ETS DIDACTIC GMBH

INDUSTRY 4.0

Qualification for Future Manufacturing Processes

connectedFACTORY CPS-i40®

INDUSTRY 4.0

Qualification for future manufacturing processes: connectedFACTORY CPS-i40®

CONTENTS

Industry 4.0 – Discover digitalization ...

PEOPLE AND TECHNOLOGY – A PERFECT MATCH

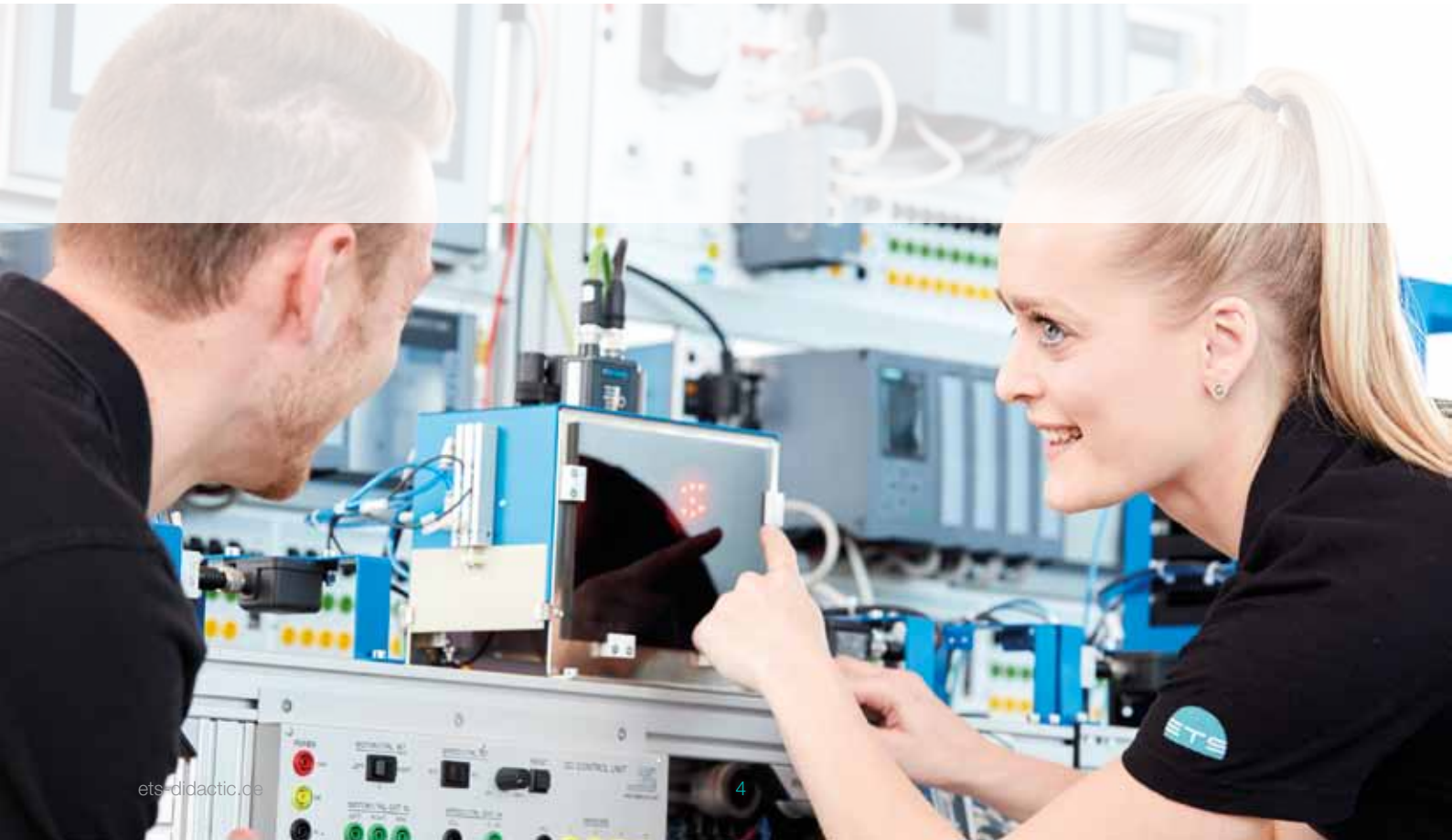
Technology to inspire you: understanding – comprehending – applying

ETS DIDACTIC is your partner for in-house and institutional education and training in the professional fields of electrical engineering and metal technology.

Subjects like pneumatics, electropneumatics, drive technology, power electronics, automation engineering, sensor systems, bus systems, instrumentation, gear technology and the complete scope of building systems engineering including renewable energies can all be counted among the strengths of the company.

The spectrum of services offered by ETS DIDACTIC ranges from the planning and outfitting of complete training facilities to the provision of learning and teaching materials. Apart from the after-sales service, the offering of services is rounded off by practical workshops specially tailored for trainers and instructors.

Vocational schools, training centres of the ICC, Chamber of Crafts or the industry, polytechnics and universities are among the long-standing customers of ETS DIDACTIC.



Welcome to ETS DIDACTIC

ETS DIDACTIC is the pioneer and market leader in the development, manufacture and sales of electrical, automation and mechatronic workstations for training and instruction.

ETS DIDACTIC counts among the leading international manufacturers in the market environment. Located in Kinding, in the beautiful natural reserve of Altmühltal – high-quality products and solutions are developed and manufactured for you.

In the training centre in Kinding, the focus is on the practical application of the systems and fast learning of new technologies by the customers.

The knowledge, experience and the above-average personal involvement of the motivated employees of ETS DIDACTIC are vital factors for the company's efficiency.

Udo Urban
Managing Director (CEO)
ETS DIDACTIC GMBH

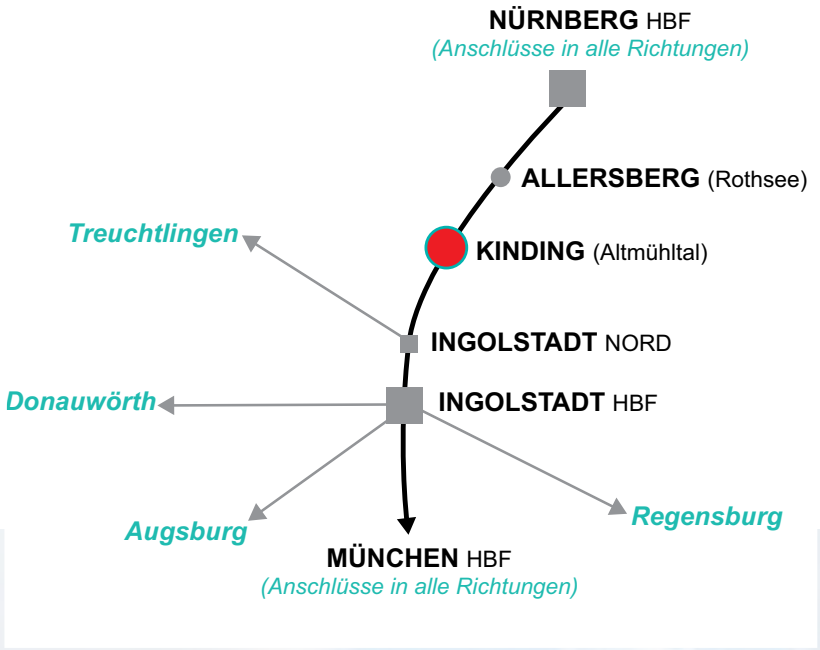
MADE IN GERMANY

Visit ETS in the Valley of River Altmühl

Welcome in Germany - Bavaria
With the start-up of the new ICE-route between Munich and Nuremberg, the Altmühl region, with its regional railway station at Kinding has got a new connection to the national and international railway network. You now have the option to travel comfortably by train when you visit us for seminars taking place in Kinding-Haunstetten. There are local taxi companies in service for the drive to Haunstetten. We would be happy to provide help in organising the trip.

Kloster Weltenburg

Naturpark Altmühltal



APPROACH AND ROOM CONCEPT

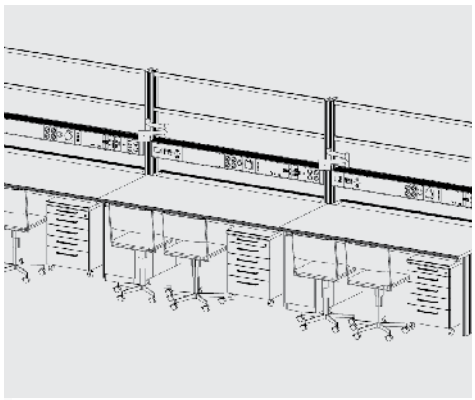
To plan a custom-made room concept with you, we proceed in the following steps:

⟩ A good room concept is based on professional advice. The technical consultants of ETS DIDACTIC are pleased to support you in the local planning phase. Benefit from their technical expertise and experience.

⟩ Planning a room concept is more than selecting the furniture. Each room concept is adapted to and developed for the local requirements of the customer.

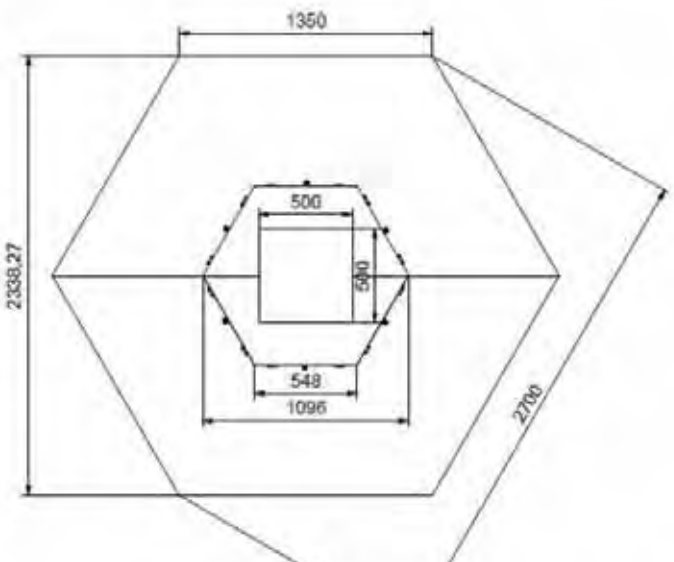
⟩ Taking into account the learning contents an equipment list can be set up. As soon as the extent is defined, the storage equipment is optimised and designed.

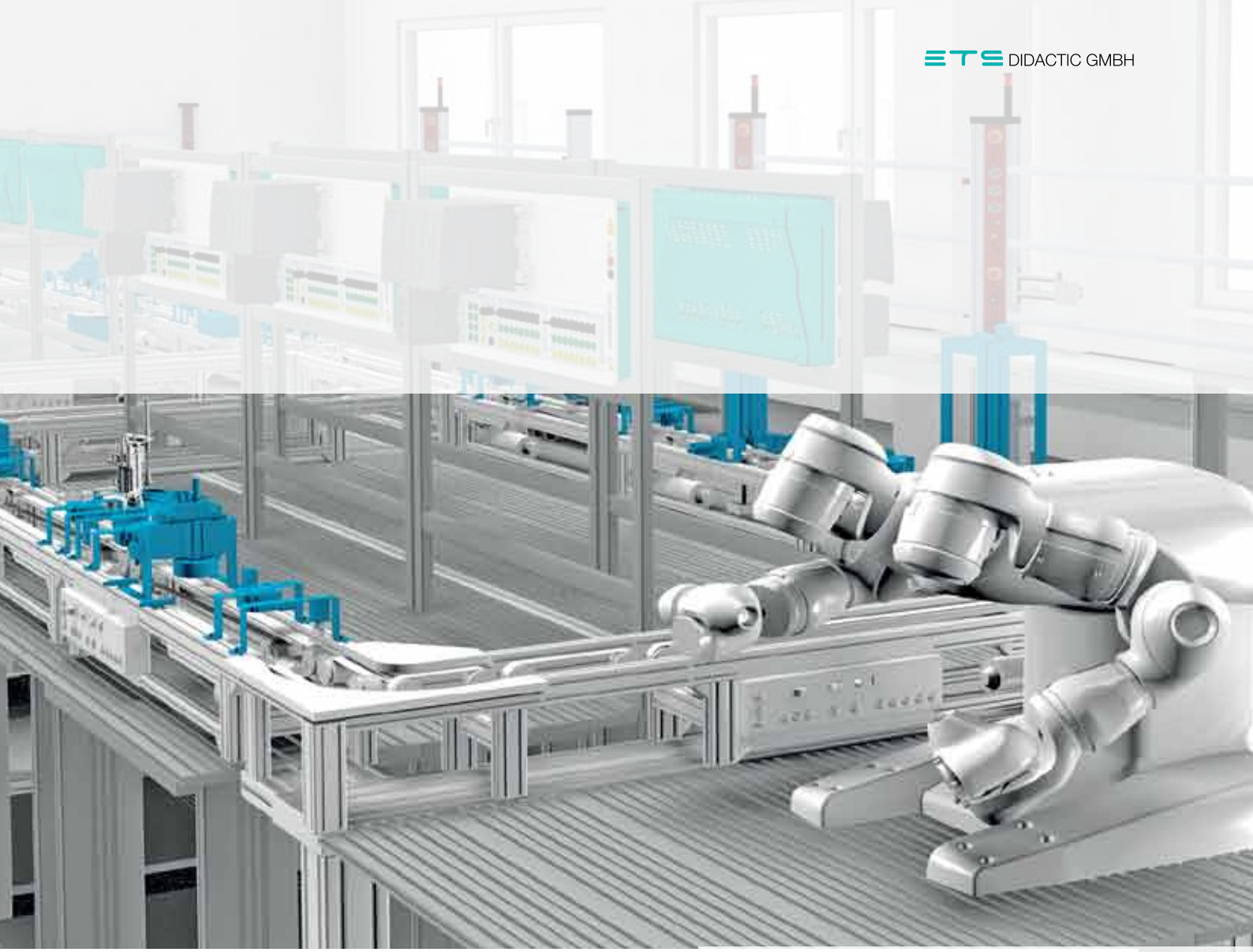
Analysis



Conception

Consultation / Planning





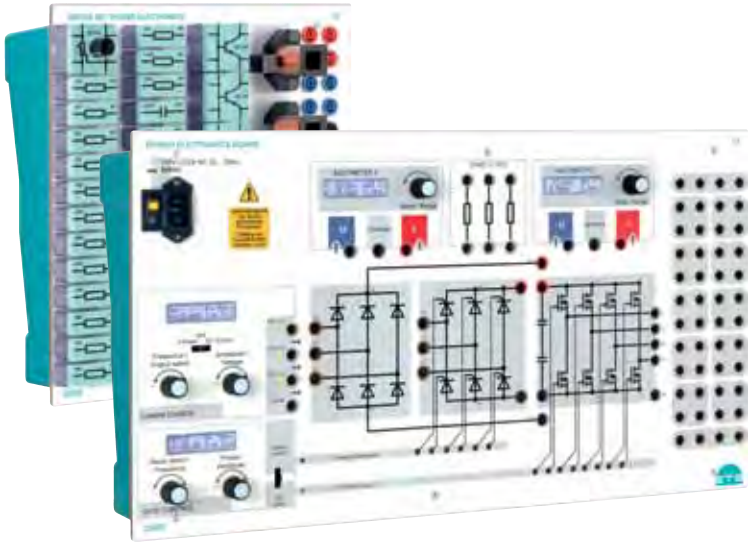
Design / Construction

Workshops

Application

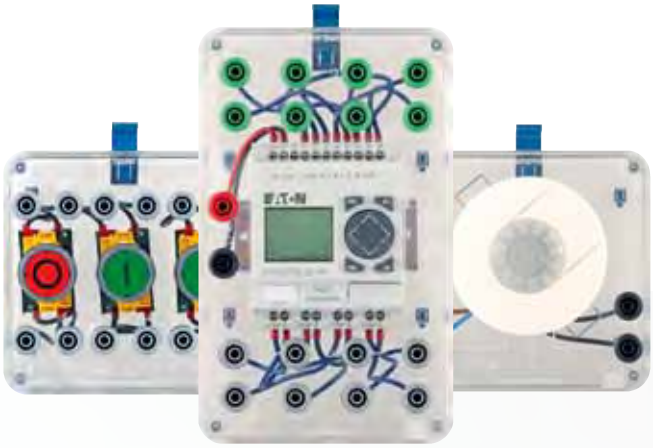
PEOPLE AND TECHNOLOGY – A PERFECT MATCH

Didactic and technology result in the ETS concept



Compact Boards

- Their didactical concept makes our training systems in A4 format outstanding.
- The photorealistic design of their front panels with graphics, pictures, connection details or warning messages assist and guide the experiments - cognitive didactics. Due to the graphics, users comprehend and remember the technologies more easily.
- The systems can be mounted in an A4 frame or placed directly on a table.



Experimental Boxes

- Construct your own experiments. Beside the wiring, the arrangement of the components is focused. The components basic circuits and extend them to complex installations - always close to practice, fast and safe!
- Wide range of industrial components.

BST®-BuildingSystemsTrainer

- The BuildingSystemsTrainer® is a mobile training system that can be taken from a classroom to another one and then is ready for use within some minutes.
- Beside our laboratory equiment with the experimental boards, these flexible training systems represent an independent product line covering many topics as e.g. the VDE protective measures according to VDE 0100 or the KNX building communication sector, communications technology and renewable engergies, SmartBuilding and internet-of-things.
- Boards can also be integrated in the BuildingSystemsTrainer® using an H-shaped frame.

WORKSHOPS WITH ETS

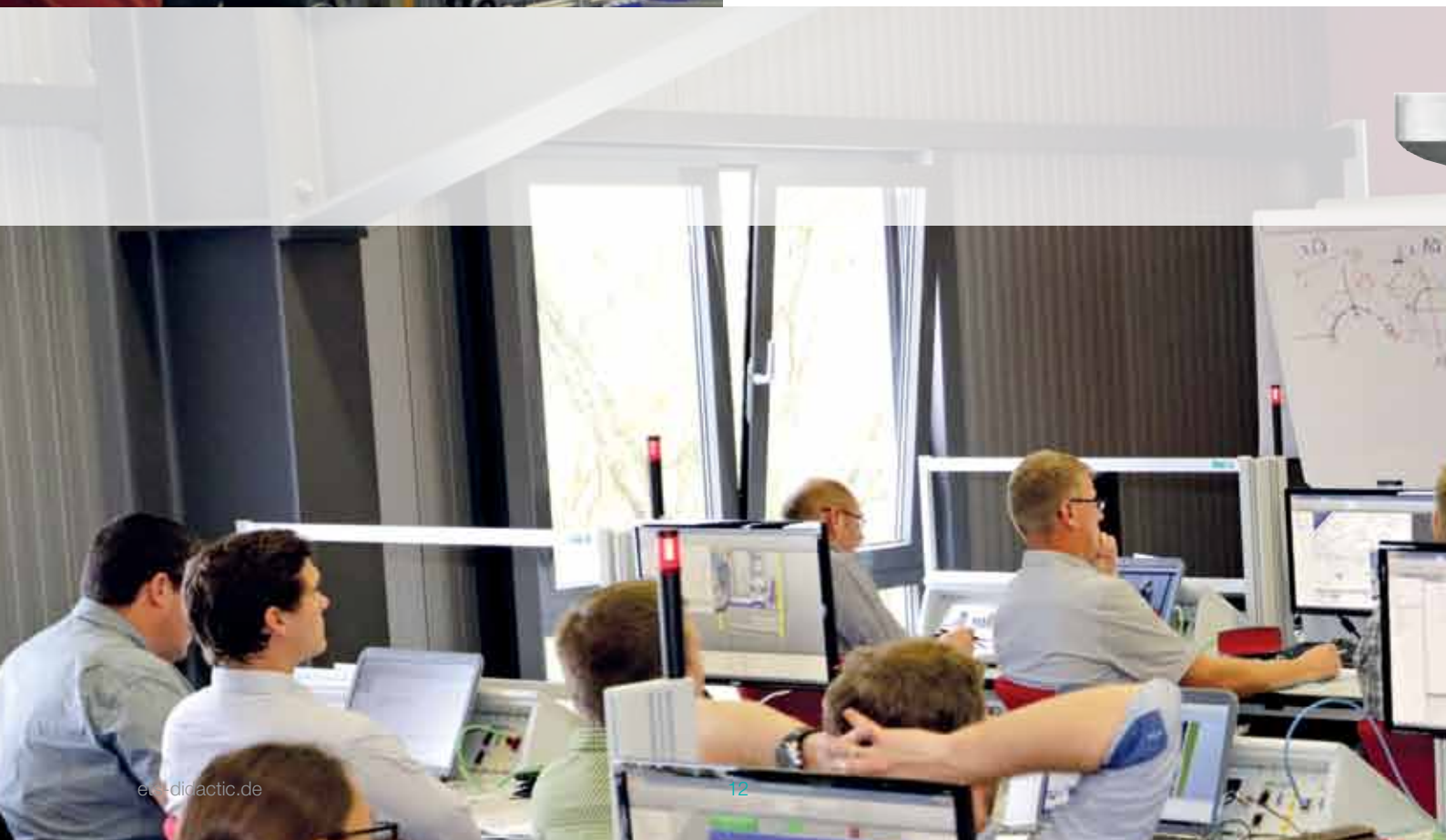
Always up to date – Training at the highest level!

⟩ Train the Trainer – workshops for teachers, trainers and lecturers in the field of electrical engineering, mechatronics and metal technology.

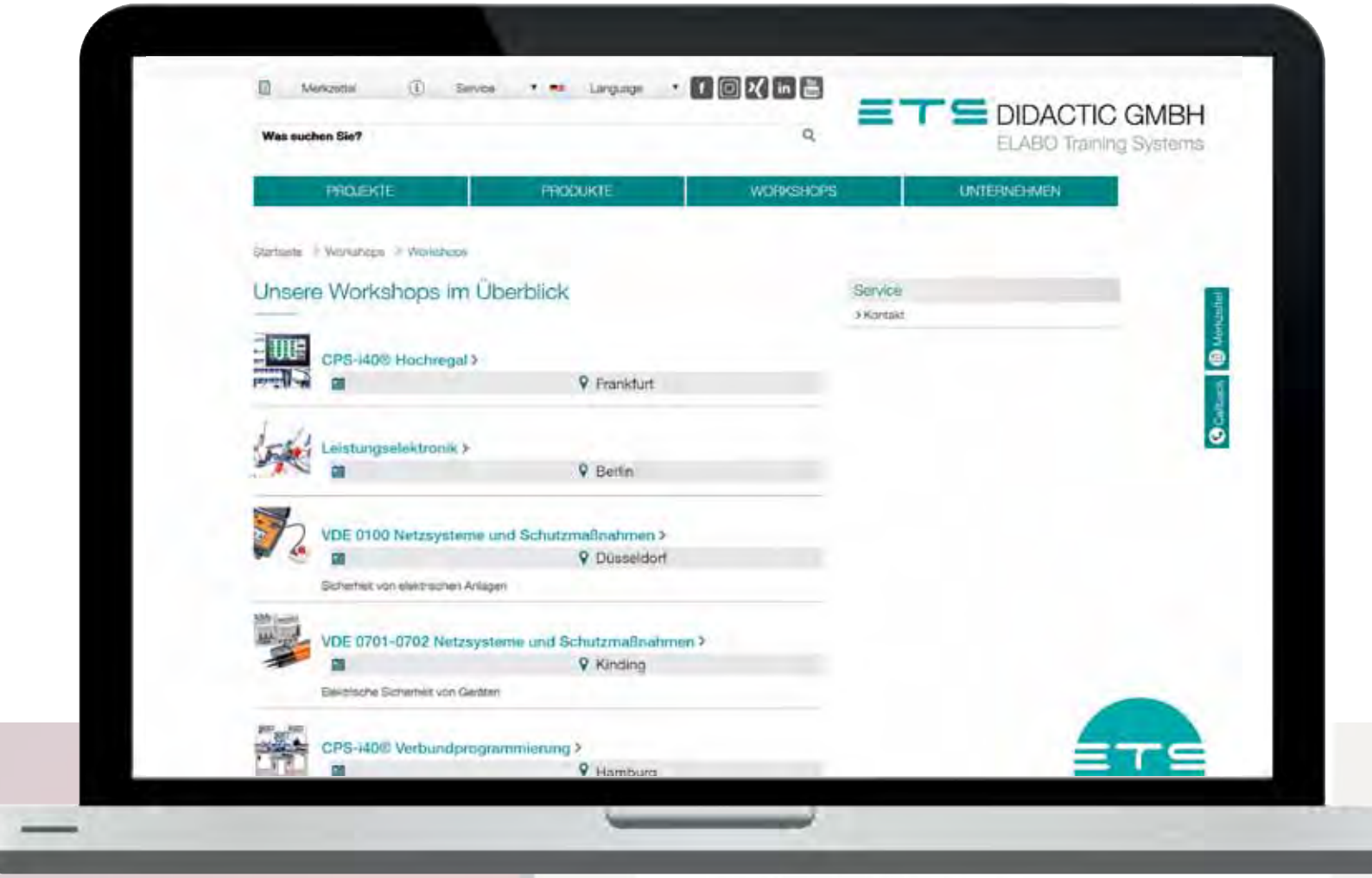
⟩ Learn more about the management and the application of various technologies with the support of the ETS trainers. Find out more about the didactic concept and learn to teach the material quickly and safe.

⟩ ETS offers a perfect seminar for all groups of products and topics of technical education. Scan the QR code to subscribe in a workshop:

ets-didactic.de/hp584/Workshops.htm



Fast and safe into new technologies



LEARNING FACTORY 4.0 CPS-i40® – CYBER PHYSICAL SYSTEM

Qualify for the future – today

Industrial Compact Installation - connectedFACTORY CPS-i40®

Thanks to the use of the latest technologies, the modular, digital learning factory 4.0 covers all aspects of modern, future-oriented production.

The production stations are fully networked. The automation standards Profinet, Profibus-DP and OPC-UA are used. Data can be transferred to the cloud via an IIOT gateway.

As an option and expansion to the production facilities, an MES software interacting with the individual manufacturing segments per OPC-UA is available.

The individual stations include traction converters or decentralized peripheral components which are integrated via Profinet. Sensor systems also use an IO-Link.

All stations offer RFID read/write heads and can store the manufacturing data on an RFID tag as well as on a server (e.g. OPC UA, SQL, …).

While the current production step is checked in each station, a final check is realized by a bus-compatible camera and other sensors in their own station.

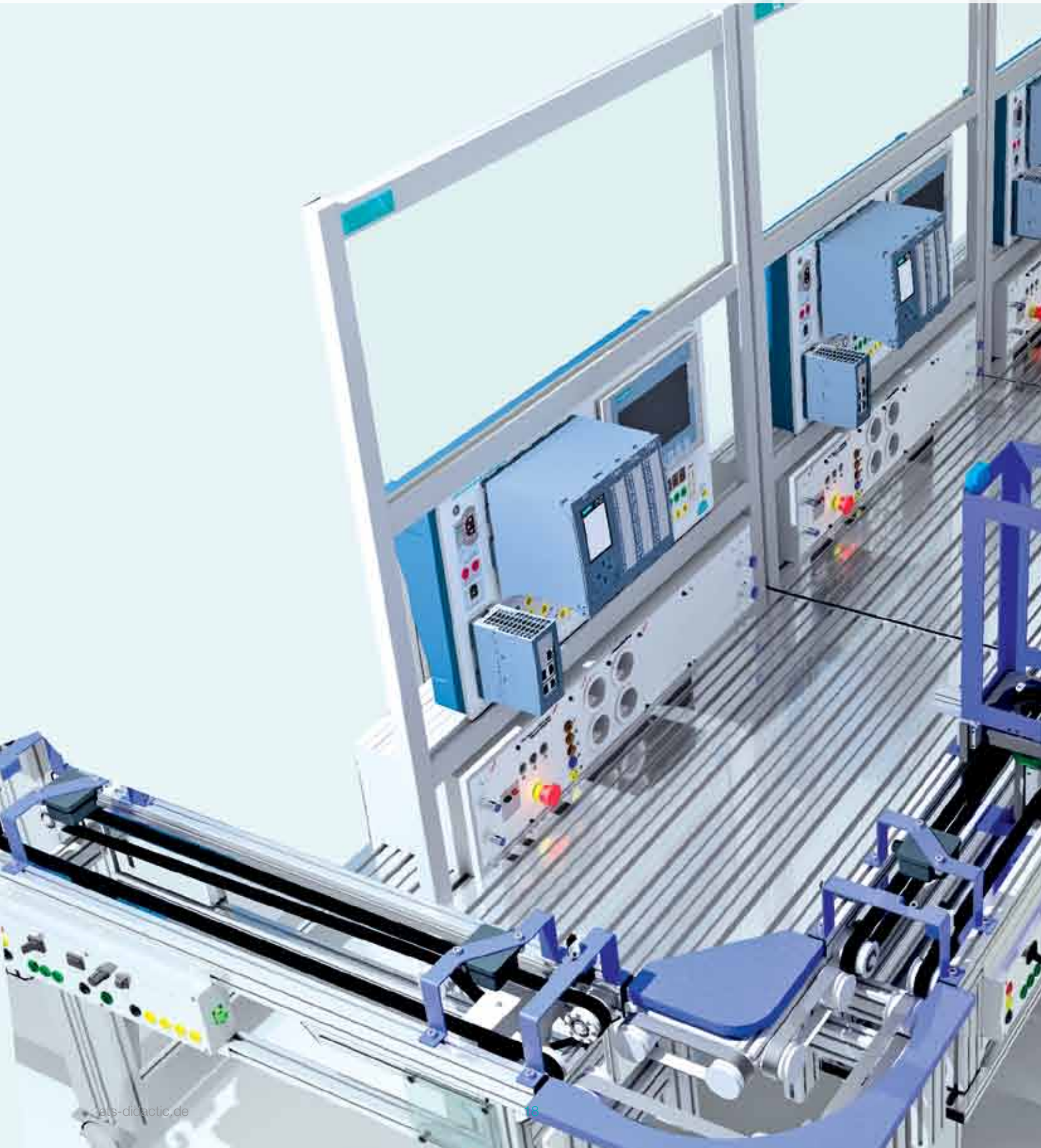
connectedFACTORY CPS-i40®

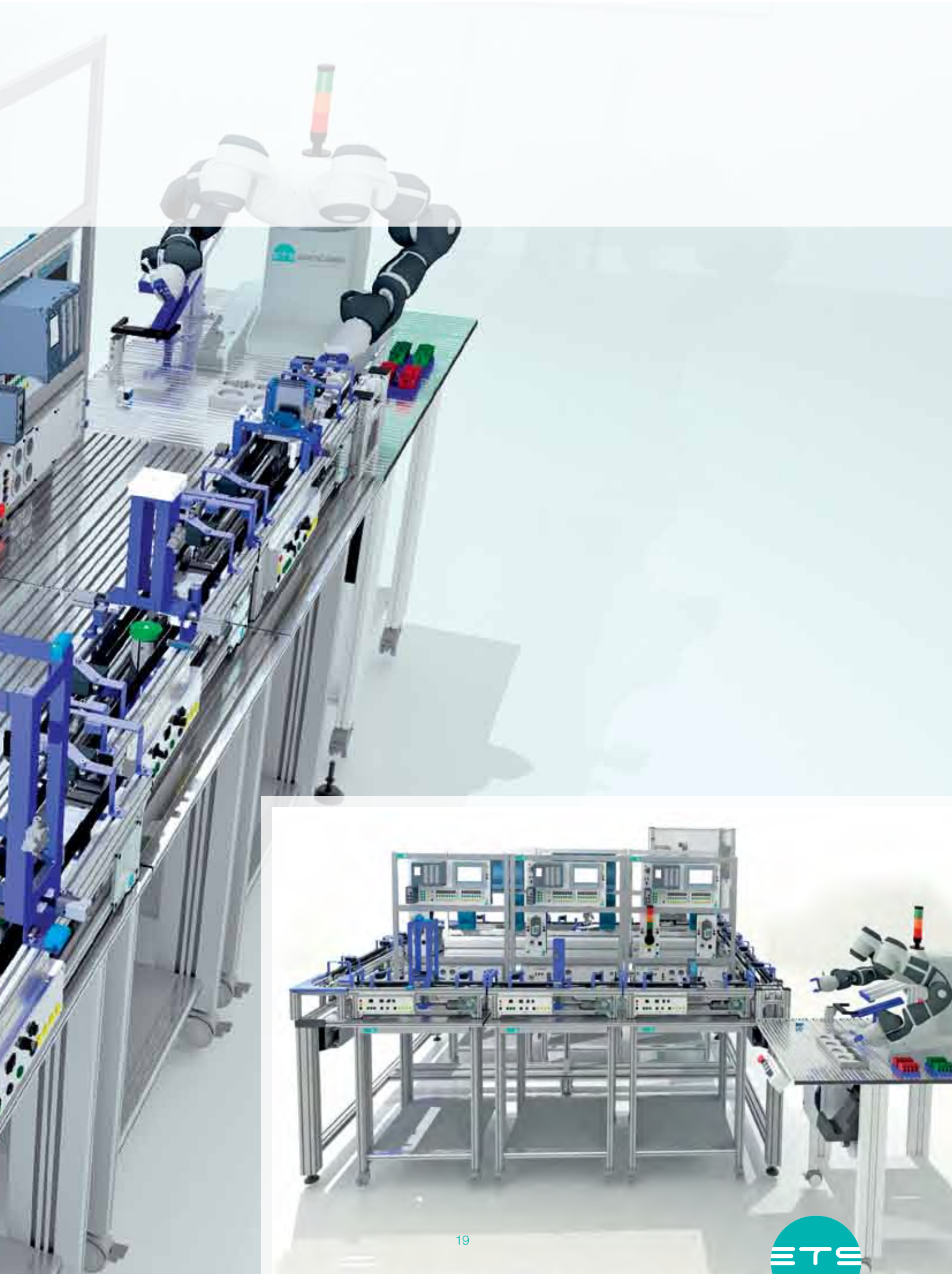
Digital learning factory with driverless transport system (DTS)

„Open Ecosystem“

connectedFACTORY CPS-i40®

Digital learning factory with collaborative robot system



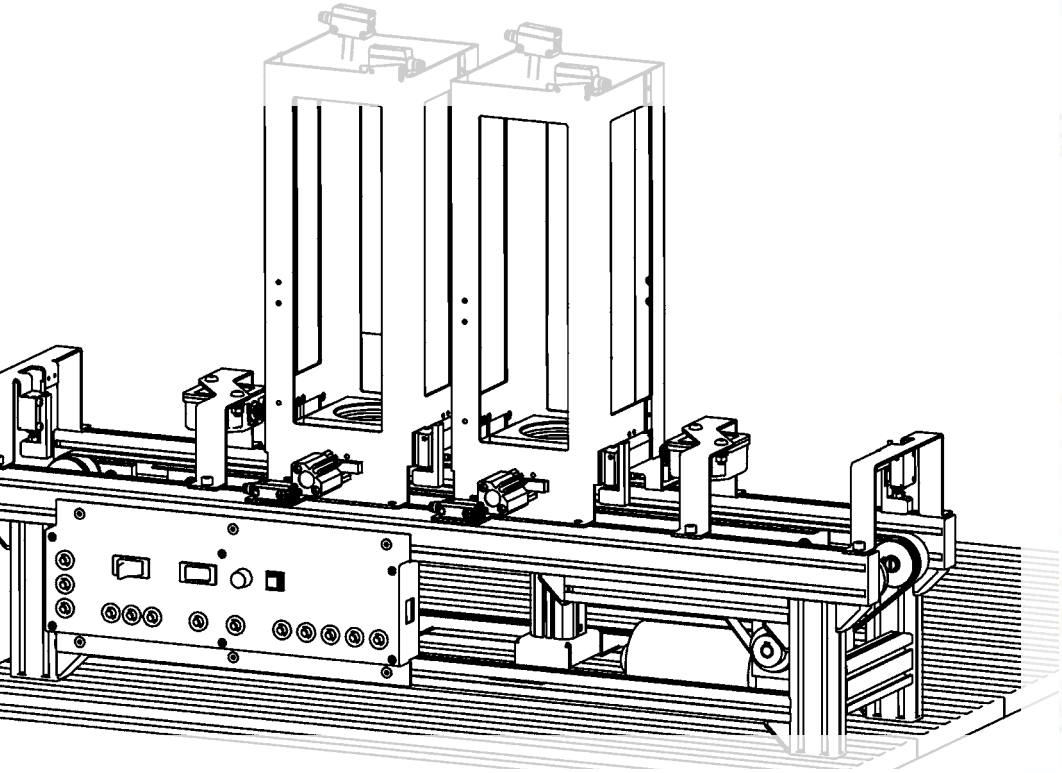


DIGITAL TWIN

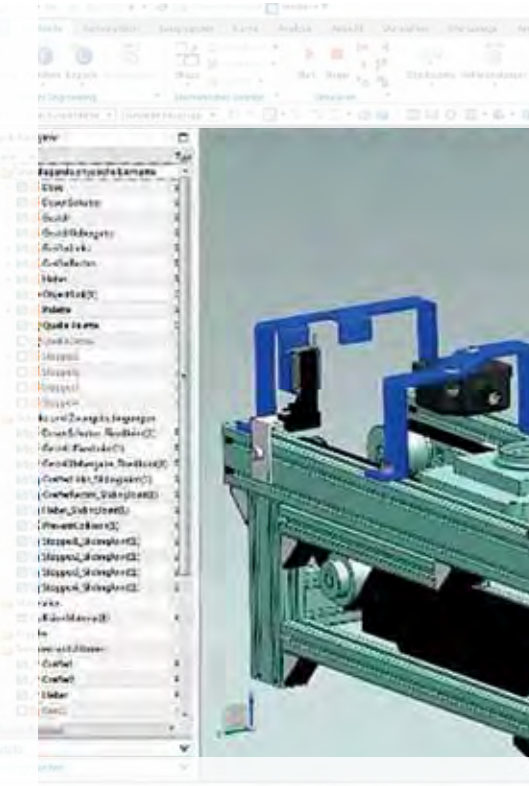
VIRTUAL COMMISSIONING WITH NX

CONSTRUCTION – VIRTUALIZATION – REAL SYSTEM

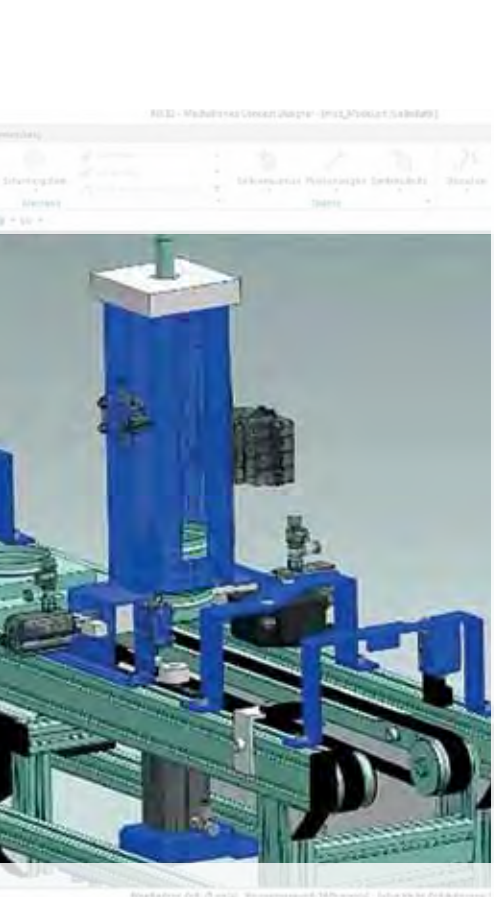
Digital engineering



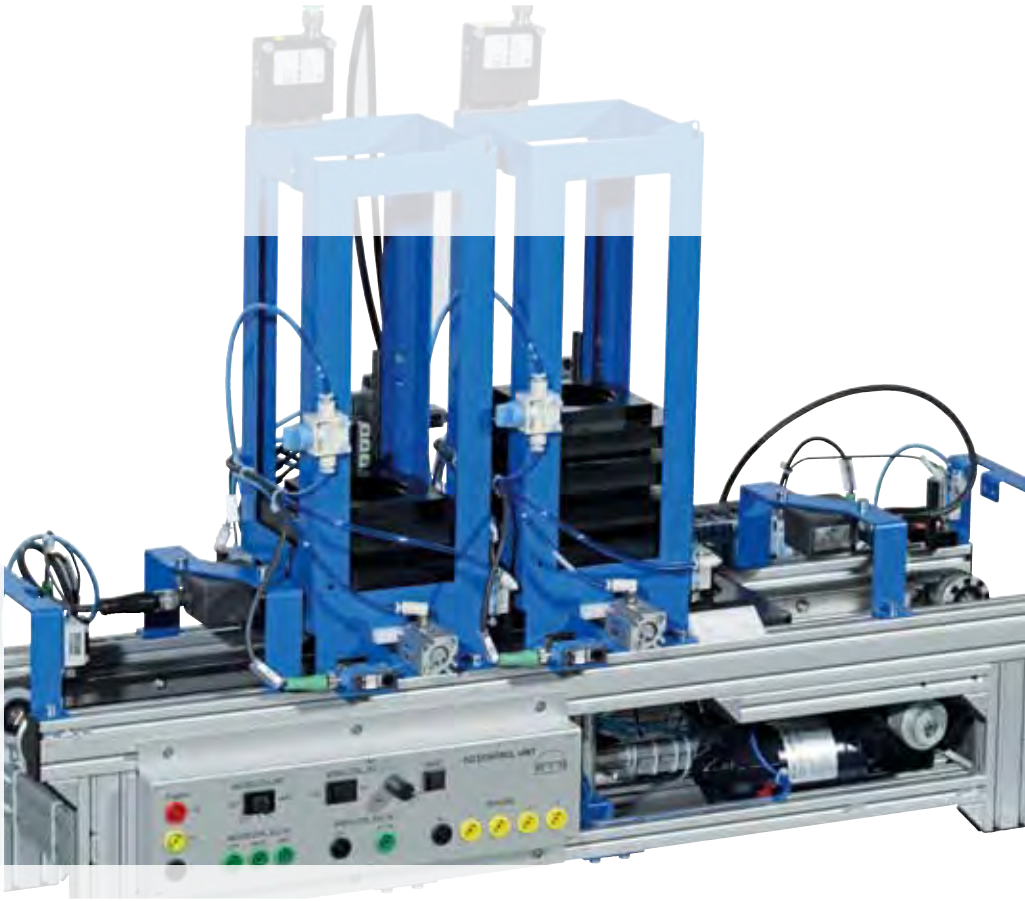
CAD/CAM CONSTRUCTION



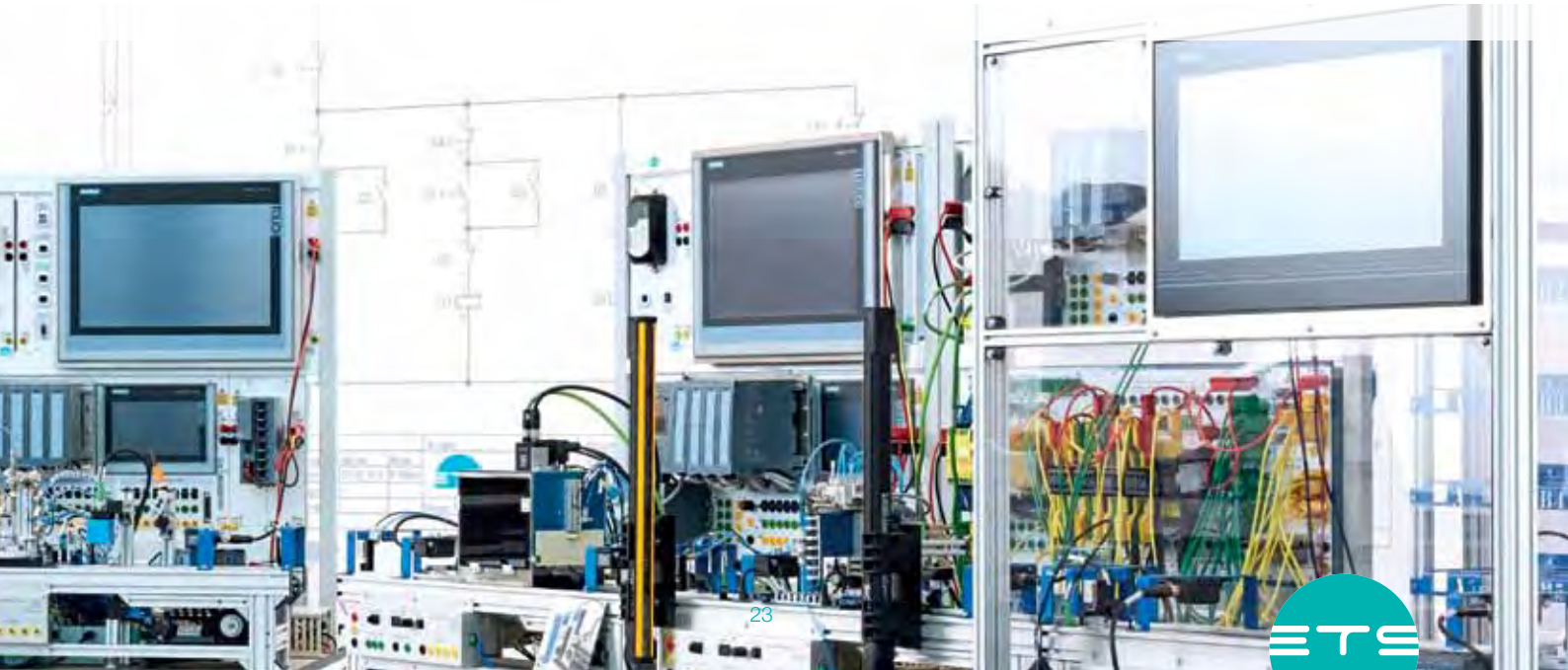
VIRTUAL



LIZATION



REAL SYSTEM



DIGITAL ENGINEERING

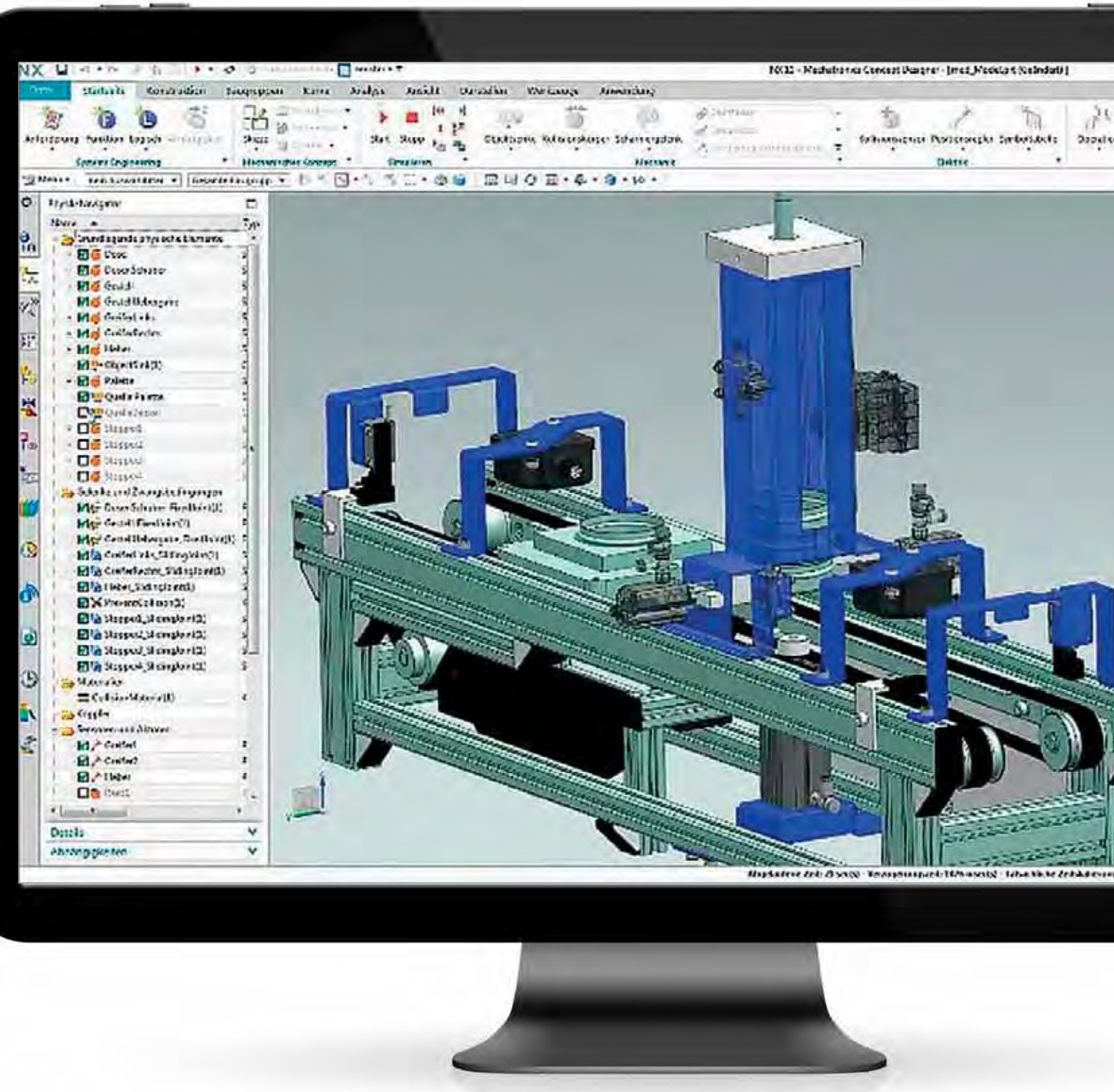
Digital Factory | Digital TWIN

Virtual commissioning

The increasing digitalisation of networked production facilities is also becoming more and more important for education. The so-called "Digital TWIN", that is the digital twin of the induvidual CPS-i40 stations from the connectedFACTORY from ETS DIDACTIC, enables virtual commissioning before the real system is put into operation. The programming and at the same time the functional test on the virtualized process model can now be tested 1:1 in the computer room or in the PLC laboratory in advance, analogous to the standards in industry, where "digital engineering" has already been established for some time.

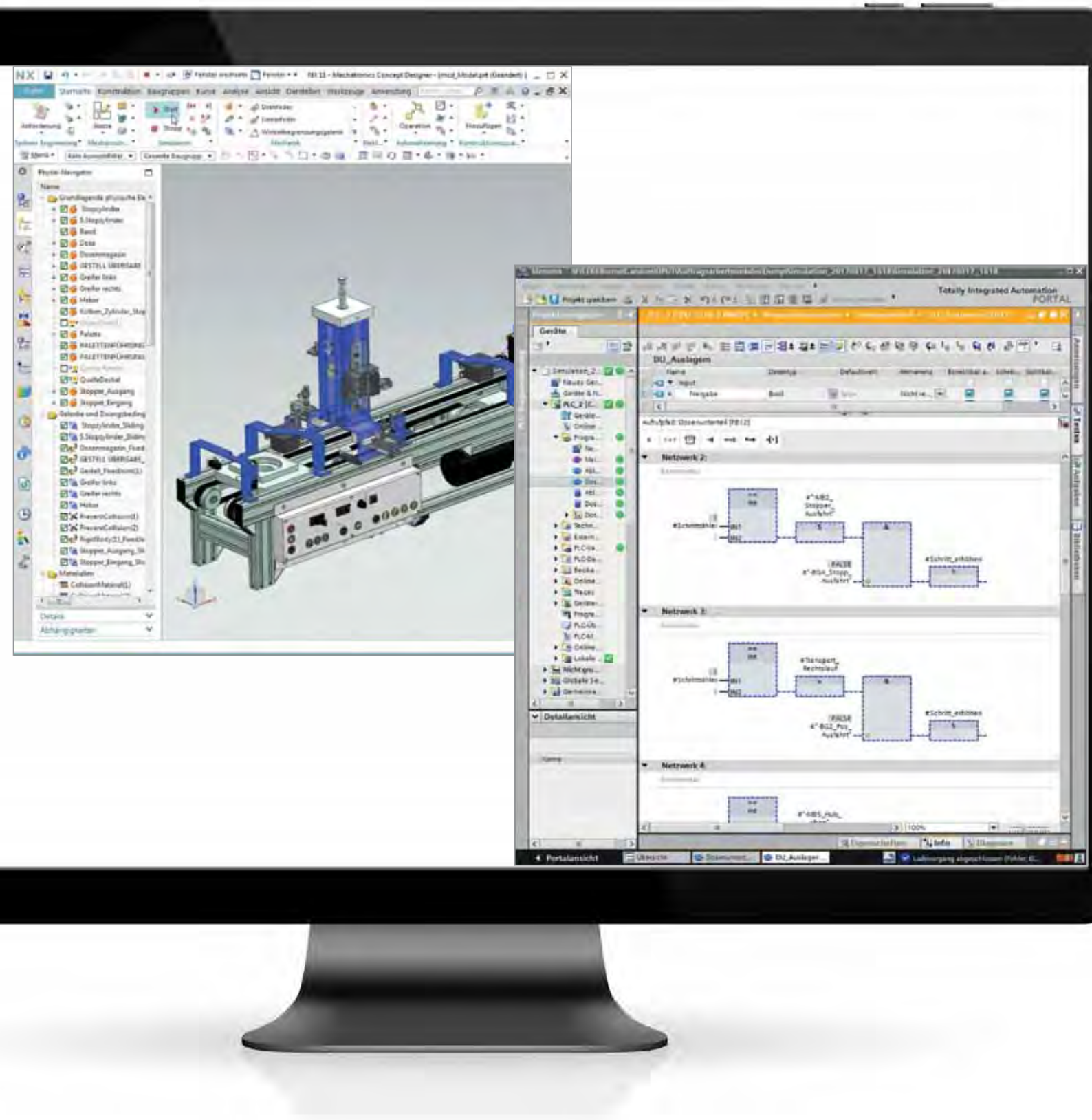
This makes it really interesting to get to know and familiarize yourself with the PLC programming software. Young skilled workers thus have the opportunity to experience and apply the digital commissioning process already during their training. This already brings advantages in dealing with the work steps of digital production. At the same time, they learn methods and acquire skills that will meet the requirements of tomorrow´s job market. Digitalisation does not stop there. It is important to break new ground in programming, simulation and commissioning. First virtual, then real - this will save the industry time and money in the future.

Planned modifications, too, are virtually simulated, programmed and then functionally tested before being transferred to the real process.


NX

DIGITAL ENGINEERING

Commissioning of the „Digital TWIN“ | TIA Portal

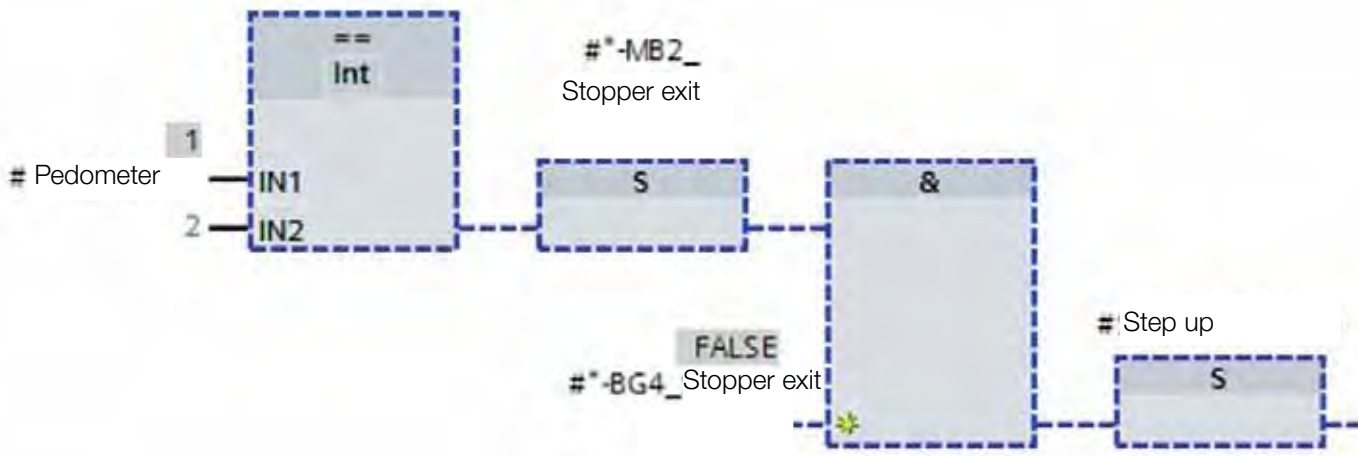


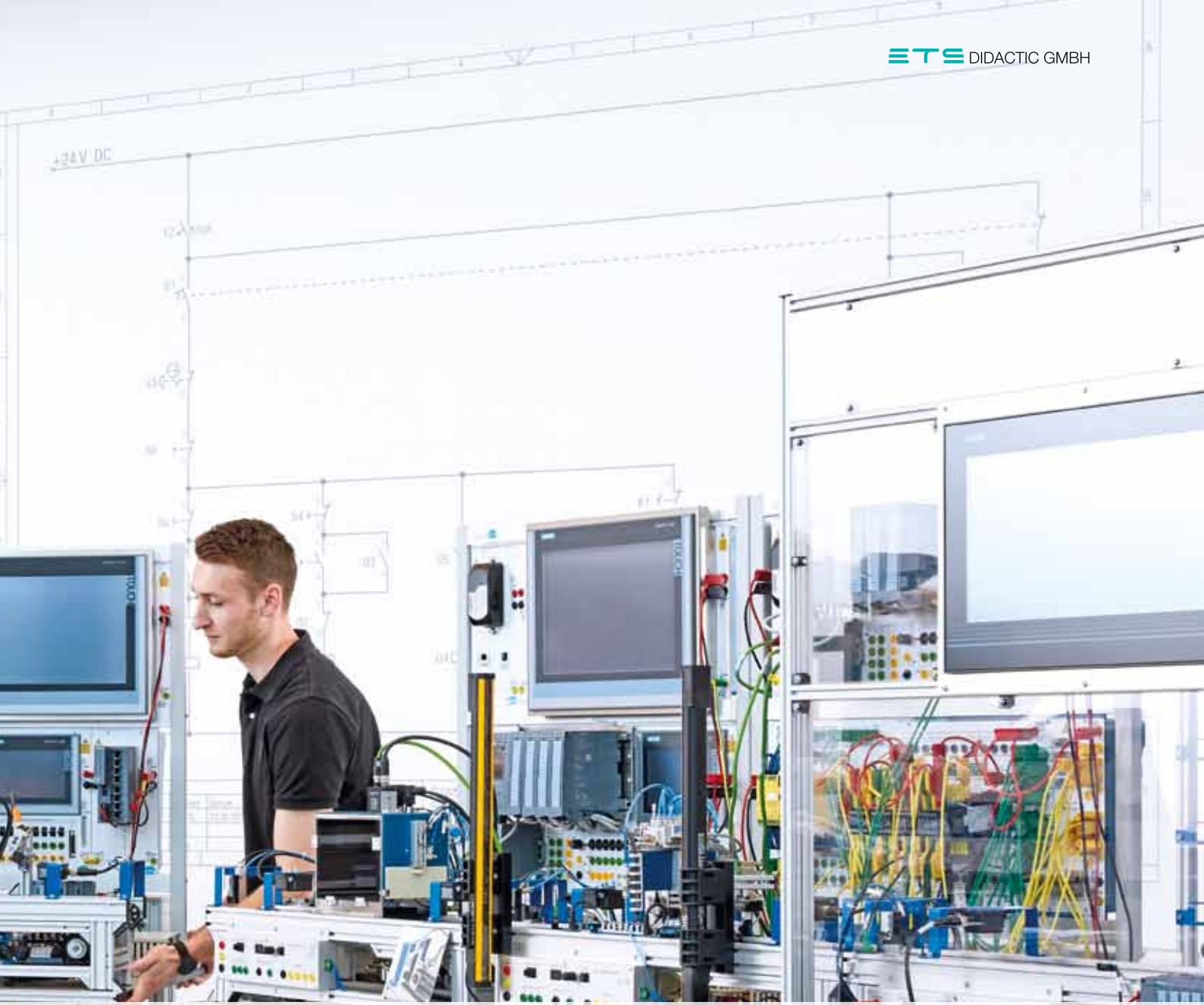
Programming the digital twin

Material Storage/connectedFACTORY CPS-i40®
Simply program the functions of the station in a computer room in advance. Enable your learning group to get to know and familiarize themselves with the SIEMENS software TIA Portal Version16, individually at their PC's. In this way, each participant has the same possibilities and chances to acquire the necessary knowledge. The simulation of your stations from connectedFACTORY or the systems from PLC laboratory is always just a fingertip away - virtually available. At the same PC, you can program and simulate the digital twin and test all functions.

If the learning group has the appropriate skills and the programs are prepared, transfer them to your stations and, after the virtual commissioning, carry out the real one at the real station or system. "That" is digital engineering and is a real pleasure for the participants because that´s the way to real success.

Any scalable learning situation adapted to the learning process of your participants and the level of difficulty and complexity can be seamlessly controlled.



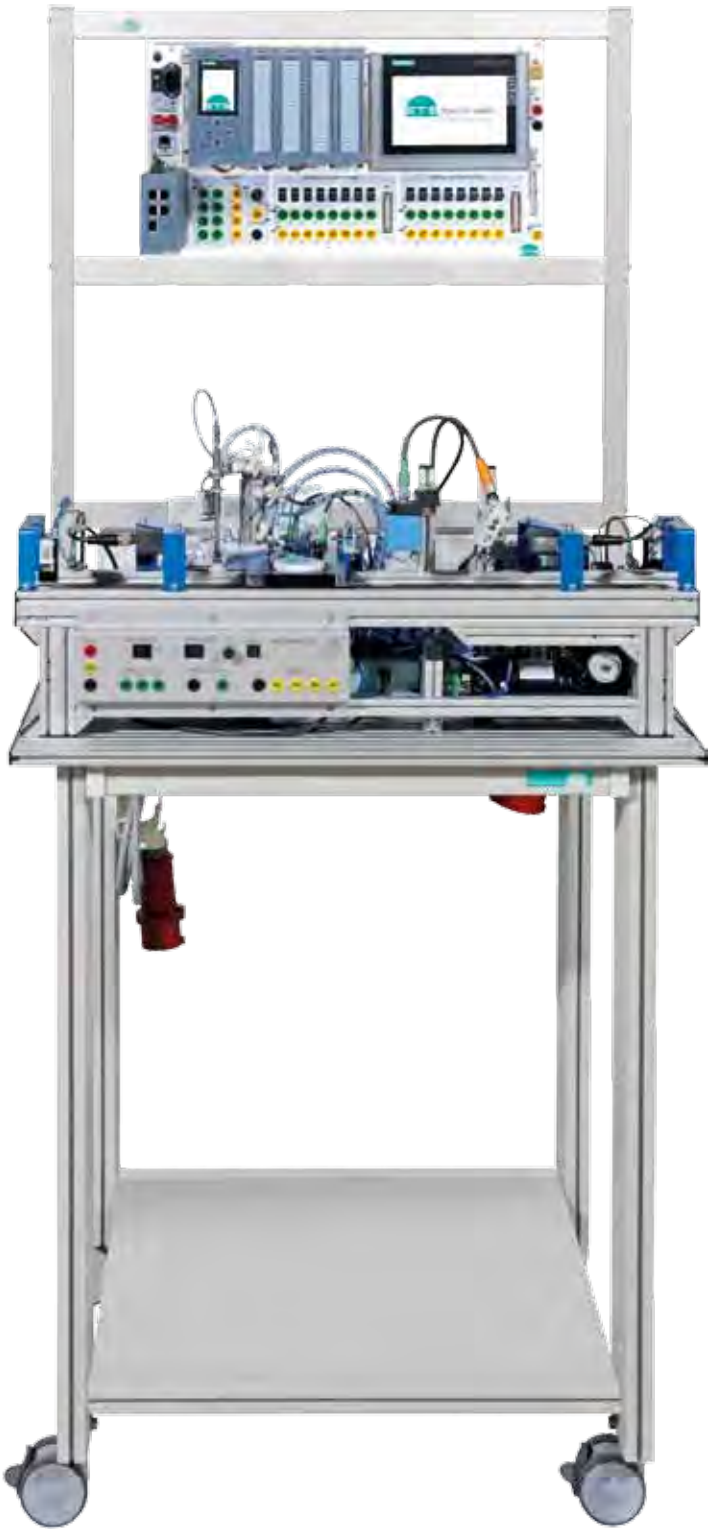


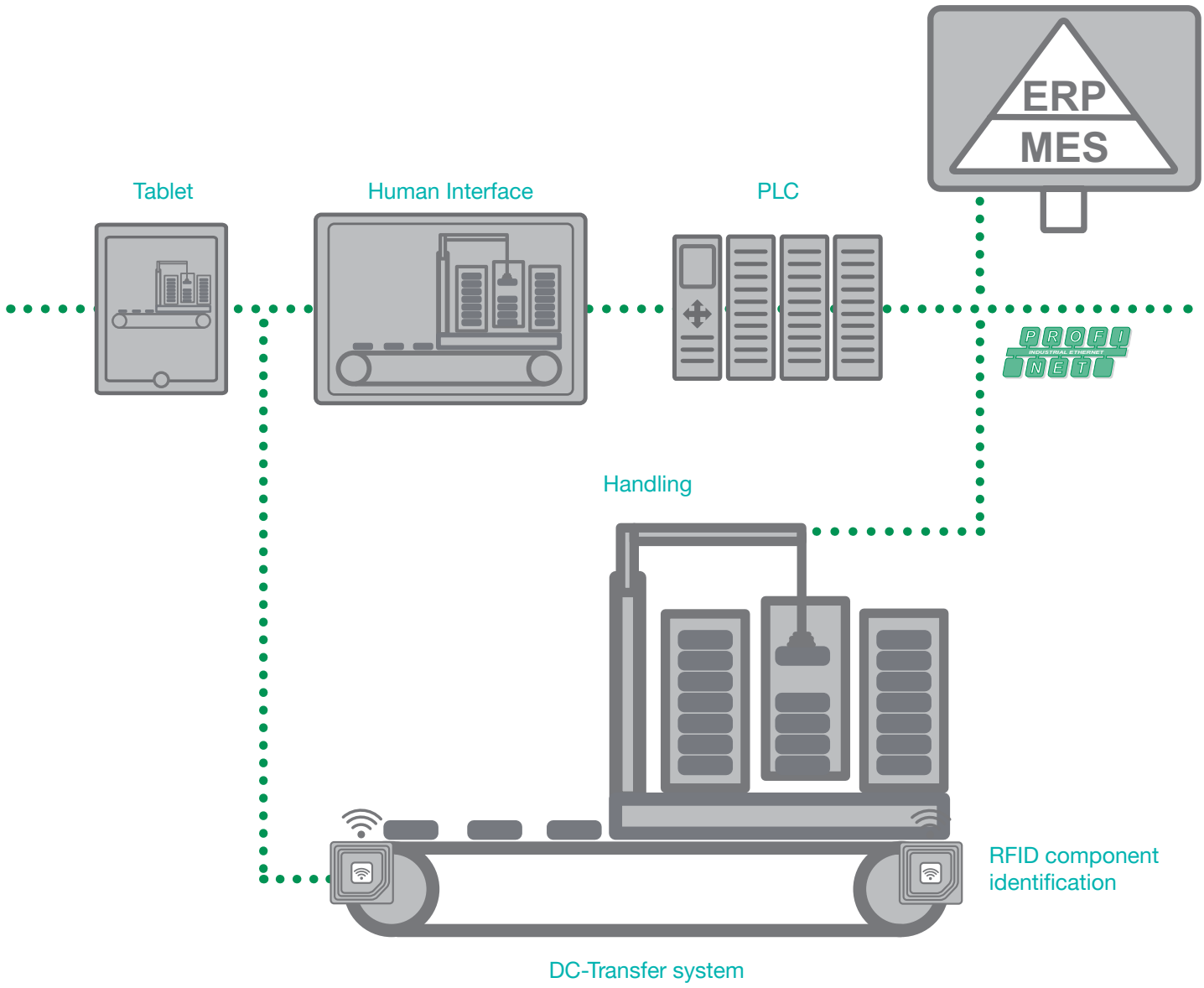
CPS-i40® LEARNING FACTORY 4.0

FLEXIBLE, SCALABLE AND EXPANDABLE

CPS-i40® STATION – INDIVIDUAL COMPONENTS

Handling



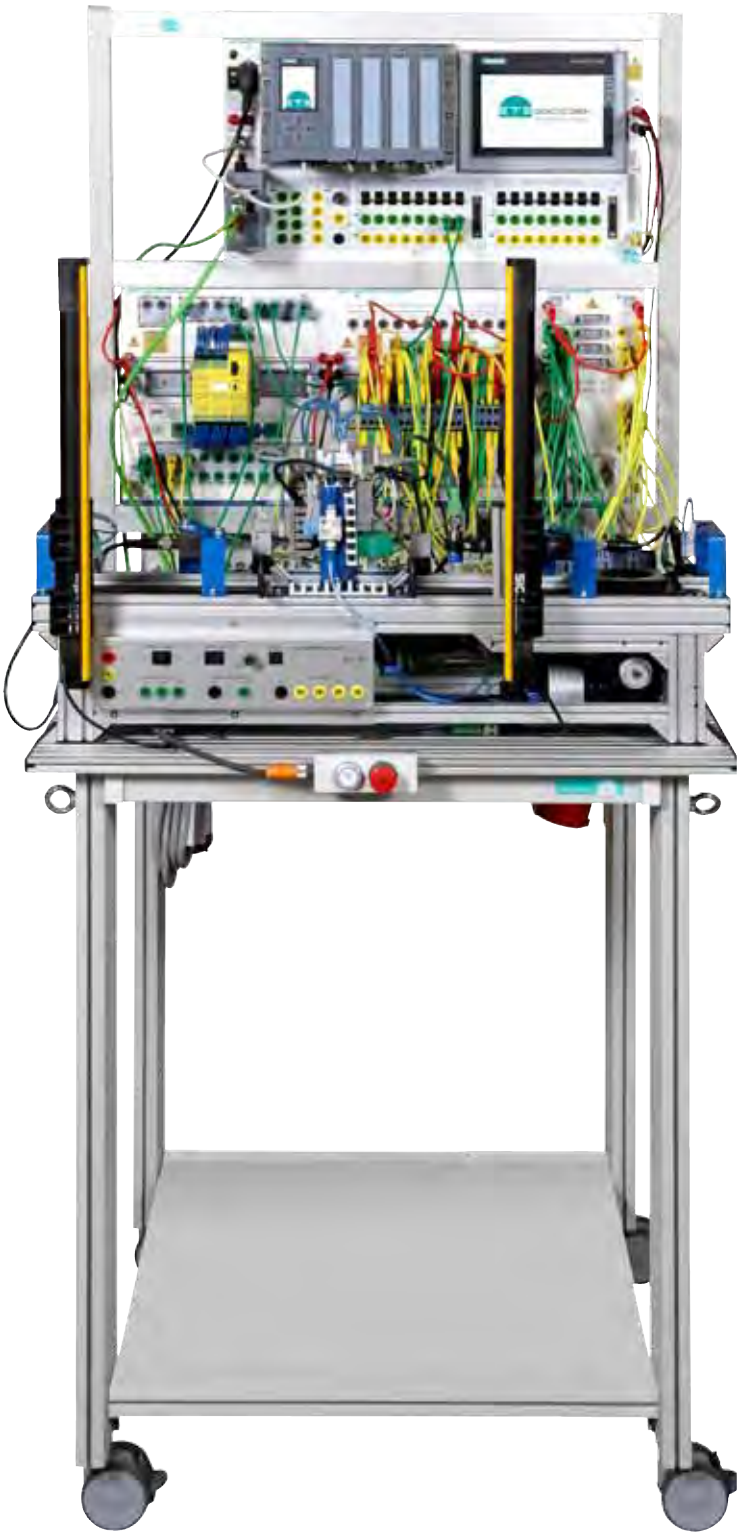


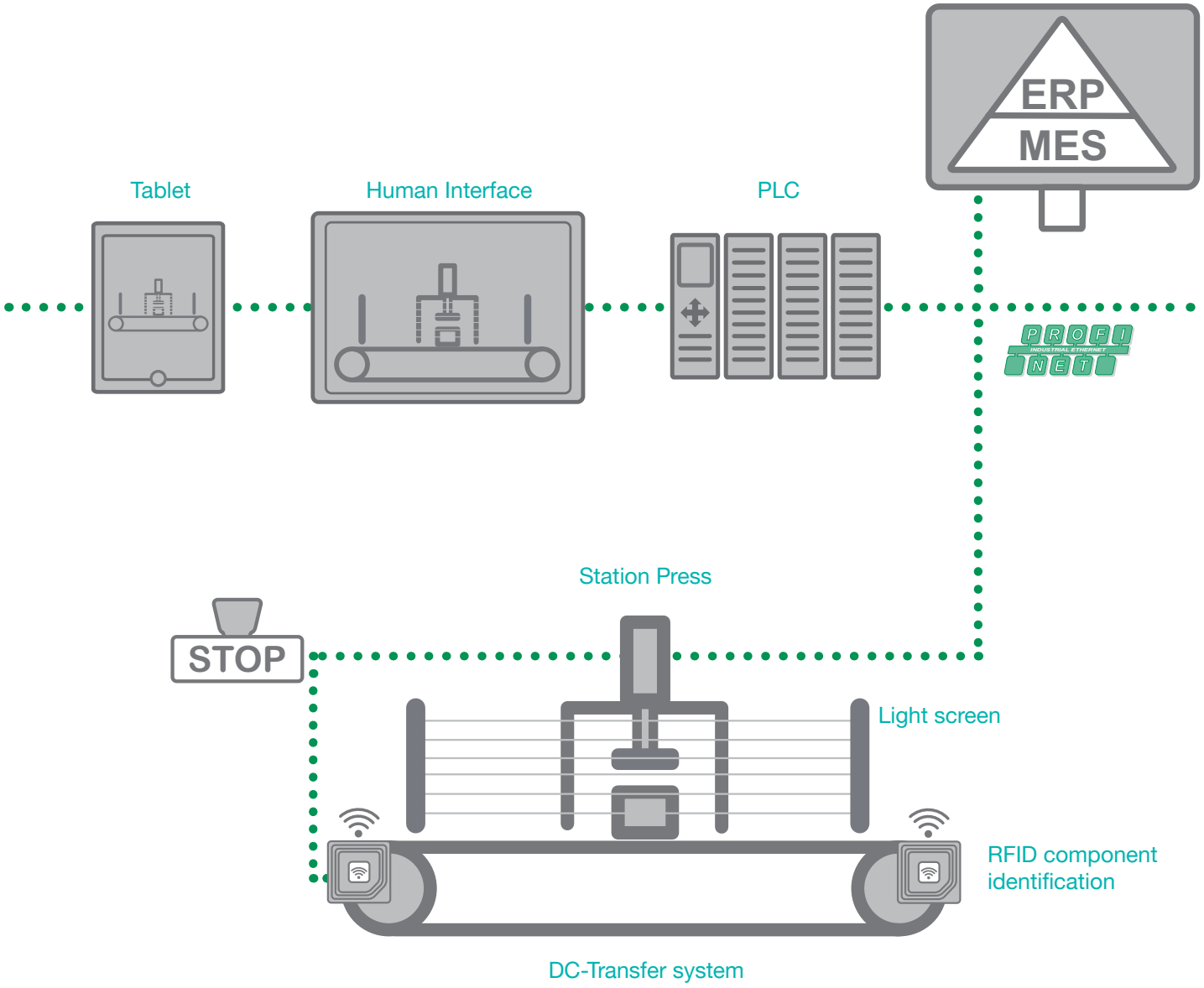
Applications

- Sensor technology
  Color, upper part, base part
- Actuator technology
- Induvidual product design
- Process control, sub-steps

CPS-i40® STATION – PRESS

Machine safety



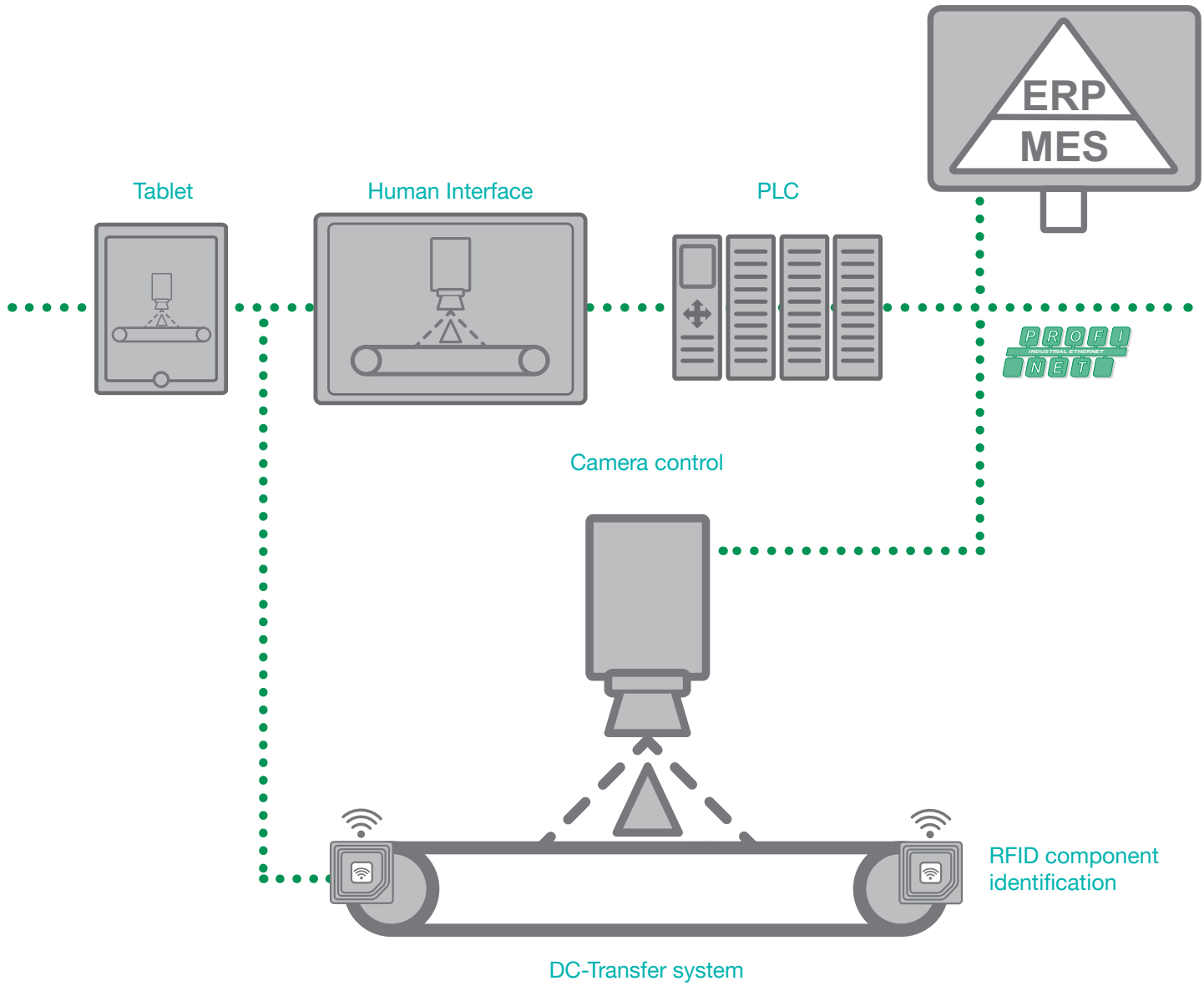


Applications

- Two-handed control
- Light screen
- Emergency stop
- Process control

CPS-i40® STATION – QUALITY CONTROL

Optical Control

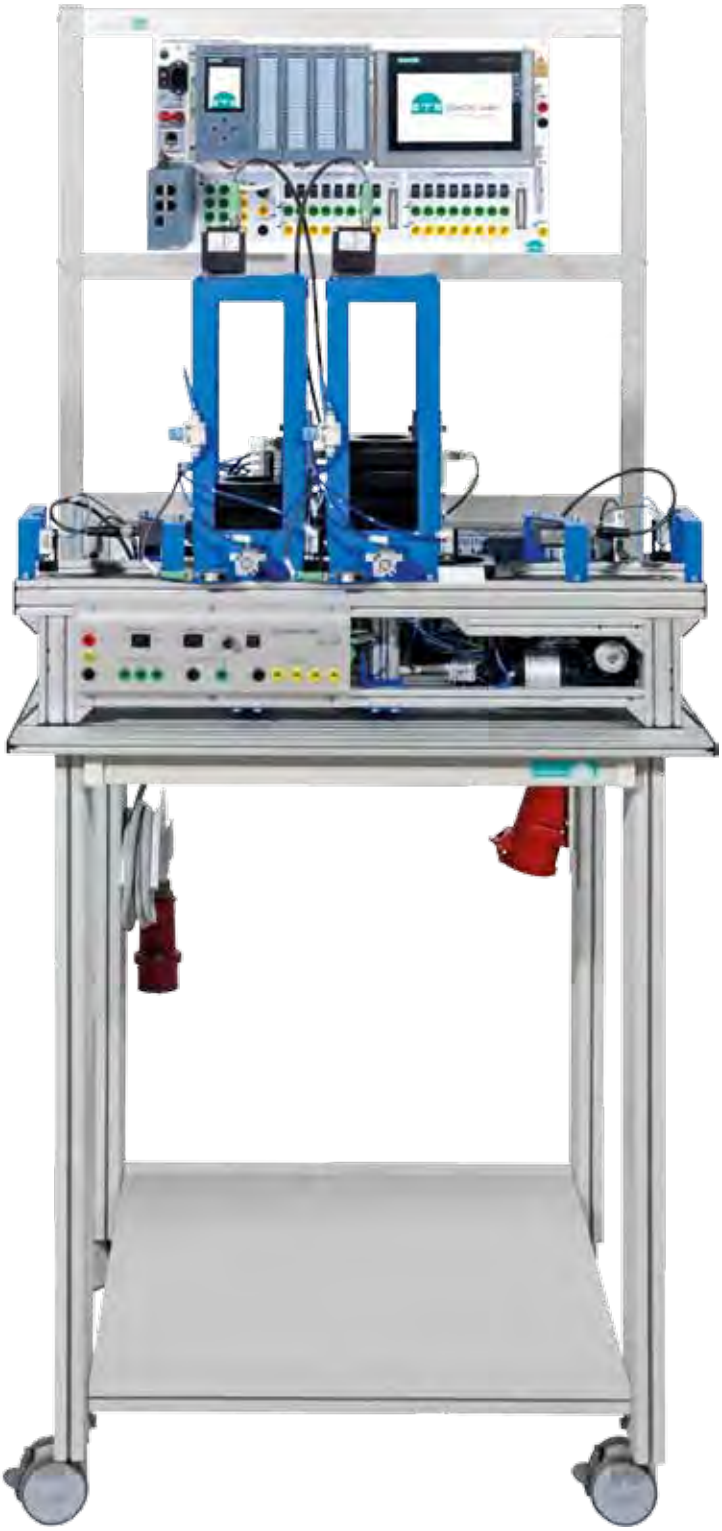


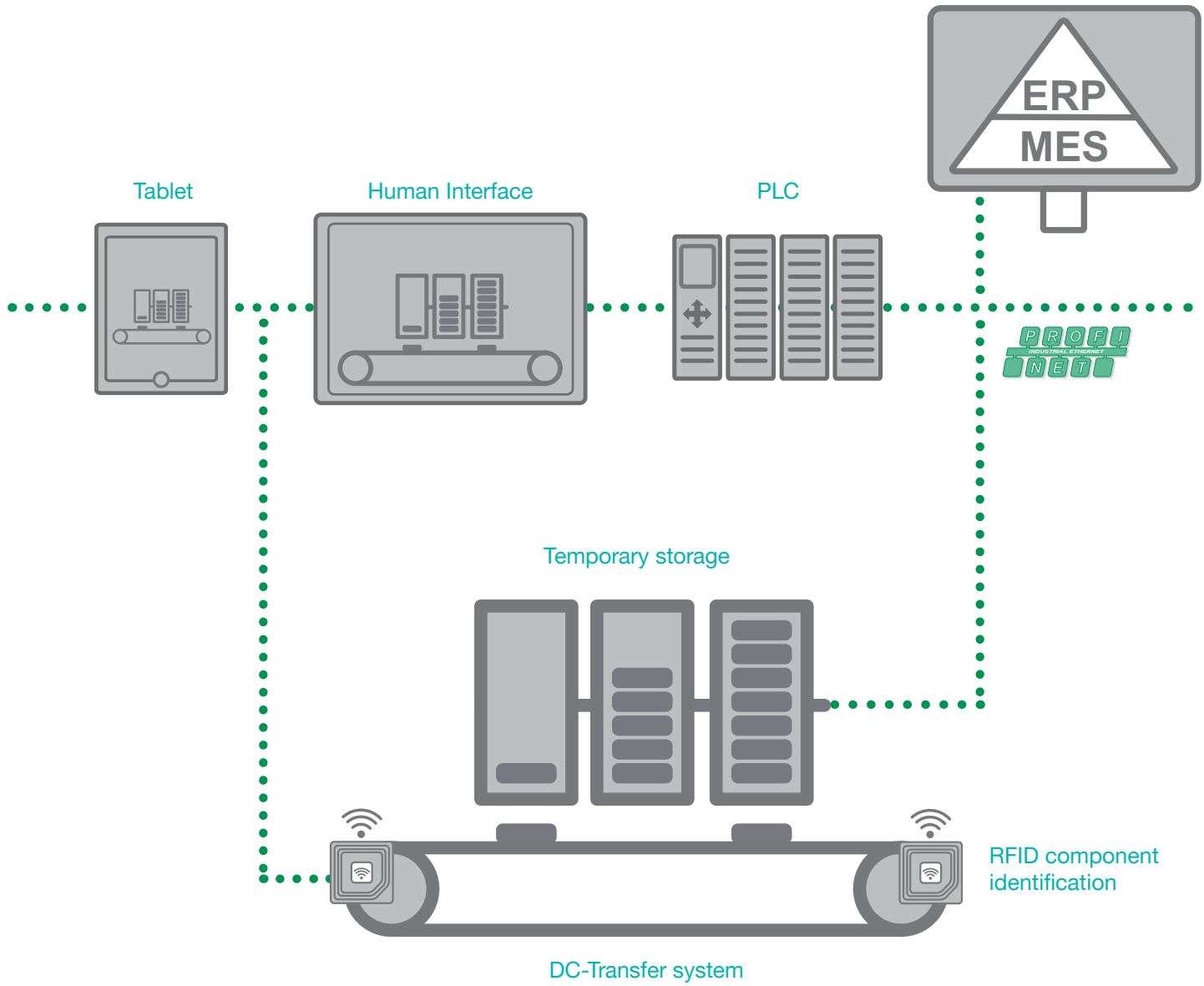
Applications

- Product identification
- Single piece detection
- Color recognition
- Quality control
- Code recognition
  - BARCODE
  - Qrafter

CPS-i40® STATION – TEMPORARY STORAGE

Semi-finished products



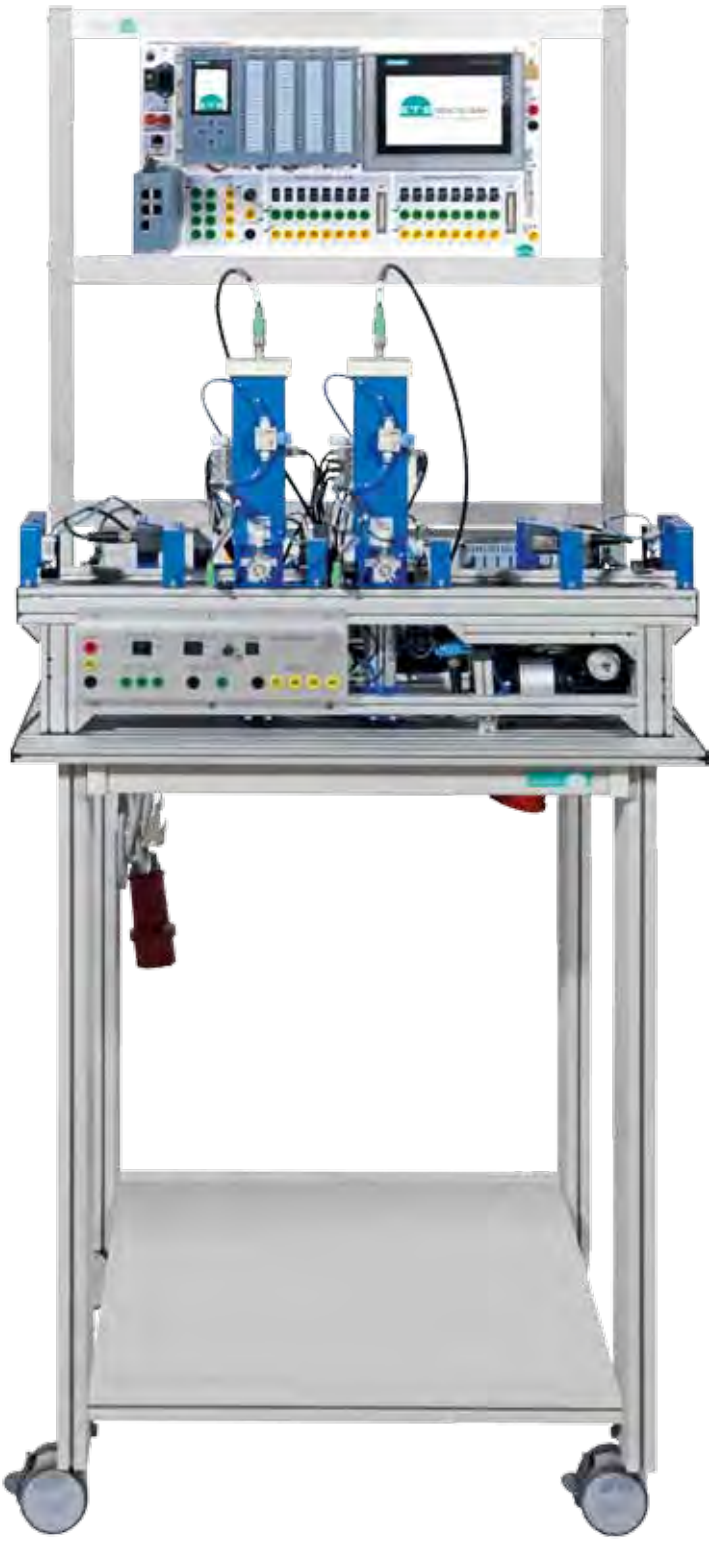


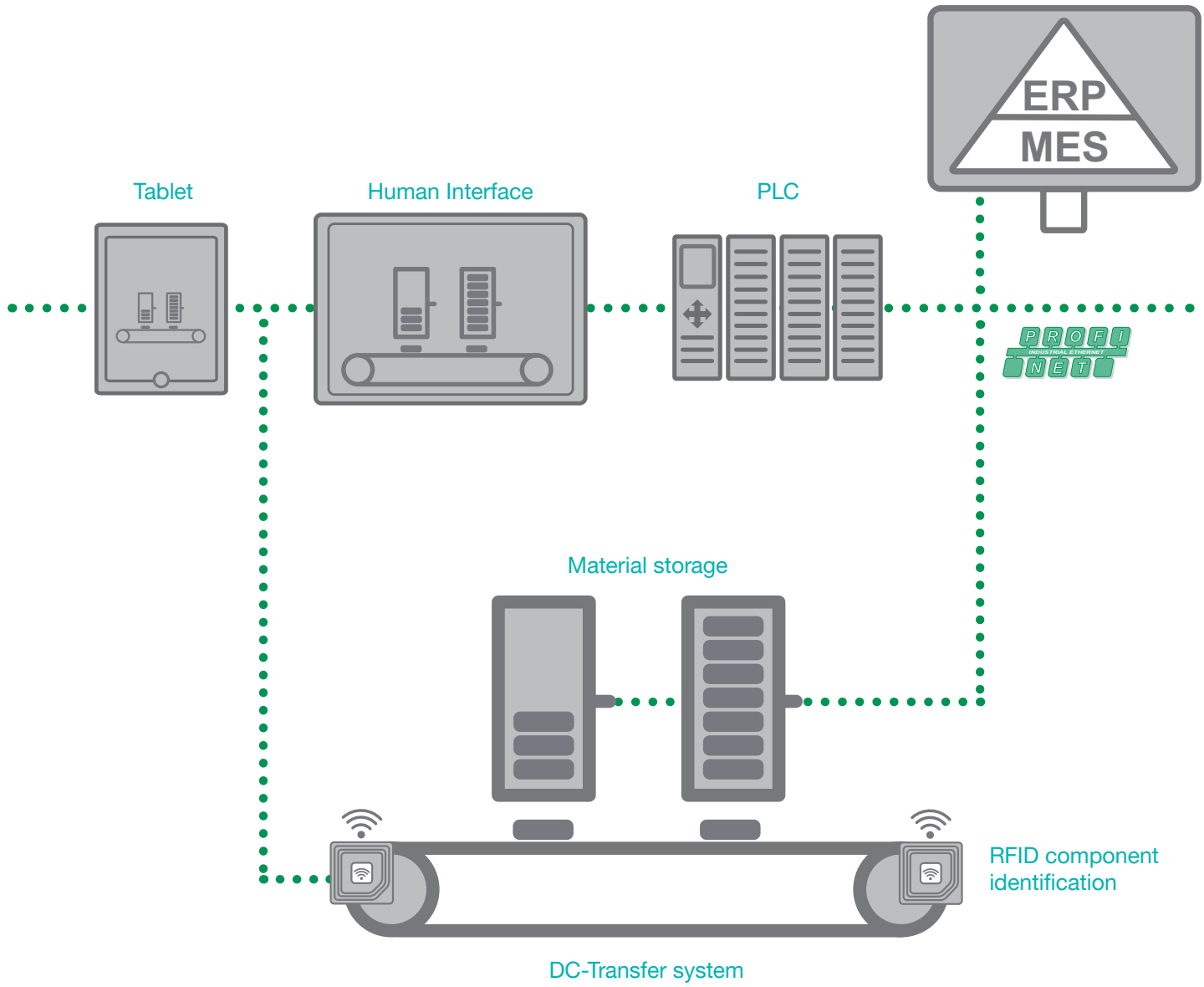
Applications

- Inbound / outbound
- Finished products
- Empty pallets
- Sensors - Ultrasonic control

CPS-i40® STATION – MATERIAL STORAGE

Automatic commissioning



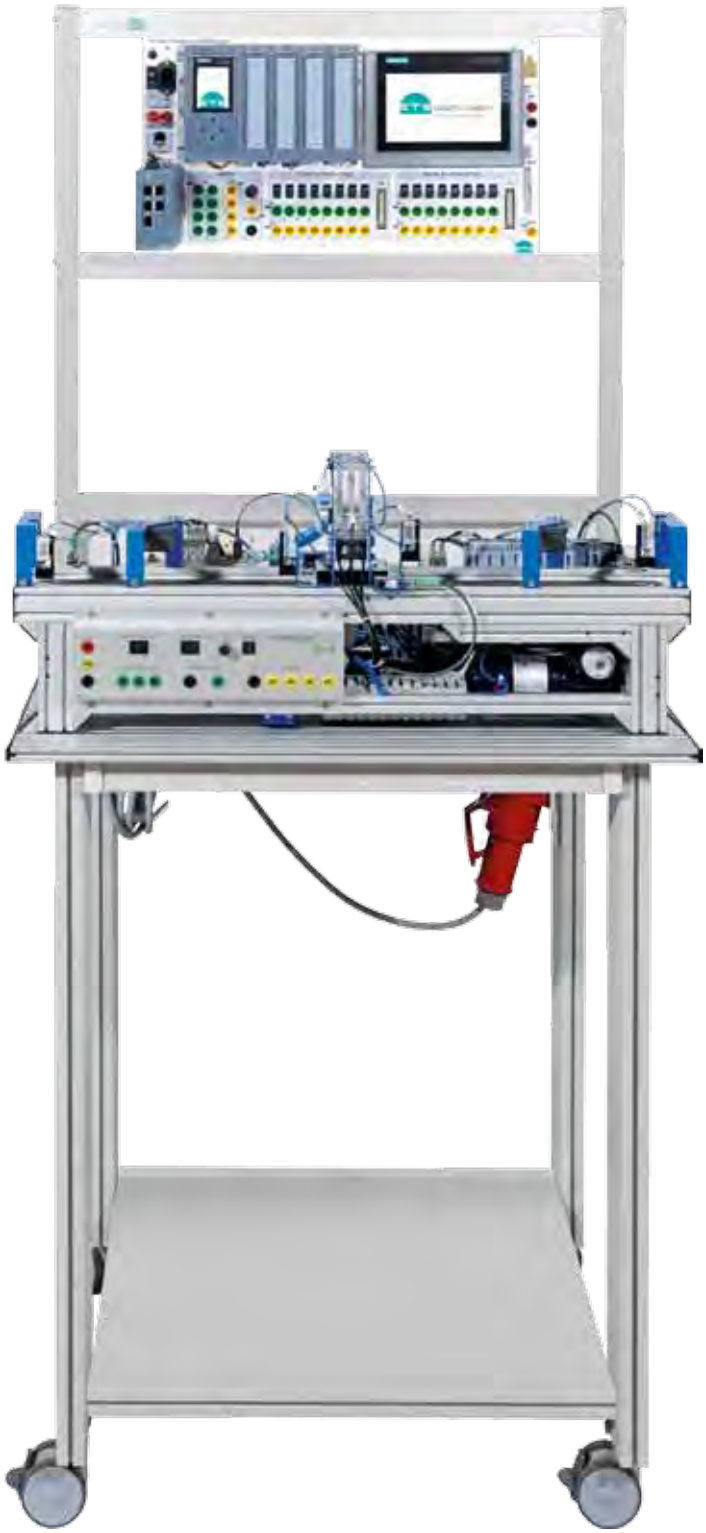


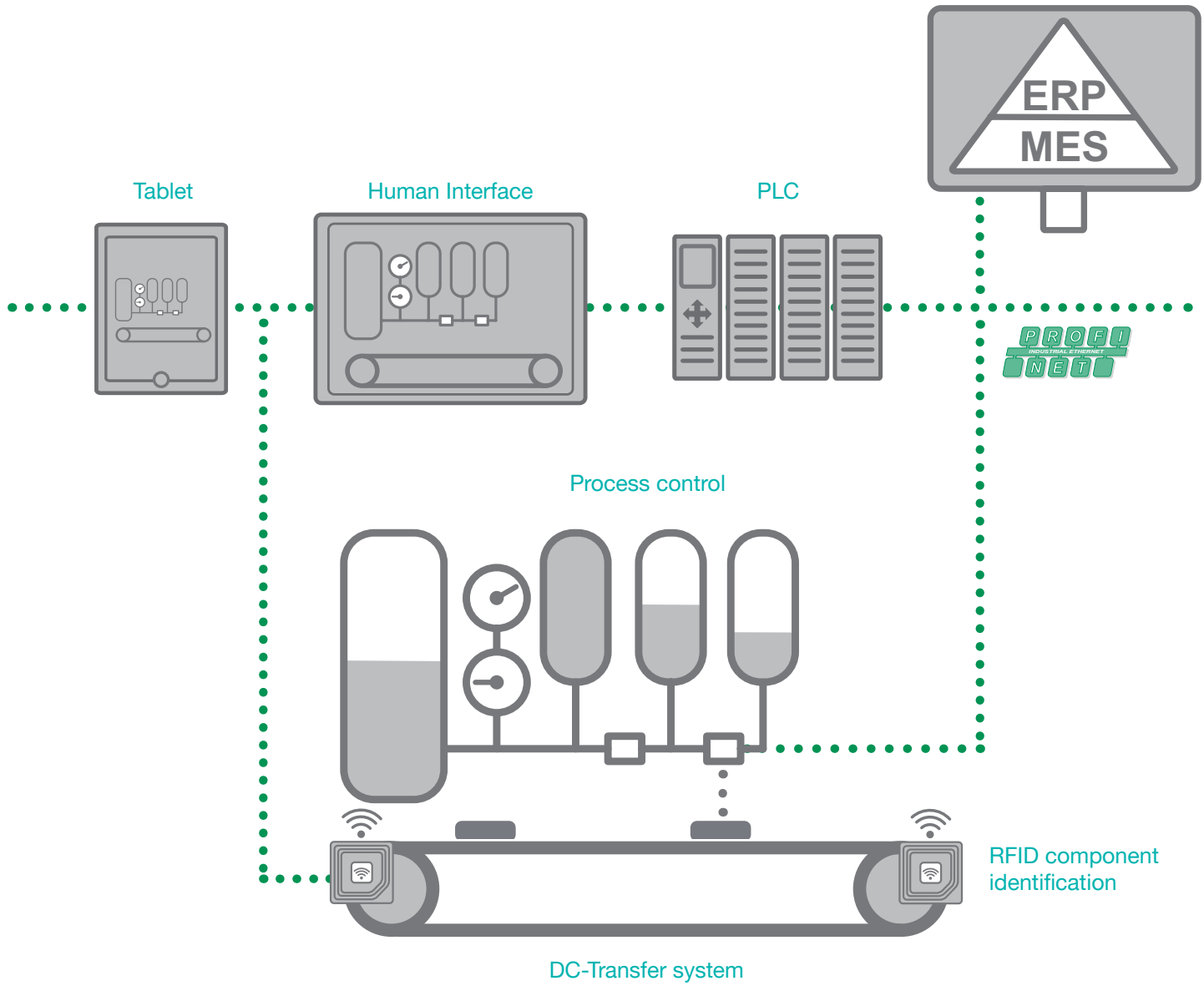
Applications

- Material requistion
- Filling control
- Product labeling

CPS-i40® STATION – FILLING

Process control | Weight



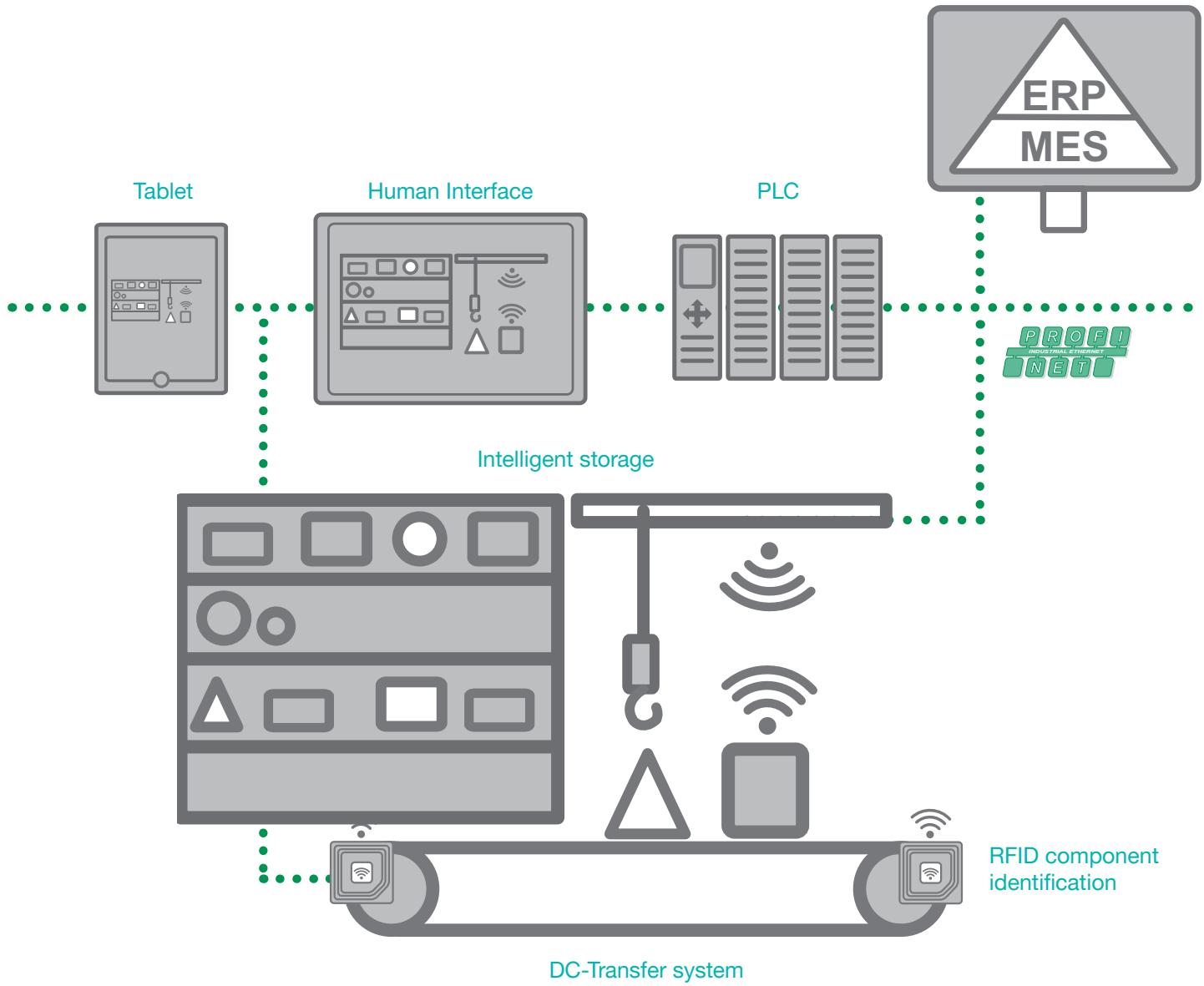


Applications

- Individual filling
- Sensors
- Actuators

CPS-i40® STATION INTELLIGENT STORAGE

Intelligent storage | 3-axis portal system

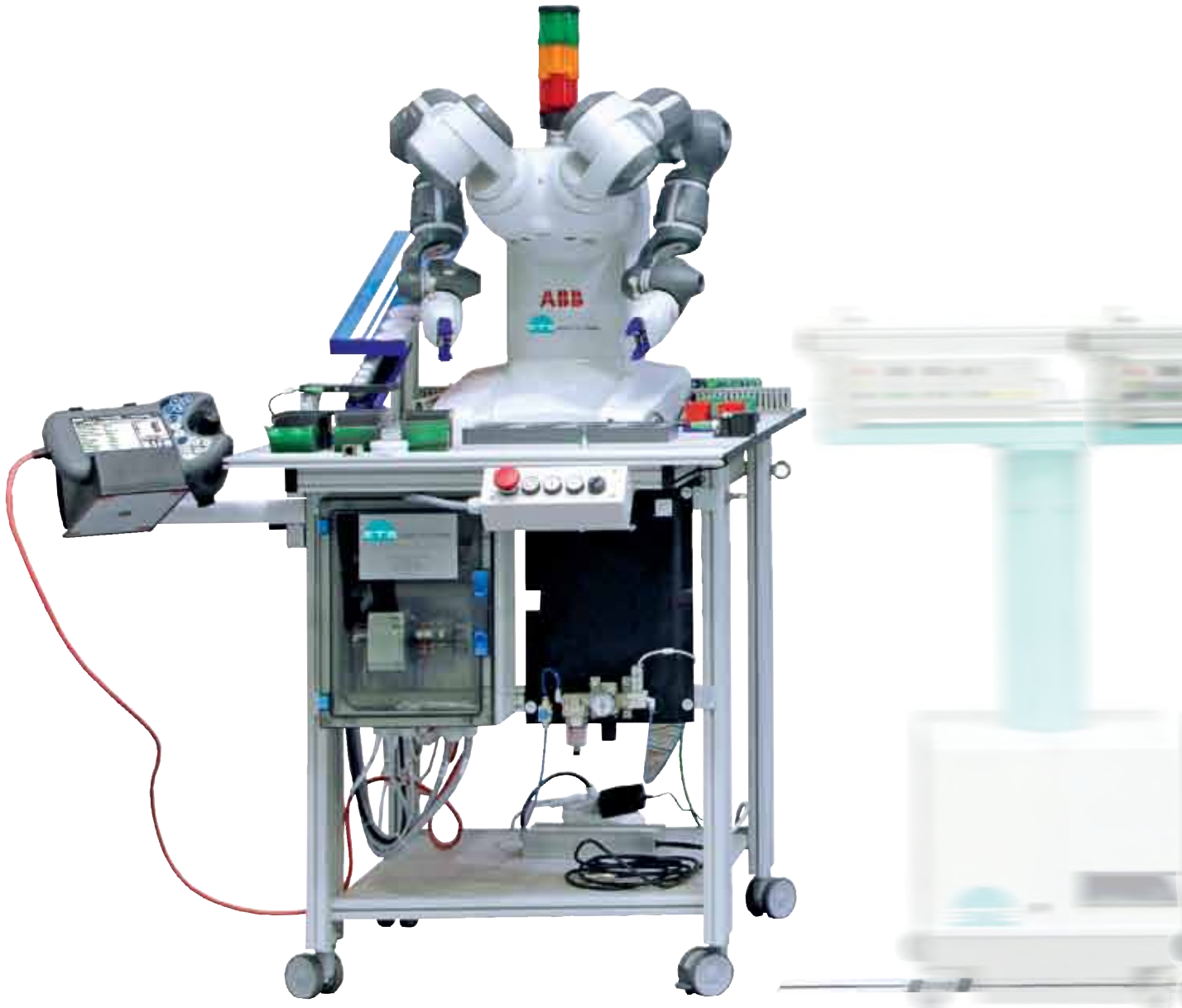


Applications

- Intelligent warehouse
- HMI
- Automatic picking
- Actuators
- Sensors
- Multi-axis system
- Lifecycle report
- MES connection

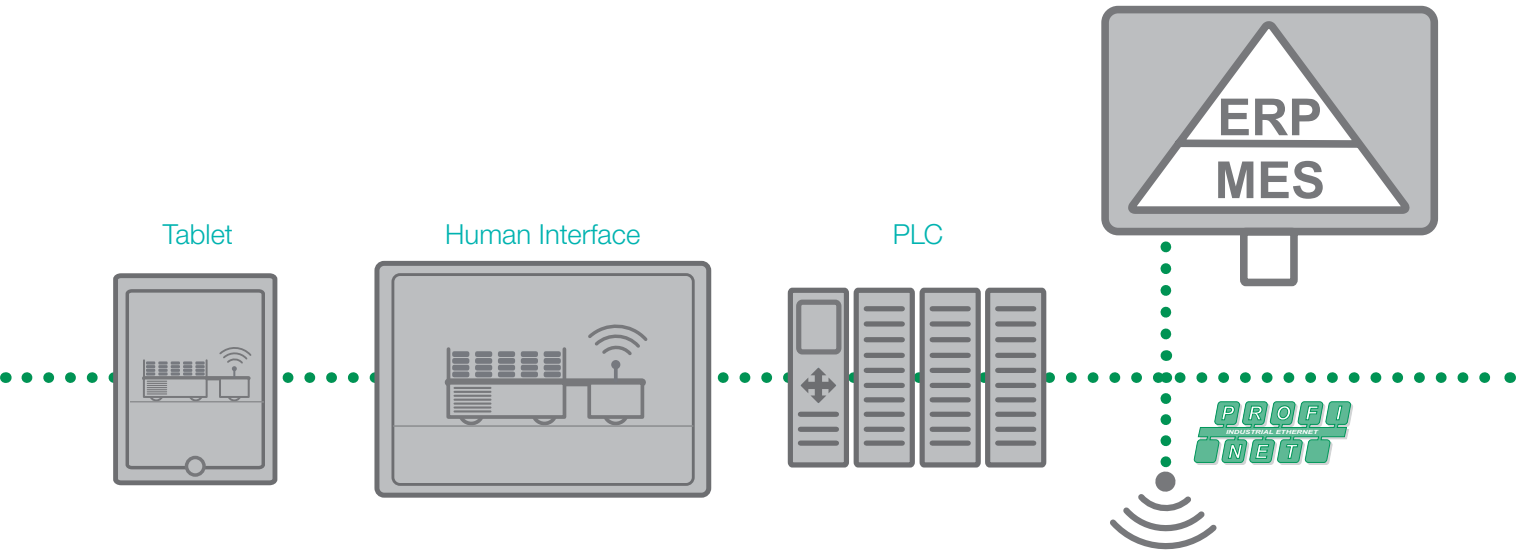
LEARNING FACTORY 4.0 CPS-i40® – connectedFACTORY

Qualify for the future – already today

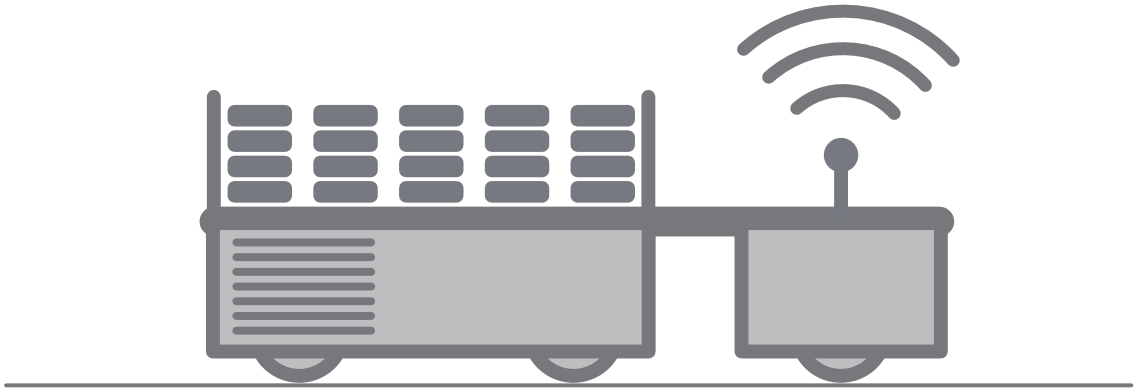


CPS-i40® DTS – DRIVERLESS TRANSPORT SYSTEM

QBOT360°® – Automated Guided Vehicle (AGV)



Automated Guided Vehicle (AGV)

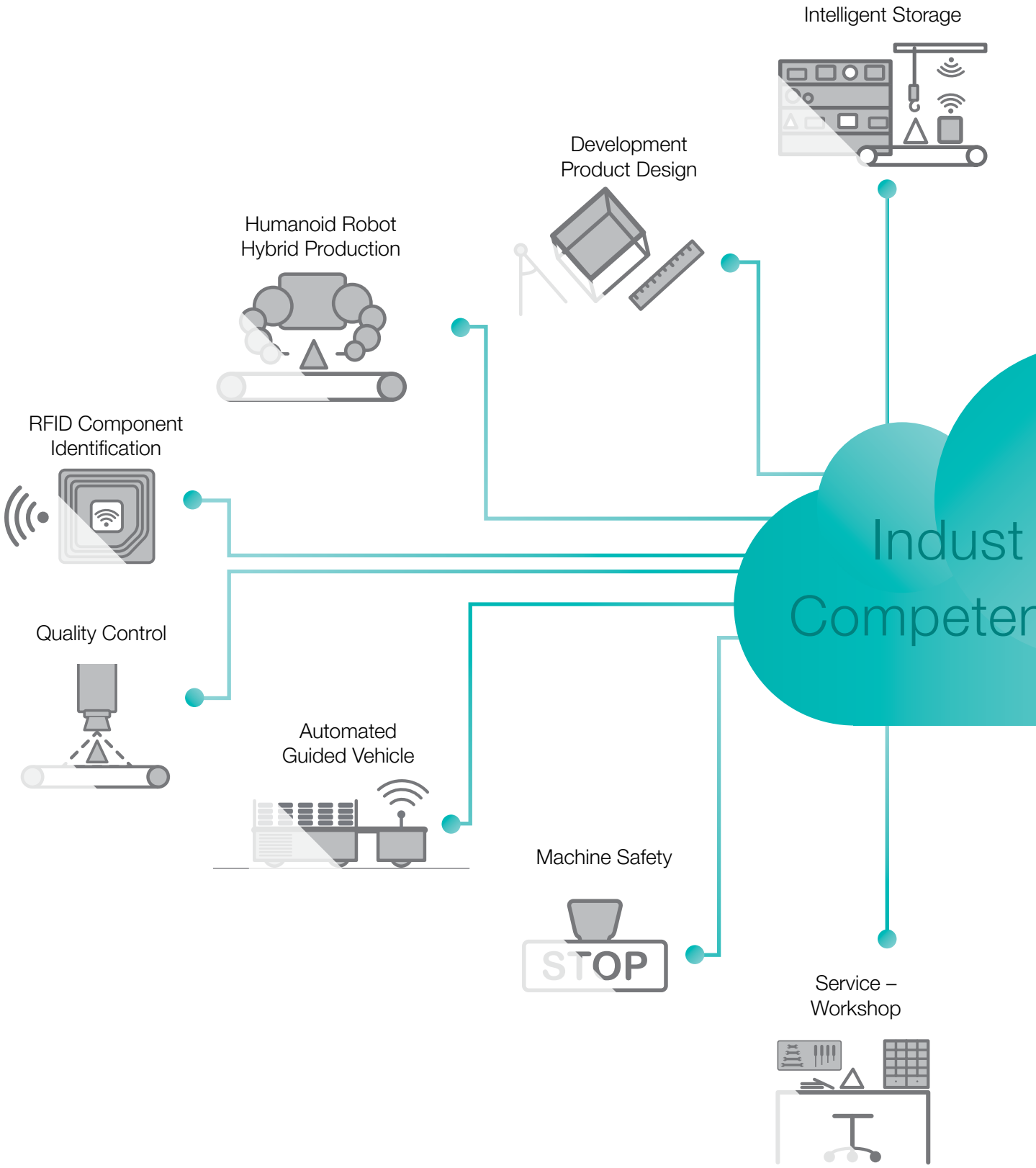


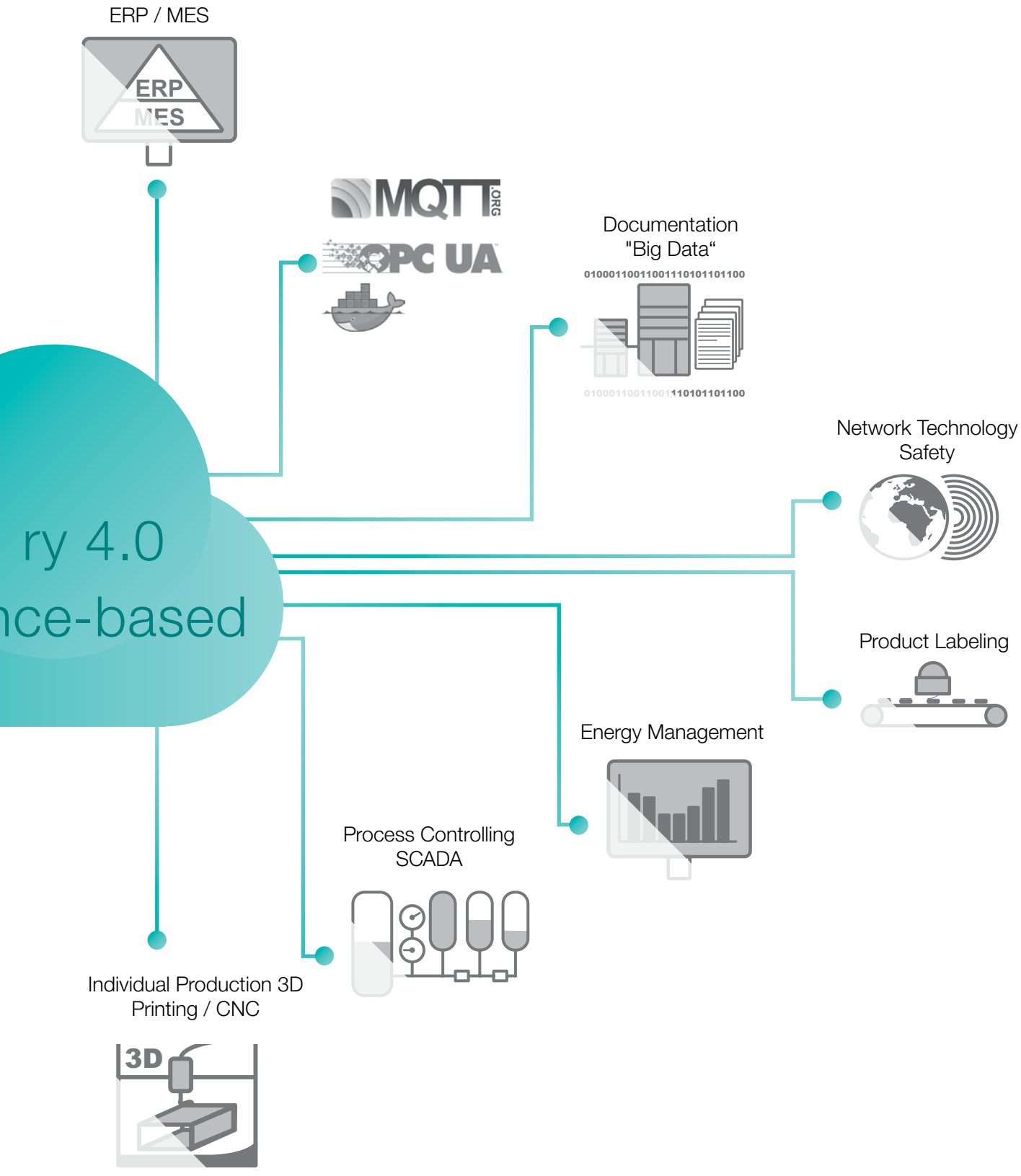
Applications

- Defining working areas
- Safety analysis
- Process integration
- People screener
- Analyzing tracks

CPS-i40® – INDUSTRY 4.0 – connectedFACTORY

CPS – Cyber-physical systems




ERP / MES
ERP
MES
MQTT.ORG
OPC UA
Documentation
"Big Data“
0100011001100111010110110 0
0100011001100110101101100
Network Technology
Safety
ry 4.0
nce-based
Product Labeling
Energy Management
Process Controlling
SCADA
Individual Production 3D
Printing / CNC
3D

ERP

MES

ERP/MES SYSTEMS

DIGITALIZED PRODUCTION MANAGEMENT

DIGITALIZED MANUFACTURING

Freely scalable and granular

Transparency of the production processes with the Learning Factory – CPS-i40®

The CPS-i40-System from ETS is a comprehensive solution in the field of manufacturing execution systems.
It is freely scalable and granular to map and enable the transparency of production processes.

A so-called dashboard ensures controlling and an overview of the various processes. There are various reporting possibilities to get information about the production status of a particular station or production resource, e.g. about the number of produced parts, rejects or outstanding orders or jobs.

The data from the shop floor level is read directly from the controllers (PLC), e.g. via OPC UA. It is important to use standard systems and protocols if possible in order to remain upwardly compatible. On the basis of the production information and data, it is also possible to determine necessary maintenance operations ahead of time - "Predictive Maintenance".
The modern software architecture in HTML5 guarantees the use on different end devices, like tablets or other "smart devices".

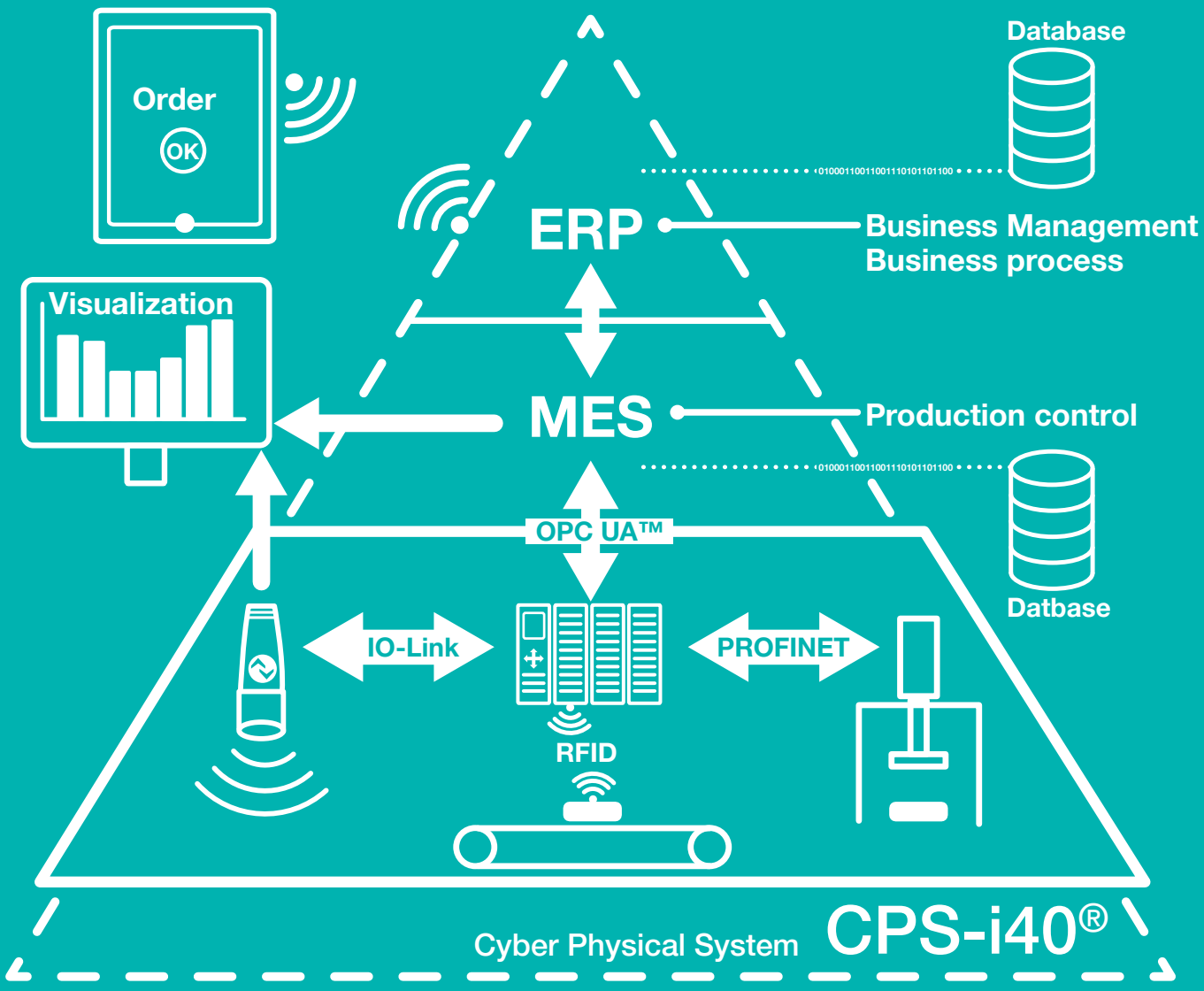
Such solutions are usually cloud applications, but can also be operated "on-premises", which may also have advantages for use in the educational sector.

ETS DIDACTIC enables both variants.

Open platform strategy for unlimited learning situations – CPS-i40®

ERP:
Enterprise Resource Planning (e.g. SAP)

MES:
Manufacturing Execution System



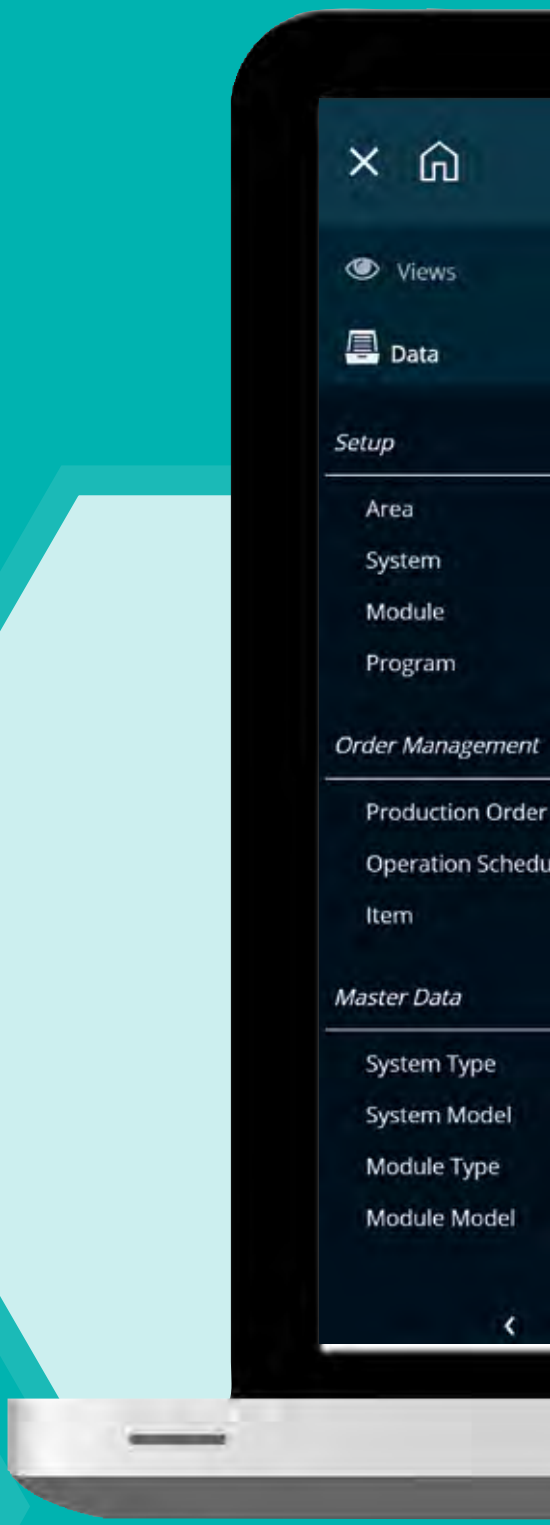
ERP – DIGITALIZED PRODUCTION

Enterprise Resource Planning

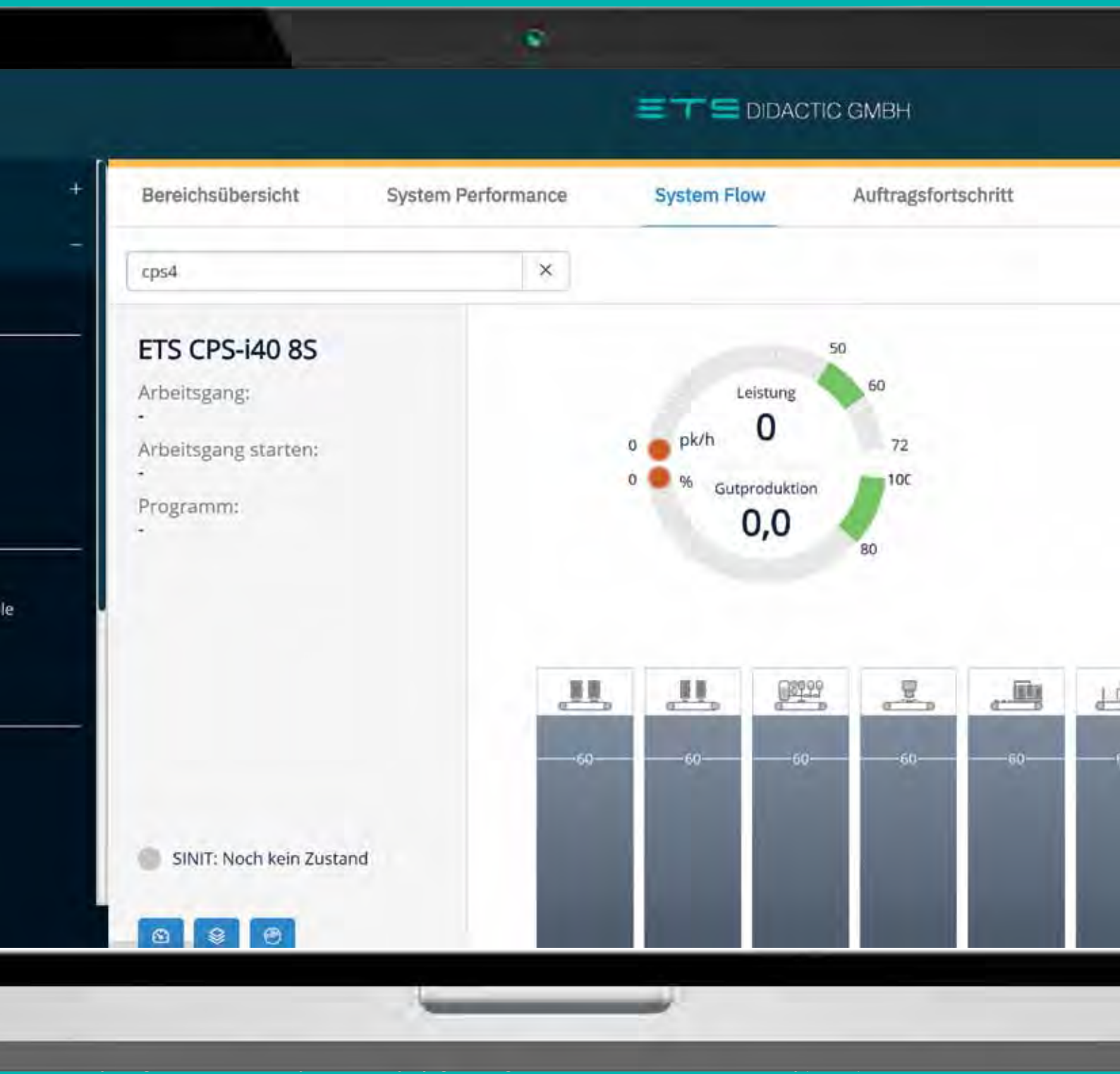
ERP – Enterprise Resource Planning with the Learning Factory – CPS-i40®

ERP is the abbreviation for Enterprise Resource Planning. ERP systems are business management software solutions for controlling business processes. They are used to control and manage operational resources such as capital, personnel or production resources in the best possible way.

CPS-i40 + SAP4school IUS = Industry 4.0
In terms of the definition of Industry 4.0 as "intelligent data flow from the customer through all hierarchical levels of the automation pyramid and back to the customer", the combination of a ConnectedFactory CPS-i40® and the connection to SAP4school is the perfect implementation of Industry 4.0 for teaching purposes.
As part of the SAP4school, an integrated and process-oriented learning environment has been created. It enables students to work on and analyze business processes using the ERP system of SAP® SE. The connection of the CPS-i40® to SAP4school makes it possible to go through all levels of the automation pyramid, from the customer order to the business management processes such as production control and production. In order to fully map the Industry 4.0 process, it is also necessary to return the production data to the ERP system via production control. Important characteristics are e.g. OEE, yield, missing parts, etc. Based on this information, subsequent processes are initiated.

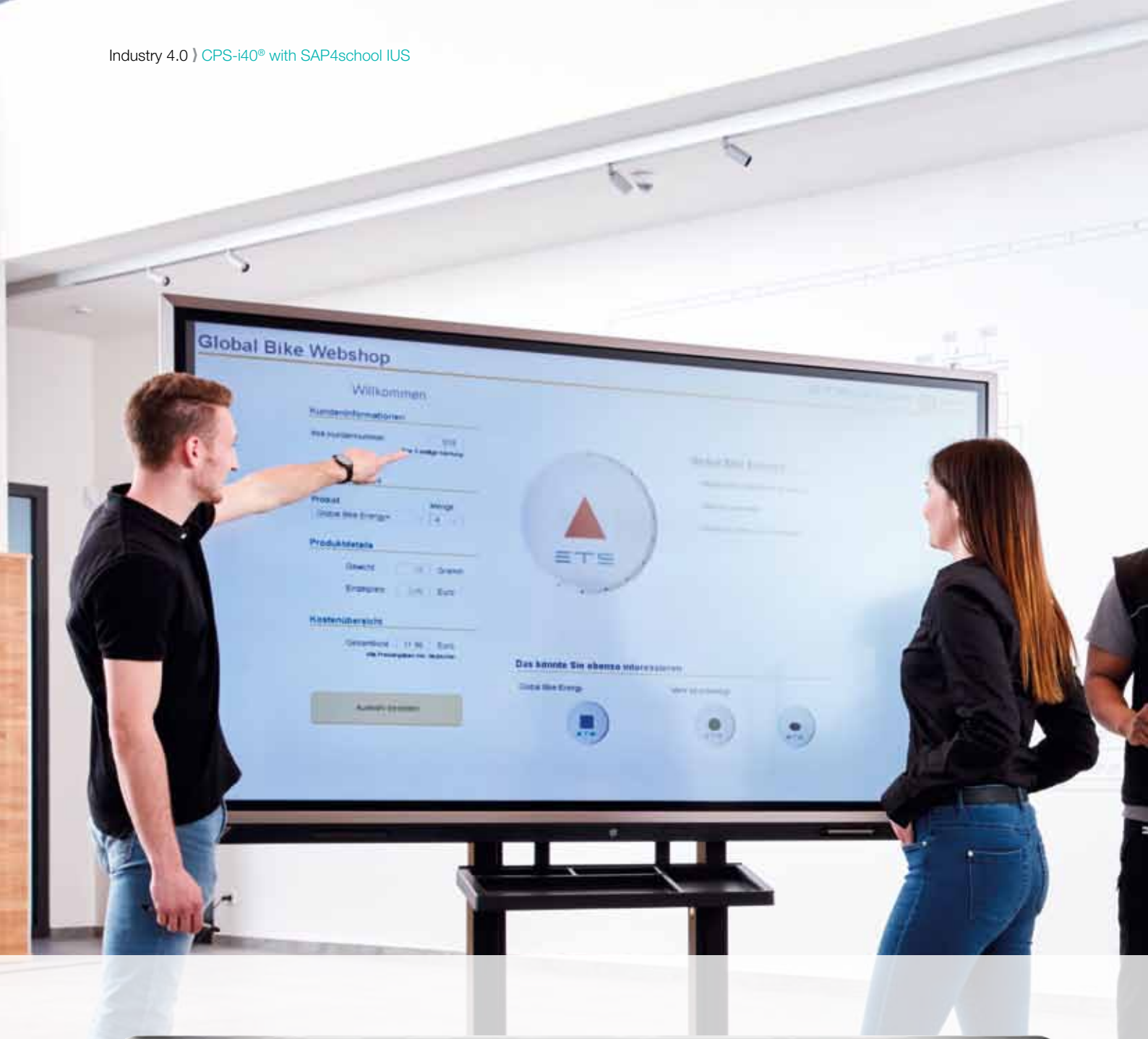


ERP



ranteed data flow (OPC-UA), an ERP system is able to control and manage operational resources.

SAP4school is a perfect implementation of Industry 4.0 for teaching purposes.


Global Bike Webshop
Willkommen
Kundeninformationen
Produktauswahl
Produktdetails
Kostenübersicht
Das könnte Sie ebenso interessieren


Global Bike Webshop
ETS DIDACTIC GMBH
SAP UCC Magdeburg
Willkommen
Kundeninformationen
Ihre Kundennummer:
019
Produktauswahl
Produkt
Menge
Global Bike Energy+
Produktdetails
Gewicht:
Gramm
Einzelpreis:
Euro
Kostenübersicht
Gesamtkost...
11,56
Euro
Auswahl bestätigen
Global Bike Energy+
- Beiliegender Energieriegel für Zwisch...
- Ideal für unterwegs
- Einfaches Öffnen und Schließen
Das könnte Sie ebenso interessieren
Global Bike Energy
Mehr ist unterwegs

WEBSHOP

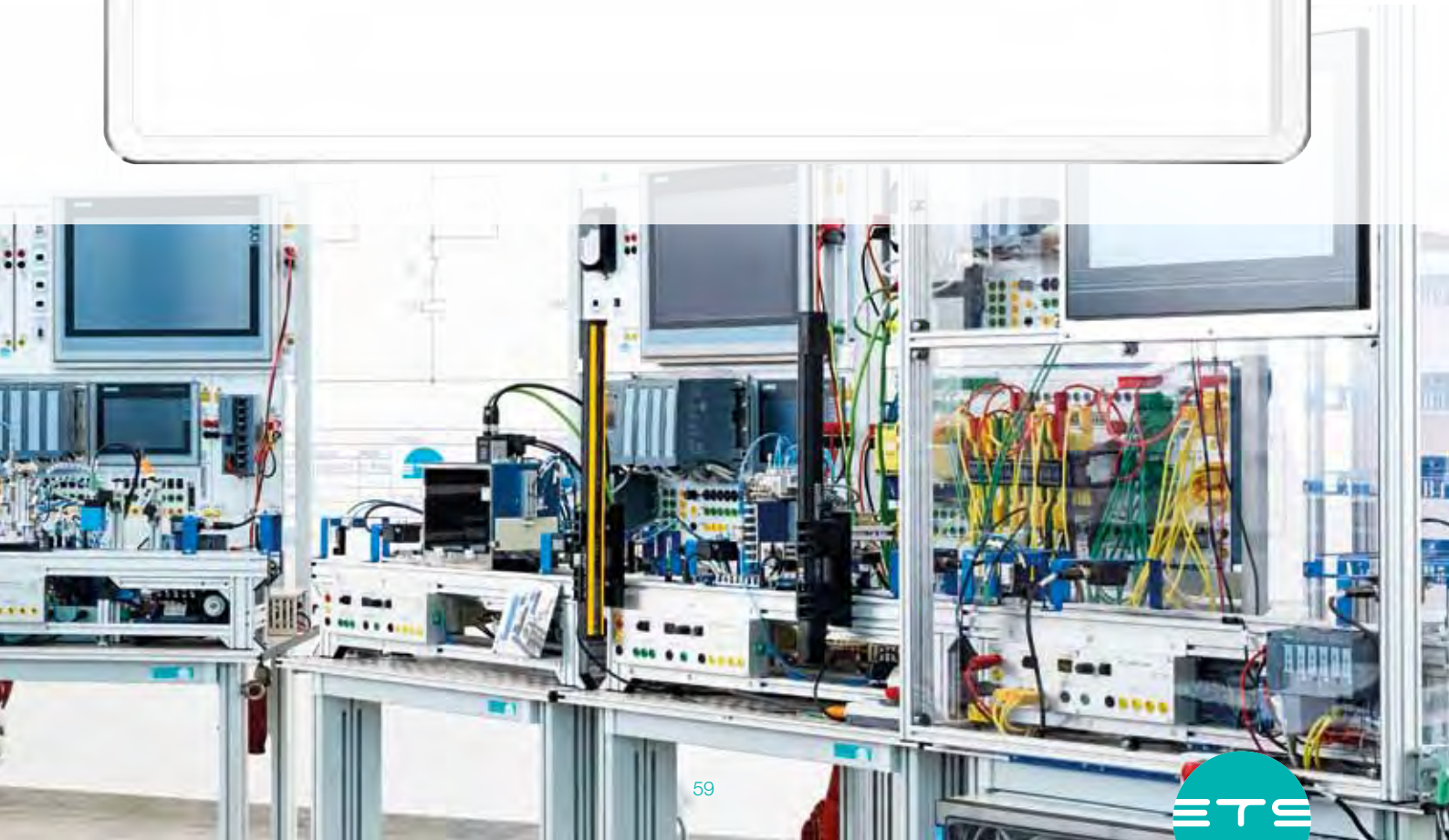
SAP4school – ERP-MES-SYSTEM

SAP University Alliances

ERP – SAP4SCHOOL - DASHBOARD

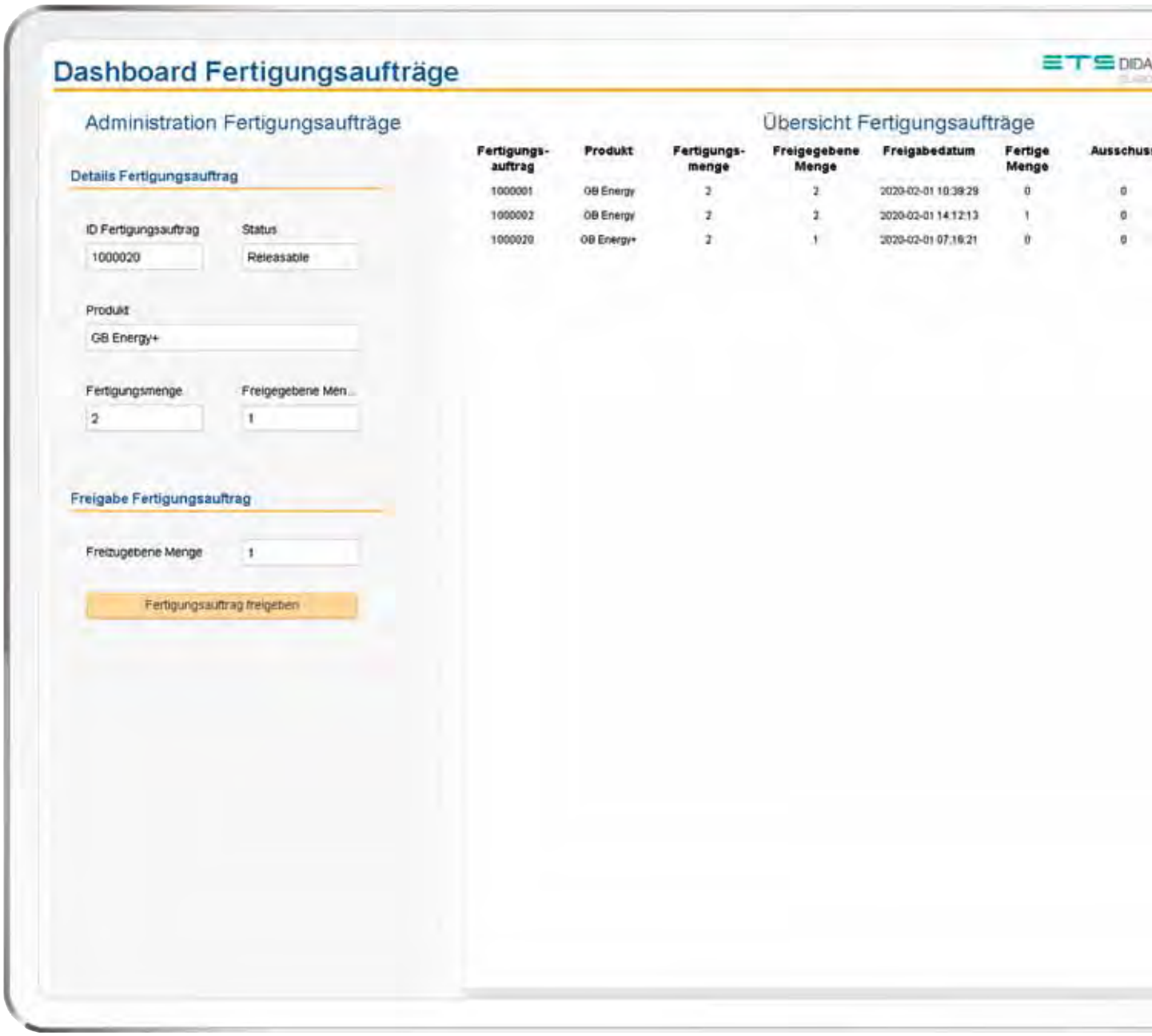
Webshop

CPS-i40® – Stations



ERP – SAP4SCHOOL - DASHBOARD

Production orders




CTIC GMBH
SAP UCC Magdeburg
Status
Closed
Closed
Releasable

MES – DIGITALIZED PRODUCTION

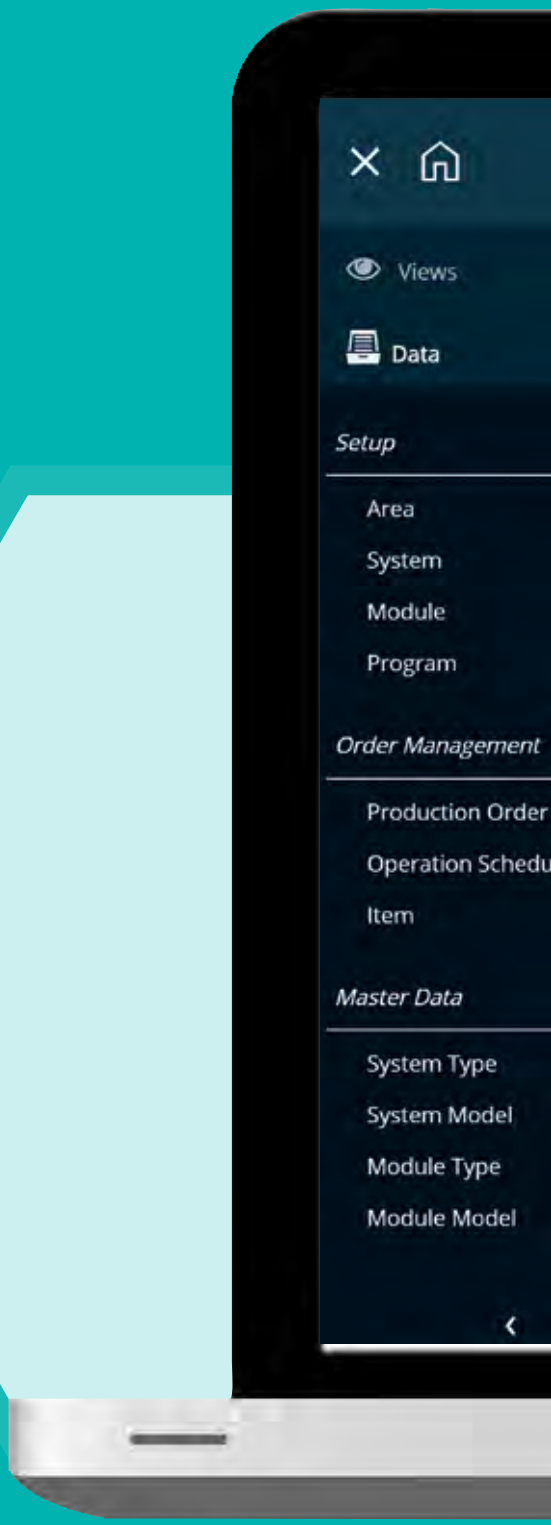
Manufacturing Execution System

MES – Manufacturing Execution System with the Learning Factory – CPS-i40

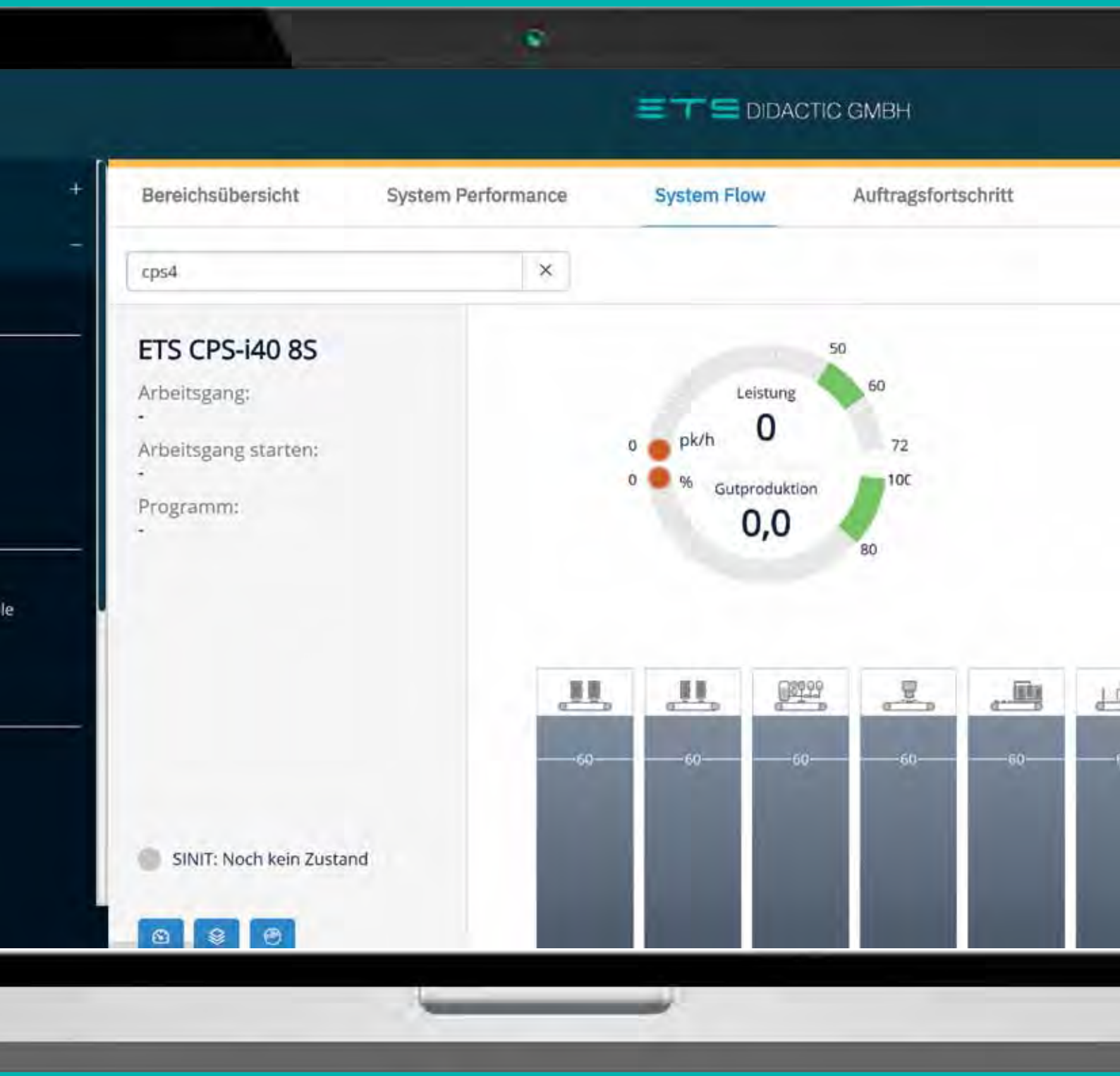
The control and monitoring of production plants is the primary task of an MES system. Digitalized production lines or modern production facilities are made transparent in their respective production types by a multitude of sensors, cameras and other measuring systems.

Through IT integration, the Manufacturing Execution System exchanges data directly with the shop floor level and thus forms the link from production to the ERP world.

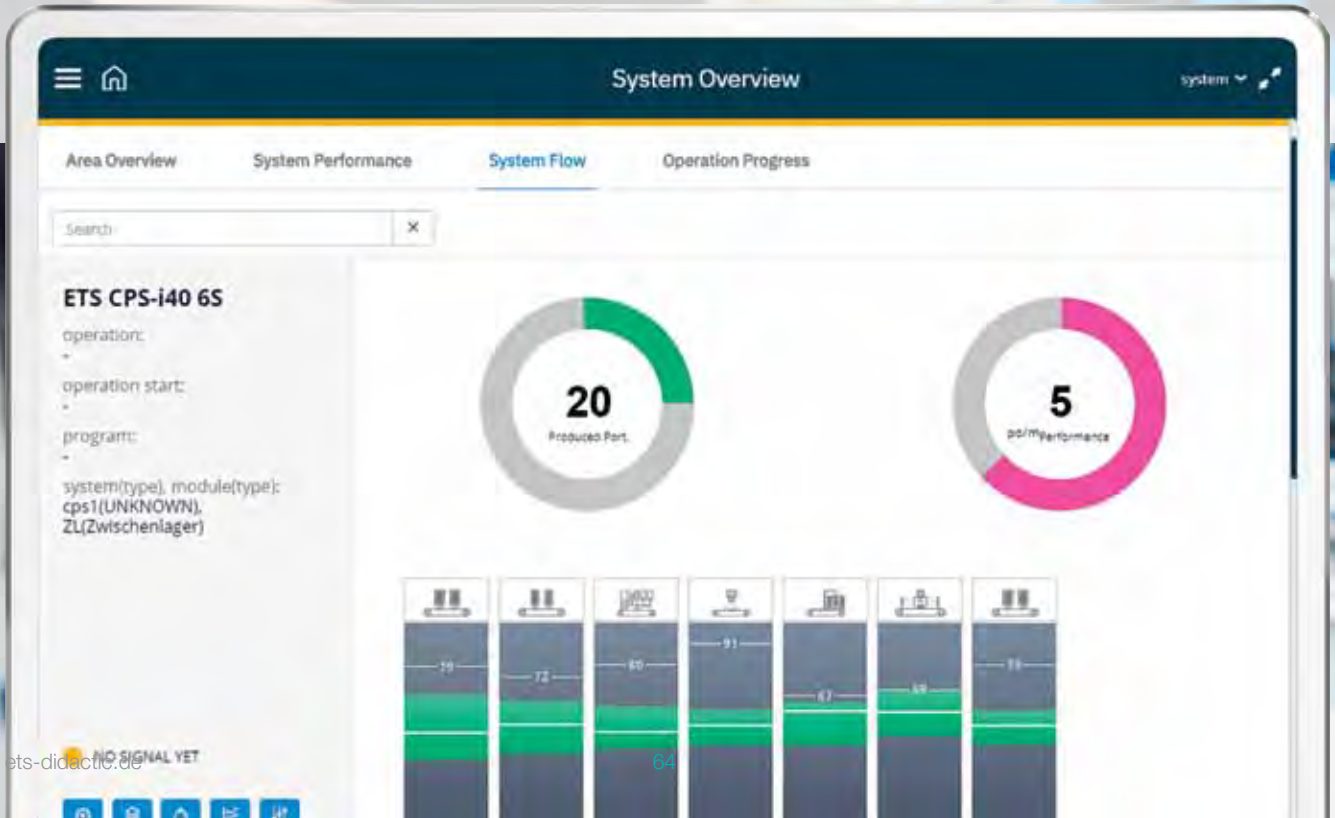
The transparency of the data or information is the basis for evaluation and control. This results in production optimization, product tracking, adherence to schedules and also the desired increase in added value or efficiency. This reflects the basic ideal of digitalization and the 4th industrial revolution (Industrie 4.0).



MES



Active MES software application

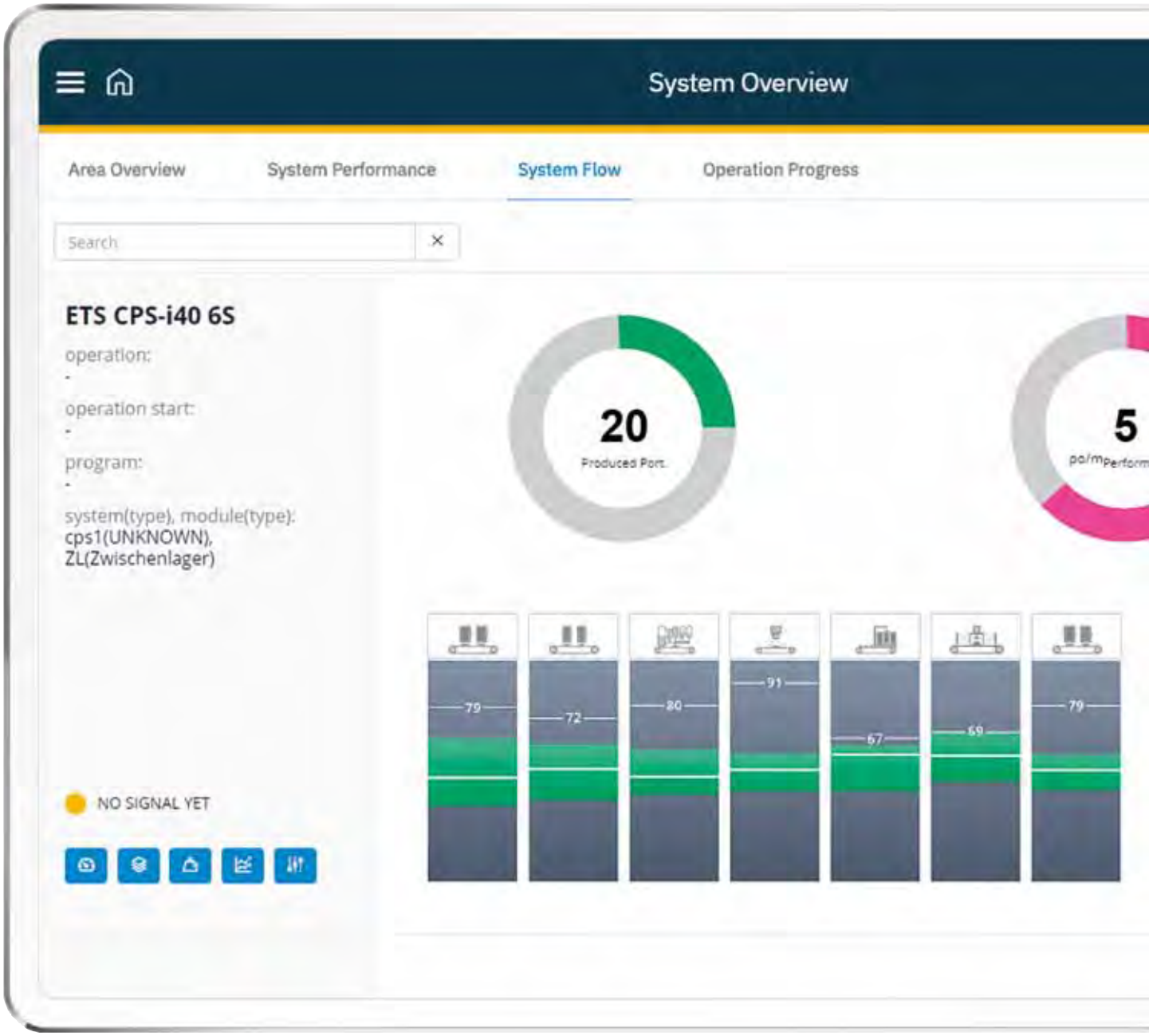

System Overview
system
Area Overview
System Performance
System Flow
Operation Progress
Search
ETS CPS-i40 6S
operation:
-
operation start:
-
program:
-
system(type), module(type):
cps1(UNKNOWN),
ZL(Zwischenlager)
20
Produced Part.
5
NO SIGNAL YET

MES-SYSTEM

MANUFACTURING EXCECUTION SYSTEM

MES – SYSTEM FLOW

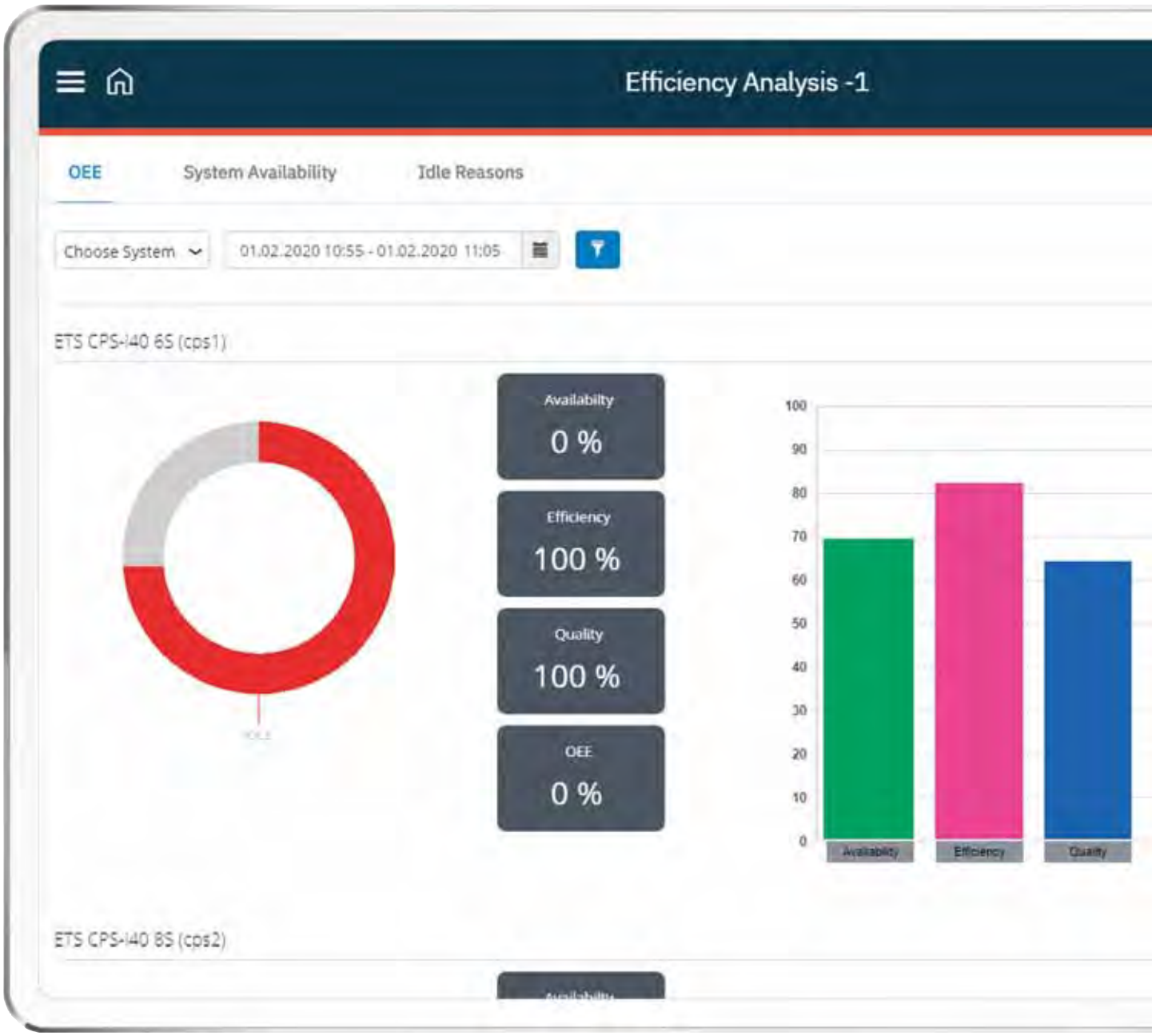
Optimization of the production process




system

MES – OEE

Overall Equipment Effciency

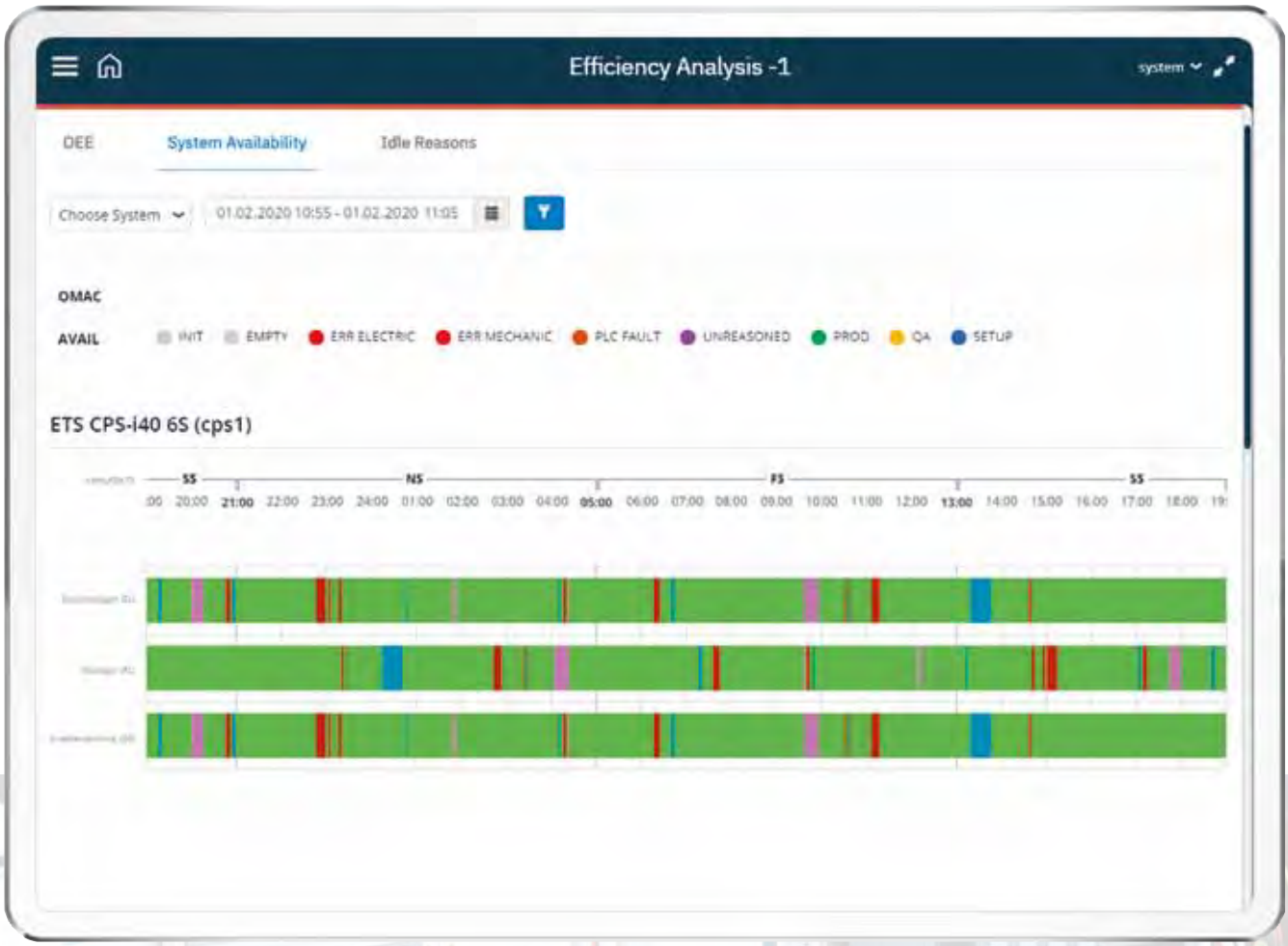



system
DEE

EFFICIENCY ANALYSIS

Machine traffic lights

Windows®


Efficiency Analysis -1
system
OEE
System Availability
Idle Reasons
Choose System
01.02.2020 10:55 - 01.02.2020 11:05
OMAC
AVAIL
INIT
EMPTY
ERR ELECTRIC
ERR MECHANIC
PLC FAULT
UNREASONED
PROD
QA
SETUP
ETS CPS-i40 6S (cps1)
SS
NS
FS
SS
21:00
05:00
13:00

CYBER SECURITY

IT security of production networks

Due to the increasing digitalization of industrial plants, the risk in terms of data security automatically increases. The task is to operate production networks securely and to protect them from external influences.

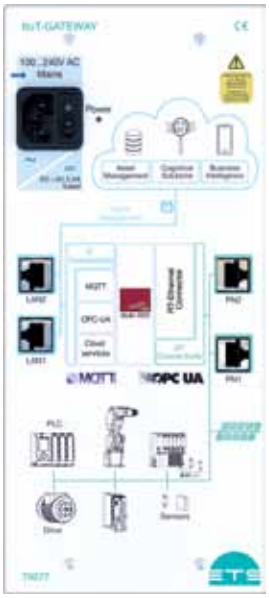
The aim of the ETS training system is to achieve confidence in action, to recognise dangers and to take measures to remedy them. Practical exercises for developing competences are in the foreground here.

72

Network security as a central component of an industrial security concept

IIOT - GATEWAY – INDUSTRIAL INTERNET OF THINGS

From sensor to the cloud



1

Learning Objectives

- From Operation Technology (OT) to Information Technology (IT)
- Commissioning a PROFINET system with TIA-Portal
- Commissioning IOT
- Integrating the IOT into the process
- Getting to know the Node-RED editor
- Basic exercises with Node-RED
- Values from the controller to a send MQTT broker
- Display machine data on the smartphone

Smart Engineering right in the Cloud!

No.	Designation	Order No.
1	IIoT-Gateway Board	70077

DIGITAL PRODUCTION

connectedFACTORY CPS-i40 ADVANCED

SIEMENS MindSphere

Software
TIA Portal V16

Digital Twin NX19
with TIA Portal V16

Software PLCSIM
Advanced II

MES

ERP

TP 1500

PLC S7-1516-3

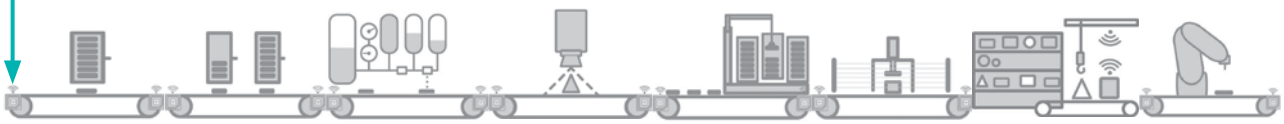
XC208

Security S615

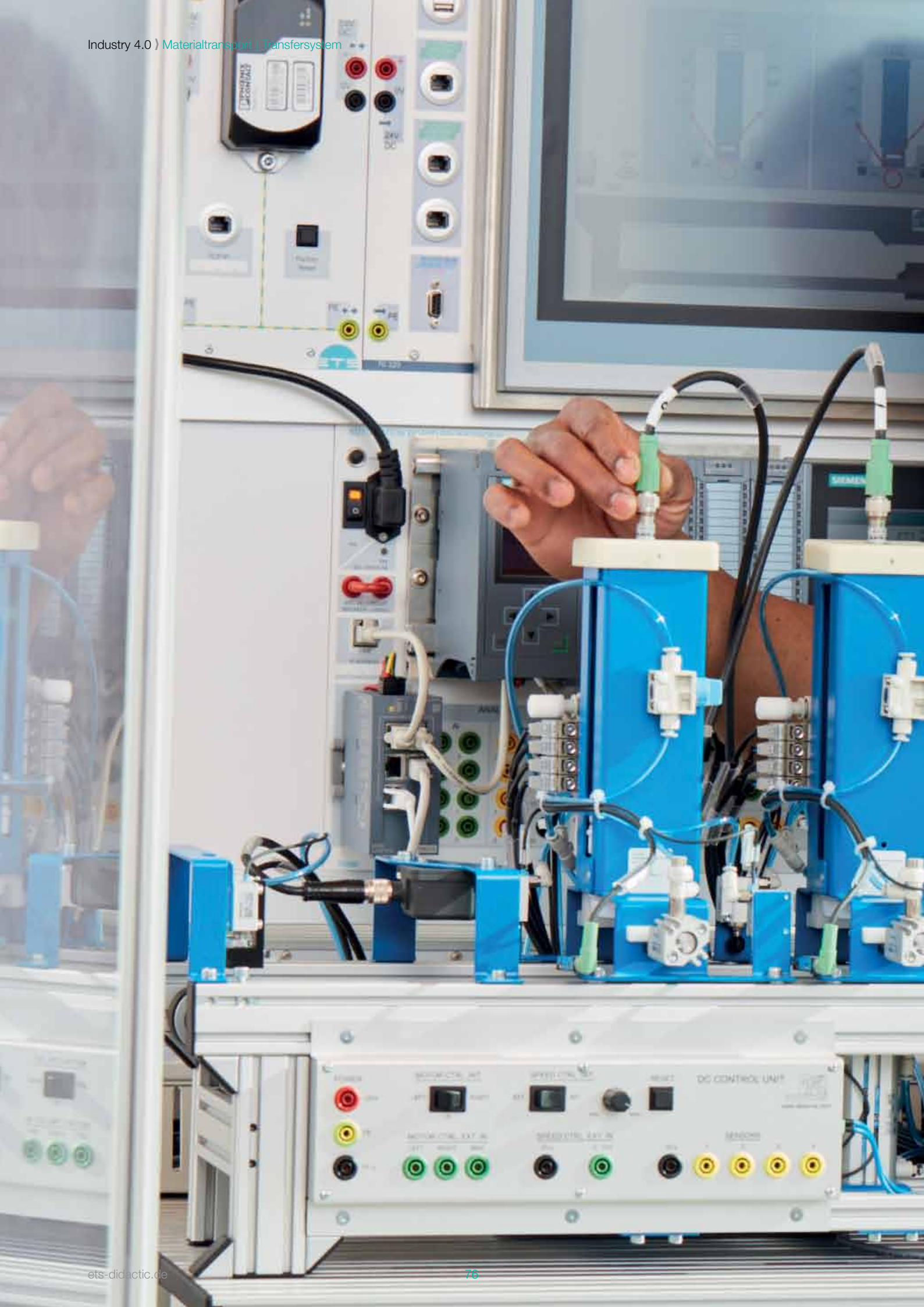
connectedFACTORY CPS-i40 ADVANCED

PLC S7-1516-3 ET200 SP
TP700 IO-Link

RFID



Temporary storage | Material storage | Filling | Quality control | Handling | Press | Intelligent storage | Robot


DC CONTROL UNIT

MATERIAL TRANSPORT

TRANSFER SYSTEM AND AUTOMATS

MATERIAL TRANSPORT | TRANSFER SYSTEM

DC | AC | Servo - Unit

1

2

3

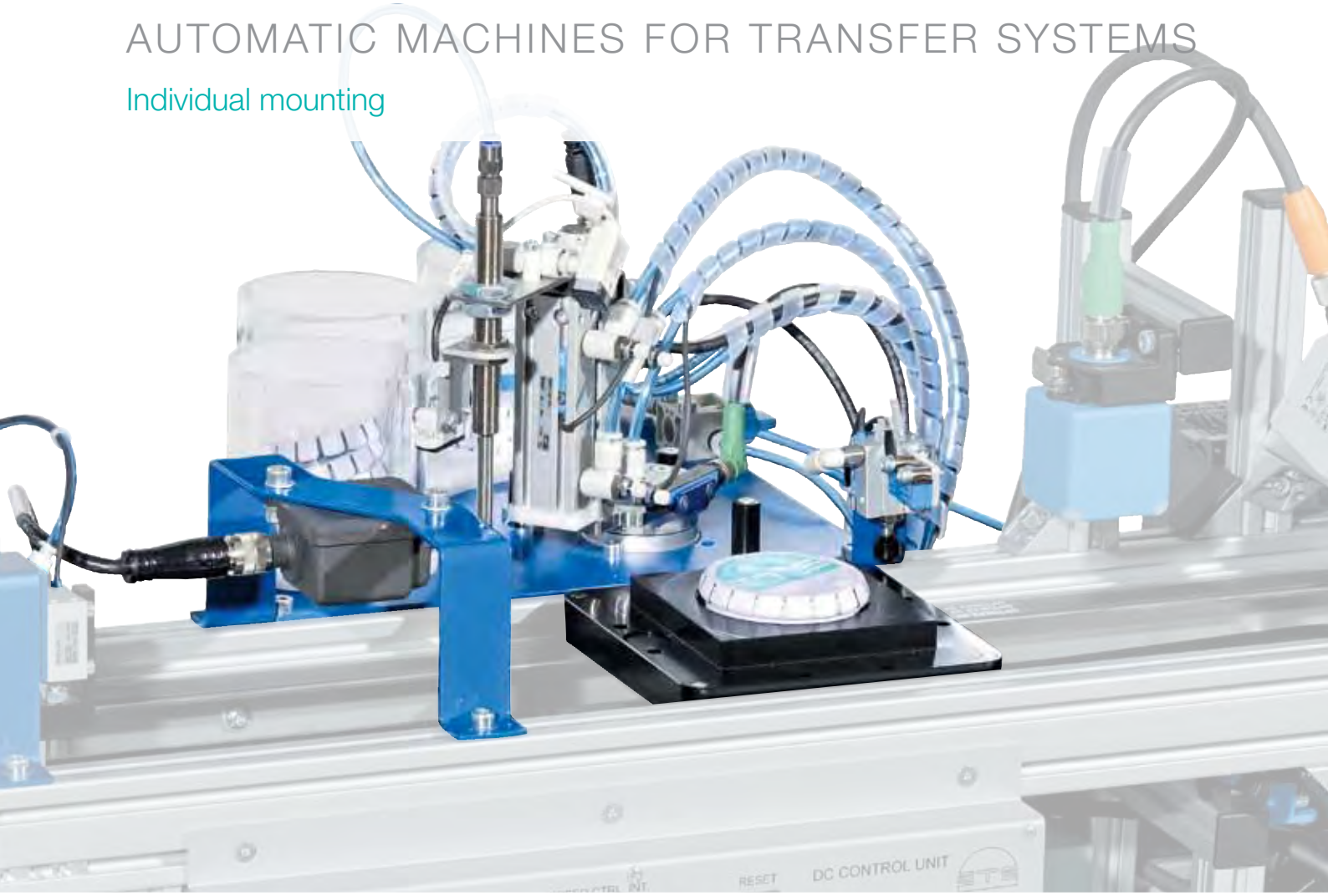
Learning Objectives

- Fulfilling operational tasks
- Assembly of drives in the AC / DC / Servo range
- Control of drives in the AC / DC / Servo range
- Design of buffer systems, signal transfer etc.

No	Designation	Order No.
1	Transfer system DC	80590
2	Transfer system AC	80591
3	Transfer system Servo	80585

AUTOMATIC MACHINES FOR TRANSFER SYSTEMS

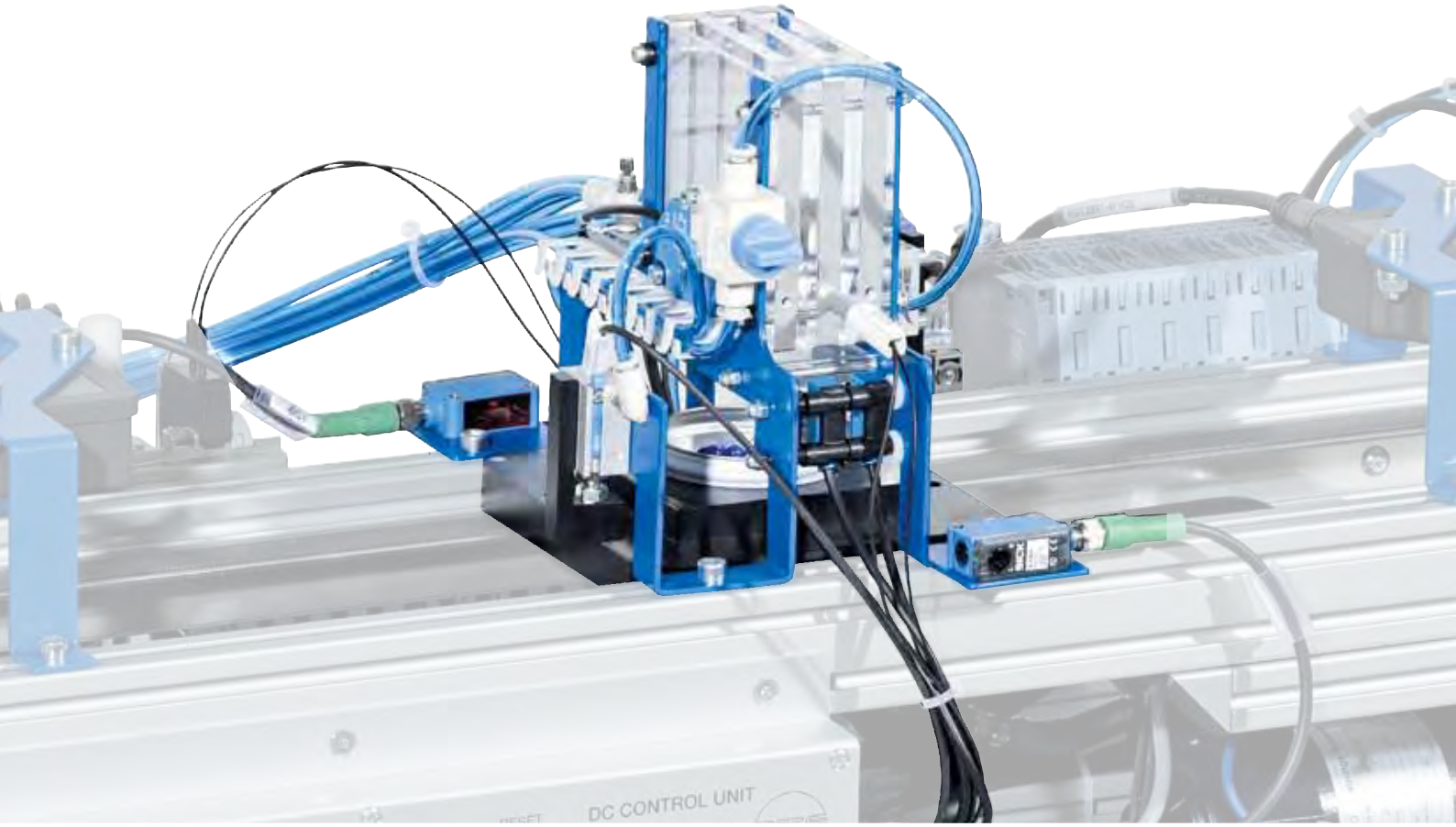
Individual mounting

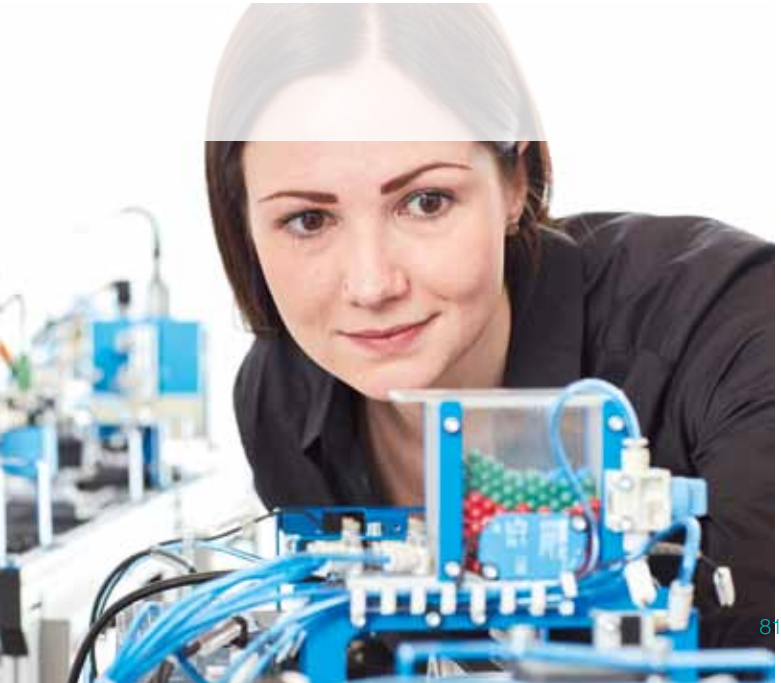


Applications

- ⟩ Sensors
- ⟩ Actuators
- ⟩ Individual product design
- ⟩ Process monitoring, sub-steps

Filling



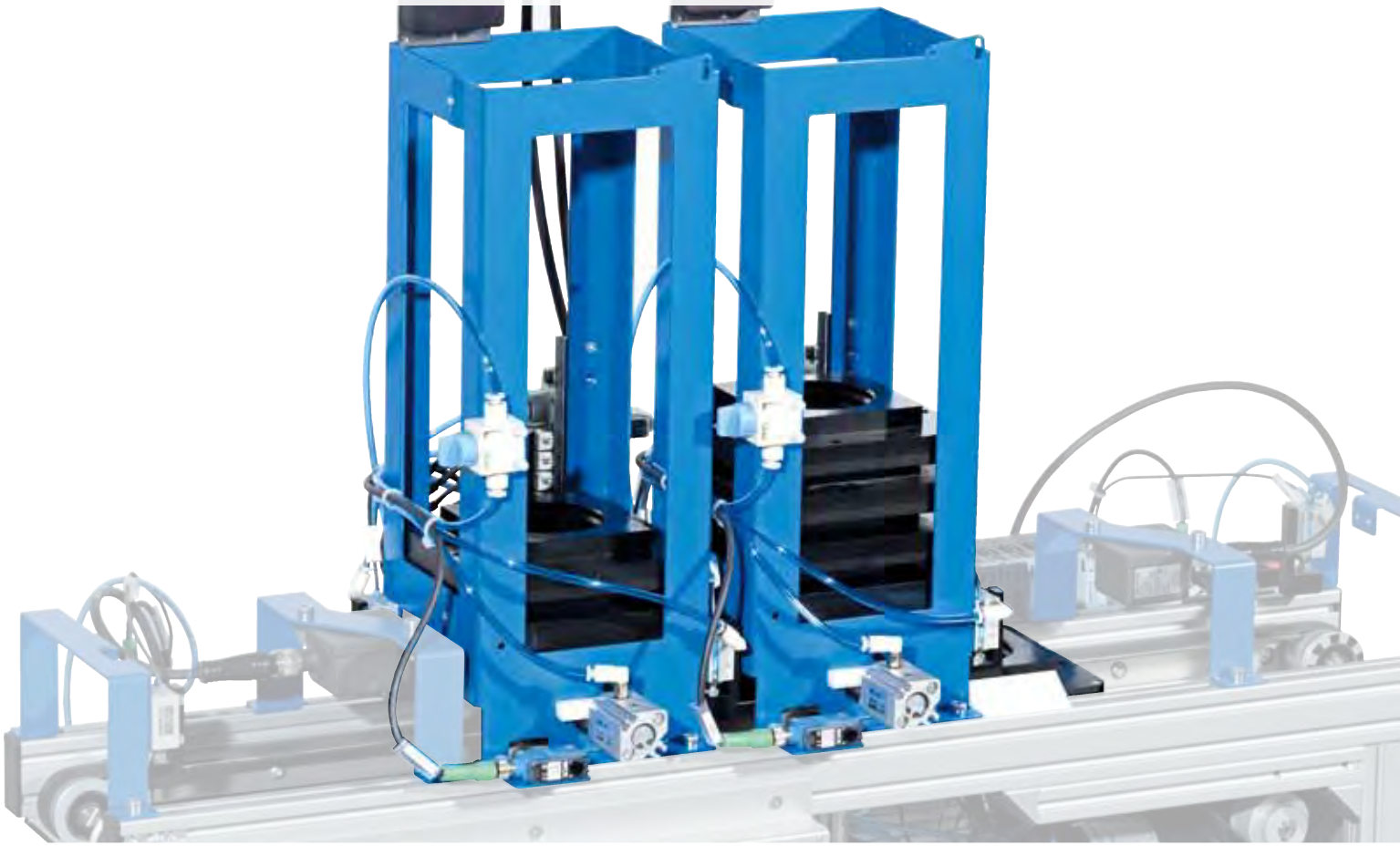


Applications

- Individual filling
- Sensors
- Actuators

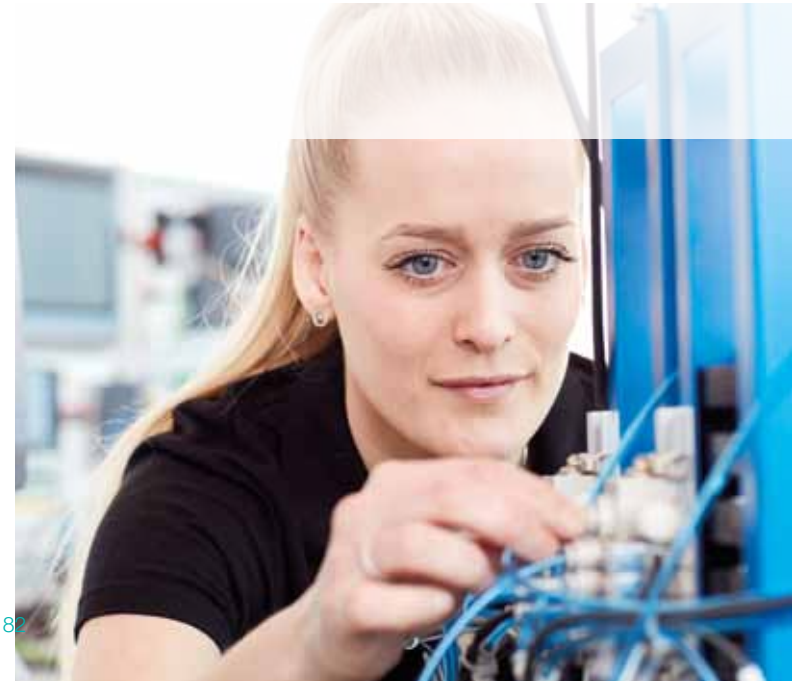
AUTOMATIC MACHINES FOR TRANSFER SYSTEMS

Temporary storage

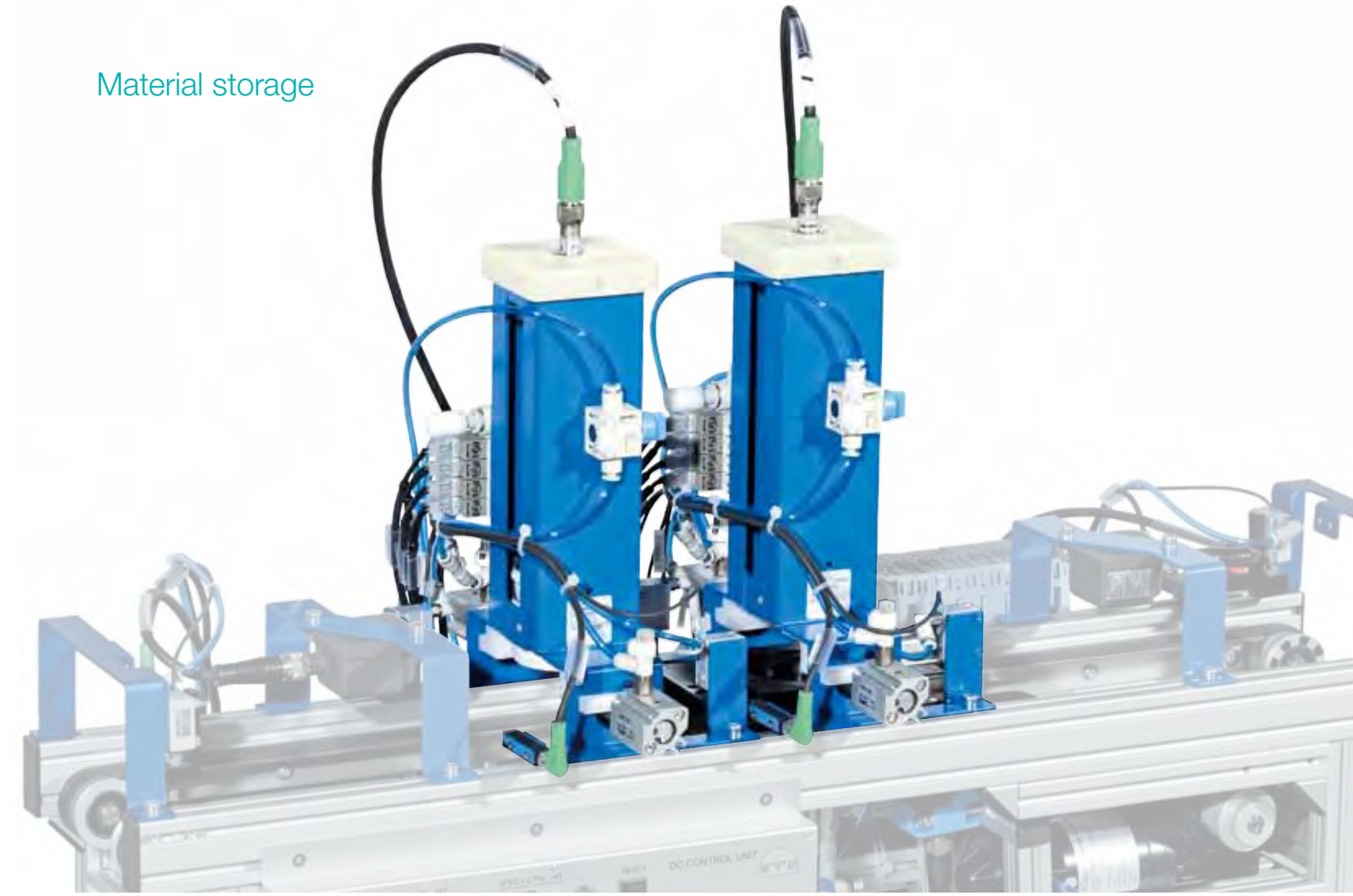


Applications

- ⟩ Inbound / outbound
- ⟩ Finished products
- ⟩ Empty pallets
- ⟩ Sensors - Ultrasound



Material storage

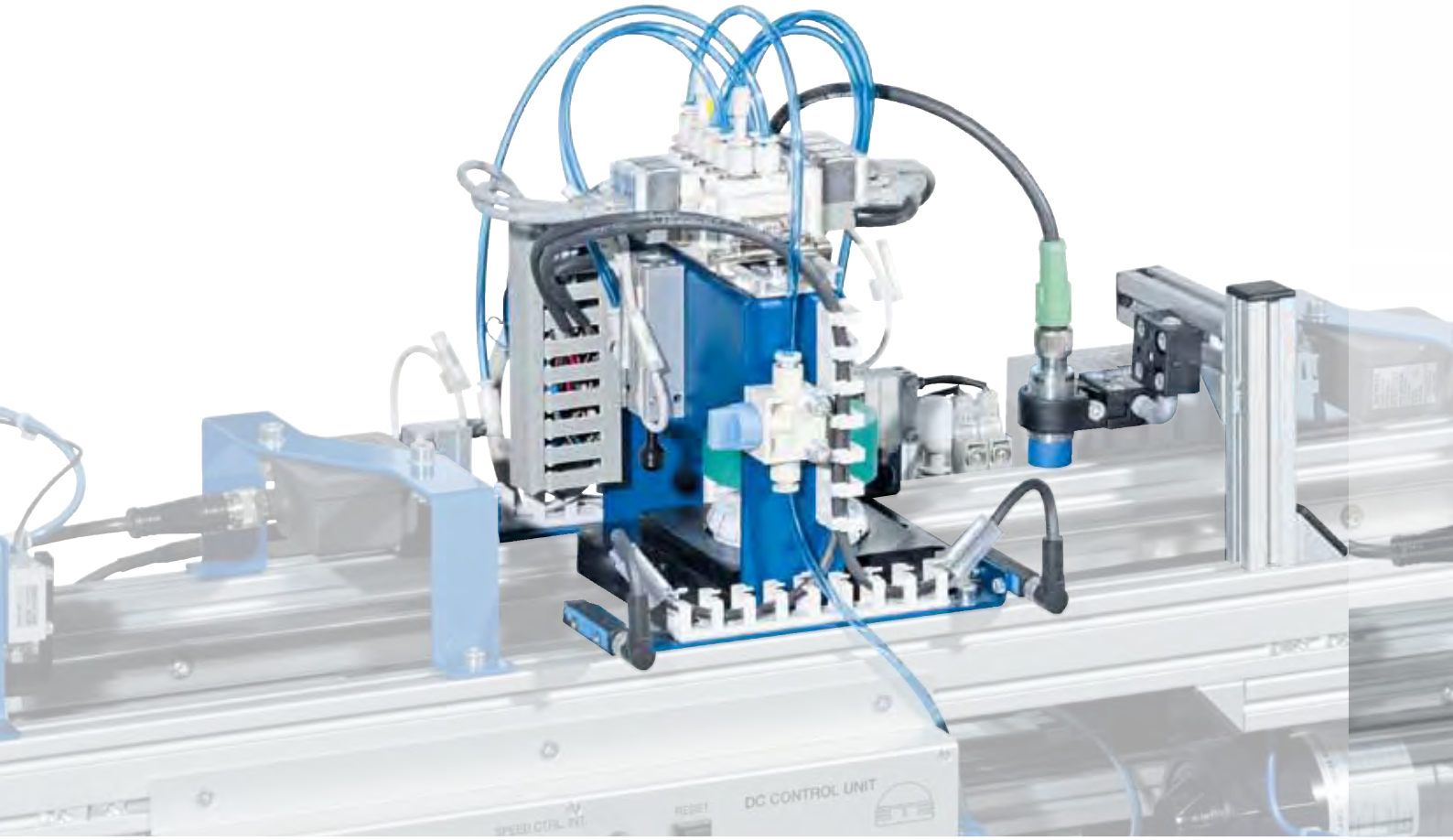


Applications

- Material requistion
- Filling level control
- Sensor technology - analog / digital - IO-Link

AUTOMATIC MACHINES FOR TRANSFER SYSTEMS

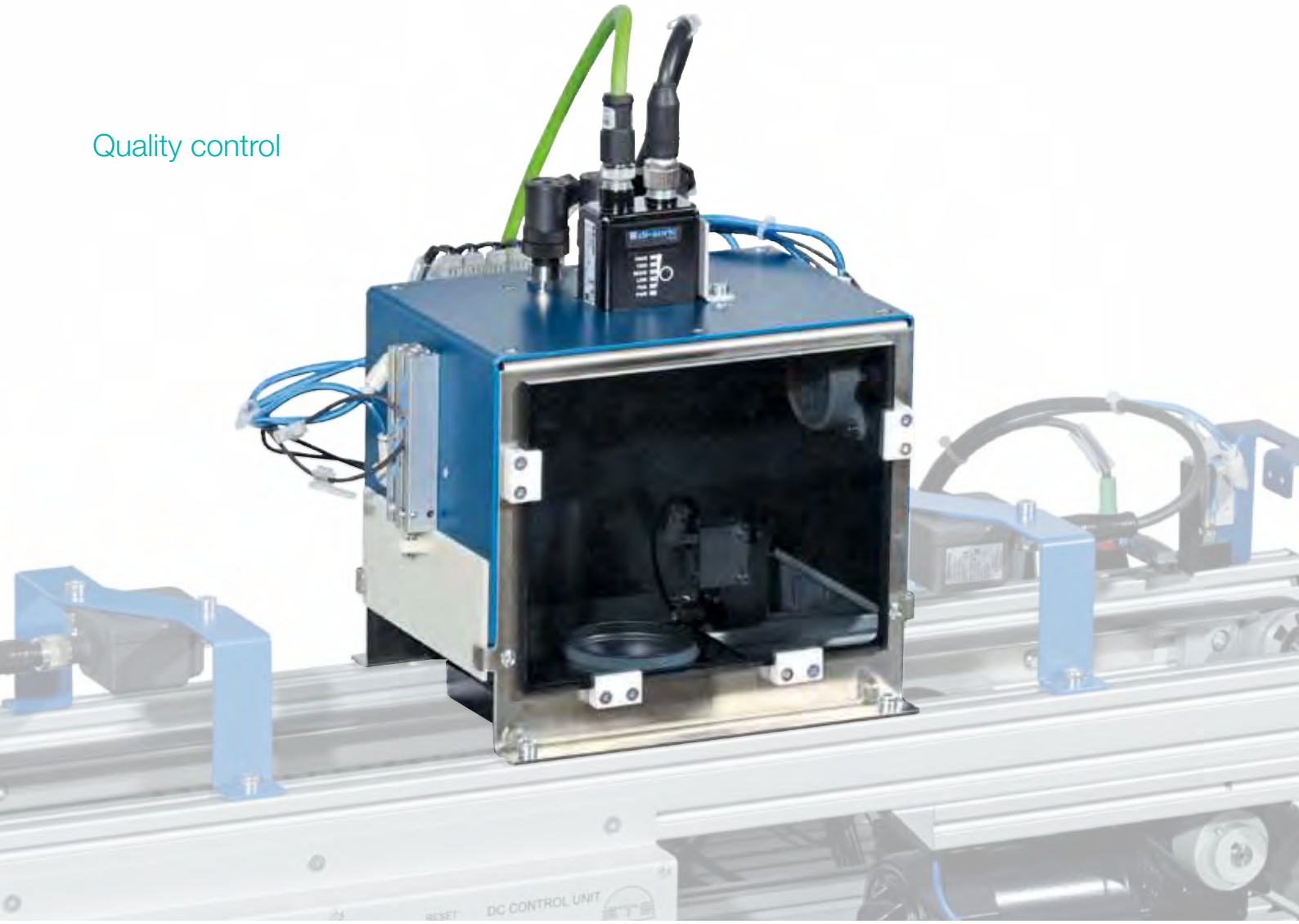
Press



Applications

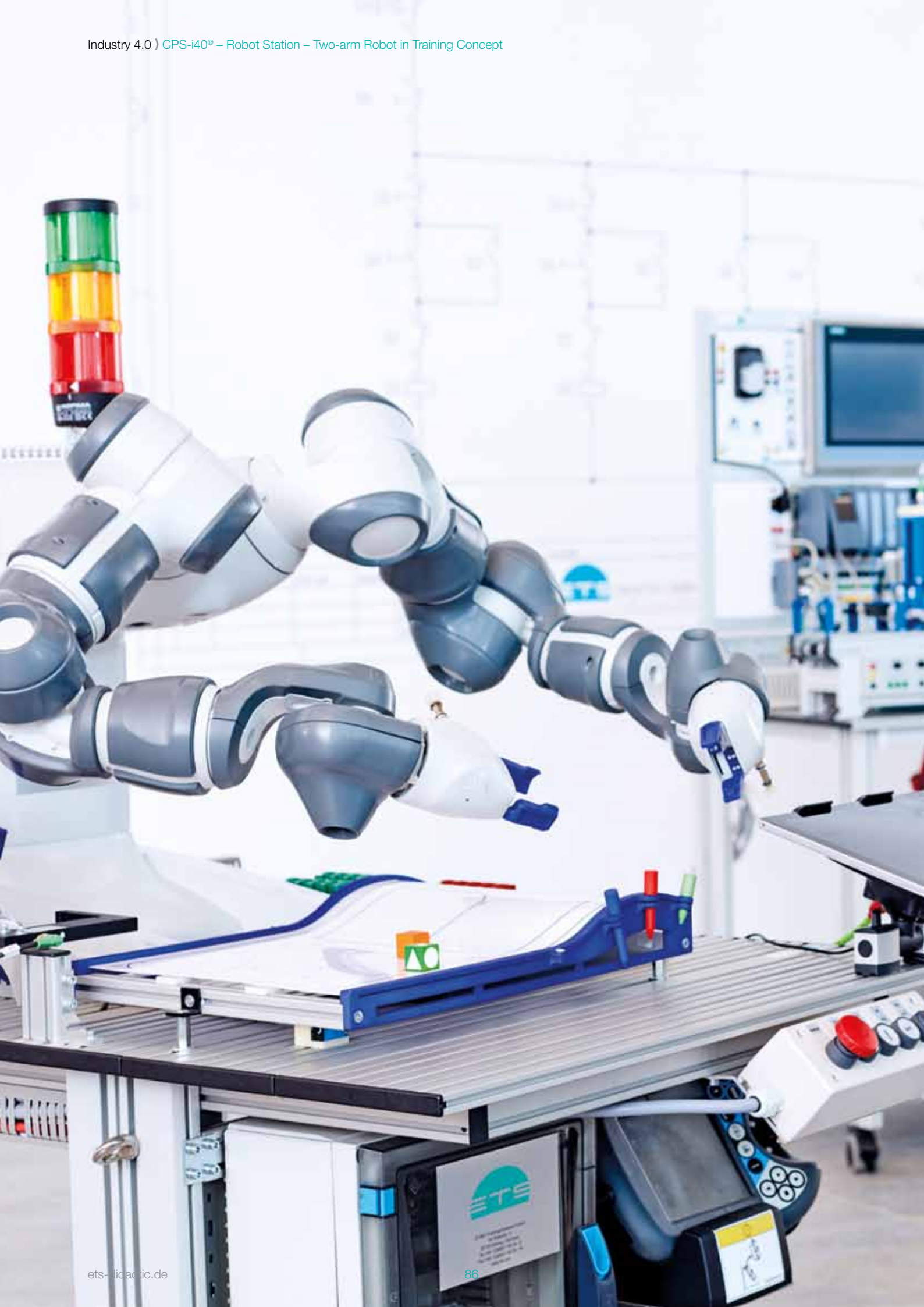
⟩ Assembly
⟩ Disassembly
⟩ Sensor technology - inductive

Quality control



Applications

- Quality control
- Individual inspection
- Product recognition
- Code recognition
- Color recognition

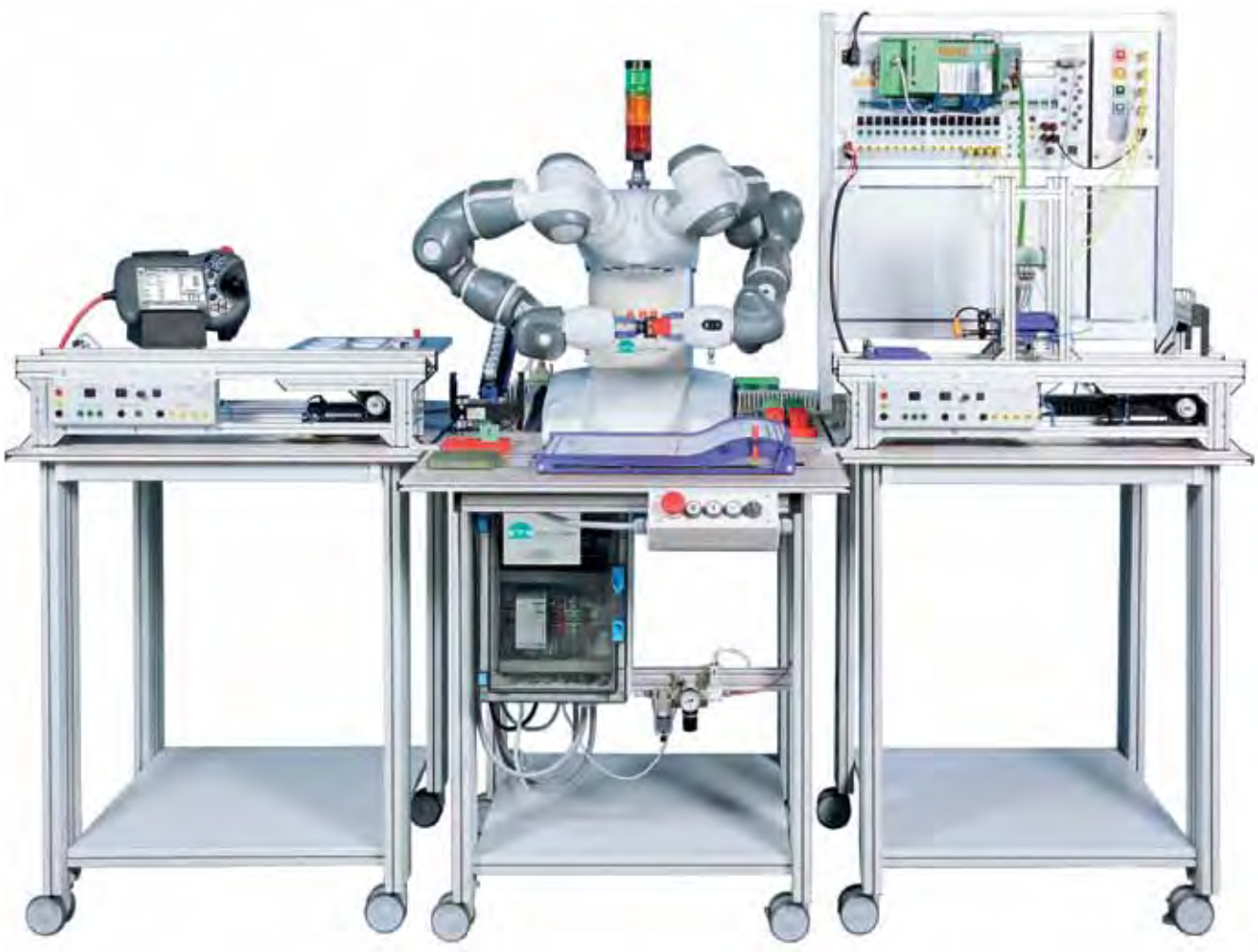


INDUSTRIAL ROBOTICS

MODULAR AND SAFE

CPS-i40® – FUTURE BETWEEN PEOPLE AND ROBOTS

Collaborative two-arm industrial robot – connectedFACTORY



Simply genius – modular and safe
Robots are applied in industrial settings all over the world and represent a new era of really collaborative industrial robots.

Programming has been simplified for the user to a great extent.

"Programming by control" allows to enter the individual movements or steps by moving the arms and subsequent saving of individual motion sequences.

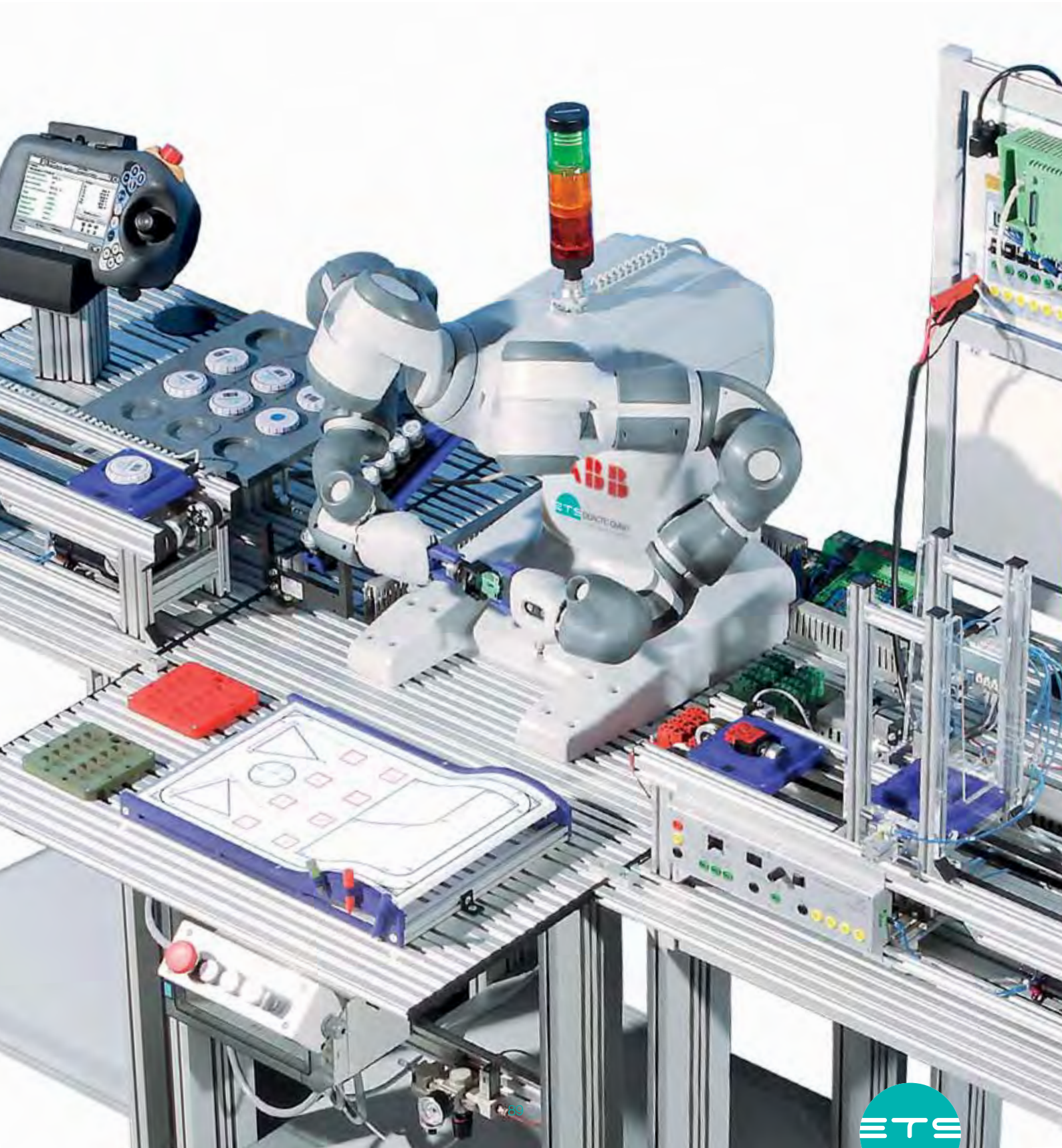
The robotic system can imitate the motions carried out by the user time-efficiently and is therefore programmed intuitively. Join in robotic programming of tomorrow already today.

As a matter of course, the standard RAPID programming is supported, too.

The unique design of the two-arm robot guarantees "inherent safety". The arms are padded and there aren't any barriers or housings etc. required. So, men and robot can work together hand in hand.

Collaborative robots will play an important role in machine processing when it comes to industrial revolution „Industry 4.0“ or „Internet of things“.

Invest in the future and ensure optimum preparation of your participants for future challanges in practical work by using our training systems.



ABB

CPS-i40® – ROBOT STATION – TWO-ARM ROBOT

Collaborative two-arm robot with training station

Consisting of

- Car for mechatronic engineers
- Switchboard with power supply
- Two-arm robot, collaborative with right and left gripping hand
- 2 storage modules for contacts
- Material storage button
- Pneumatic service unit

Technical Data

- Operating voltage 230 AC
- Collaborative two-arm robot
- Left gripping hand with camera
- Right gripping hand
- Integrated control
- Handheld terminal Flexpendant® color with touchscreen
- Device net master
- PROFINET slave
- PC interface
- 2 x 7 axes
- 24 digital inputs and outputs
- Repeatabillity t 0.02 mm

No.	Designation
1	Collaborative two-arm robot
2	Training station

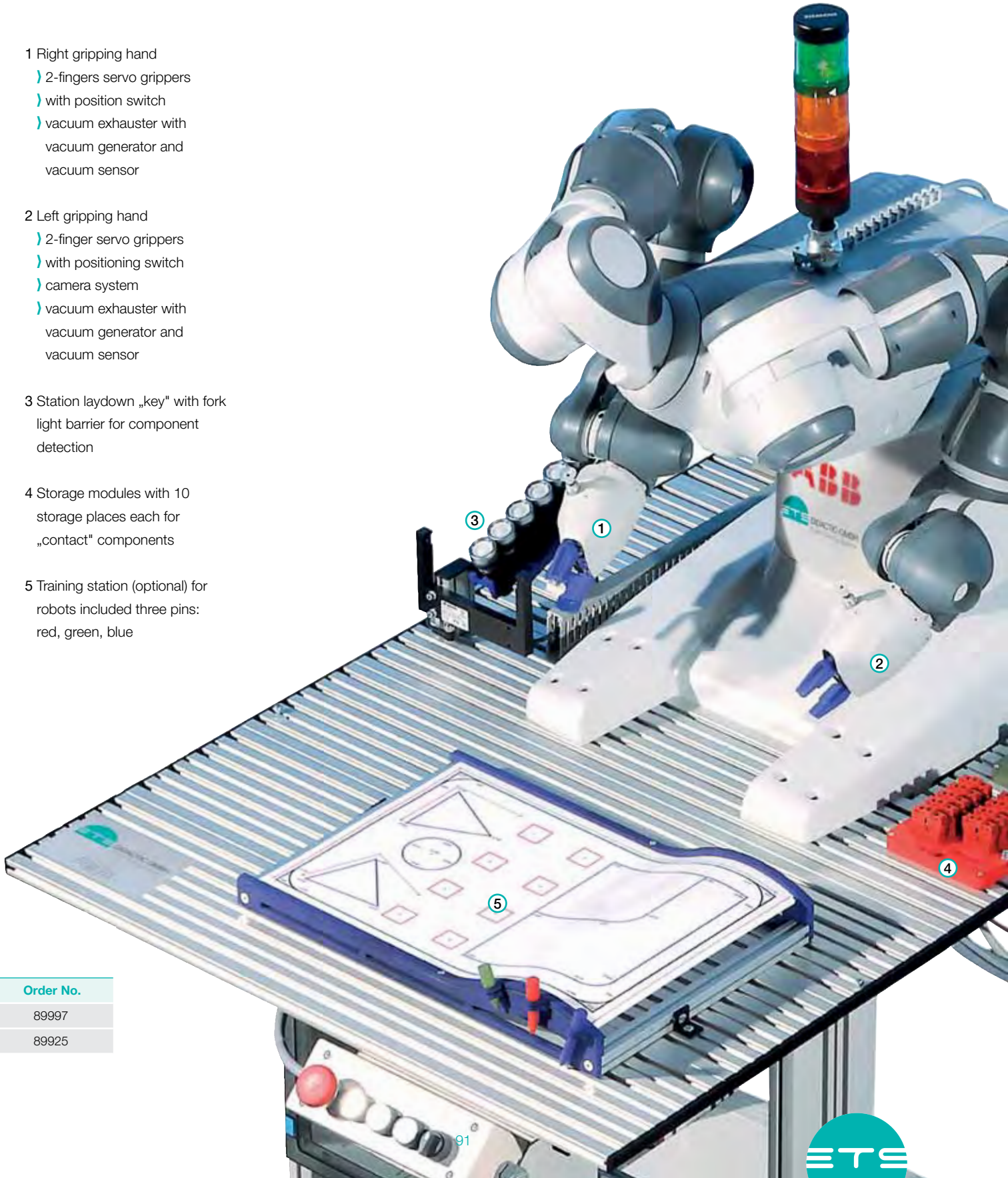
1 Right gripping hand
- 2-fingers servo grippers
- with position switch
- vacuum exhauster with vacuum generator and vacuum sensor

2 Left gripping hand
- 2-finger servo grippers
- with positioning switch
- camera system
- vacuum exhauster with vacuum generator and vacuum sensor

3 Station laydown „key" with fork light barrier for component detection

4 Storage modules with 10 storage places each for „contact" components

5 Training station (optional) for robots included three pins: red, green, blue



	Order No.
	89997
	89925

CPS-i40® – ROBOT STATION – TWO-ARM ROBOT

Option: Application „Programming by operating “

Advantages of the system

- No barriers, no housing, no zones necessary
- Safety due to padded arms
- Simple usage: „Programming by operating“
- Coprehensive opertions for communication
- Double arm - multitasking
- Integrated vision – Camera in gripper of robot
- Certified safety

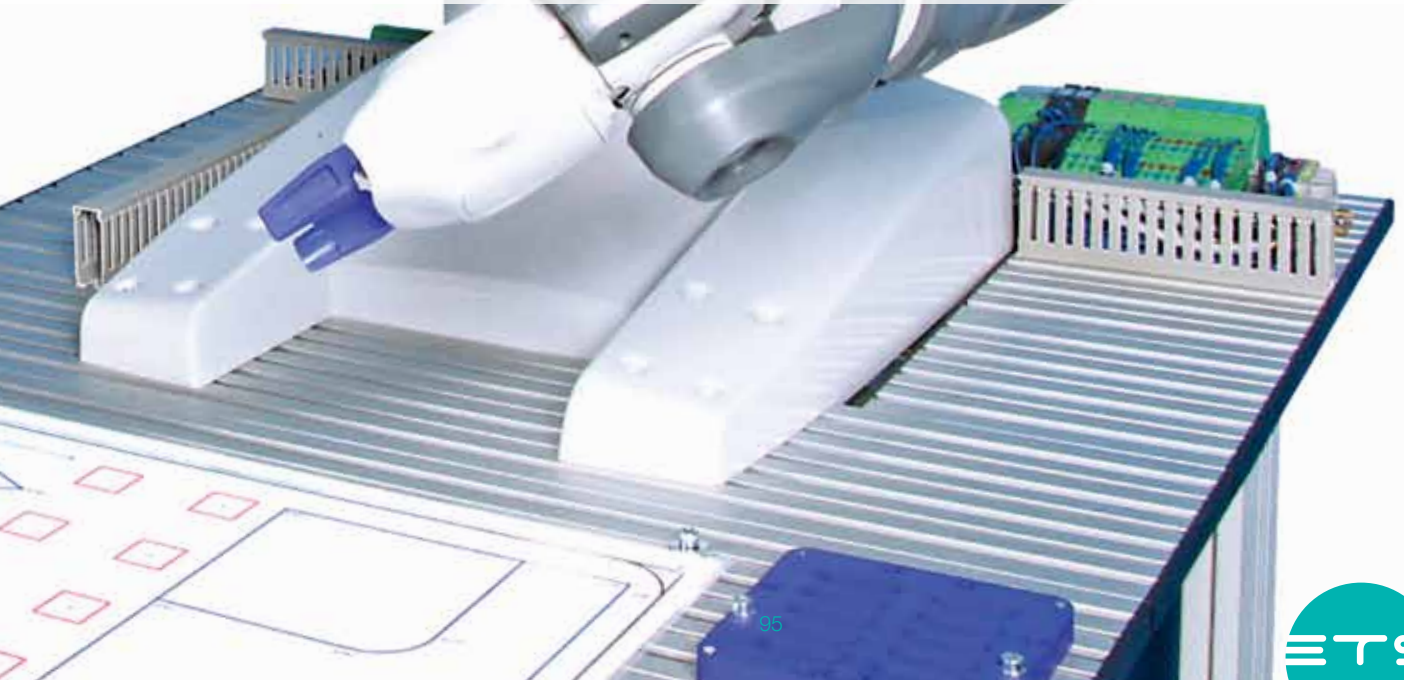
Set the course for the FUTURE DIGITALIZATION!

Programming by operating

- Simple usage
- Programming by operating simplifies programming
- Integrated vision can handle unsorted parts
- Communication cables are not needed for wireless tablet programming
- Standard RAPID programming possible as with other robots.

„PROGRAMMING BY OPERATING“

PER APP WITH THE TABLET



CPS-i40® – ROBOTIC CELL Safety*CUBE*® – PROFESSIONAL

Flexibel – stand-alone or fully integrated

1

Learning objectives

- Mounting, installation, operation, programming robot handling system
- Analysing motion sequences, determining reference and drive points, optimising trajactories
- Installing, programming and testing of task-specific control and safety concepts – motion sequences with linear interpolation, joint interpolation and circular intepolation
- Programming of trajactory movements
- Use of different effectors (gripper, exhauster) and tools

Technical Data

- Operating voltage: 230 V 50 / 60 Hz
- Number of axes: 6
- Maximum lifting capacity: 3 kg (4 kg with vertical wrist)
- Maximum speed: 6,200 mm/s
- Repeatabillity: ± 0.01 mm
- FlexPendant® color with touchscreen
- Control unit with Ethernet interface
- 32 digital inputs and outputs
- Emergency stop and light screen
- Optional: Profinet interface
- Optional: Integrated vision with high-resolution camera system

No.	Designation	Order No.
1	6-Axes Robot cell Safety Cube® 3 kg	89991
2	6-Axes Robot station PROFINET-Slave Interface	89992
3	6-Axes Robot station PROFINET-Slave Interface and integrated Vision	89993

Optional Profinet interface

› with Profinet slave interface

2

Optional

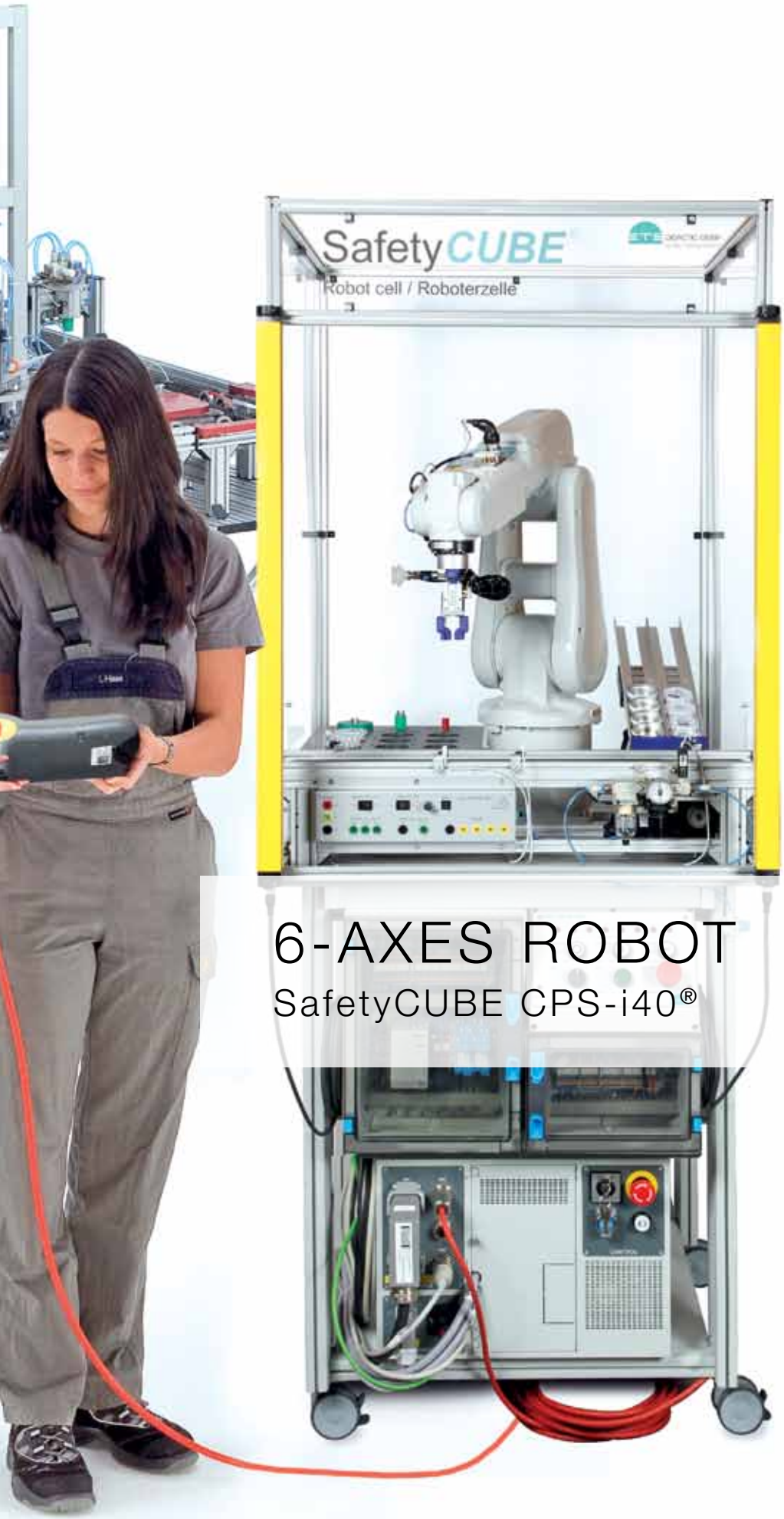
Profinet interface and

integrated vision

› Integrated Vision with

(high resolution camera system)

3

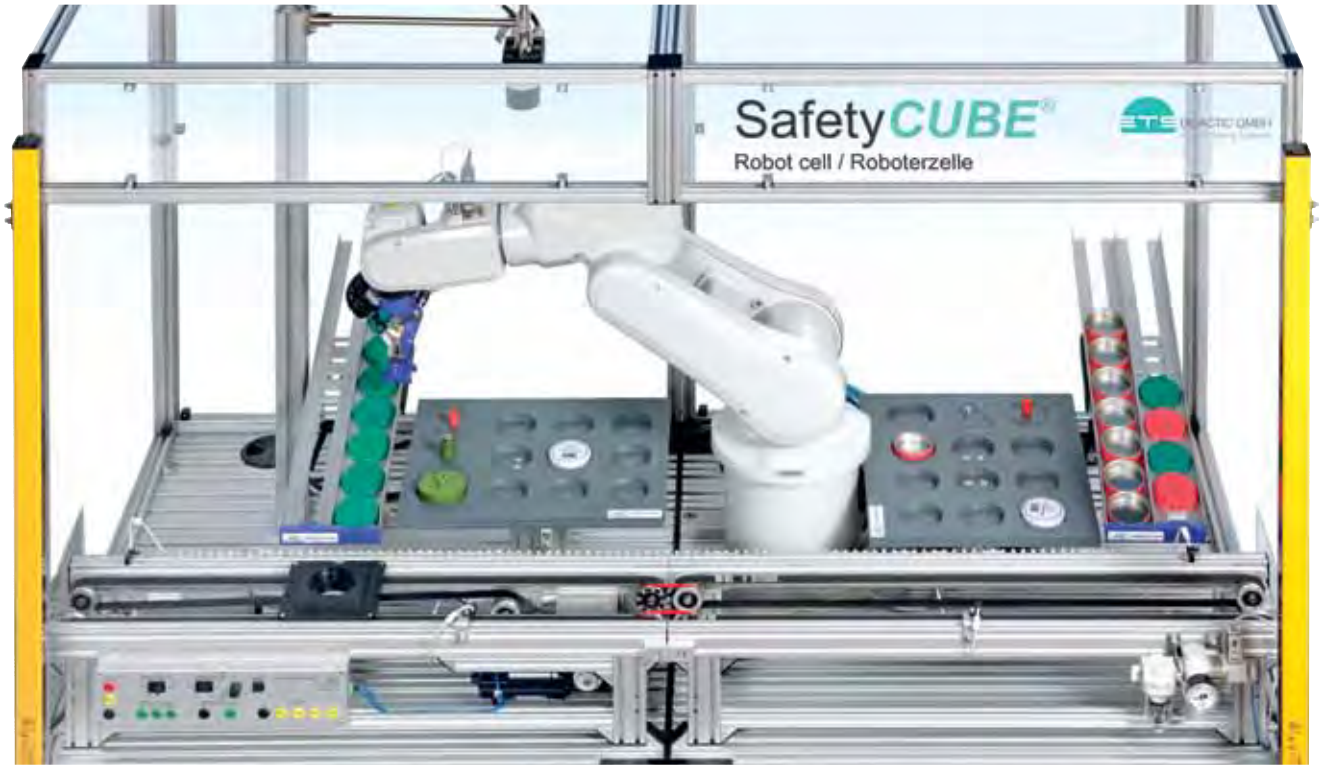


6-AXES ROBOT

SafetyCUBE CPS-i40®

CPS-i40® – ROBOT STATION Safety*CUBE*® – ADVANCED I

Flexible adaptation to applications



1

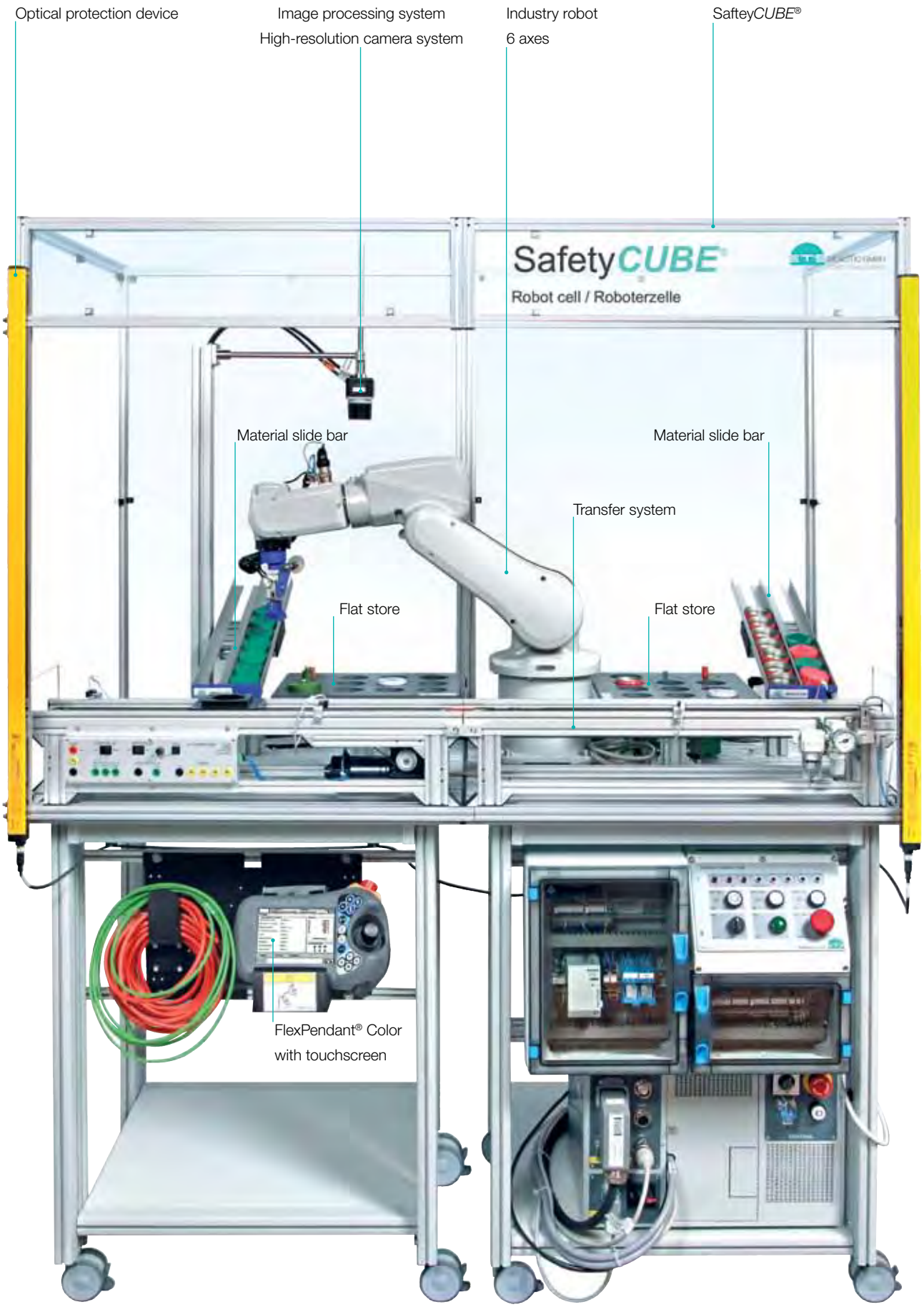
Learning objectives

- Mounting, installation, operation and programming robot handling systems
- Analysing motion sequences, determining reference and drive points, optimising trajectories
- Installing, programming and testing of task-specific control and safety concepts - Motion sequences with linear interpolation, joint interpolation and circular interpolation
- Programming of trajectory movements
- Use of different effectors (gripper, exhauster) and tools

Technical Data

- Operating voltage: 230 V 50 / 60 Hz
- Number of axes: 6
- Maximum lifting: 3 kg (4 kg vertical wrist)
- 700 mm working radius
- Maximum speed: 6,200 mm/s
- Repeatability: ± 0.01 mm
- FlexPendant® color with touchscreen
- Control unit with Ethernet interface
- 32 digital inputs and outputs
- Emergency stop and light screen
- PROFINET interface
- Integrated Vision high-resolution camera system
- Software extension – multitasking

No.	Designation	Order No.
1	6-Axes Robot station 3kg advanced I	89996


Optical protection device
Image processing system
High-resolution camera system
Industry robot
6 axes
SafetyCUBE®
SafetyCUBE
Robot cell / Roboterzelle
Material slide bar
Material slide bar
Transfer system
Flat store
Flat store
FlexPendant® Color
with touchscreen

1

CPS-i40® – ROBOT STATION Safety*CUBE*® – ADVANCED II

Individual configurations

1

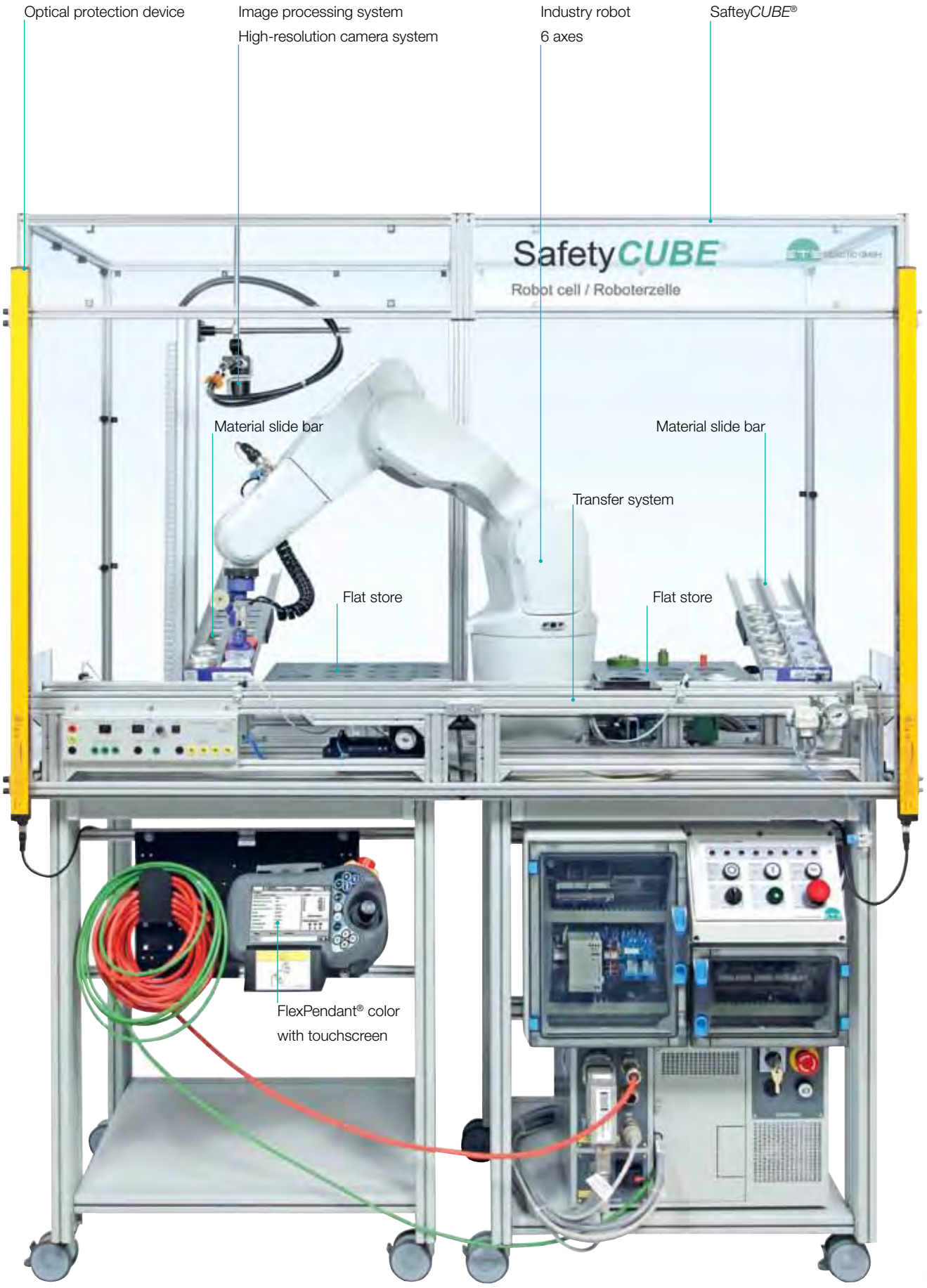
Learning objectives

- Mounting, installation, operation and programming robot handling systems
- Analysing motion sequences, determining reference and drive points, optimising trajactories
- Installing, programming and testing of task-specific control and safety concepts – Motion sequences with linear interpolation, joint interpolation and circular interpolation
- Programming of trajactory movements
- Use of different effectors (gripper, exhauster) and tools

Technical Data

- Operating voltage: 230 V 50 / 60 Hz
- Number of axes: 6
- Maximum lifting force: 7 kg
- 700 mm radius of cone of influence
- Maximum speed: 7,300 mm/s
- Repeatability: ± 0.02 mm
- FlexPendant® color with touchscreen
- Control unit with Ethernet interface
- 32 digital inputs and outputs
- Emergency stop and light screen
- PROFINET interface
- Integrated Vision High-resolution camera system
- Software extension – multitasking

No.	Designation	Order No.
1	6-Axes Robot station 7kg advanced II	89995


Optical protection device
Image processing system
High-resolution camera system
Industry robot
6 axes
SafteyCUBE®
SafetyCUBE
Robot cell / Roboterzelle
Material slide bar
Material slide bar
Transfer system
Flat store
Flat store
FlexPendant® color
with touchscreen

1

QUALITY IS THE MEASURE OF ALL SUCCESS

Inspiring technologies

ETS DIDACTIC GMBH is a symbol of high quality and outstanding flexibility. This means that ETS DIDACTIC products are convertible, they can – thanks to the modular conception and the versatile range of accessories – be quickly and efficiently matched to changed requirements and extended nearly without limits.

Our high quality standards refer not only to the products from ETS DIDACTIC, but especially also to the quality of the training that customers achieve thanks to the use of ETS DIDACTIC products. And in this, we also include the process quality: ETS DIDACTIC supports procedures during the training that are as problem-free as possible.

The solutions offered by ETS DIDACTIC can be matched to individual customer requirements to a great extent. Customers of ETS DIDACTIC are supported and accompanied in the successful implementation of their training objectives by a comprehensive range of services.


QUALIT

WE ARE HAPPY TO HELP

Information and consulting

Eva Pickl
Service-Center

We accompany you and are at your side with active advice. Whether you need information, or some advice in advance of making an investment, or have questions regarding the daily use of the products:

Contact us –
we would be happy to help:

ETS DIDACTIC GMBH
Service-Center
Im Hüttental 11
85125 Kinding / Germany

Phone +49 8467 8404-0
Fax +49 8467 8404-44

sales@ets-didactic.de
www.ets-didactic.de

Customer-oriented solutions

- Presentation, product demonstrations and on-site consultancy
- Support in the selection of educational systems according to the syllabus requirements
- Matching of the training systems to customer requirements
- Working out room concepts
- Designing ergonomic workstations

Experience

- Comprehensive range of innovative products
- Systems and solutions from our own (in-house) production
- Development and design, technical training systems
- Quality right from the consultancy up to delivery and onward
- Trainer seminars / In-house training
- References world-wide
- Industrial educational institutions
- Vocational schools / technical schools
- Chambers of crafts
- Technical colleges / Universities

We support you

- Installation and commissioning of the systems on-site
- Technical support
- Warranty and repairs
- Instruction and training
- Further education, training, seminars
- Comprehensive product docmentation
- Courseware for instructors and trainees

EXCELLENCE
IN TRAINING AND INNOVATION

DIDACTIC GMBH

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