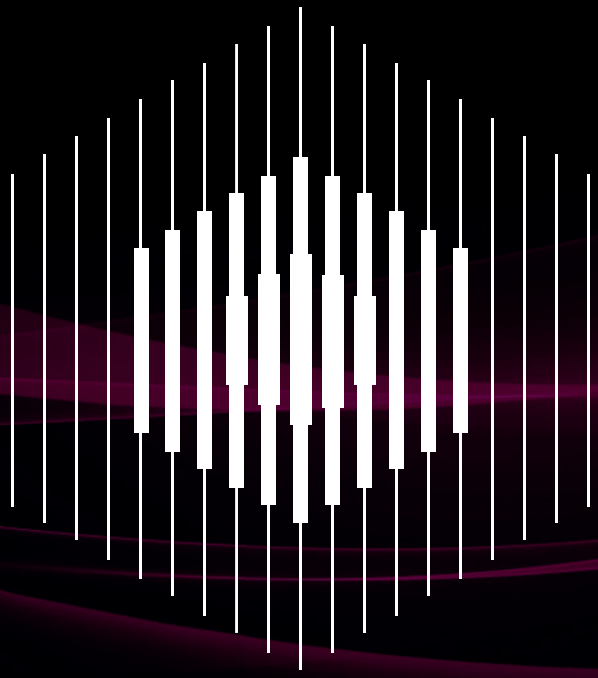
ASYS GROUP



PULSEPRO

PULSE PRO
The new ASYS Software Suite

Discover the new compact software solution from ASYS to optimize your production. PULSE PRO offers seven software modules that will help you to control automated material flows in the shop floor, to achieve a dynamic just-in-time supply for each production step and to track all data flows.

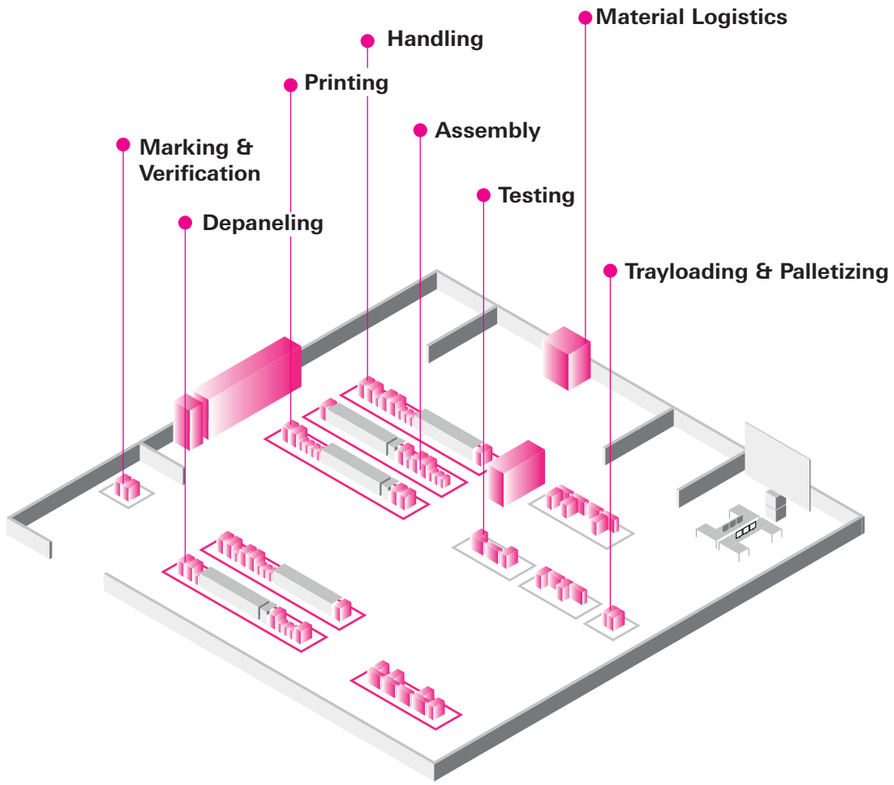
PULSE PRO is easily operated via a cockpit and meets the highest demands for simple handling. The high quality usability is based on the tasks of the operators. Even with complex contents and functions, the users find their way to their goal quickly and easily.

Software Modules

Observe & Control	Performance of the entire Shop Floor	10 – 13
Product Change	Stop Losing Time on Product Changeover	14 – 17
Plan & Execute	Precise Order Planning of the entire Shop Floor	18 – 21
Program Preparation	Offline Programming of Machine	22 – 25
Material	Automate, Control, Trace all Material Flows & Types	26 – 29
Traceability	Traceability of Material Data on the Shop Floor	30 – 33
Factory Connect	Import & Export of Data	34 – 37

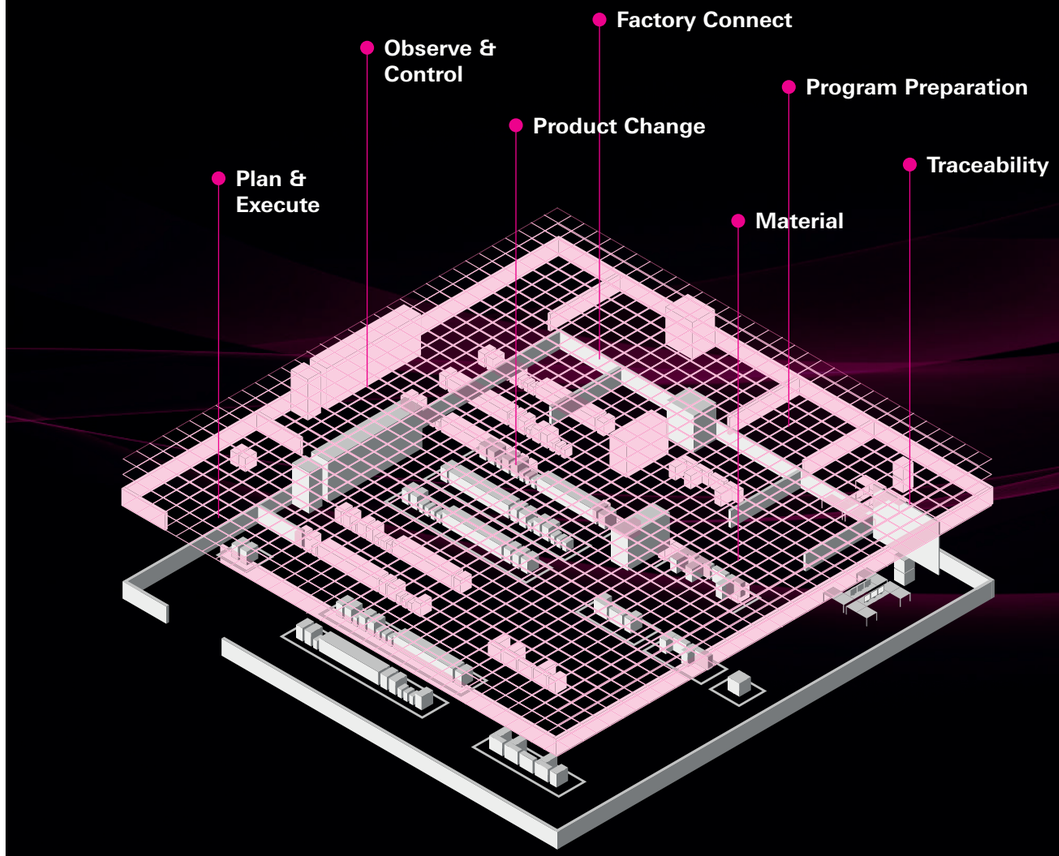
We offer with our machines over 75% of the entire Smart Factory.

Smart Factory
Machine Layer



PULSE PRO
Software solutions for the entire Smart Factory.

Smart Factory
Software Layer



PULSE PRO
Advantages at a Glance

All applications in a uniform look & feel

All software functionalities in an organized and modular structure

Easier control and visualization of automated material flows on the entire shop floor

Various apps with solutions on all layers

Operator has the production in sight and is able to achieve an optimum of productivity

Closing the gap between Shopfloor and MES/ERP



PULSEPRO

PULSE PRO
Modules & Apps

Modules	Description	Apps	Function Area		
			Machine	Line	Factory
Observe & Control	Performance overview of the entire shop floor	Shop floor Cockpit*	●	●	●
		Shop floor Statistics*	●	●	●
		Shop floor Viewer*	●	●	●
		Customized Statistics*	●	●	●
		Smart Alerts	●	●	●
		Smart Messenger	●	●	●
		Line Observer	●	●	●
		Dashboard Materialflow	●	●	●
		Monitoring Cam	●	●	●
Product Change	Stop losing time on product changeover	Product Change		●	
		Product Change Lite		●	
		Product Change Guide*		●	
Plan & Execute	Precise order planning of the entire shop floor	Order Control		●	●
		Order Planner		●	●
Program Preparation	Offline programming of machine	Recipe Preparation*	●	●	
		INSIGNUM Programming*	●		
		DIVISIO Programming*	●		
		SERIO Programming*	●		
		VEGO Programming*	●		

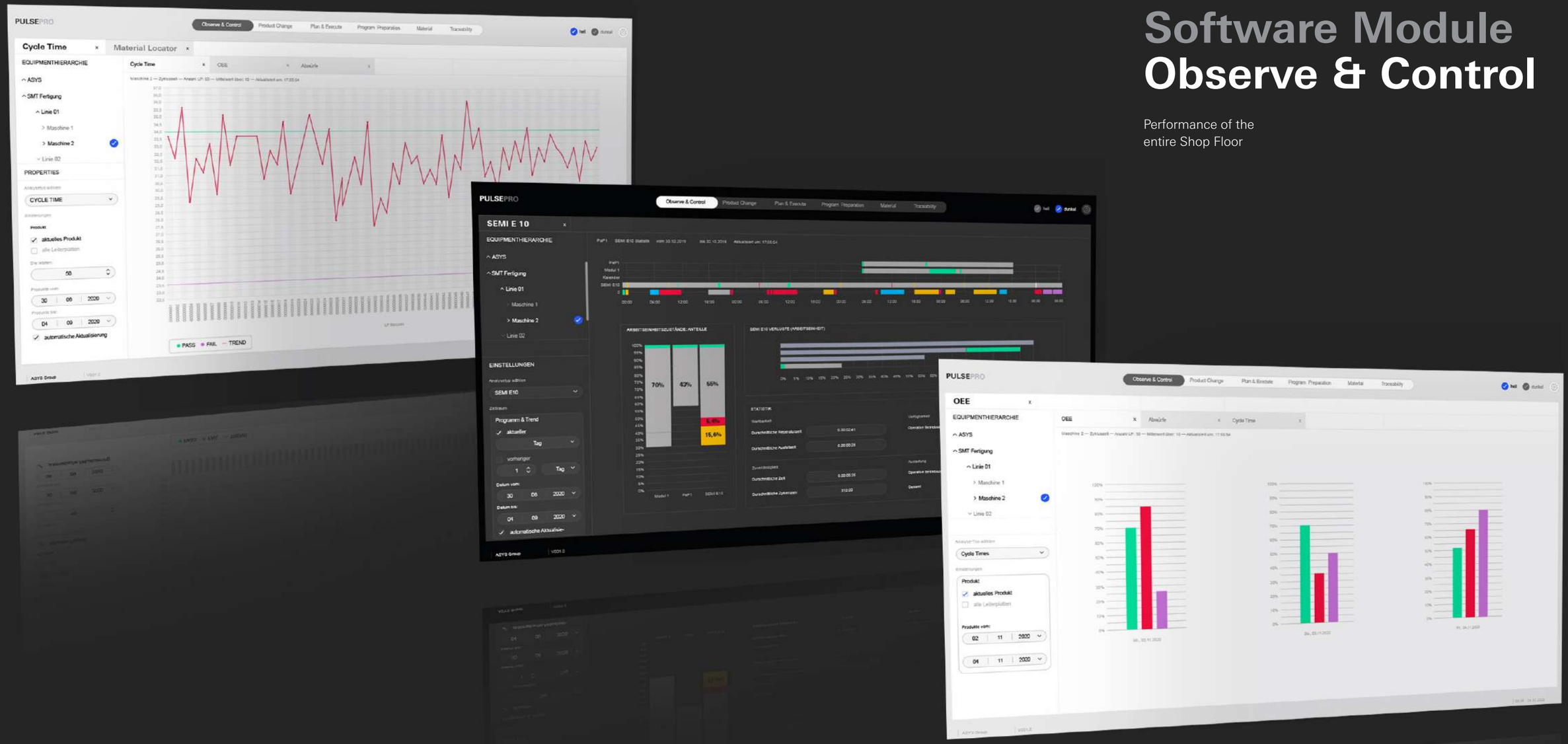
* In development

Modules	Description	Apps	Function Area		
			Machine	Line	Factory
Material	Automate, control, trace all material flows & types	Material Locator	●	●	●
		Component Manager	●	●	●
		Advanced Component M.		●	●
		Consumables Manager*	●	●	●
		Tool Manager*	●	●	●
		Magazine Manager*	●	●	●
		MSL Manager	●	●	●
		Inventory Support*			●
		Mobile Robot Manager			●
		Fleet Manager OMRON			●
Traceability	Traceability of material data on the shop floor	Product Trace*	●	●	●
		Product Trace 3rd Party*	●	●	●
		Process Trace*	●	●	●
Factory Connect	Import & export of data	Sync Factory Calendar			●
		Import Order Data			●
		Import Order Sequence			●
		Import Material Data			●
		Sync SAP - Material			●
		CFX – Connect Smart Alerts	●	●	●
		Trace Data Bridge	●	●	
		ASYS INSIGNUM MES Connect	●		

* In development

Software Module
Observe & Control

Performance of the
entire Shop Floor



Software Module
Observe & Control

Observe & Control
The PULSE PRO module „Observe & Control“ offers a variety of monitoring possibilities to keep the overview of all connected machines. The operator always knows what is going on in every situation. The data is put into relation and is summarized according to standardized specifications. The tool maps the performance of the entire shop floor. Interrelationships become clearer, bottlenecks and downtimes are clearly visualized and can be effectively addressed or even avoided with foresight. Always following the goal of keeping production running and increasing productivity.

Module Highlights

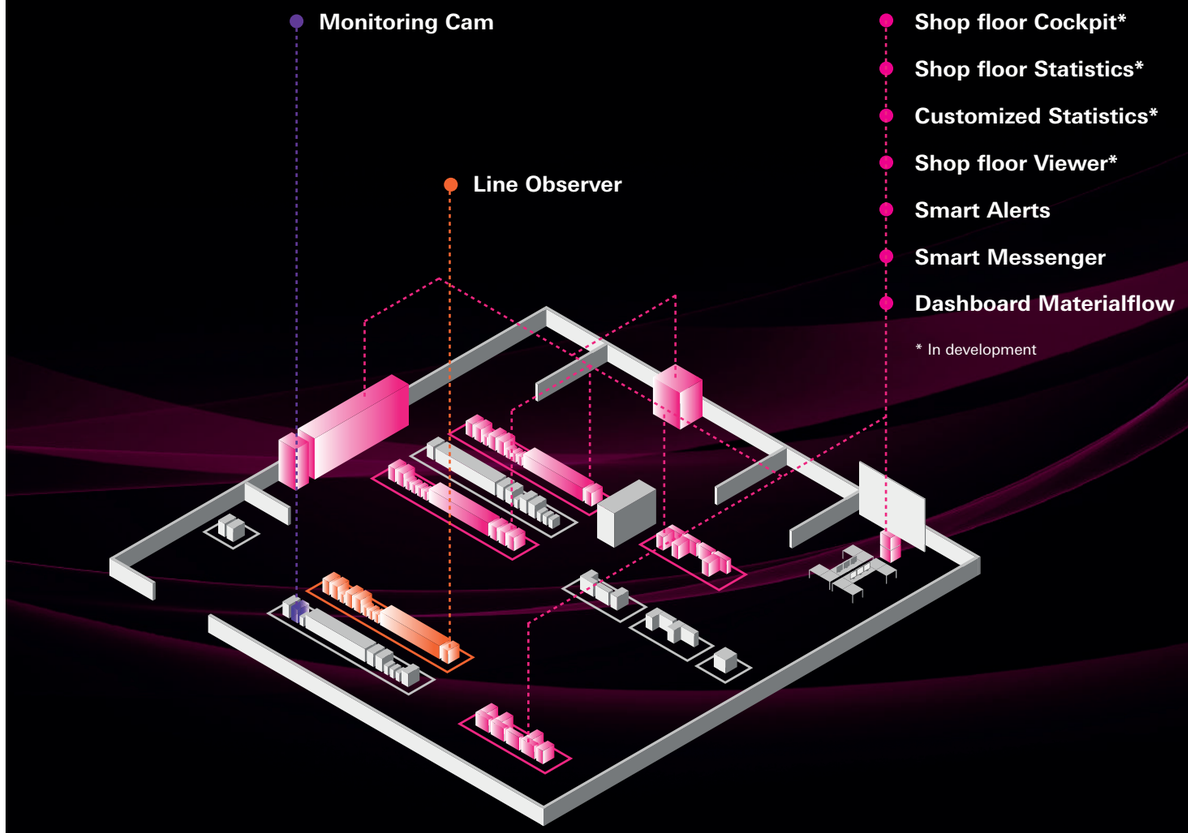
Monitoring of the entire electronics production across all machines / lines

Acquisition of complete machine / process data

Increase of transparency, productivity and quality

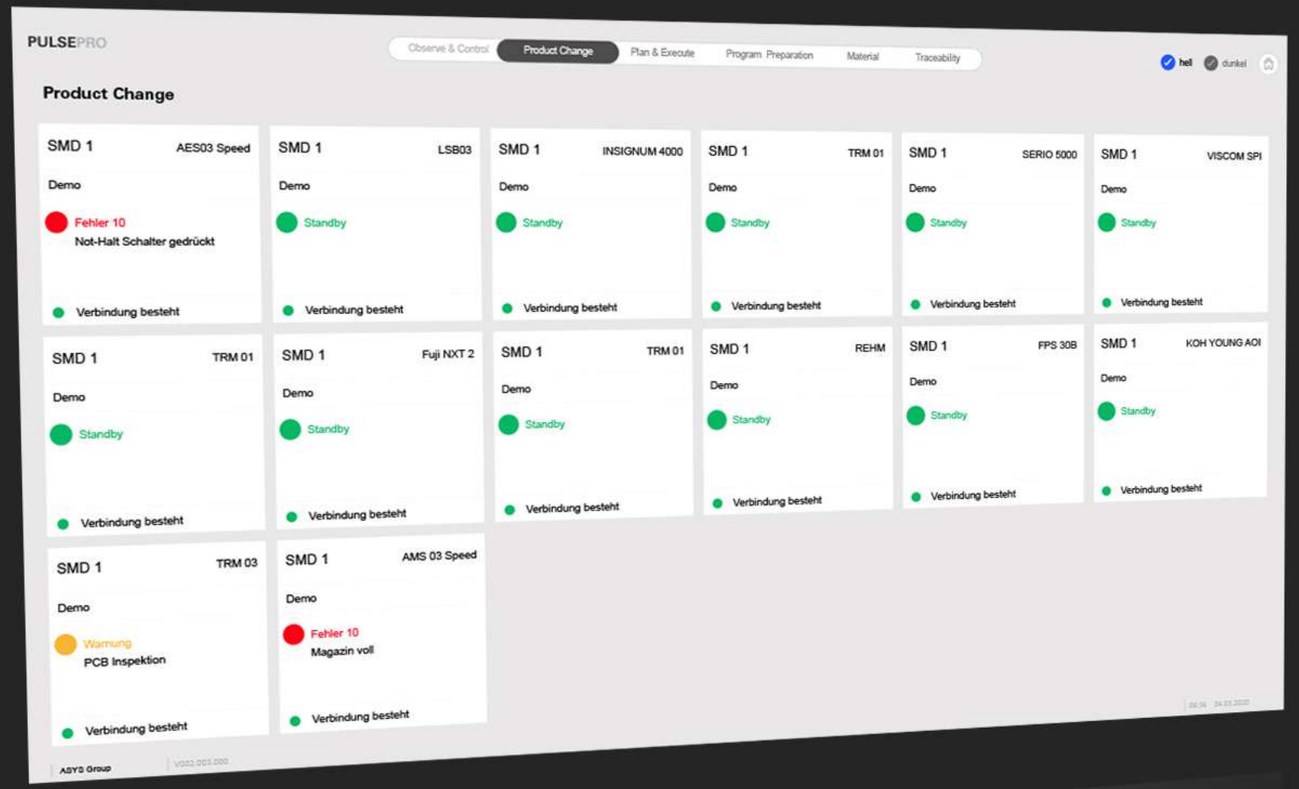
Cost reduction through support in process optimization

Observe & Control
Apps



Software Module
Product Change

Stop Losing Time on
Product Changeover



Software Module
Product Change

Product Change
In the PULSE PRO module „Product Change“ the product change at the line is triggered by only one click. The parameters are sent to all machines of the line and all settings are stored in a global database. These can be checked, changed and duplicated at any time. This results in a faster NPI (New Product Introduction) compared to programming on single systems. All ASYS Group machines as well as third party systems can be integrated.

Module Highlights

Product change of a line in a few minutes

Simple, controlled product changeover of the entire line

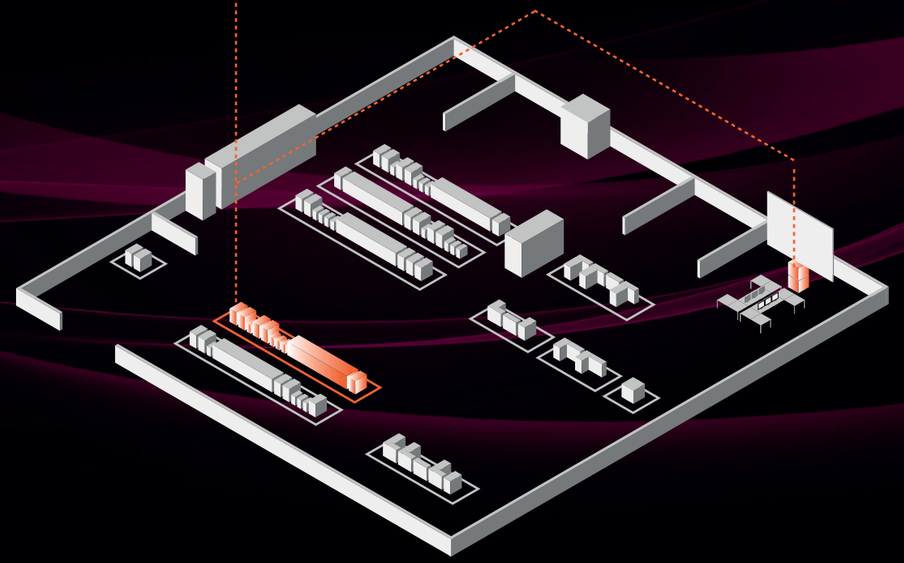
Faster NPI compared to programming on individual systems

Avoidance of transmission errors

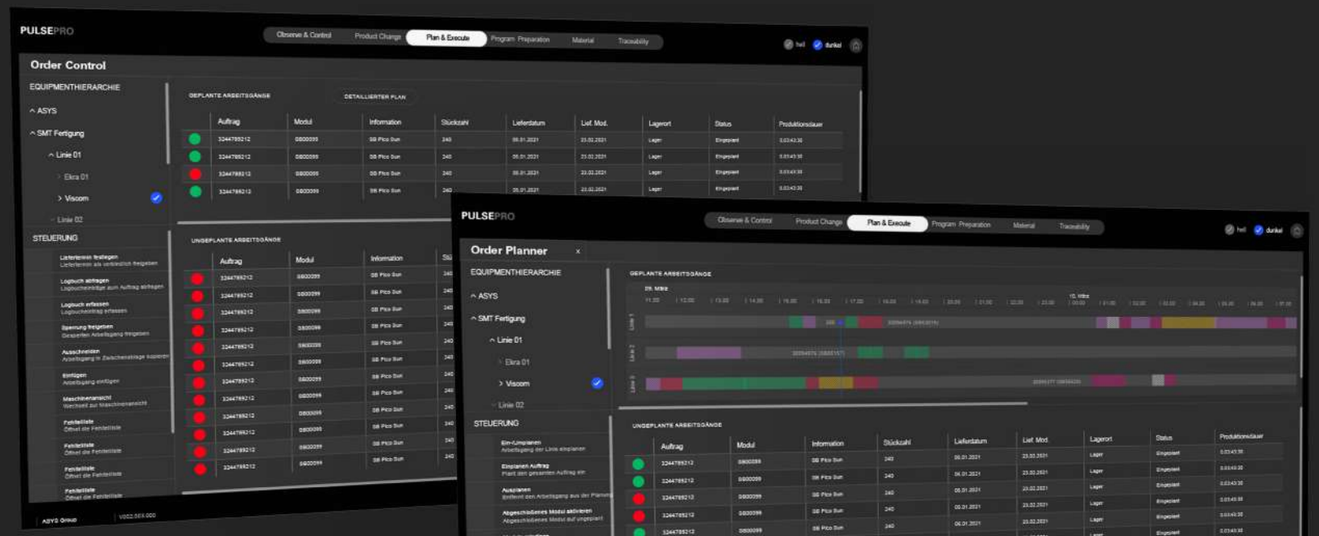
Product Change
Apps

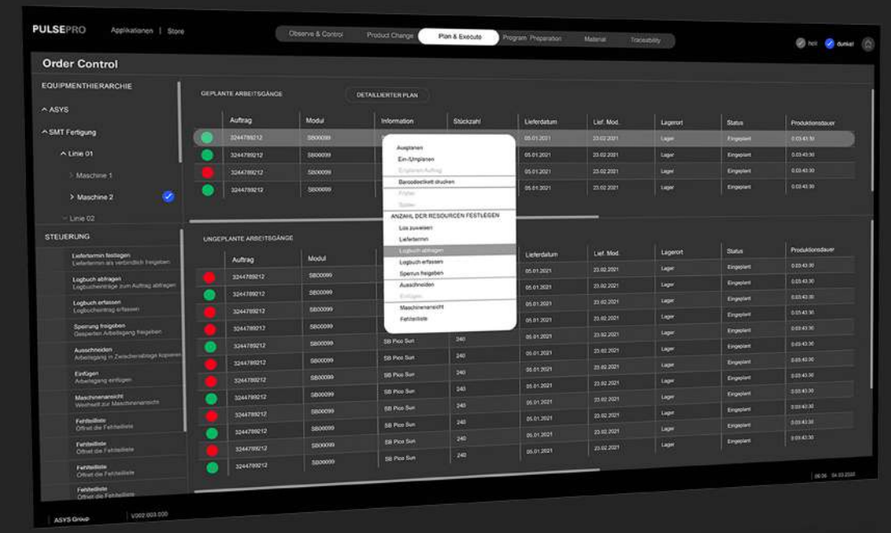
- **Product Change**
- **Product Change Lite**
- **Product Change Guide***

* In development



Machine Layer **Line Layer** **Factory Layer**





Software Module
Plan & Execute

Precise Order Planning of the
entire Shop Floor

Software Module
Plan & Execute

Plan & Execute
All orders on the entire shop floor are precisely planned in the PULSE PRO module „Plan & Execute“. The orders and production times are clearly displayed in Gantt diagrams. The automatic planner distributes selected production orders on n-SMD lines and can be optimized manually. The result is influenced by the planner by parameters (e.g. weighting of the delivery date, number of setup changes, etc.). The different simulation results can be created, deleted and compared. The best simulation result is transferred to the live planning.

Module Highlights

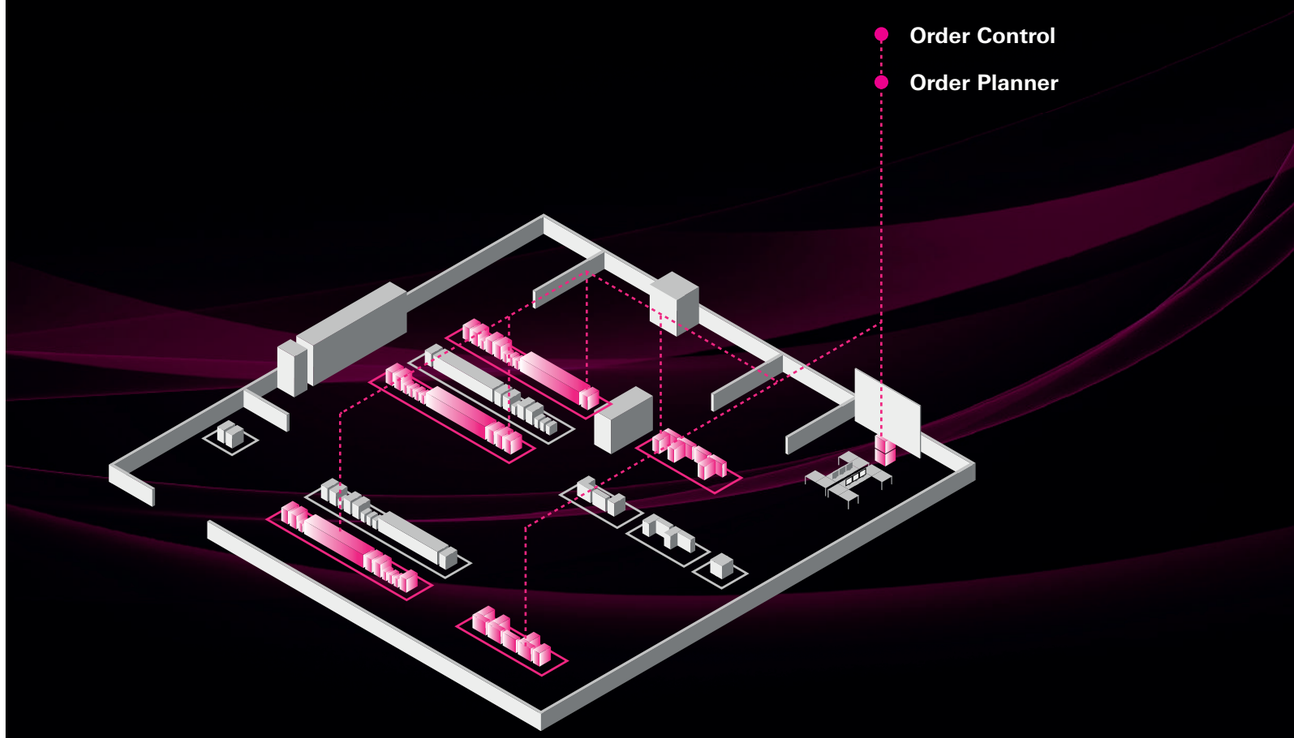
Automatic order planning for SMD lines in a separate simulation area

Optimal distribution of orders

Clear presentation of orders and production times in Gantt diagrams

Optimal transparency of current and planned order processing

Plan & Execute
Apps



Software Module
Program Preparation

Offline Programming of
Machine



Software Module
Program Preparation

Program Preparation
With the offline programming tools in the PULSE PRO module „Program Preparation“, the machines can be programmed at a PC workstation while another program is running. This reduces the downtimes significantly.

Module Highlights

Offline programming during production

No production stop

No multiple programming required

Program Preparation
Apps

Recipe Preparation*

* In development

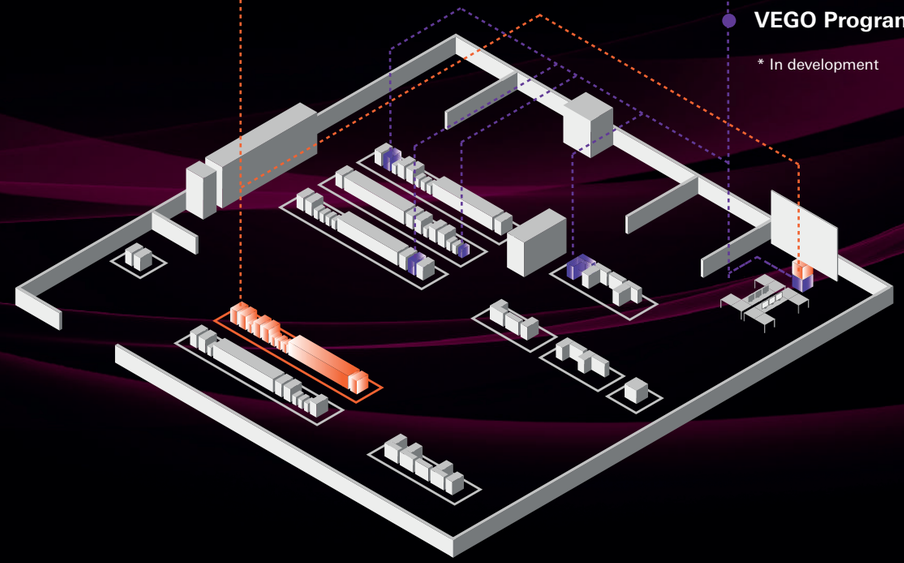
INSIGNUM Programming*

DIVISIO Programming*

SERIO Programming*

VEGO Programming*

* In development



Machine Layer **Line Layer** **Factory Layer**



Software Module
Material

Automate, Control, Trace all Material
Flows & Types

Software Module
Material

Material
The quantities and states of all materials on the entire shop floor are clearly documented in the PULSE PRO module „Material“. All component reels, trays and PCBs are managed on the basis of Unique ID (UID) and the replenishment of material is controlled autonomously, which reduces the operator’s workload. Furthermore, the floor life time of moisture-sensitive components is monitored. Based on the order planning, full or empty magazines are autonomously controlled within the entire shop floor between lines and storage locations. Therefore all modules are integrated and connected for autonomous transport.

Module Highlights

Overview of quantities and states of all materials in the entire shop floor

Autonomous magazine control and material replenishment for components and printed circuit boards

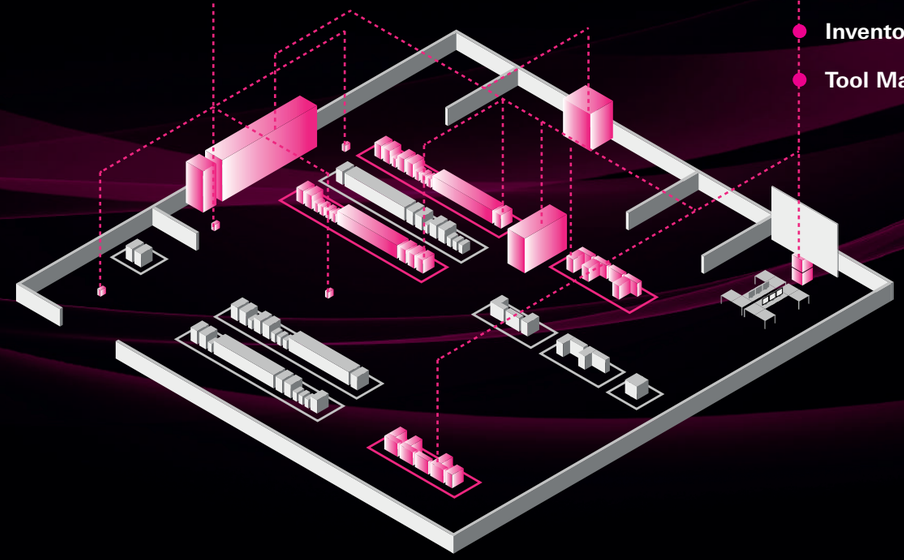
Monitoring the floor life time of moisture-sensitive components

Integration and connection of all modules for autonomous transport

Material
Apps

- **Mobile Robot Manager**
- **Fleet Manager OMRON**

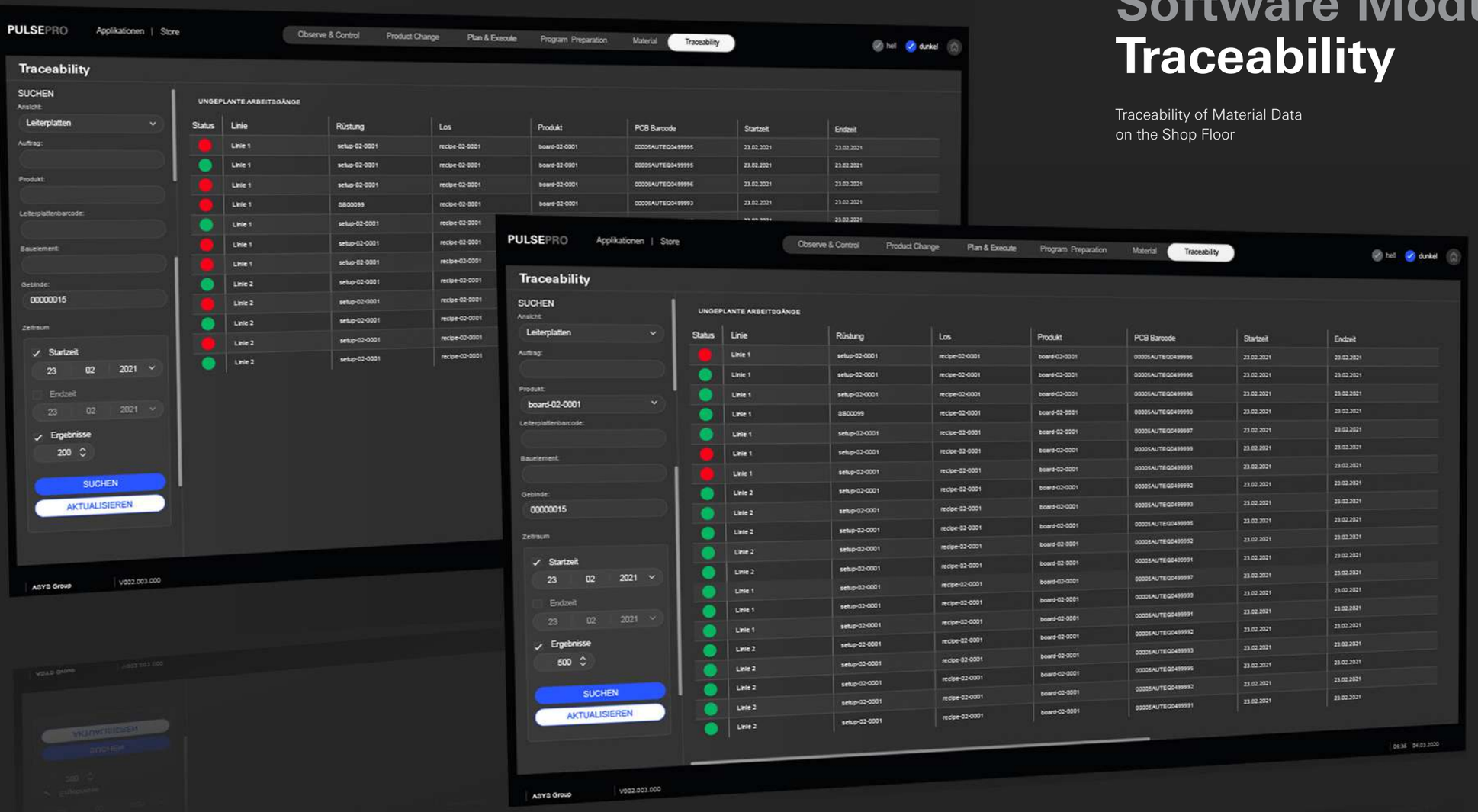
- **Material Locator**
- **Magazine Manager***
- **Component Manager**
- **Advanced Component Manager**
- **Consumables Manager***
- **MSL Manager**
- **Inventory Support***
- **Tool Manager***



Machine Layer **Line Layer** **Factory Layer**

Software Module
Traceability

Traceability of Material Data
on the Shop Floor



Software Module
Traceability

Traceability
The PULSE PRO module „Traceability“ offers the possibility to trace various product data on the entire shop floor. The system records which material with which UID was installed on a certain printed circuit board at the exact time. Different data sets per order or PCB can be generated depending on the software and hardware requirements. The recorded traceability data is stored in an internal database and can be visualized at any time.

Module Highlights

Recording which material was installed on which circuit board and when

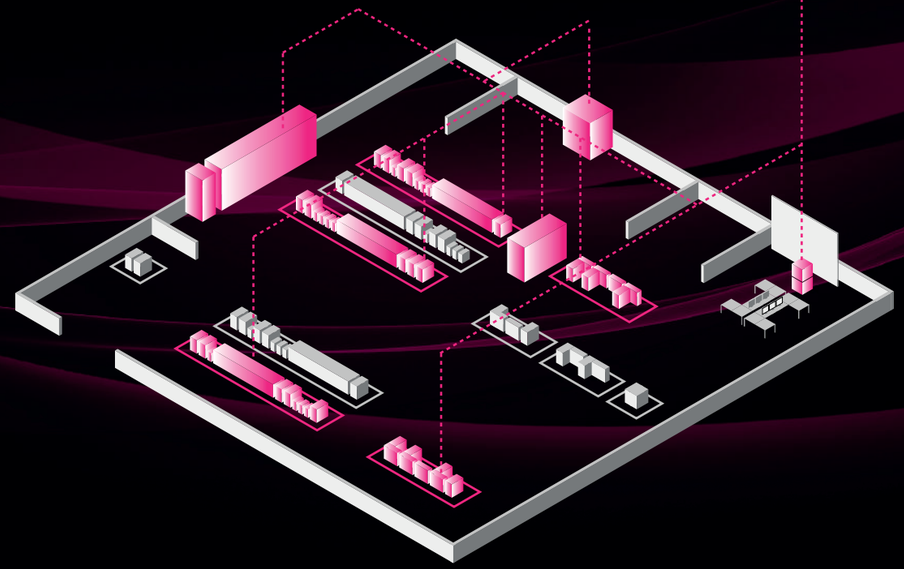
Display and filtering of stored data

Acquisition of the generated traceability data

Traceability
Apps

- **Product Trace***
- **Product Trace 3rd Party***
- **Process Trace***

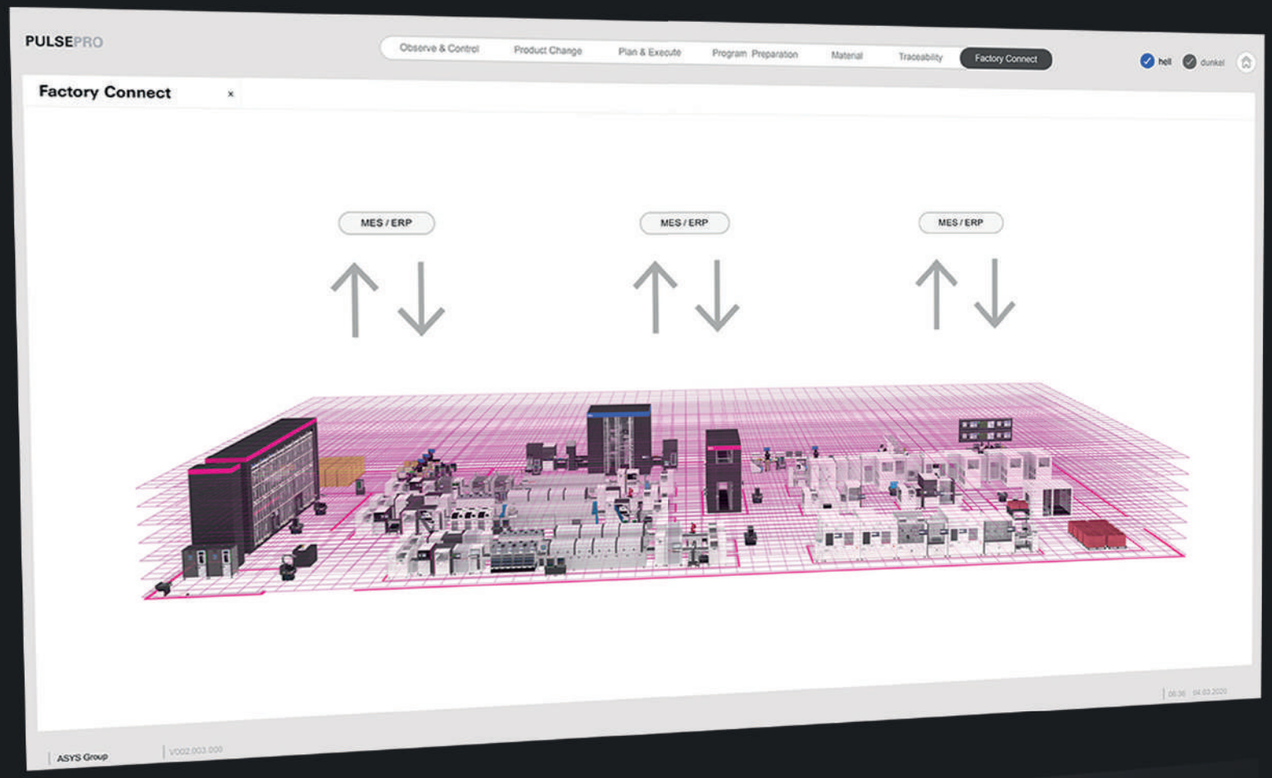
* In development



Machine Layer **Line Layer** **Factory Layer**

Software Module
Factory Connect

Import & Export of Data



Software Module
Factory Connect

Factory Connect
In the PULSE PRO module „Factory Connect“ data can be exchanged with an ERP/MES interfaces. The order data and material data (UID and RFID) can be imported from a superior system for detailed order planning. For a timely and optimal disposition, production accounts in the ERP system are adjusted and changed depending on the material movement in the production. Status and error messages from machines can also be automatically transferred to a higher-level system via the CFX interface (PULSE interface). Furthermore, an interface is provided for synchronizing a higher-level factory calendar.

Module Highlights

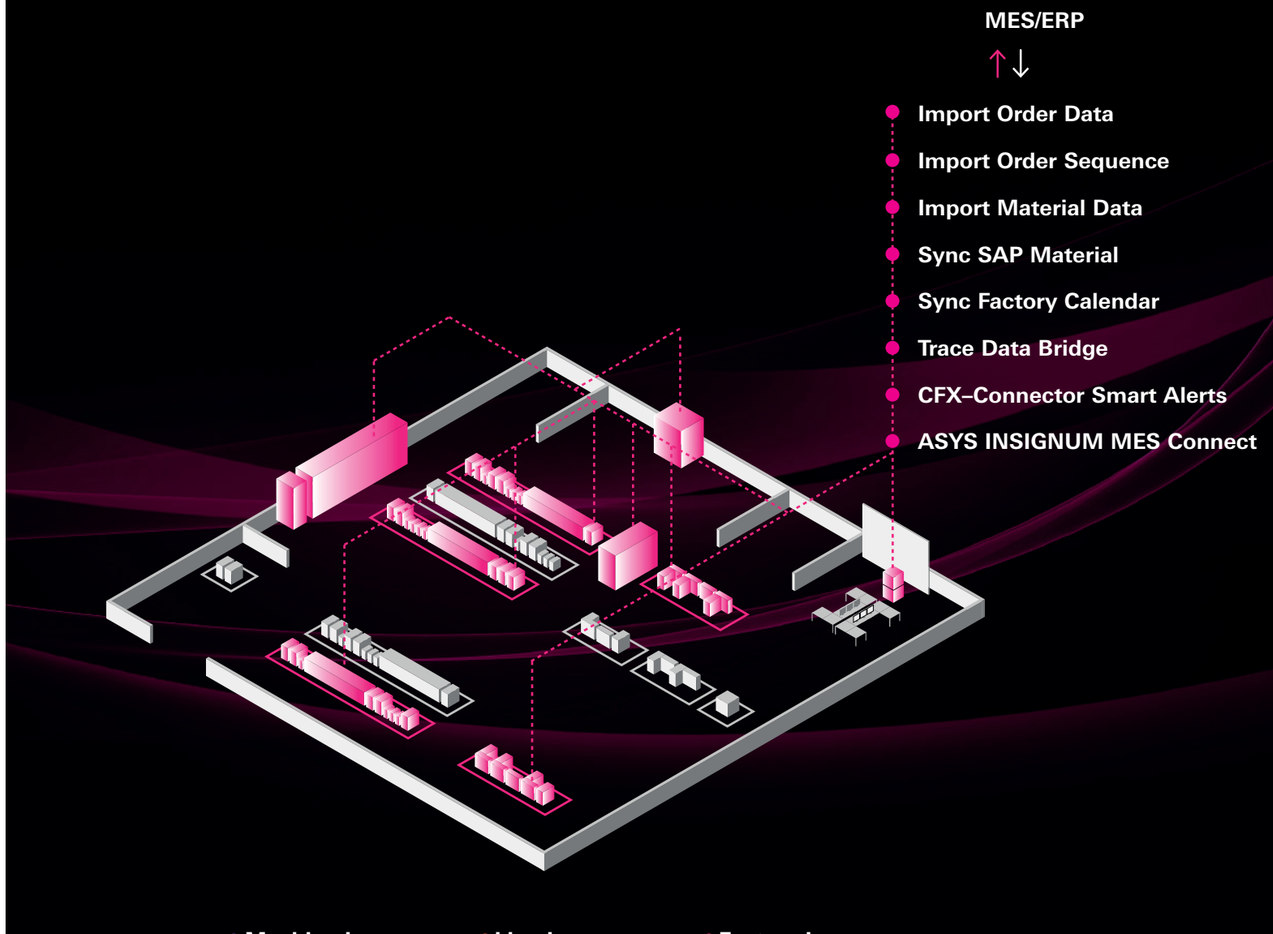
Automatic transfer of order data and material data from higher-level system for order and material management in PULSE PRO

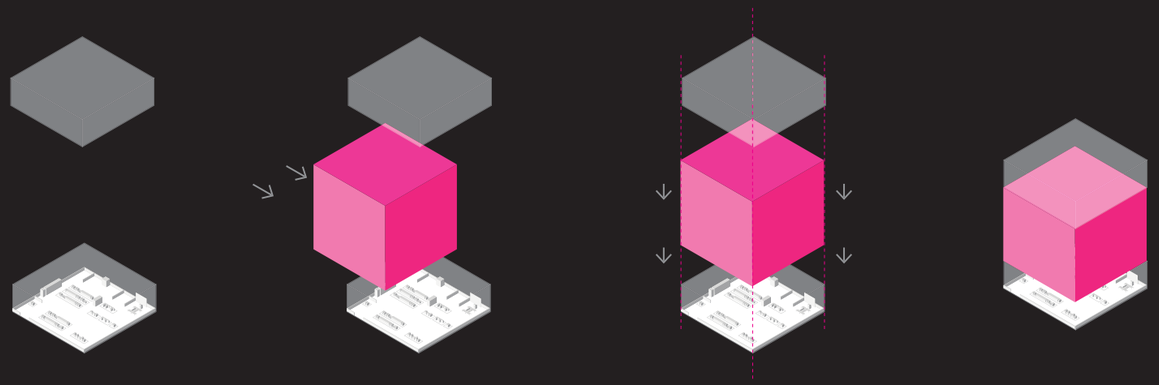
Transfer of an externally created detailed order planning in PULSE PRO

Synchronization of a superior factory calendar

Reconciliation and modification of production accounts in the ERP system depending on material movements in production for real-time and optimal disposition

Factory Connect
Apps





Closing the Gap between Shopfloor and MES / ERP

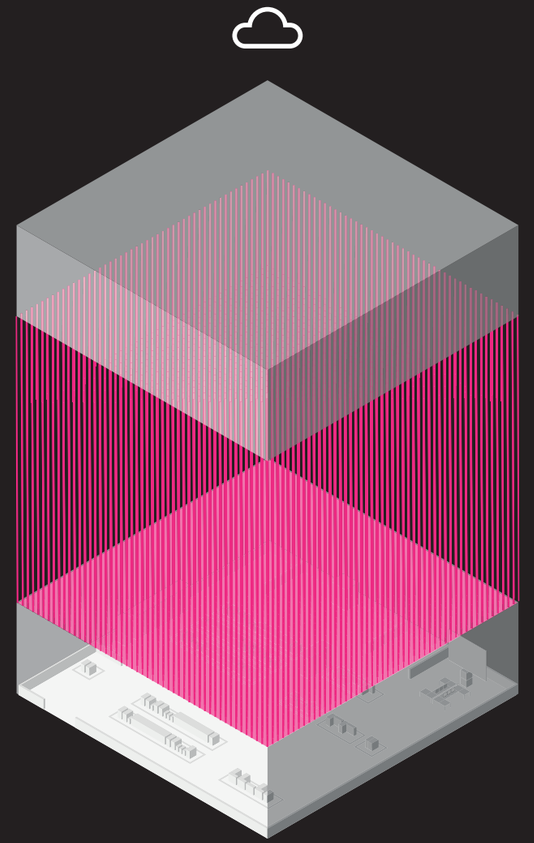
With PULSE PRO, the operator has the production in sight and can achieve an optimum of productivity. In this way, the faster growing complexity becomes manageable. PULSE PRO Software Suite is the control center of the Smart Factory and offers solutions on all layers with the multiple Apps. This closes the gap between the shop floor and the MES/ERP systems. PULSE PRO easily switches between existing systems and complements the functions that are still not or only in parts considered. The integration into a production line can be done in several steps if desired due to modularity and easy scalability.

ASYS Software Suite
The Control Center of the Smart Factory

MES / ERP Layer

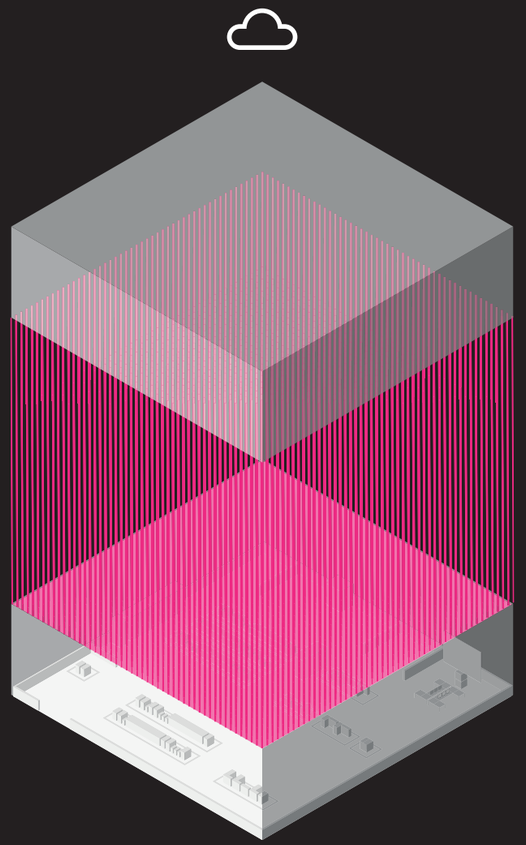
Supervisory System Layer

Shop floor Layer



The base of a Smart Factory is an overall connection of the entire shopfloor. All systems have to be connected to achive a real added value. ASYS is an expert in implementing connections and interfaces between different systems and offers the right software solutions. The own powerful „ASYS Standard Interface“ is used for the connection of machines of different manufacturers. In addition, control systems can be networked with interfaces such as IPC/CFX or SEMI SMT-ELS. Additionally, the PULSE PRO software solutions are able to connect to MES and EPR systems. ASYS has already implemented more than 5,000 connections to all common systems and orchestrates the shop floor with smart apps from the PULSE PRO Software Suite.

Open Interfaces & Connections to all Systems



MES / ERP Layer

Customer specific interfaces
AEGIS | AIS, BJI/BCI | BTE | camLine | ComCell | Cogiscan | DM-Systems | FIS | IFM-Data Base | Infor | iTAC | Mentor Graphics | OpCon | Predictor | SAP | SIMATIC-IT | SPEA | SYSTEMA | TCPIP | Valor | ZVEI

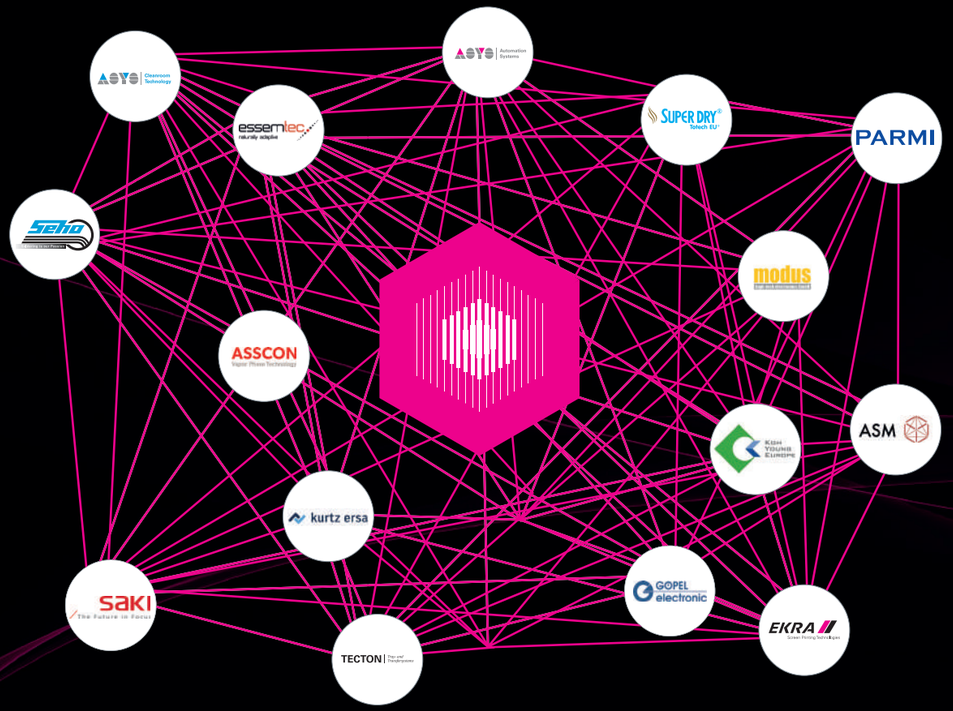
Supervisory System Layer

ASYS STANDARD INTERFACE | IPC CFX | Easy-Link | OIB | iLNB

Shop floor Layer

HERMES

PULSE PRO
Community



VISCOM vision technology

»We are delighted to be represented on the PULSE PRO line by our 3D solder paste inspection. This is how we do intelligent process optimization for Industrie 4.0.«

Detlef Beer
Product Development AOI-Component Inspection, Viscom



rehm THERMAL SYSTEMS

»You should always know what's happening...system monitoring is increasingly important for our processes, such as soldering.«

Michael Hanke
Head of Sales, Rehm



FUJI innovative spirit

»Timing is everything. The tasklist helps our customers to keep a clear overview during assembly.«

Klaus Kölbel
Sales Manager, Fuji



SMT THERMAL DISCOVERIES

»The SMT-line-monitoring recognizes defects even before they can occur and is even more effective with PULSE PRO. A reasonable Industrie 4.0 approach.«

Matthias Pfeifer
Head of Sales & Marketing, SMT



kolb

»Our cleaning systems are moving right next to the line.«

Bert Schopmans
Director Sales/Application Technology Deutschland, Kolb



The PULSE-Community is a strong network of manufacturers in the electronics industry. All those manufacturers have already integrated the „ASYS Standard Interface" for the connection of their machines to ASYS Software Solutions. Thanks to this standardized connection the entire production line can be connected today. We offer the „ASYS Standard Interface" free for any other manufacturers, in order to provide a maximum flexibility and functionality to your entire production line.

ASYS GROUP

Become a PULSE PRO member!

ASYS Automatisierungssysteme GmbH, Benzstraße 10, 89160 Dornstadt, Germany, **www.asys-group.com**

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