

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.

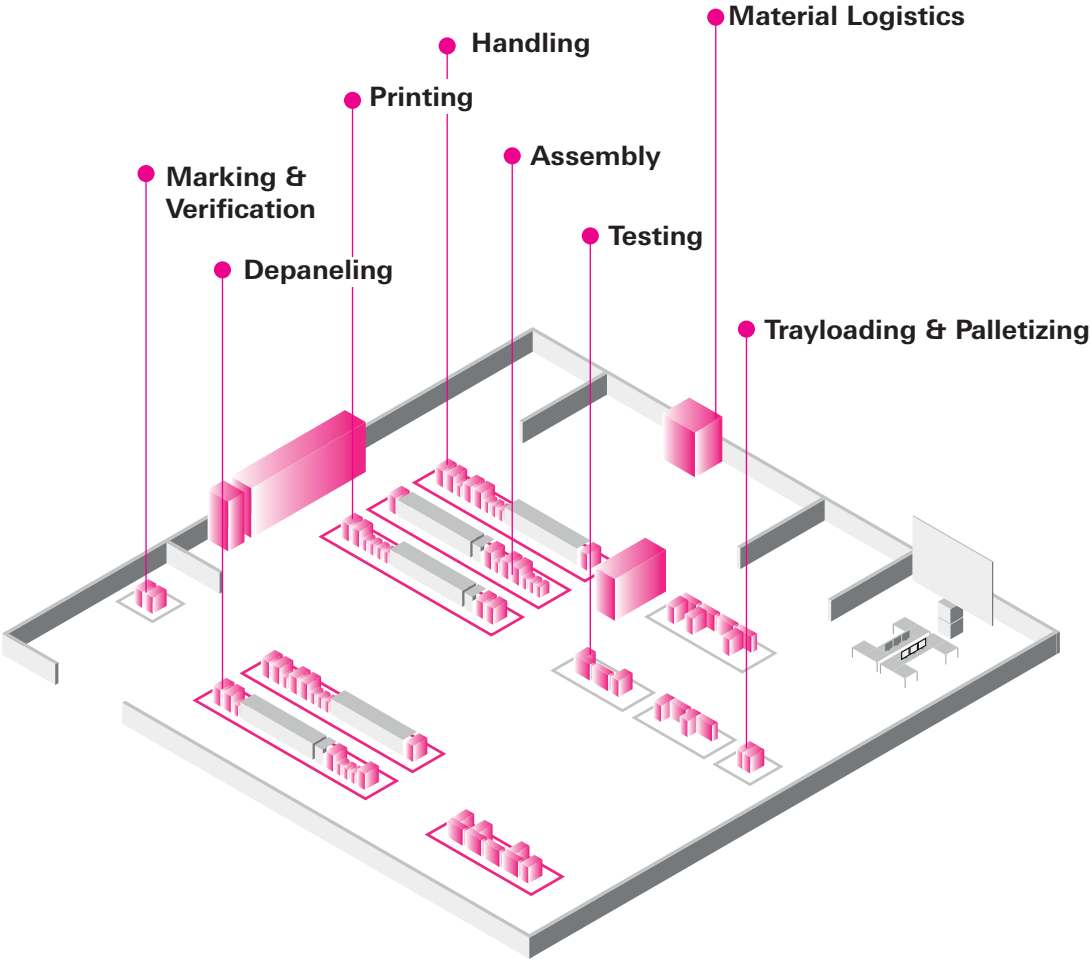
PULSE PRO is easily operated via a cockpit and meets the highest demands for simple handling. The high quality usability is based on the tasks of the operators. Even with complex contents and functions, the users find their way to their goal quickly and easily.

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

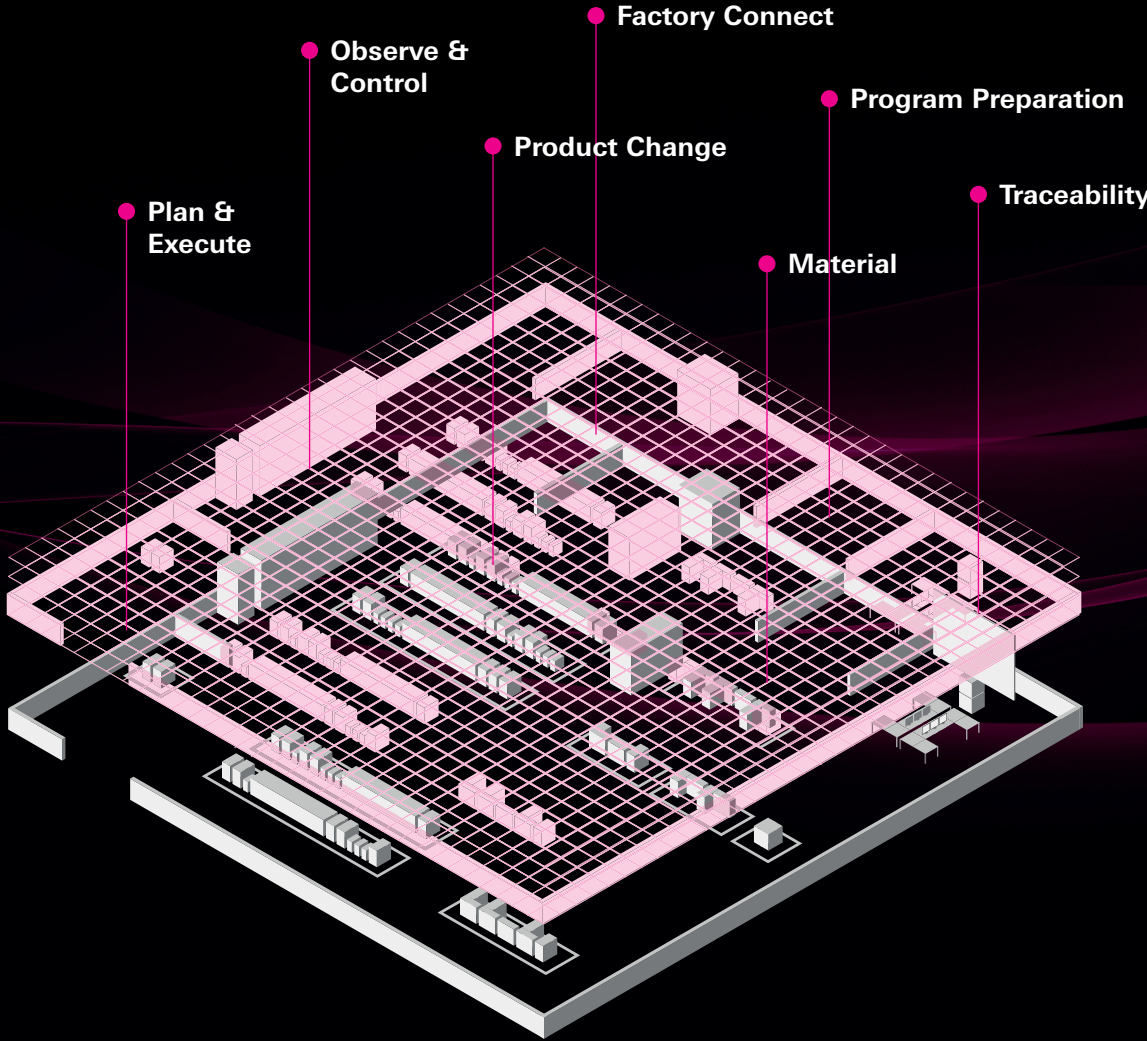
We offer with our machines
over 75% of the entire Smart
Factory.

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

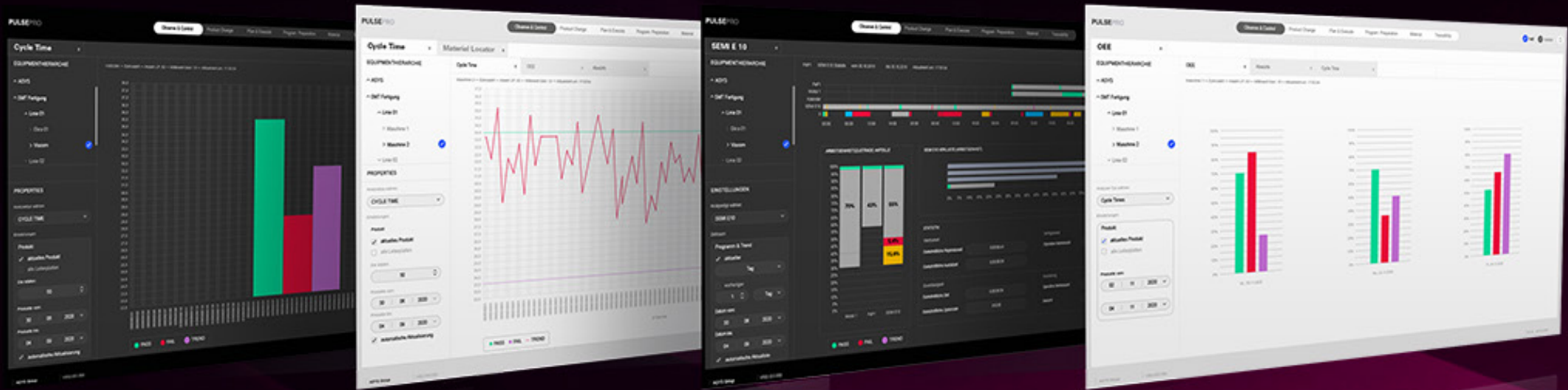
Easier control and visualization of
automated material flows on the
entire shop floor

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

All software functionalities
in an organized and
modular structure

Various apps
with solutions
on all layers

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*	●		

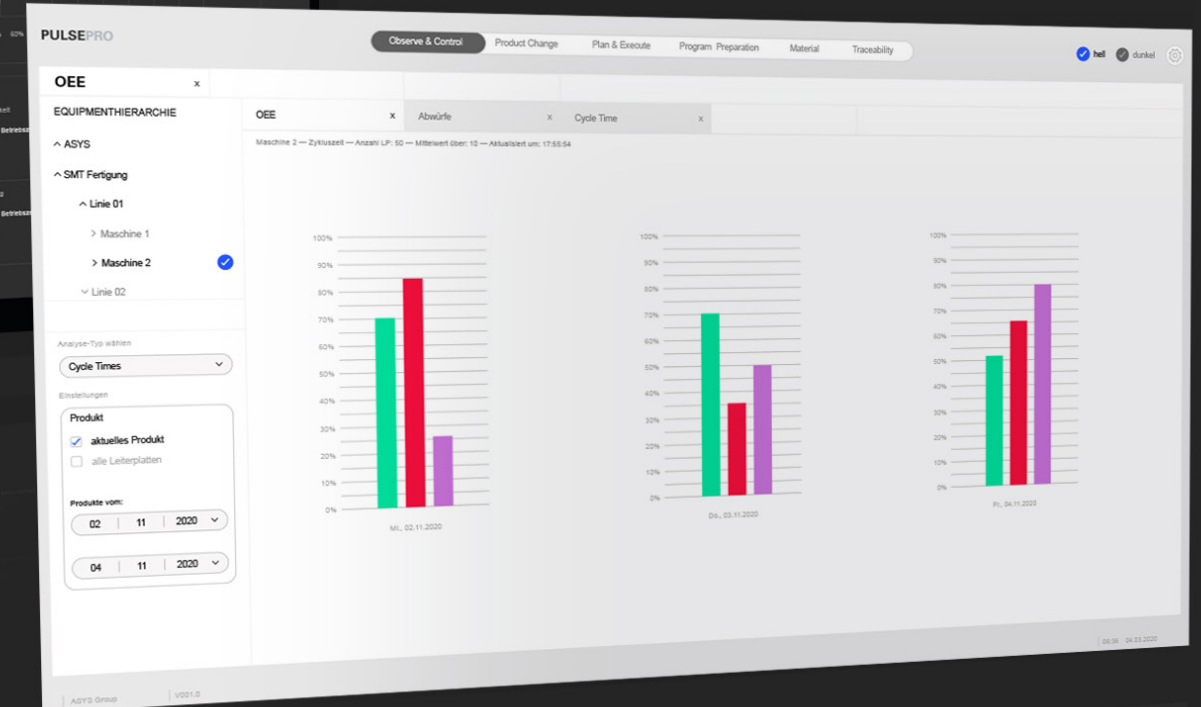
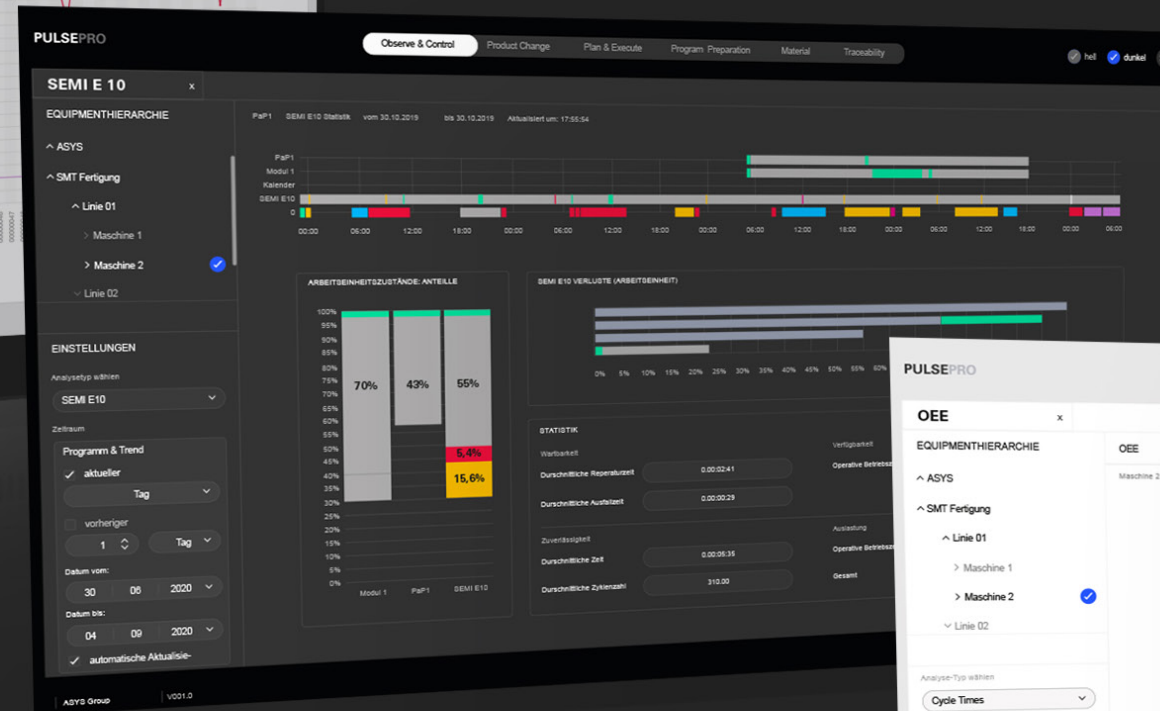
* In development

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





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.

Software Module Observe & Control

Module Highlights

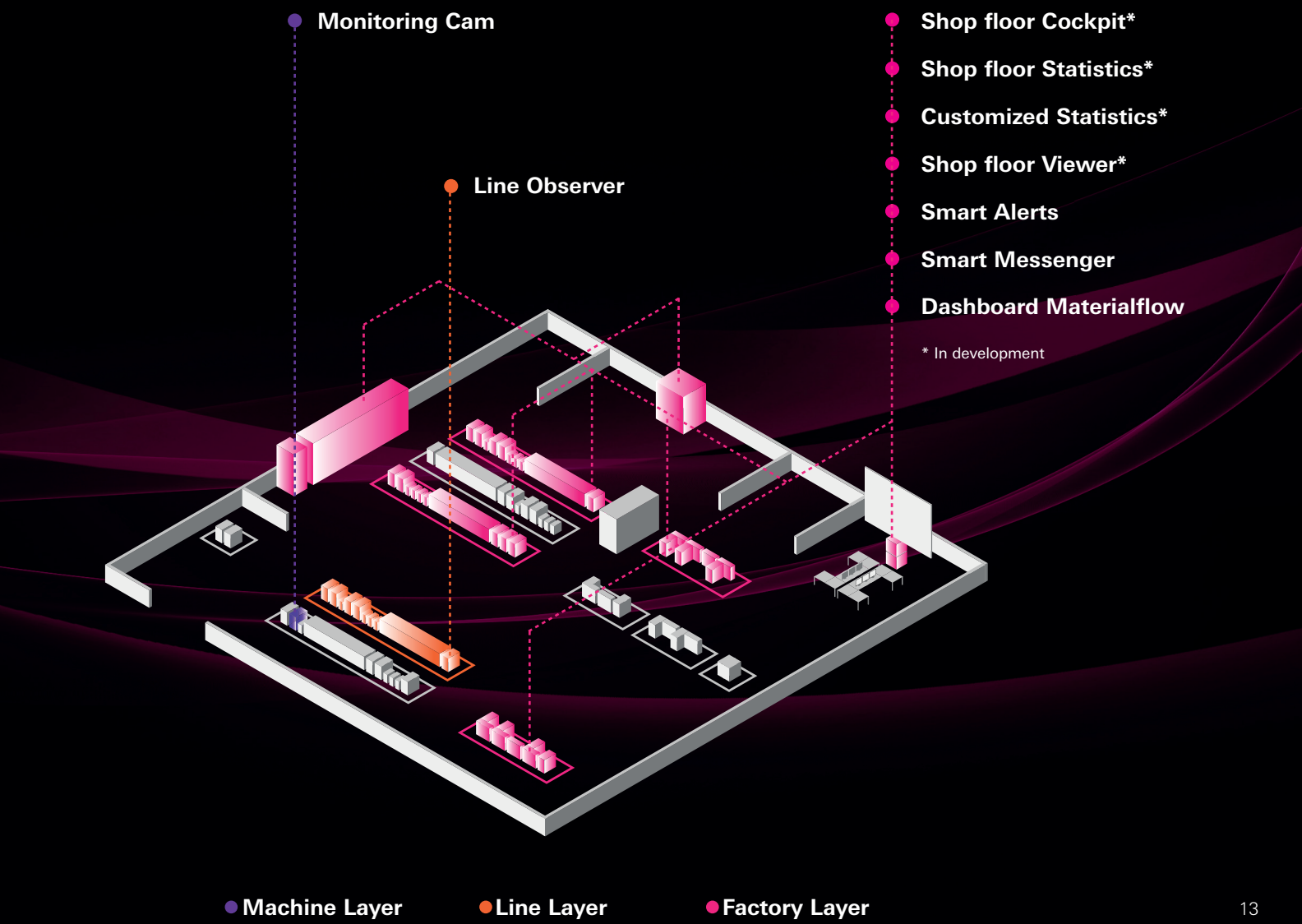
Monitoring of the entire electronics production across all machines / lines

Acquisition of complete machine / process data

Increase of transparency, productivity and quality

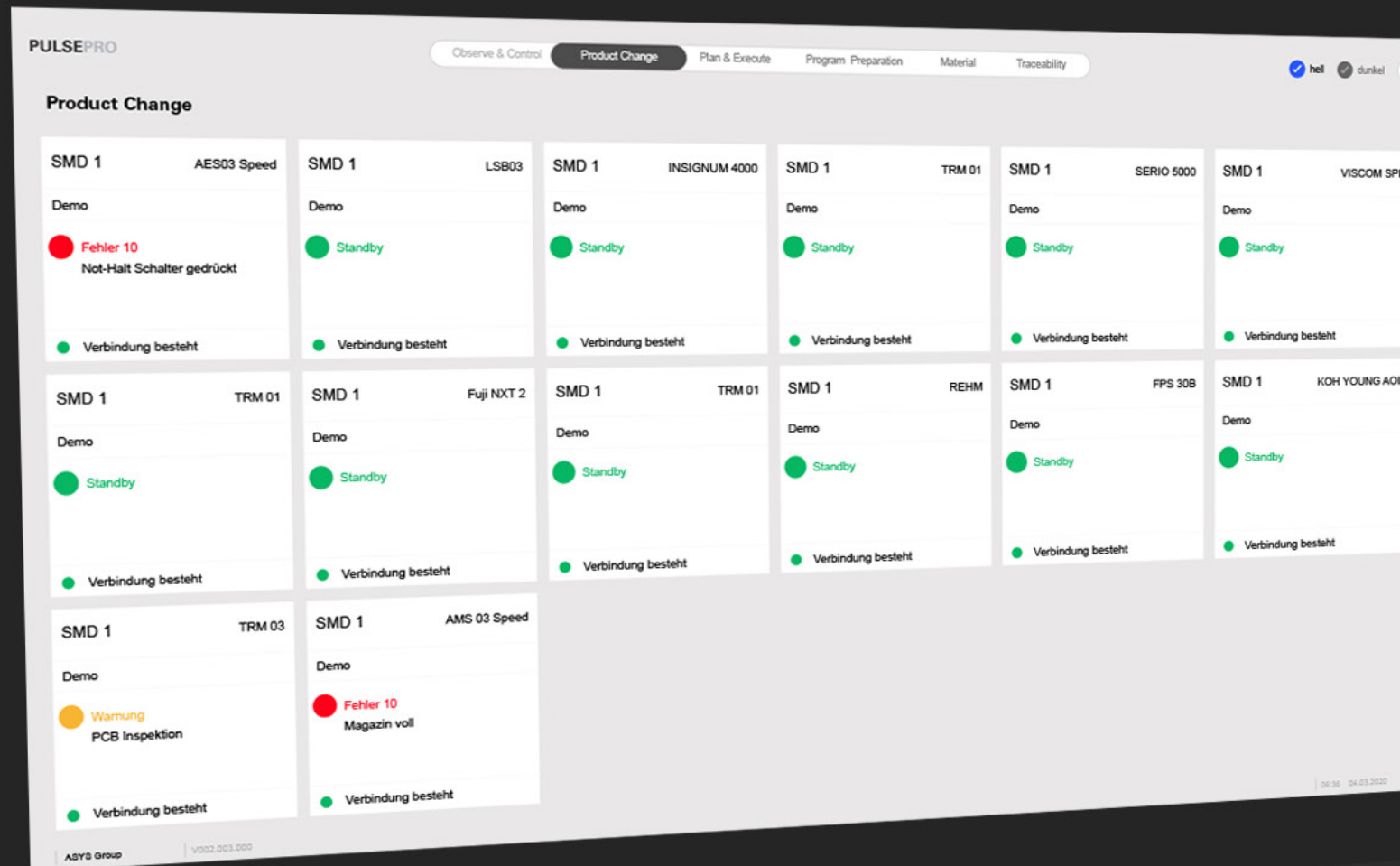
Cost reduction through support in process optimization

Observe & Control Apps

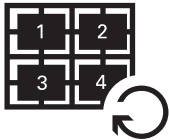


Software Module Product Change

Stop Losing Time on
Product Changeover



Software Module Product Change



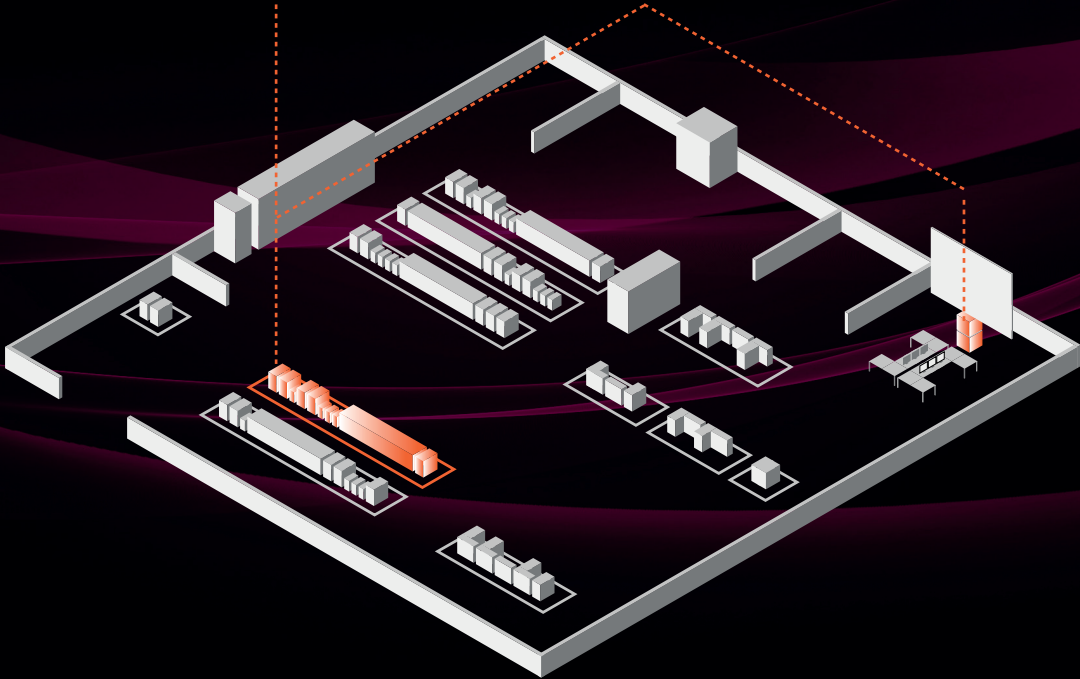
Product Change
In the PULSE PRO module „Product Change“ the product change at the line is triggered by only one click. The parameters are sent to all machines of the line and all settings are stored in a global database. These can be checked, changed and duplicated at any time. This results in a faster 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**

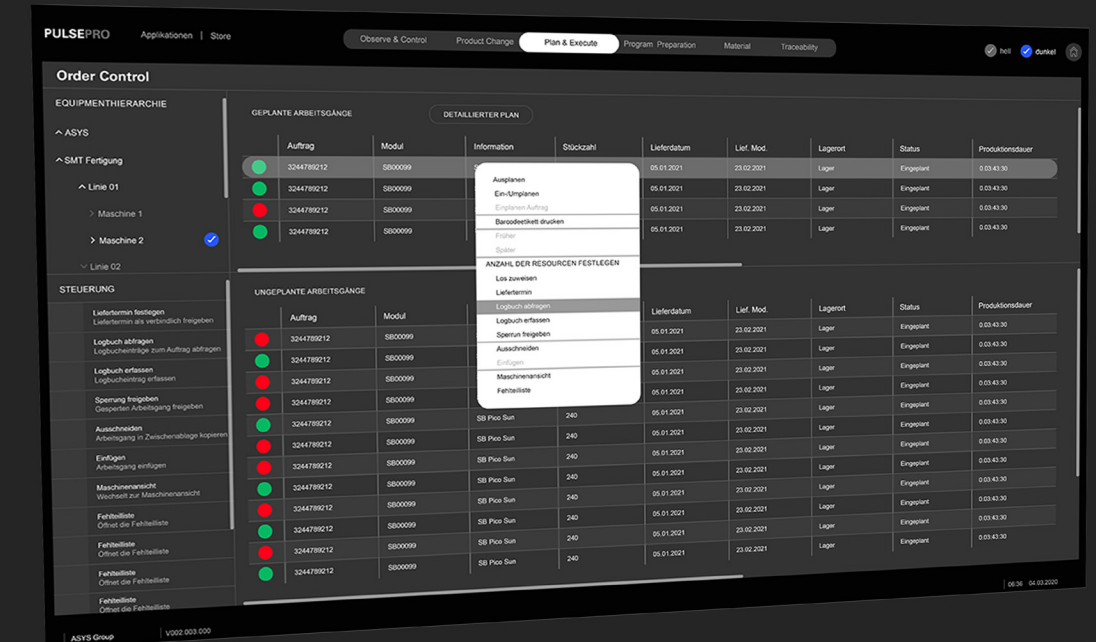
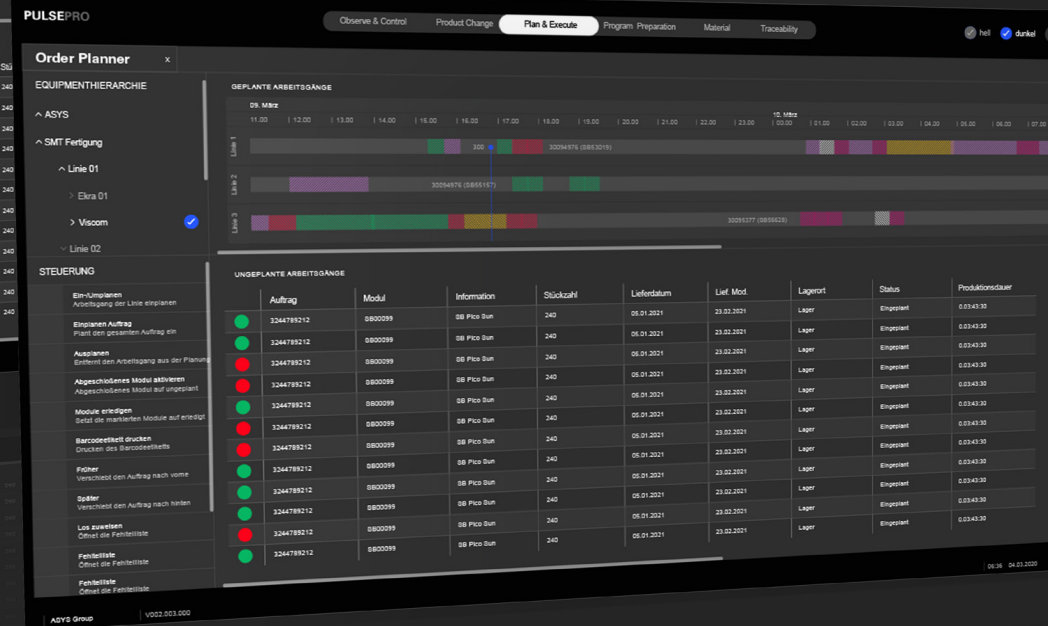
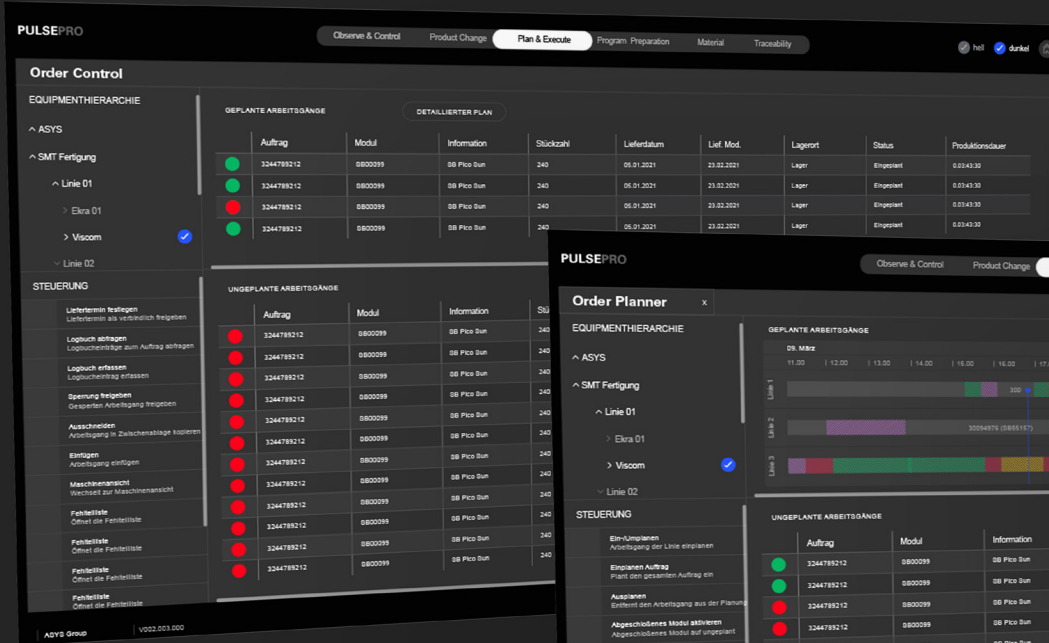
Product Change Apps

- **Product Change**
 - **Product Change Lite**
 - **Product Change Guide***
- * In development



Software Module Plan & Execute

Precise Order Planning of the
entire Shop Floor





Plan & Execute

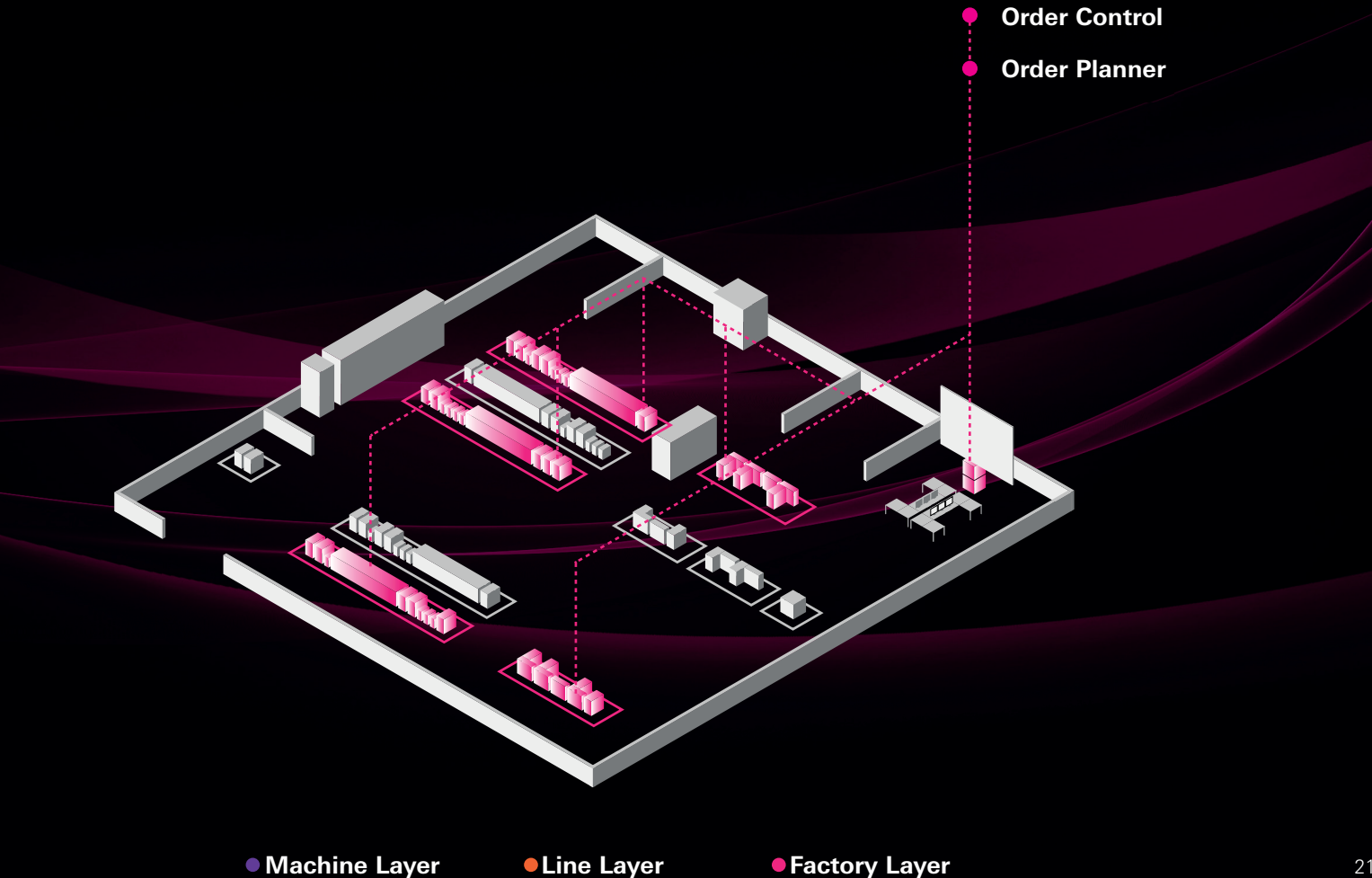
All orders on the entire shop floor are precisely planned in the PULSE PRO module „Plan & Execute“. The orders and production times are clearly displayed in Gantt diagrams. The automatic planner distributes selected production orders on n-SMD lines and can be optimized manually. The result is influenced 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.

Software Module Plan & Execute

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



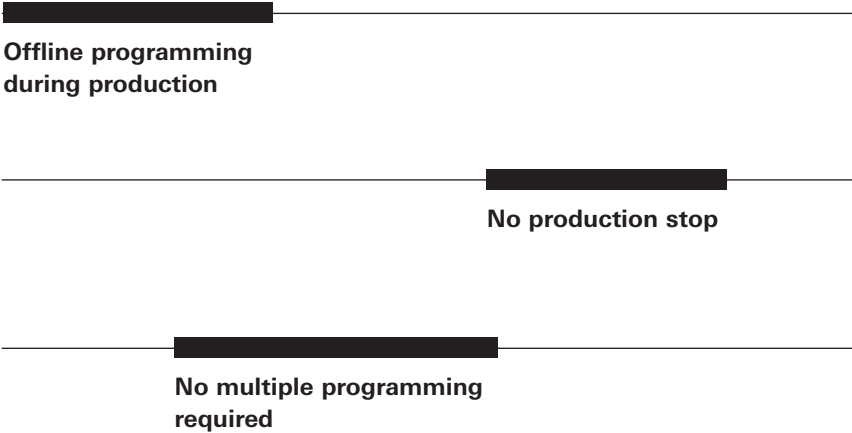


Program Preparation

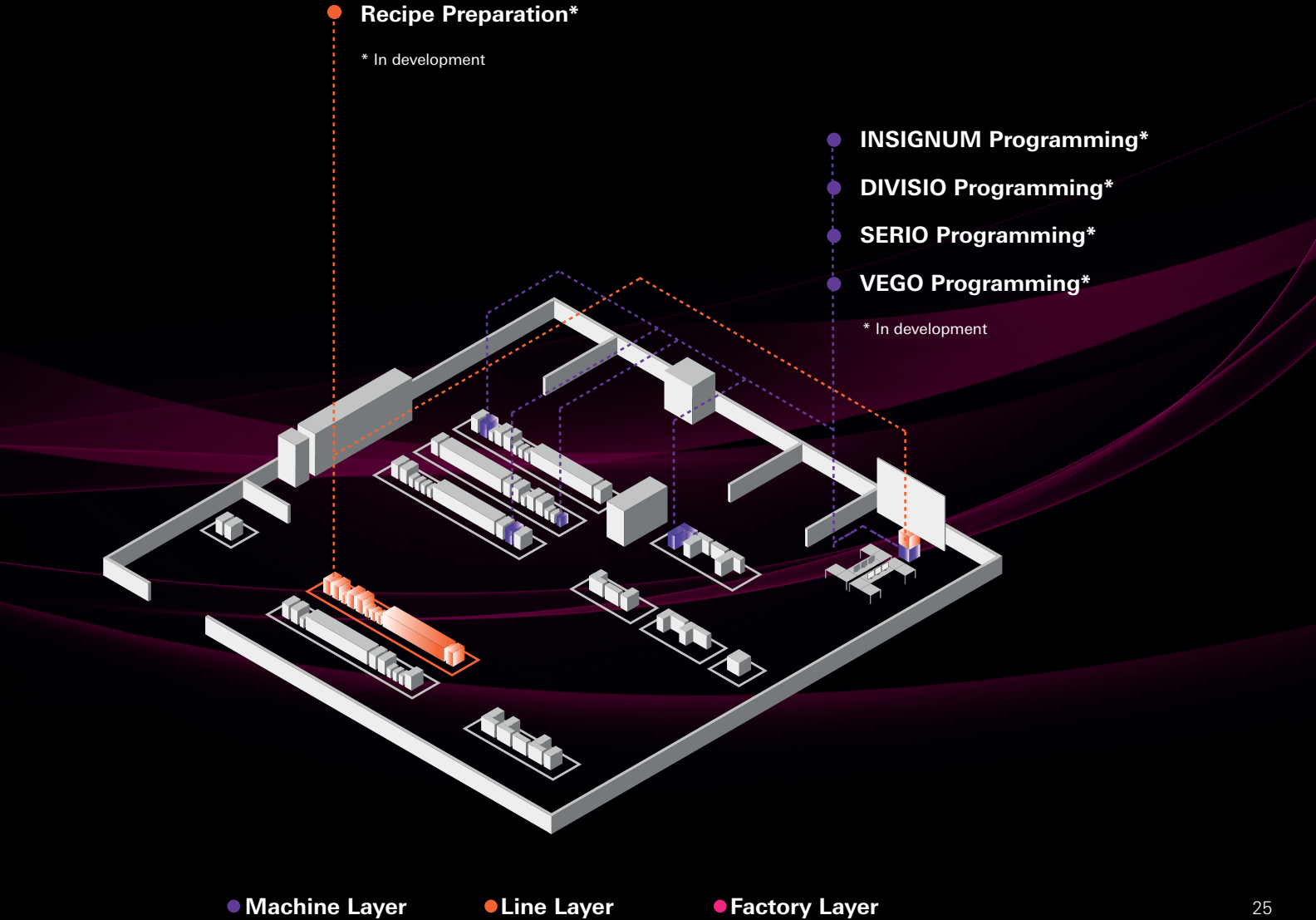
With the offline programming tools in the PULSE PRO module „Program Preparation“, the machines can be programmed at a PC workstation while another program is running. This reduces the downtimes significantly.

Software Module Program Preparation

Module Highlights



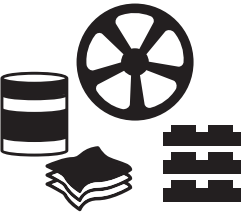
Program Preparation Apps





Software Module Material

Automate, Control, Trace all Material
Flows & Types



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.

Software Module Material

Module Highlights

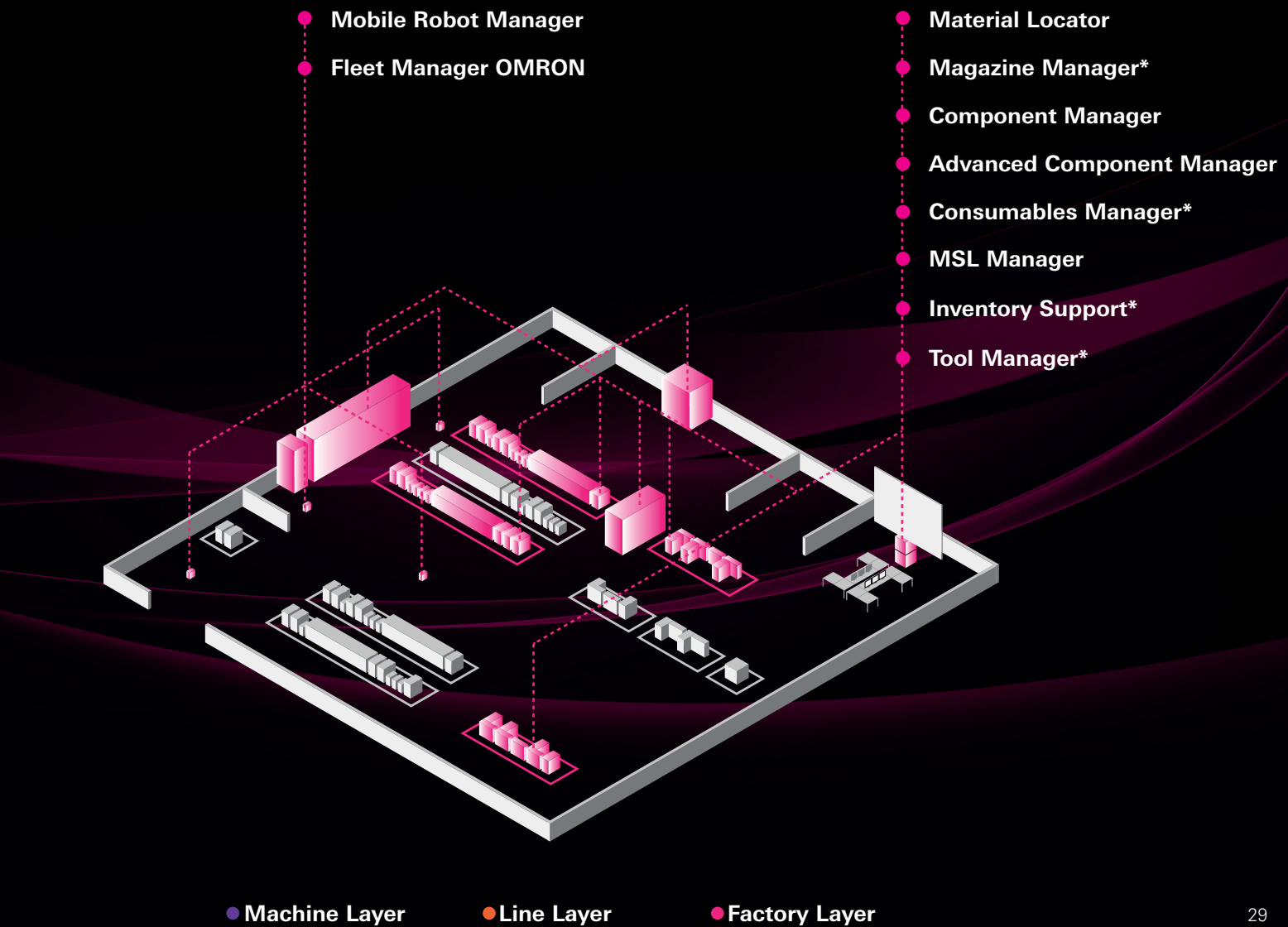
Overview of quantities and states of all materials in the entire shop floor

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



Software Module Traceability

Traceability of Material Data
on the Shop Floor

The screenshot displays the PULSEPRO Traceability module interface. The top navigation bar includes 'PULSEPRO', 'Applikationen', and 'Store'. The main menu has tabs for 'Observe & Control', 'Product Change', 'Plan & Execute', 'Program Preparation', 'Material', and 'Traceability' (selected). The interface is divided into a left sidebar and a main content area.

Left Sidebar (Suchen):

- Ansicht:** Leiterplatten (dropdown)
- Auftrag:** (input field)
- Produkt:** (input field)
- Leiterplattenbarcode:** (input field)
- Bauelement:** (input field)
- Gebinde:** 00000015 (input field)
- Zeitraum:**
 - ☒ Startzeit: 23 02 2021 (dropdown)
 - ☐ Endzeit: 23 02 2021 (dropdown)
 - ☒ Ergebnisse: 200 (input field)
- Buttons:** SUCHEN, AKTUALISIEREN

Main Content Area (UNGEPLANTE ARBEITSGÄNGE):

Status	Linie	Rüstung	Los	Produkt	PCB Barcode	Startzeit	Endzeit
Red	Linie 1	setup-02-0001	recipe-02-0001	board-02-0001	00005AUTEQ0499995	23.02.2021	23.02.2021
Green	Linie 1	setup-02-0001	recipe-02-0001	board-02-0001	00005AUTEQ0499995	23.02.2021	23.02.2021
Red	Linie 1	setup-02-0001	recipe-02-0001	board-02-0001	00005AUTEQ0499996	23.02.2021	23.02.2021
Red	Linie 1	0800099	recipe-02-0001	board-02-0001	00005AUTEQ0499993	23.02.2021	23.02.2021
Green	Linie 1	setup-02-0001	recipe-02-0001				
Red	Linie 1	setup-02-0001	recipe-02-0001				
Red	Linie 1	setup-02-0001	recipe-02-0001				
Green	Linie 2	setup-02-0001	recipe-02-0001				
Red	Linie 2	setup-02-0001	recipe-02-0001				
Green	Linie 2	setup-02-0001	recipe-02-0001				
Red	Linie 2	setup-02-0001	recipe-02-0001				
Green	Linie 2	setup-02-0001	recipe-02-0001				

Right Sidebar (Suchen):

- Ansicht:** Leiterplatten (dropdown)
- Auftrag:** (input field)
- Produkt:** board-02-0001 (dropdown)
- Leiterplattenbarcode:** (input field)
- Bauelement:** (input field)
- Gebinde:** 00000015 (input field)
- Zeitraum:**
 - ☒ Startzeit: 23 02 2021 (dropdown)
 - ☐ Endzeit: 23 02 2021 (dropdown)
 - ☒ Ergebnisse: 500 (input field)
- Buttons:** SUCHEN, AKTUALISIEREN

The bottom of the interface shows the 'ASYG Group' and 'V002.003.000'.

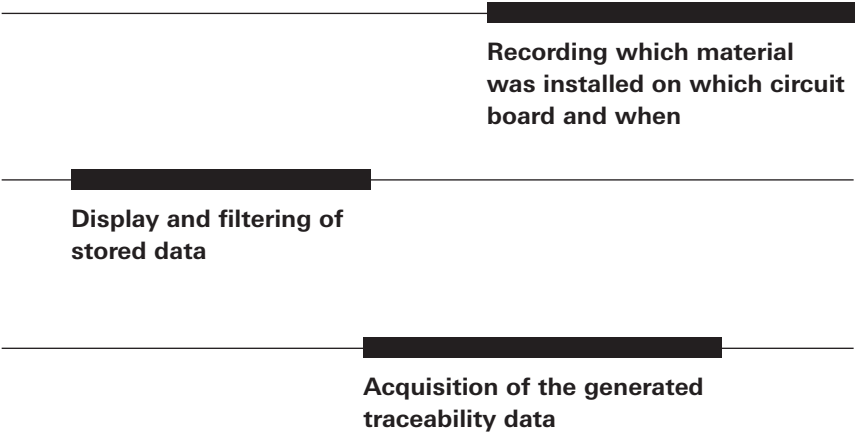


Traceability

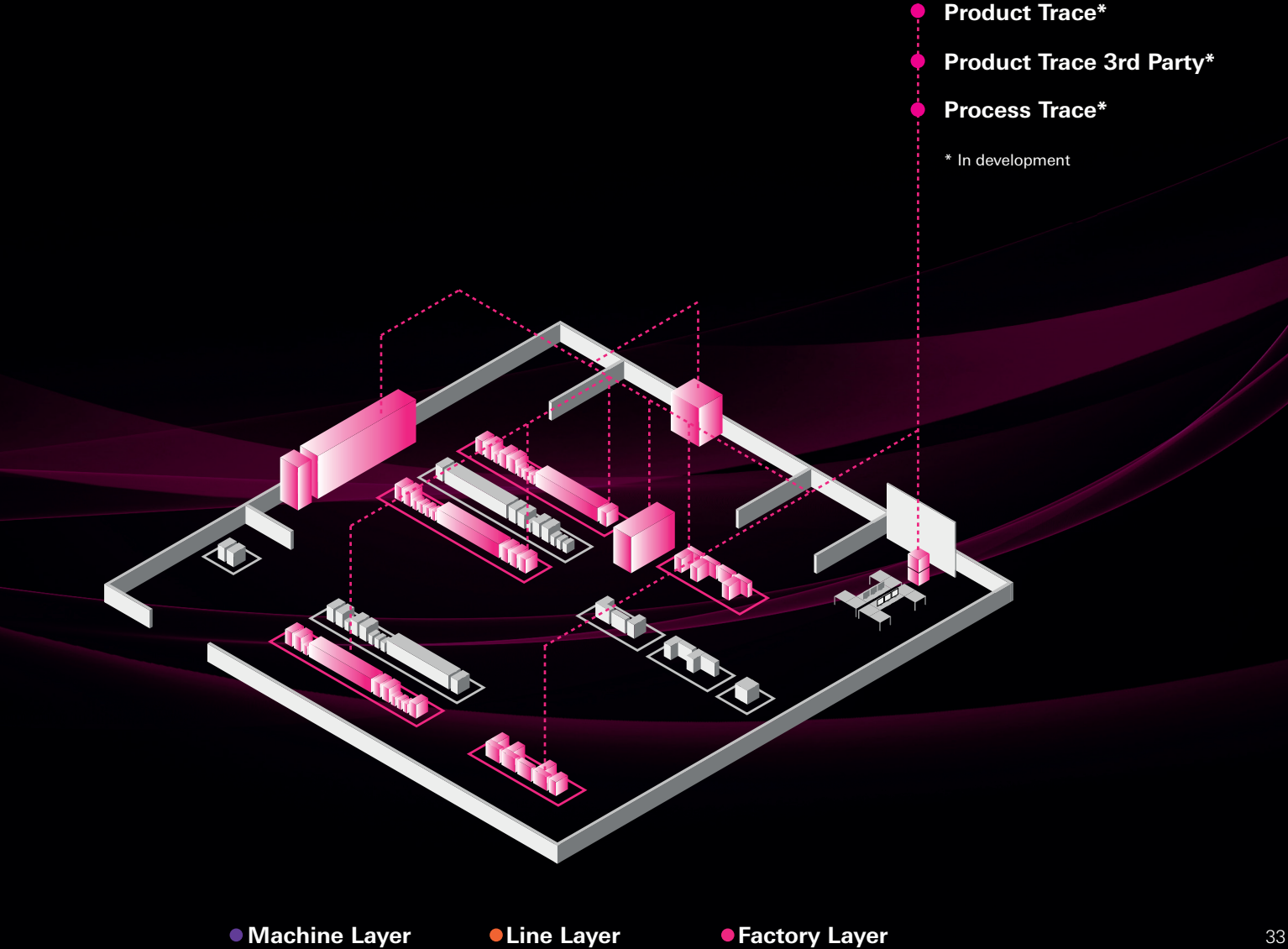
The PULSE PRO module „Traceability“ offers the possibility to trace various product data on the entire shop floor. The system records which material with which UID was installed on a certain printed circuit board at the exact time. Different data sets per order or PCB can be generated depending on the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

Software Module Traceability

Module Highlights

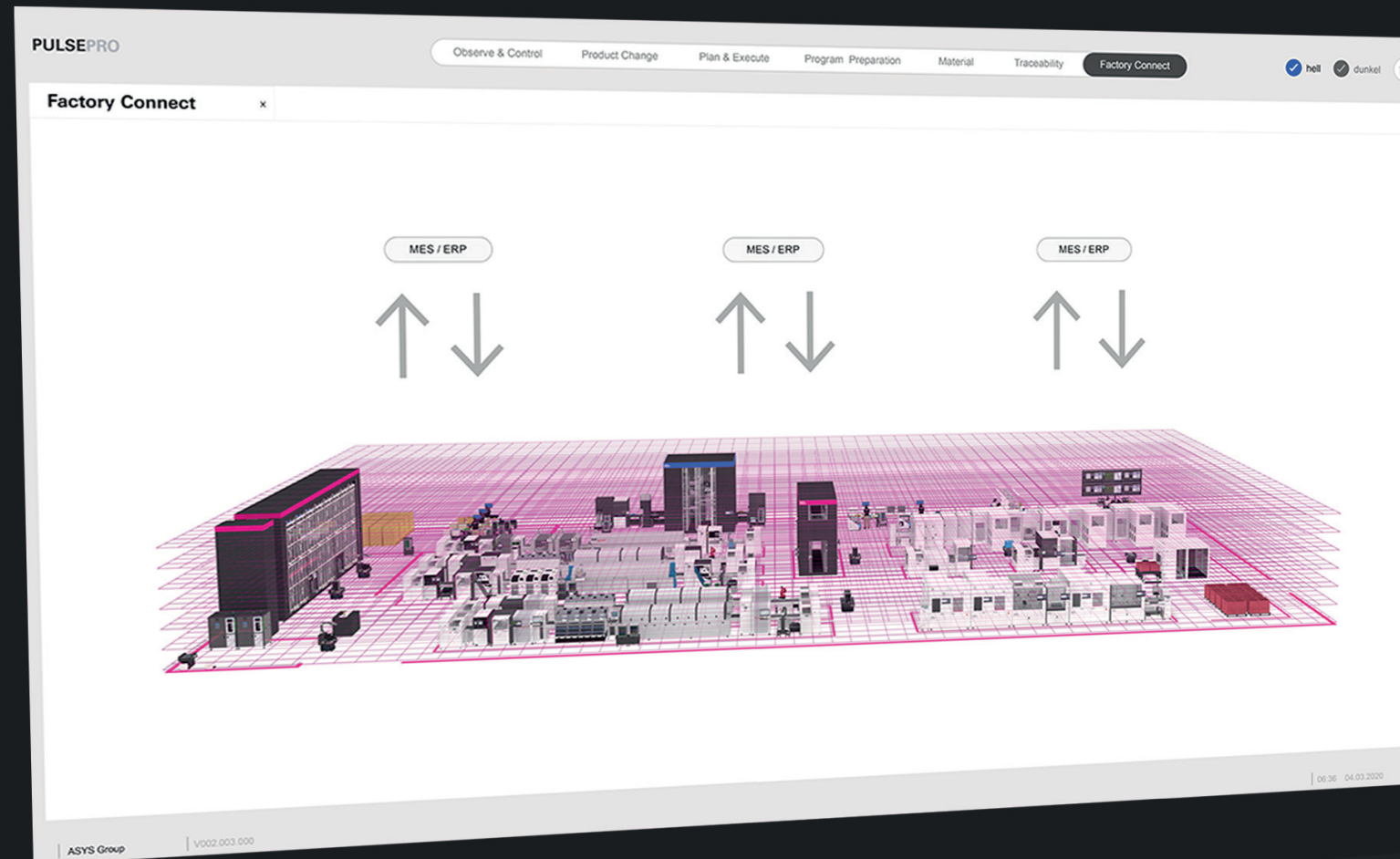


Traceability Apps



Software Module Factory Connect

Import & Export of Data





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.

Software Module Factory Connect

Module Highlights

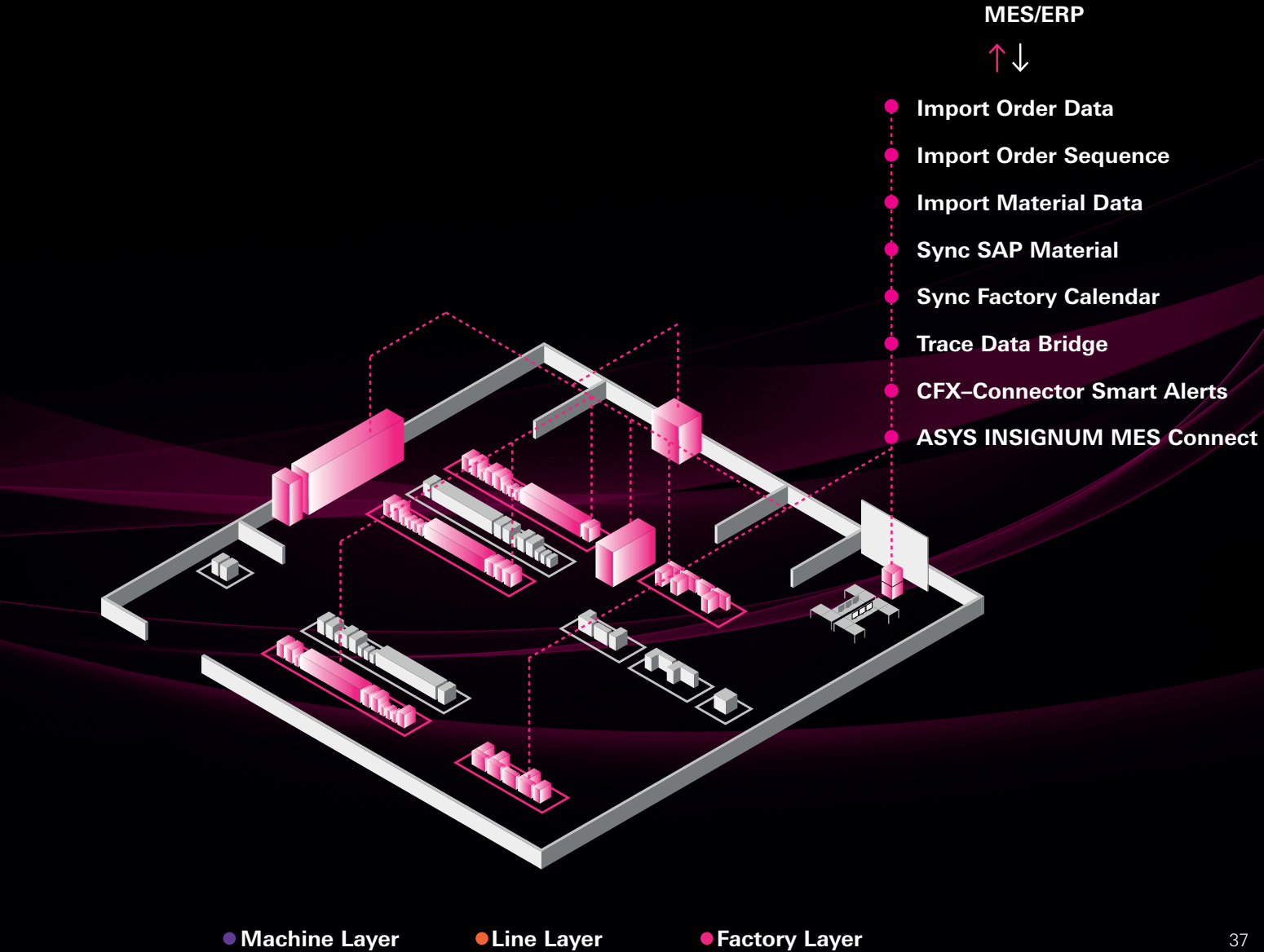
Automatic transfer of order data and material data from higher-level system for order and material management in PULSE PRO

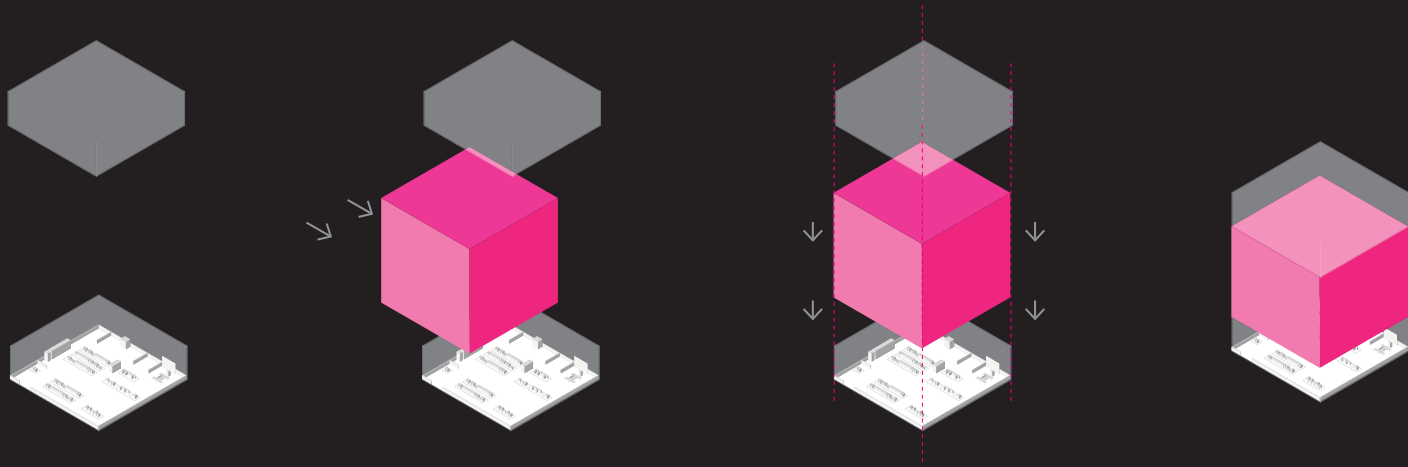
Transfer of an externally created detailed order planning in PULSE PRO

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

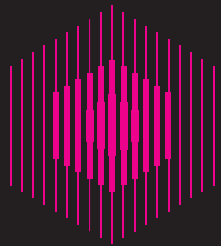




Closing the Gap between Shopfloor and MES / ERP

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 bet-

ween 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.

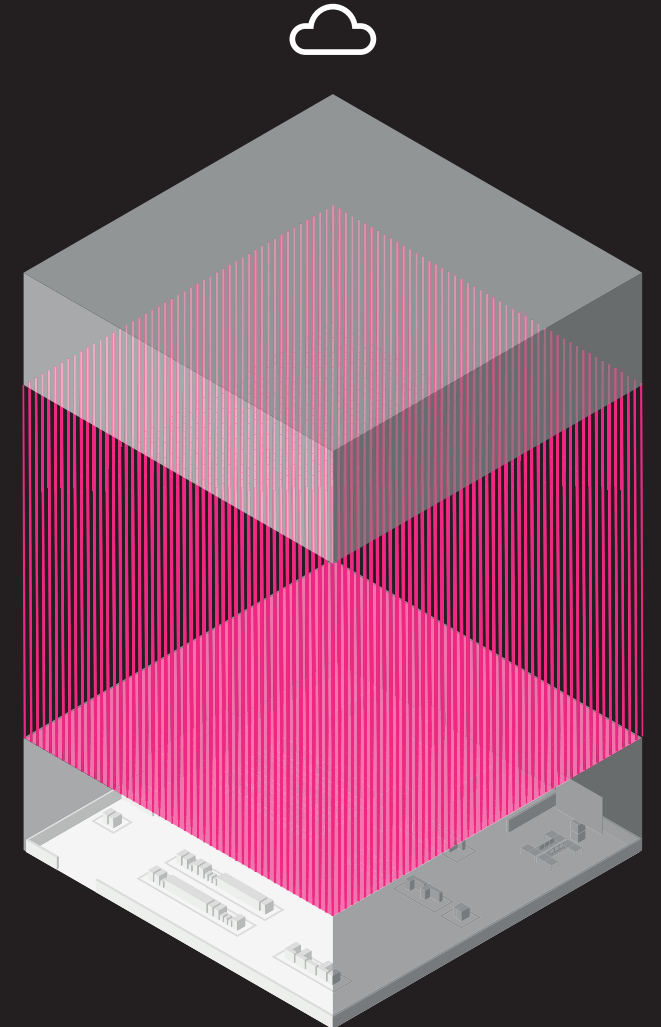


ASYS Software Suite The Control Center of the Smart Factory

MES / ERP Layer

Supervisory
System Layer

Shop floor Layer

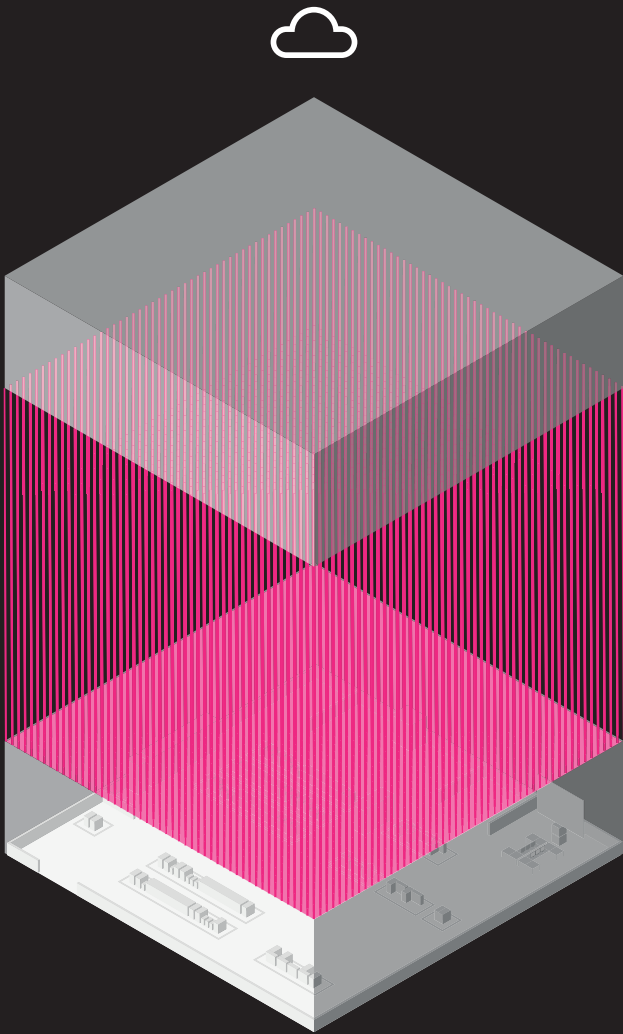


The base of a Smart Factory is an overall connection of the entire shopfloor. All systems have to be connected to achieve a real added value. ASYS is an expert in implementing connections and interfaces between different systems and offers the right software

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

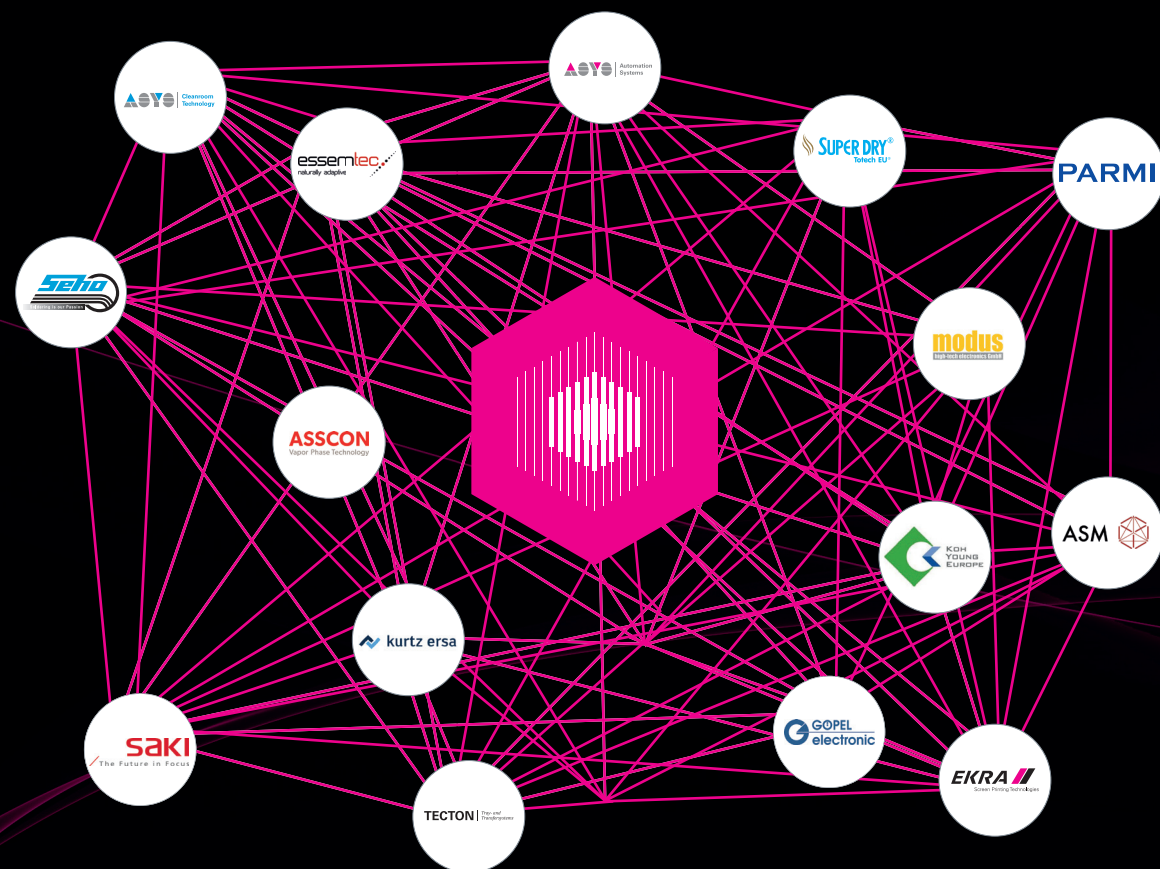


Easy-Link OIB iLNB

Shop floor Layer



PULSE PRO Community



»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



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.



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

Michael Hanke
Head of Sales, Rehm



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

Klaus Kölbel
Sales Manager, Fuji



»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



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

Bert Schopmans
Director Sales/Application
Technology Deutschland, Kolb





**Become a
PULSE PRO member!**

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

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