IPC-HERMES-9852
The global standard for “M2M” in SMT Assembly

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Agenda

- Why a new interface
- Why IPC-HERMES-9852
- How IPC-HERMES-9852 works
- Ready for the future
- IPC-HERMES-9852 & ASM SMT Solutions
- How to start a IPC-HERMES-9852 project
- IPC-HERMES-9852 & CFX


Innovation in communication
“Every day life”
All the way from manual switch boards…
IPC-HERMES-9852 for vendor independent machine-to-machine communication in SMT Assembly.

Innovation in communication
“Every day life”

All the way from manual switch boards…

…to instant global connections.

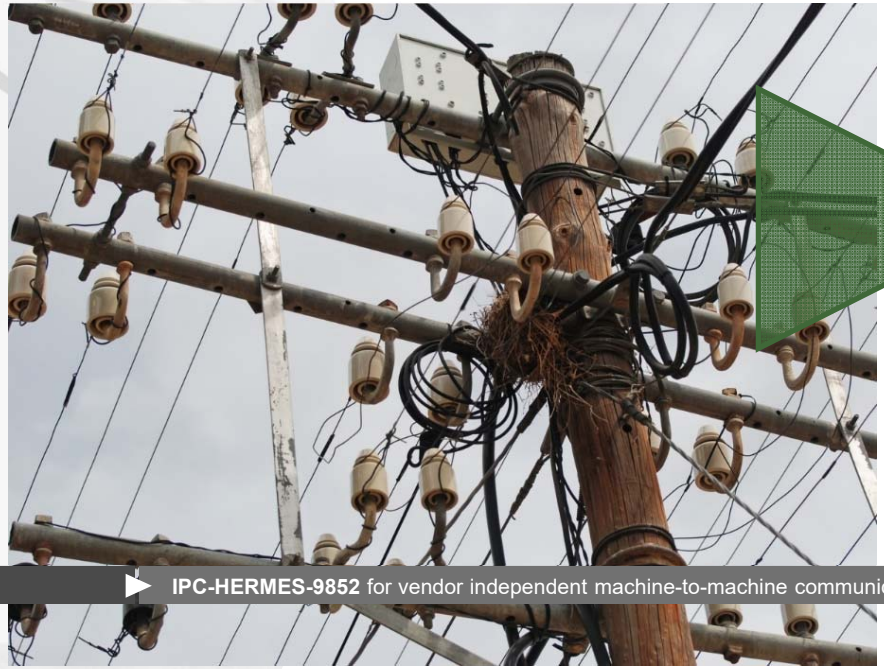
▶ **IPC-HERMES-9852** for vendor independent machine-to-machine communication in SMT Assembly.


Innovation in communication
“Telecommunications infrastructure”
From “one line – two wires each”…
IPC-HERMES-9852 for vendor independent machine-to-machine communication in SMT Assembly.

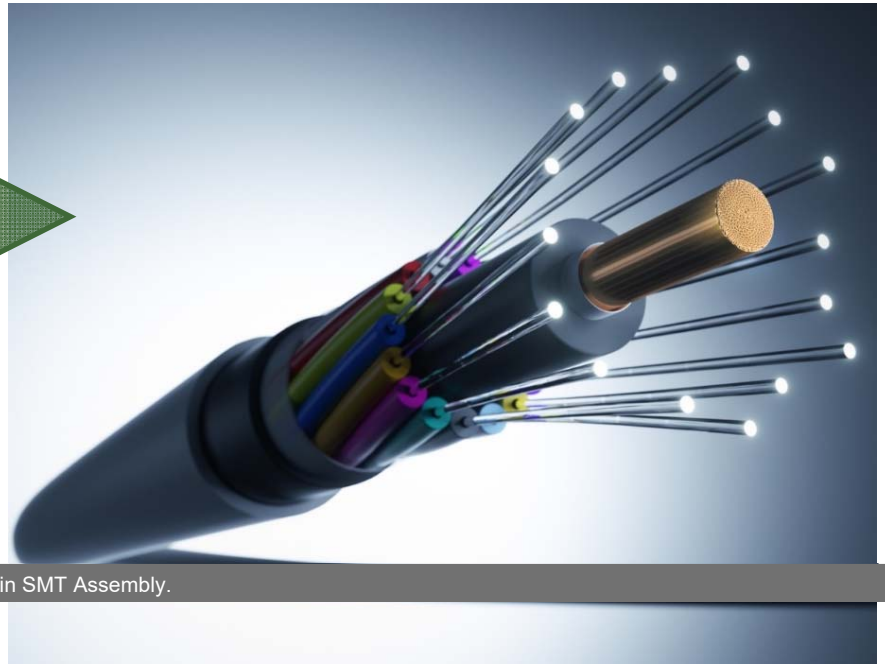
Innovation in communication

“Telecommunications infrastructure”

From “one line – two wires each”…



… to multi channel glass fibre.



IPC-HERMES-9852 for vendor independent machine-to-machine communication in SMT Assembly.

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Innovation in communication

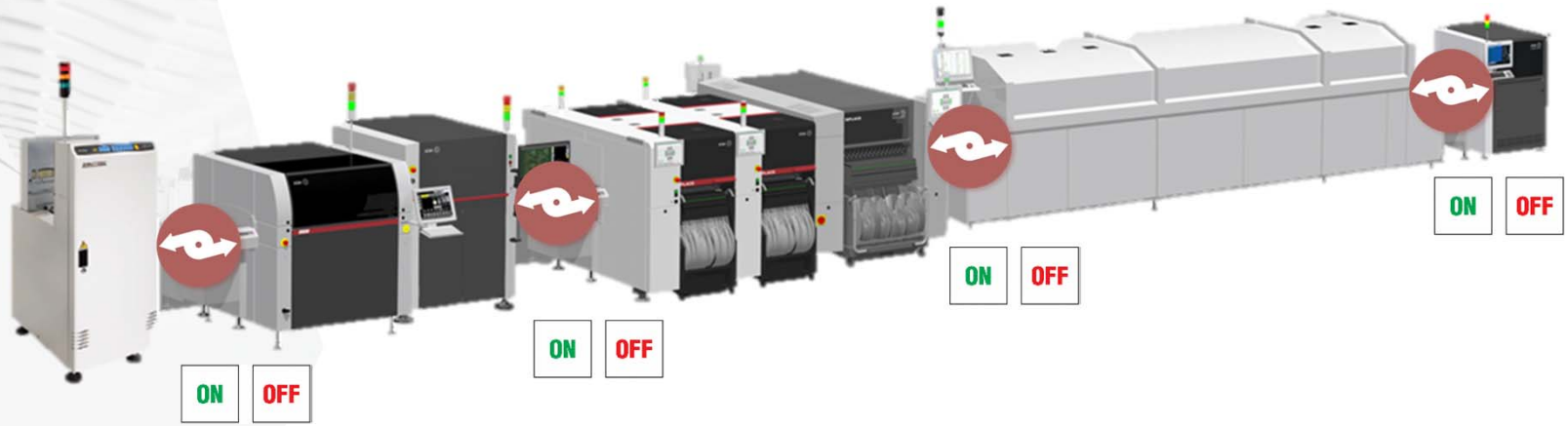
“Along the SMT line”

From IPC SMEMA 9851…

… to IPC-HERMES-9852

IPC-HERMES-9852 for vendor independent machine-to-machine communication in SMT Assembly.

Why a new interface?
Old technology meet the challenge of today



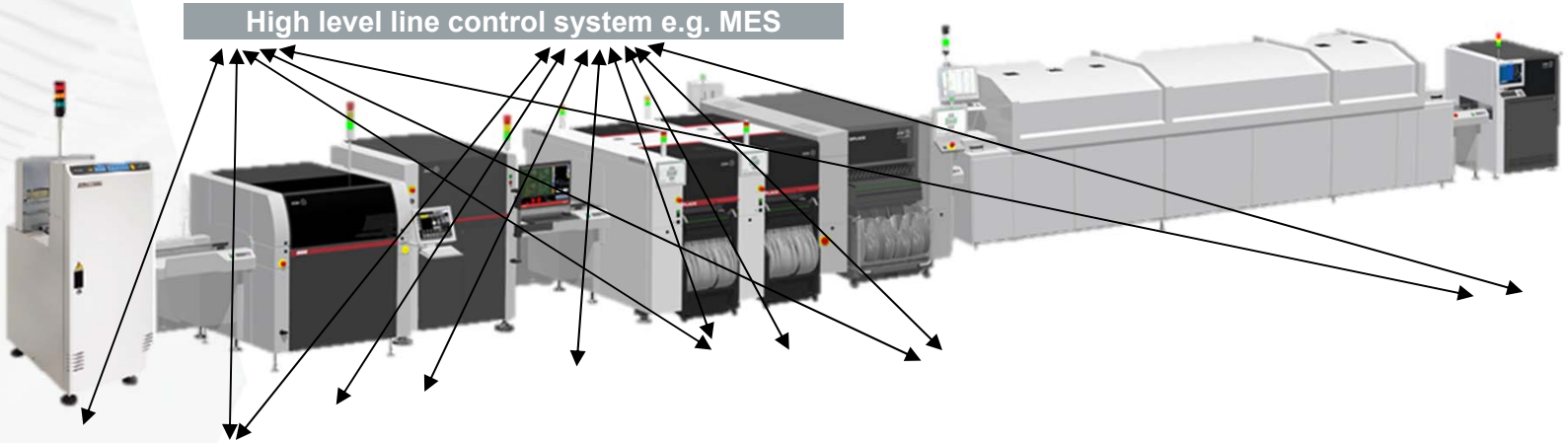
Challenges

- Highly digitized industry with more need of data
- Full integration between the equipment's
- Need of point 2 point (M2M) communication
- Need of simple integration into high level systems (MES, IoT…)

Old M2M standard

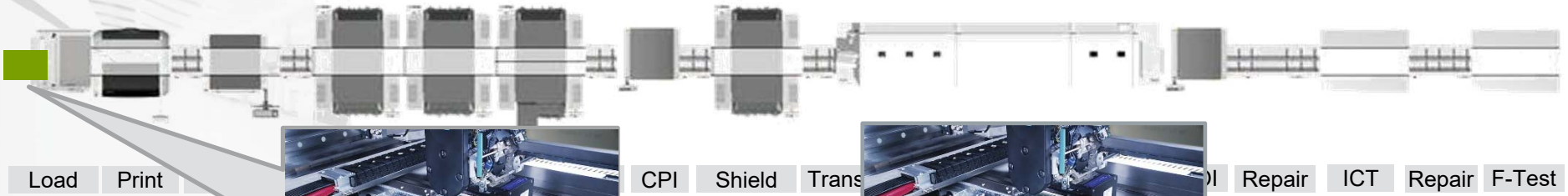
- Based on “signals”, no data at all
- Needs specific hardware
- Is expensive
- Restricts quick changes in line-layout
- Can be hardly adapted to future needs

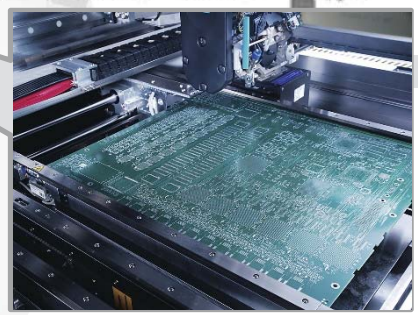
Why a new interface?



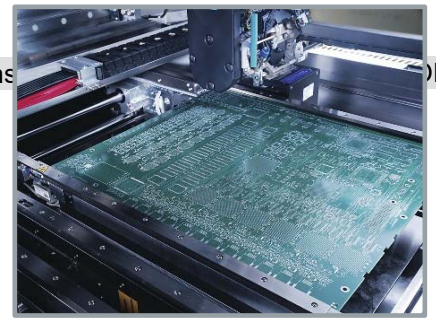
“The old world”: Complex and faulty

Why a new interface?
New job download = long preparation time



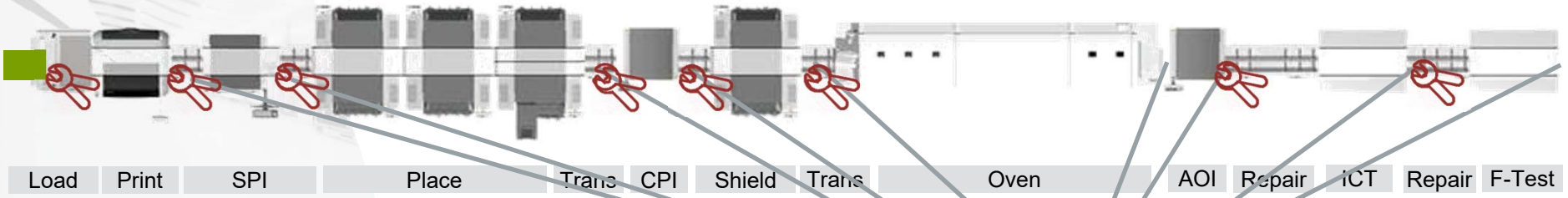


Product A



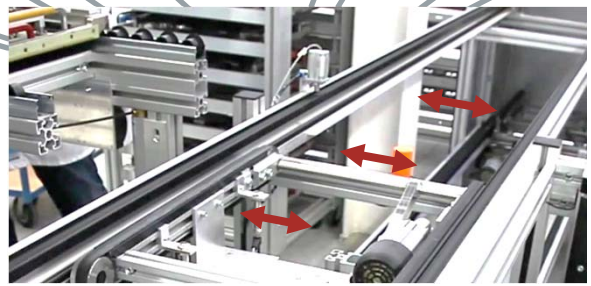
Product B

Why a new interface?
New job download = long preparation time

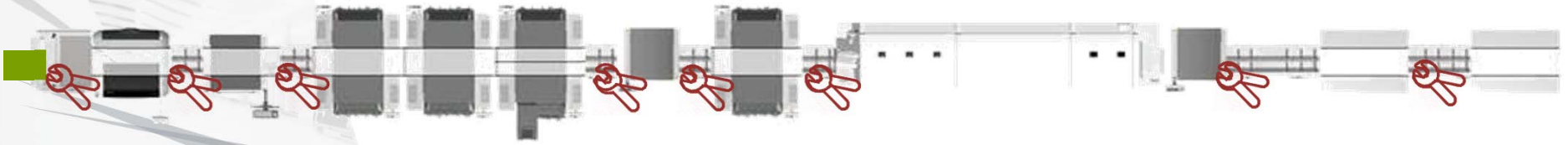


Manuel conveyor adjustment

- Manuel intervention to different equipment
- Manuel input of new parameters (faulty)



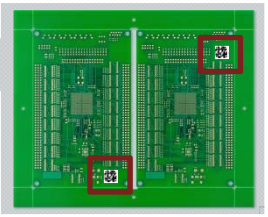
Why a new interface…?
New job download = long preparation time



Load | Print | SPI | Place | Trans | CPI | Shield | Trans | Oven | AOI | Repair | ICT | Repair | F-Test

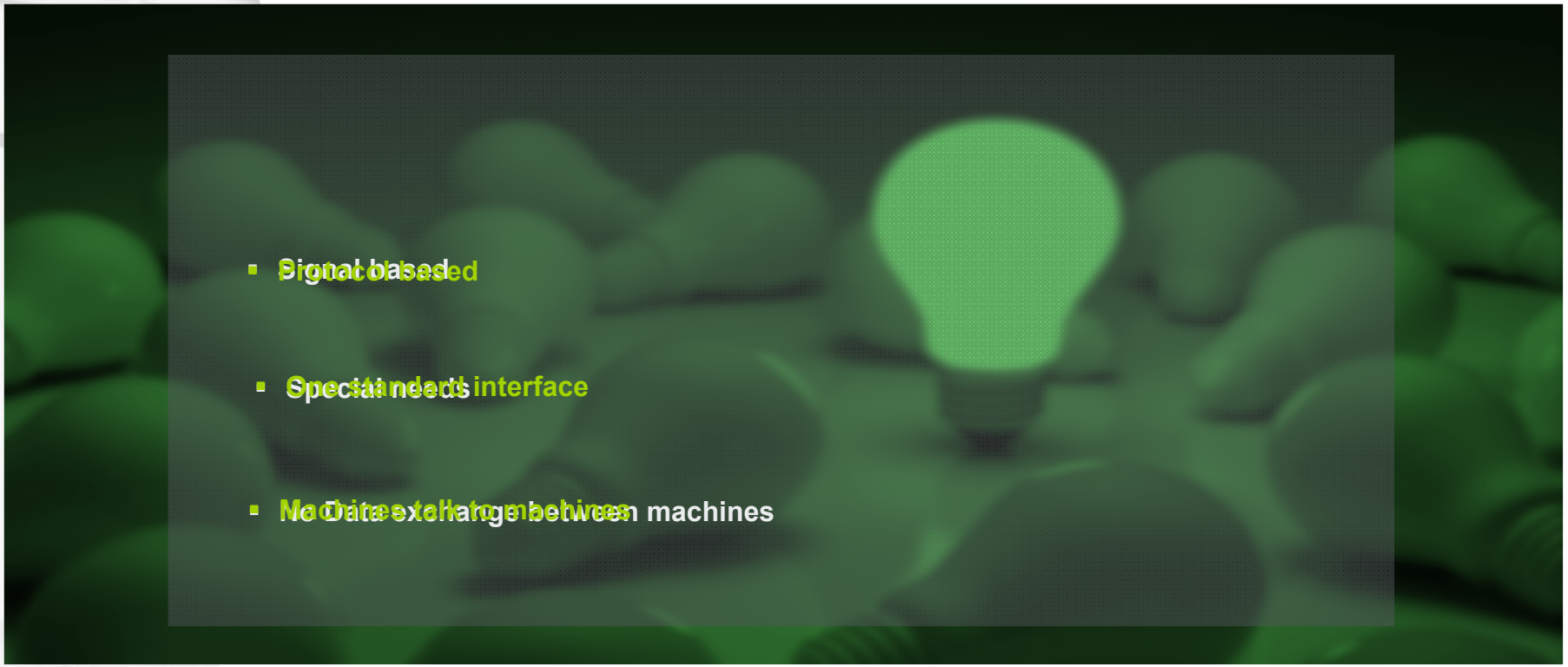
Manuel conveyor adjustment

Barcode reader adjustment



Why a new interface…?

Why a new interface?

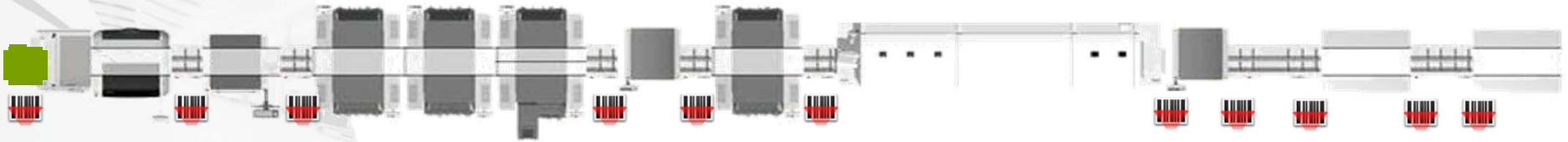


- Signal based
- Special needs
- Data exchange between machines

Why a new interface?

Why the IPC-HERMES-9852?
Automated data transfer

a b c Different boards weights in one line, at the same time and without operator intervention

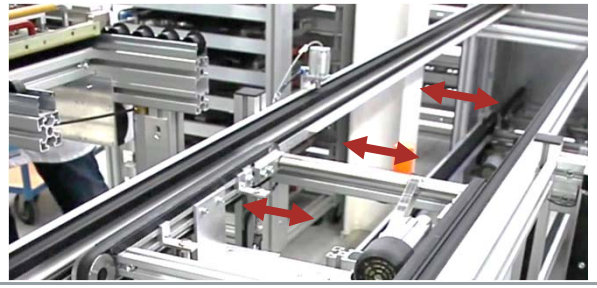


Protocol with board information

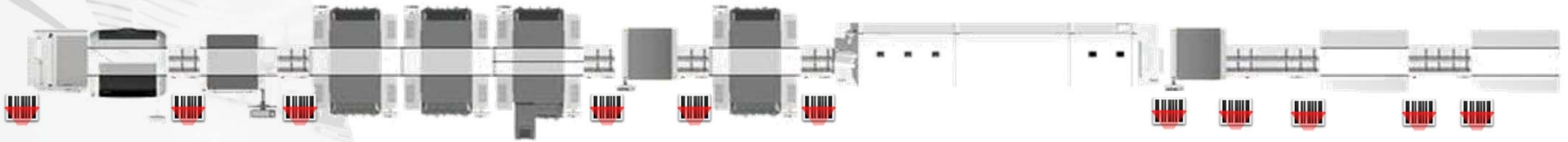
Load	Print	SPI	Place	Trans	CPI	Shield	Trans	Oven	AOI	Repair	ICT	Repair	F-Test

- Manual conveyor adjustment
- Barcode reader adjustment
- High number of barcode reader

Automated conveyor adjustment



Why the IPC-HERMES-9852?
Full data availability

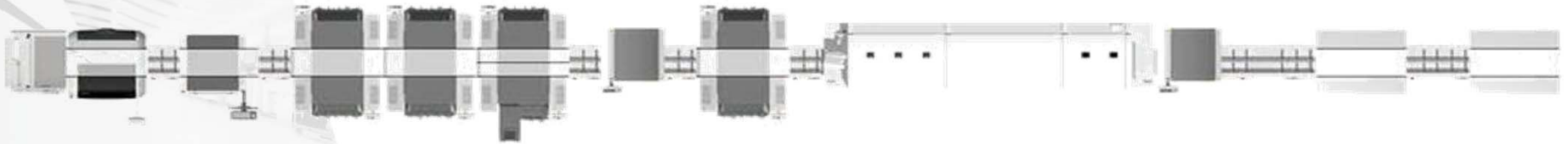


Load	Print	SPI	Place	Trans	CPI	Shield	Trans	Oven	AOI	Repair	ICT	Repair	F-Test

- Automated conveyor adjustment
- Board identification (Barcode/RFID…) only once per line need
- High number of bar code reader

The HERMES Standard

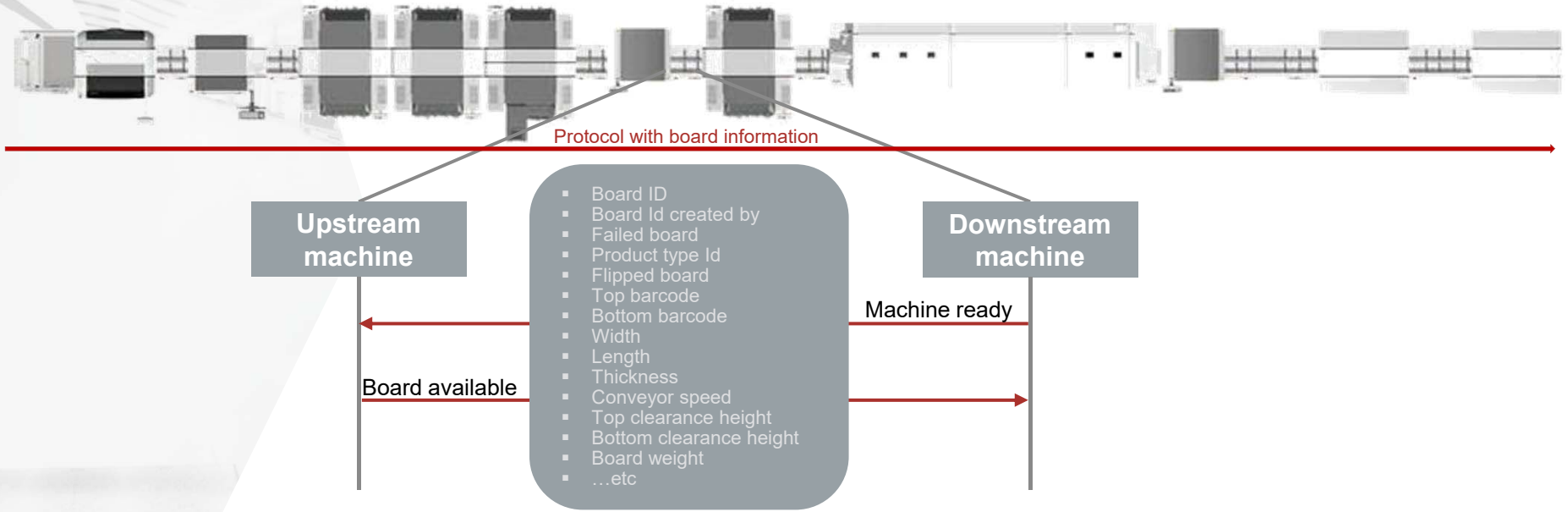
Full data availability, maximum line throughput & traceability



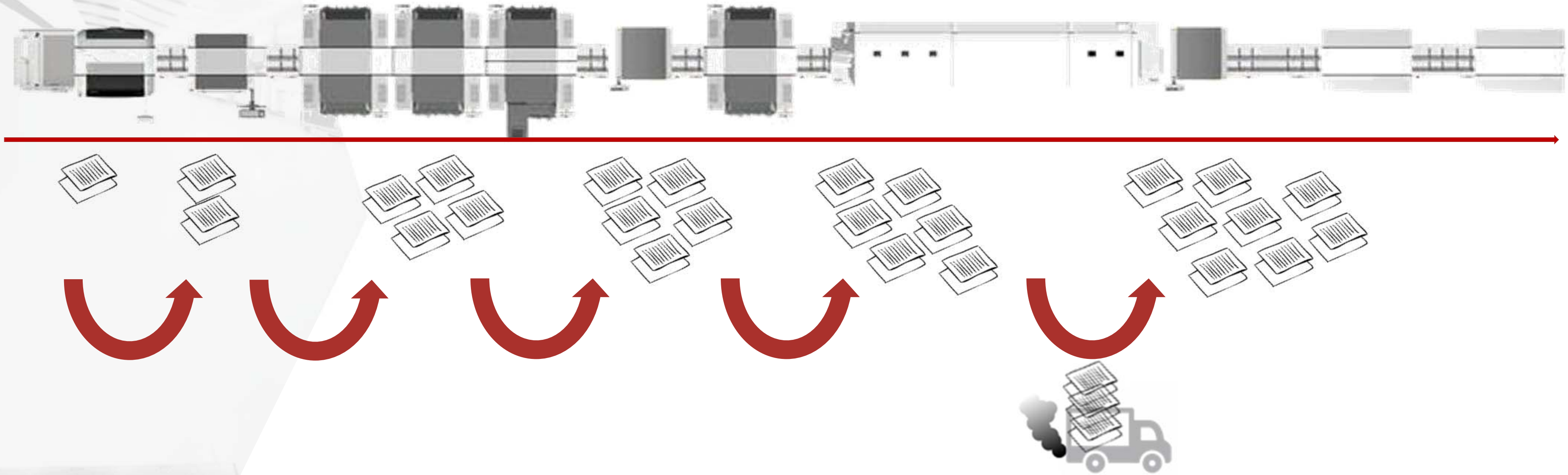
Load	Print	SPI	Place	Trans	CPI	Shield	Trans	Oven	AOI	Repair	ICT	Repair	F-Test

No hardware specification, one interface, one standard

Why the IPC-HERMES-9852?
Protocol based

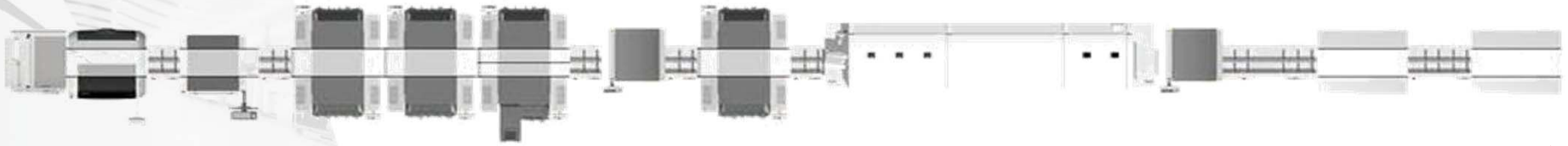


Why the IPC-HERMES-9852?
Advanced M2M communication for board flow



The naive approach to data transfer.
Increasing data transfer needs more data movement tools to support.

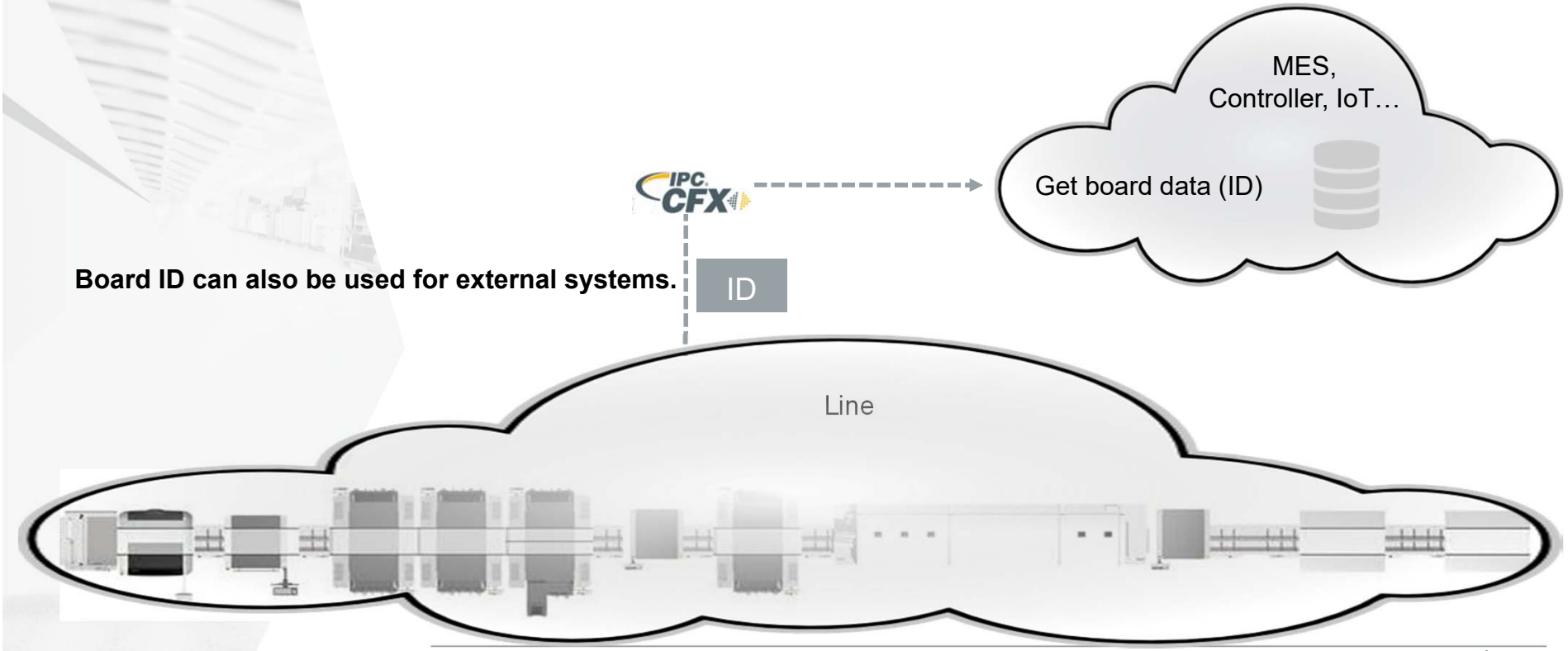
Why the IPC-HERMES-9852?
Advanced M2M communication for board flow



ID

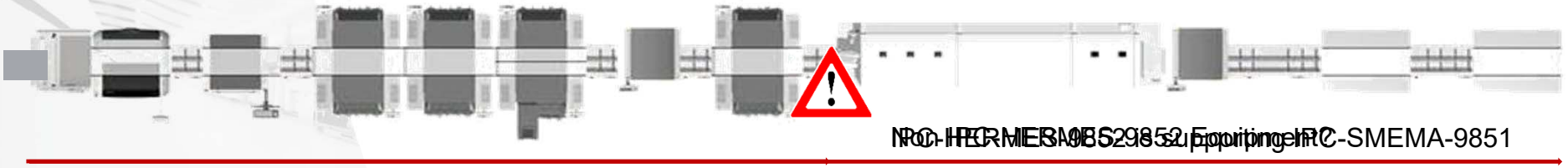
HERMES transfers keys (unique ID, barcode) not large amount of data

Why the IPC-HERMES-9852?
Advanced M2M communication for board flow



Board ID can also be used for external systems.

Why the IPC-HERMES-9852?
Connectivity needs cooperation



- The HERMES Standard Initiative is a joint project of leading vendors of electronics assembly equipment.
- Active participation is open to all vendors of electronics assembly equipment.
- All members are equally important in a fair and open decision making process.

Why the IPC-HERMES-9852?
Connectivity needs cooperation

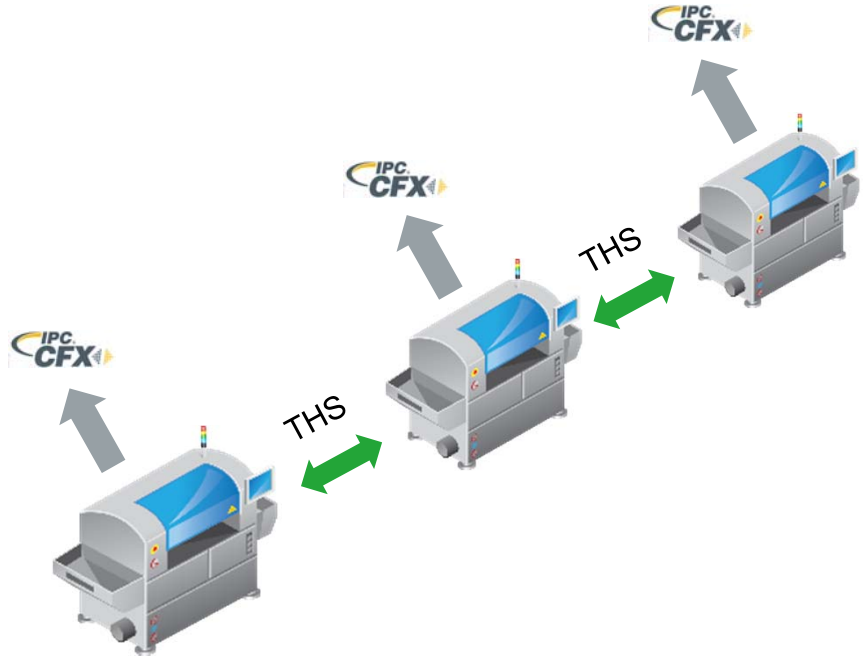
Why the IPC-HERMES-9852?
IPC-HERMES-9852 & IPC CFX

IPC-HERMES-9852:

- A 21st century SMEMA replacement using TCP/IP for point to point M-to-M connection.
- Provides advanced, yet “light”, in-line messaging to support exchange of PCBs and data between machines.
- Global replacement for SMEMA (applicable to every machine process)
- Specification v1.1 consists of all required horizontal messaging.
- The feature-set is focused on board flow management and board ID tracking today.
- THS will drastically simplify the line management / supervision from a higher level systems perspective.

IPC CFX or any other vertical channel:

- Provides “vertical” machine messaging
- Provides horizontal machine to machine messages:
  - For Industry 4.0
  - Not for SMEMA or board handling & board ID tracking



Why the IPC-HERMES-9852?
Factory Integration

Connectivity and Vertical Integration
The Base for Industry 4.0

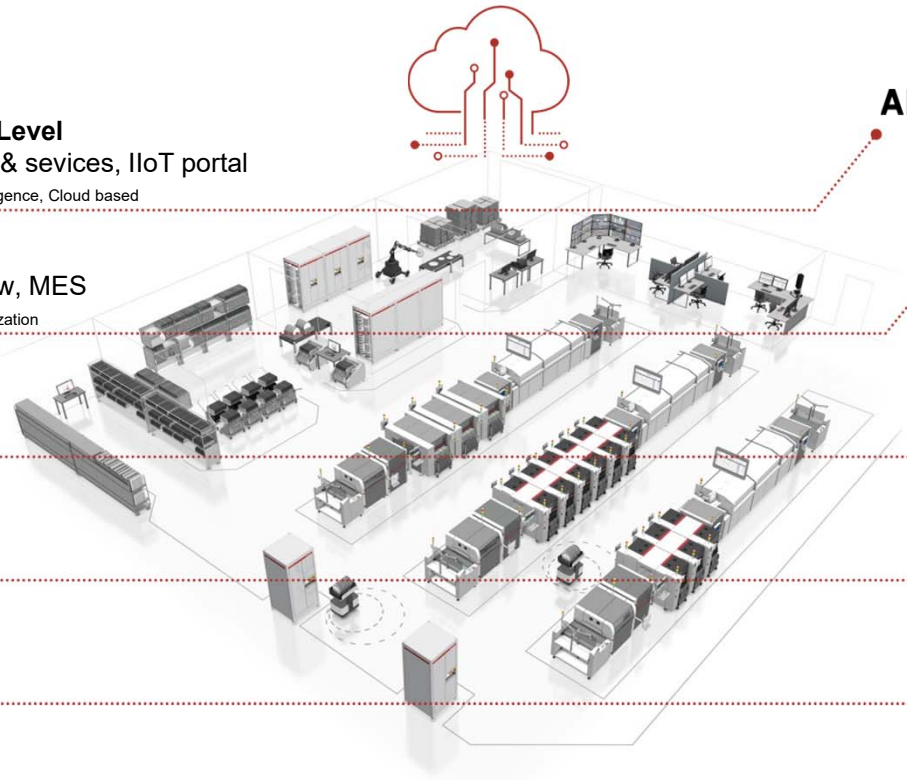
Multi Factory Level
IIoT applications & sevices, IIoT portal
Data Analytics, Business Intelligence, Cloud based

Factory Level
Material & Process Flow, MES
Planning, Logistics. Maintenance, Visualization

Line Level
Programming, Validation
Traceability, Setup, Changeover

Connectivity
Easy Integration

Shop floor / Equipment Level
Smart Equipment, Automation



ADAMOS MindSphere | World

CRITICAL MANUFACTURING

IPC CFX

ASM OIB

IPC-HERMES-9852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Professional network
on Xing and LinkedIn
Latest information
on facebook
All videos & animations
on YouTube
ASM Newsletter
smart
SMT
factory
forum
Stay informed via Blog:
Smart SMT Factory Forum
MyASM
All ASM online tools
at a glance MyASM
Thank you
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