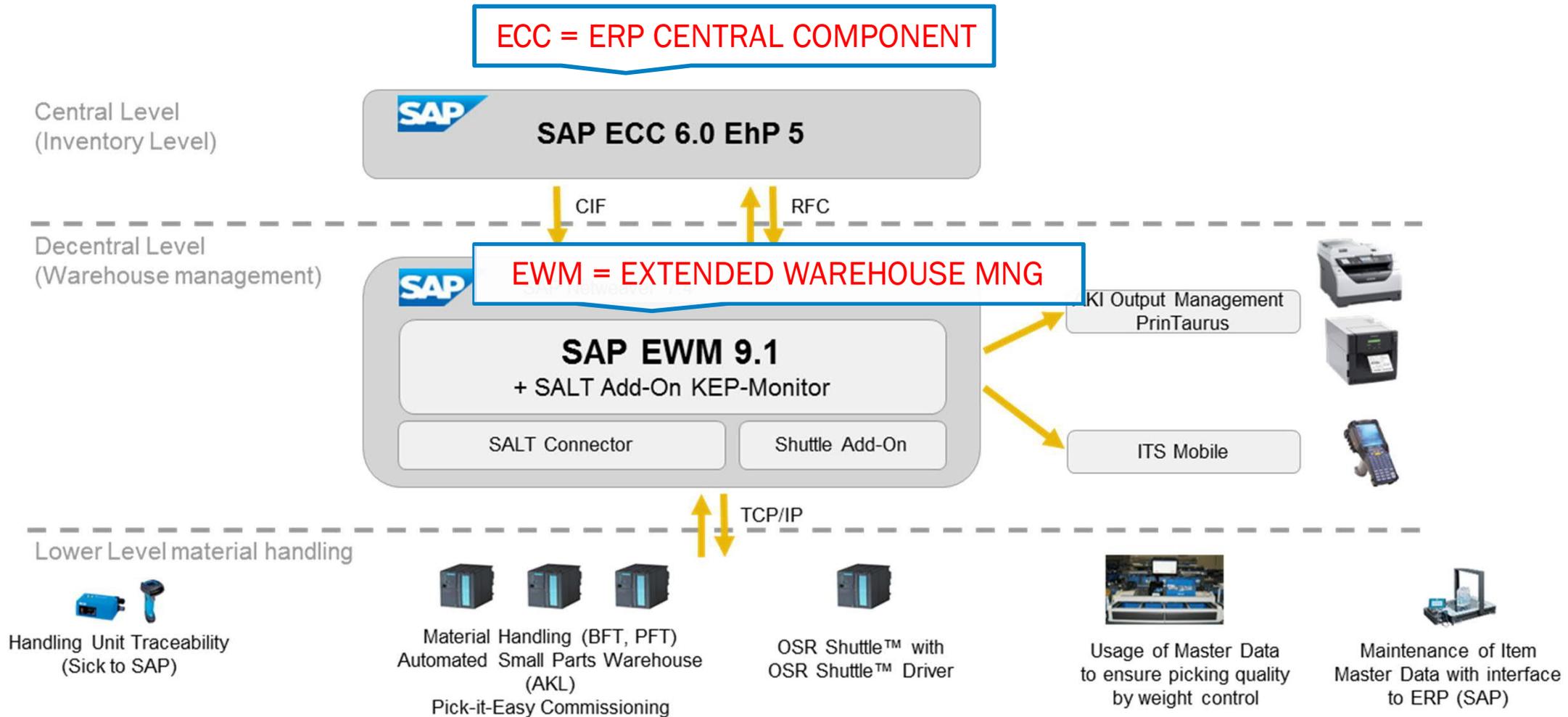
INDUSTRY 4.0 – LAYER MODEL

LAYER MODEL FROM SENSOR TO APPLICATION

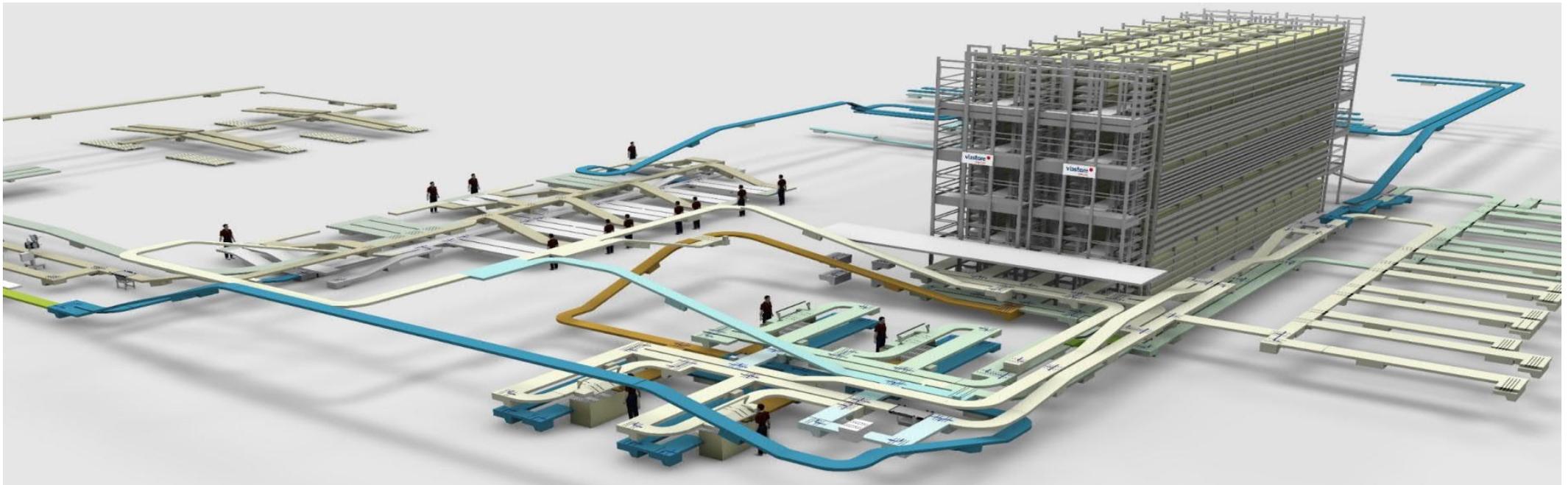


SYSTEM ARCHITECTURE

SICK DISTRIBUTION CENTER



MANAGEMENT OF COMPLEX MATERIAL FLOW BY SAP EWM-MFS



- Intelligent implementation of shipments
- Real time control and coordination of the complete material flow
- Management by SAP EWM-MFS (Extended Warehouse Management – Material Flow System)

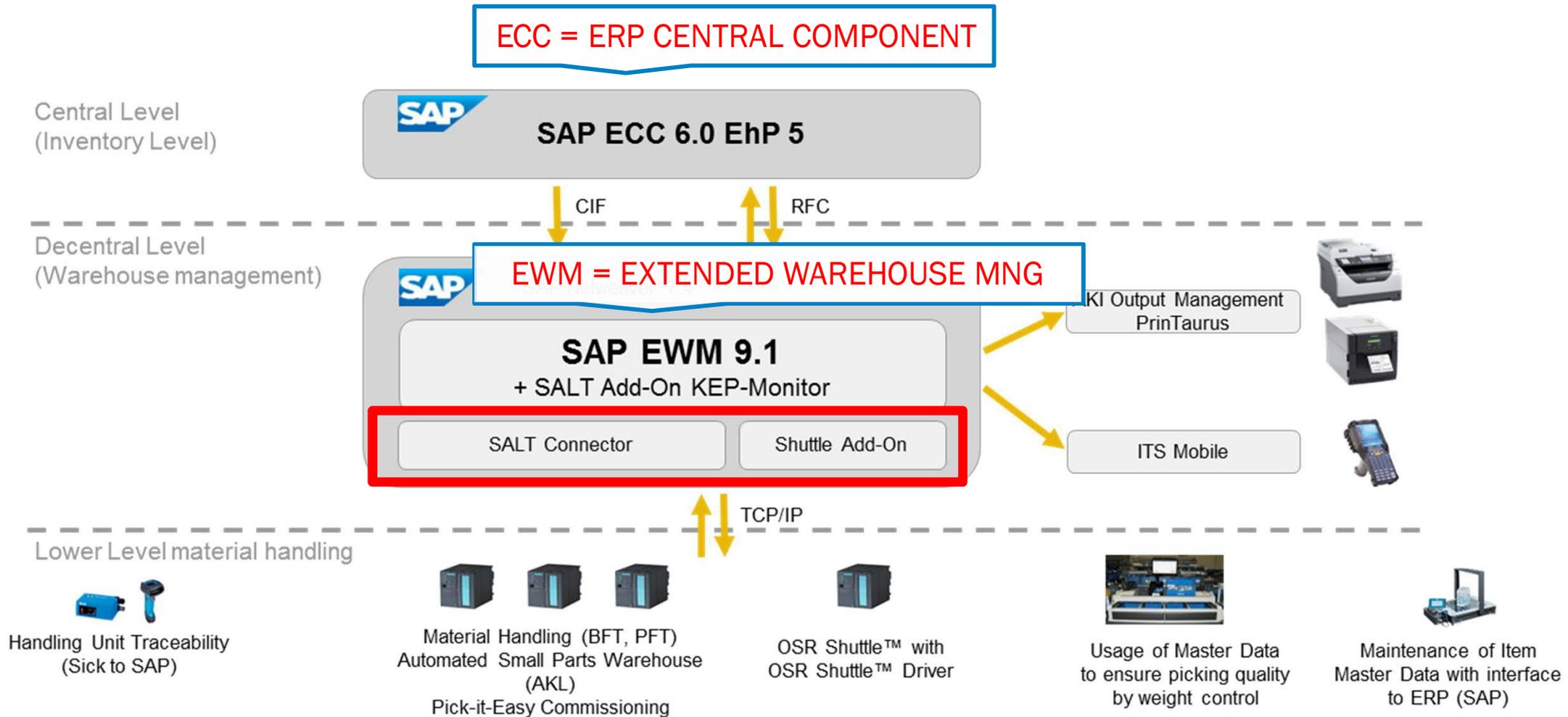
Intelligent Implementation of shipments

- Shipment priority: Dynamic prioritization of shipment lines
 - ▶ Shipment Loading Date
 - ▶ Shipment Loading Time
 - ▶ Delivery Type
 - ▶ Shipment Terms
 - ▶ Additional Requirements based on process
- Cyclical control and adjustment of the shipping priority
- Automatic wave management

Typ	Meldungstext
■	Datum: 11.08.2016 Uhrzeit: 12:38:20
■	Verarbeitung ZWEWM_OUTB_PRIO_PPF wird gestartet
■	Lieferung 312456 Position 10 wird bearbeitet
■	Lieferung 312456 Position 10 ist bereits einer Welle zugeordnet
■	Start der Lieferprioritätenermittlung
■	Pos. 10 / Belegbezug: 45 von 45 Bewertungspunkte
■	Pos. 10 / Zeitbezug: 30 von 40 Bewertungspunkte
■	Pos. 10 / Prozessbezug: 0 von 20 Bewertungspunkte
■	Pos. 10 / Prio (50) = Max. Bewertung (105) - Bewertung(75) + 20
■	Ende der der Lieferprioritätenermittlung
■	Lieferpriorität 050 zur Lieferung 312456 ermittelt

SYSTEM ARCHITECTURE

SICK DISTRIBUTION CENTER



SALT-Scheduler: Software to manage and coordinate complex material flow

- Load oriented orchestrated small parts warehouse / Shuttle / Picking and Packing Management
 - ▶ Creation and approval of storage tasks / Queue-Assignment
 - ▶ Proof of capacity of the system and implementation of transport orders
 - ▶ Compliance and merge of different shipment combinations from other storage areas including manual processes
 - ▶ Planning and execution of replenishment process
- Creation of continuous running material flow



Lean and efficient shipment processes by SALT Add-On KEP monitor



- Integration of SALT Add-Ons KEP-Monitor in SAP EWM
 - ▶ Connection of all logistic service providers and shipping agents in SAP
 - ▶ „Inline“ label printing in high dynamic material flow process on container conveyor system
 - ▶ Daily closing by Data transmission and manifest
 - ▶ Complete transparency in SAP ERP (shipment) by replication of handling unit Data (e.g. Tracking number)

- Increase of efficiency and performance in the shipping area by usage of the KEP monitor.



4.770 SICK products ensure a smooth process:

- Bar code readers CLV650, Lector 654
- Handheld scanners IDM261 Bluetooth
- 3D Smart Camera Trispector
- Master Data Analyzer
- Pick to light curtains
- Safety light curtains mac4, minitwin2
- Measuring automation light grids MLG
- Incremental encoders DBS60 Core
- Miniature photoelectric sensors W4-3 G6
- Inductive proximity sensors IME18, IM18, IQ10
- Multitask photoelectric sensors PowerProx
- Safety locking devices i110 Lock
- Small photoelectric sensors W12L-2 Laser, W9-3
- Linear measurement sensors OLM100 Hi



- Electro-mechanical safety switches i16S, i110R
- Small photoelectric sensors W14-2, W18-3
- Inductive safety switches IN3000 Direct
- Absolute encoders A3M60 Profibus, AFS/AFM60 SSI
- Mid range distance sensors DT35
- Inductive proximity sensors IME12
- Multiple light beam safety devices M4000 Advanced
- Small photoelectric sensors G10, W9L-3
- Ultrasonic sensors UM30
- Optical data transmission system ISD400 (Pro)

Quality and efficiency in the shipment process by innovative technology.



Pick-it-Easy working places

Multi-Order-Commissioning

Traceability / barcode reading for safety products

Employees are supported by instruments (weighing machines, light curtains and pick to light)

Analytics Solutions

A suite of industry-tailored software solutions that analyze data and images collected from intelligent sensors.



RFID



Image Code Readers



Bar Code Readers

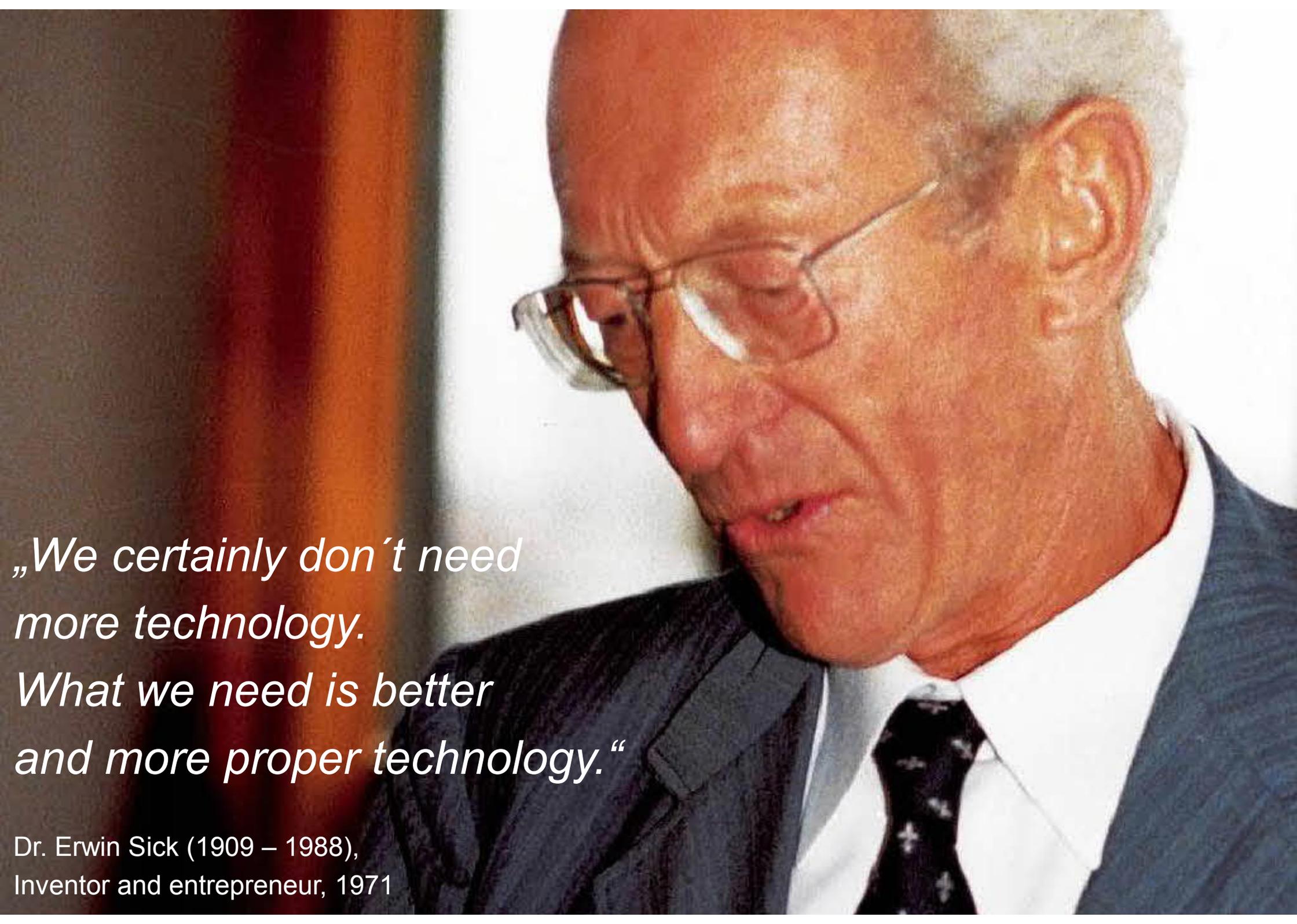


Hand-held Scanners



Hybrid Systems



A close-up portrait of Dr. Erwin Sick, an elderly man with short, light-colored hair, wearing glasses, a dark suit jacket, a white shirt, and a dark tie with a small white pattern. He is looking down and to the left with a thoughtful expression. The background is a plain, light-colored wall.

*„We certainly don't need
more technology.
What we need is better
and more proper technology.“*

Dr. Erwin Sick (1909 – 1988),
Inventor and entrepreneur, 1971

MANY THANKS FOR YOUR ATTENTION.



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