Automation Solutions
to serve Industry 4.0 Technology

Routeco Live 2018 (April 17, Leeds – April 19, Milton Keynes – May 3, Glasgow)

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Program

Driving the next Automation standard through Technology And Solutions

- *This session is about Molex as a Solution provider throughout our Global Industrial Automation (Passive and Networked) portfolio.*
- *It is based around the latest Automation Technology, utilizing the transitional opportunity to 4th manufacturing generation and providing high value creating solutions to some of our target market like Material Handling, Food & Beverage, Machine Builder, Robotics, Automotive…*

Molex, Quick Facts

GLOBAL PROVIDER OF INNOVATIVE ELECTRONIC SOLUTIONS

73 Manufacturing locations in **21** countries

40k+ People working for us worldwide

100,000+ Products

MARKETS SERVED:

TELECOM DATACOM CONSUMER MOBILE AUTOMOTIVE MEDICAL AEROSPACE/DEFENSE

AUTOMATION/INDUSTRIAL

Your needs, our products

Your machines	Your need	Our Products
	**C**ontrol **C**ommunicate **C**onnect **P**ower	

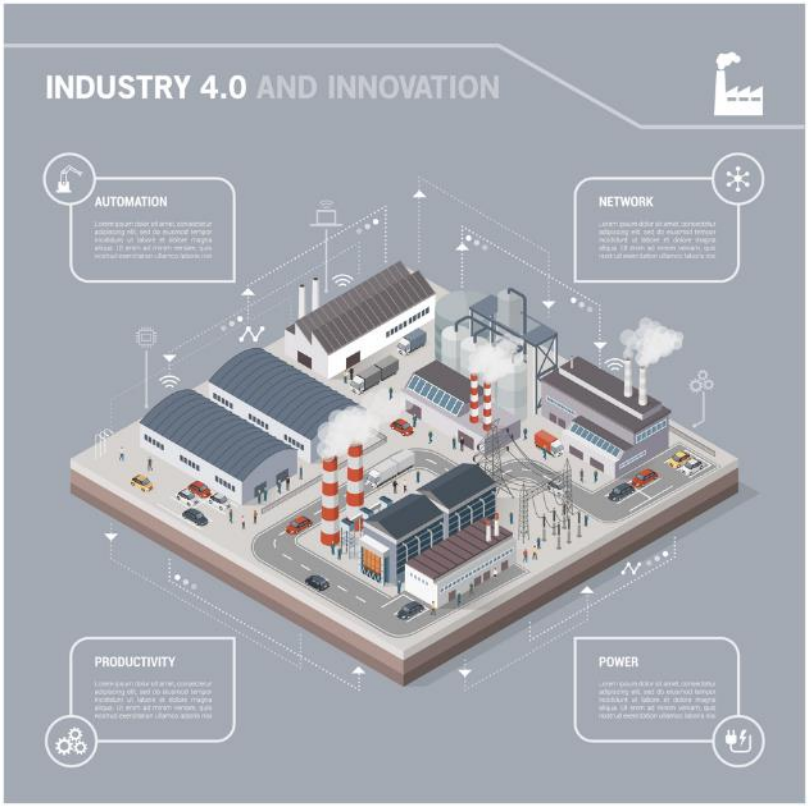
Driving the next Automation standard

IIoT

Big Data

Cloud

Collaborative Robot



"Smart Factory"

"Industry of Future"

"Digital Factory"

"Connected Factory"

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Industry 4.0 – Trends of a digital transformation.

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Drivers for Industry 4.0?

- Megatrends impacting our world in the future

Population growth

- 8 billion People
- 1 new billion of middle class consumers
- 1 trillion USD additional expenses

Digitalization

- Smart devices to monitor everything
- 50 billion of interconnected devices in 2020

Globalization

- Internet is connecting the world with cloud technologies

Think global, act local

- Provide unique experience to consumers
- Personalised product for mass production costs

Sustainability everywhere

- Sustainable energy resources consumption
- Reduce CO2 emission

Complex logistics

- Boom of e-commerce increase global parcel logistic

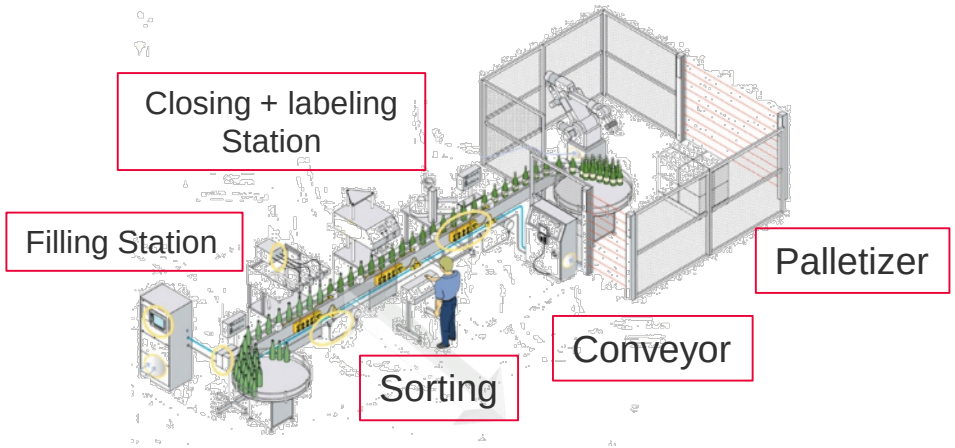
Control Architecture Evolution – I3.0

→ **Infrastructure simplification**

- **Ethernet as the Backbone of the machine**
  - ProfiBus to PROFINET
  - DeviceNet to EtherNet/IP
  - Ethernet Safety bus

- Transition from lines & large machines into functional modules

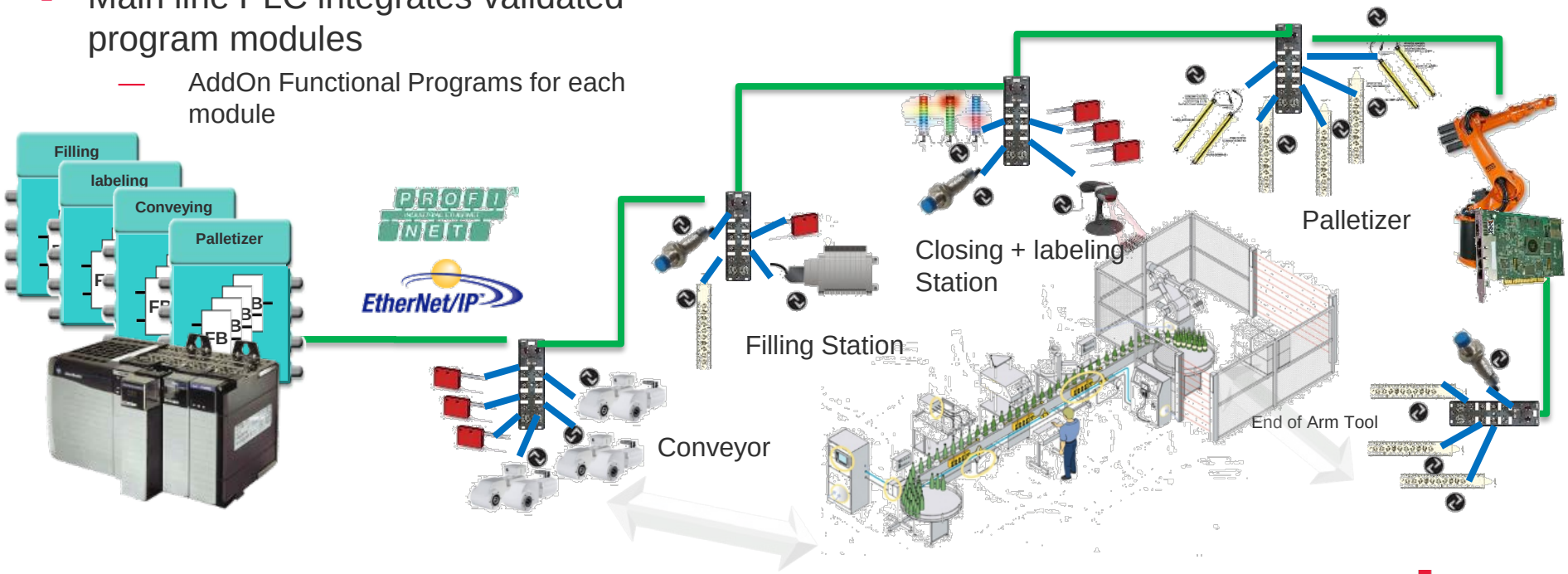
- **Use of smarter equipment in the field**
  - From Sensors to vision systems
  - Form Motors to Servo Drives
  - …



Control Architecture Evolution – I3.0

→ Modular Automation

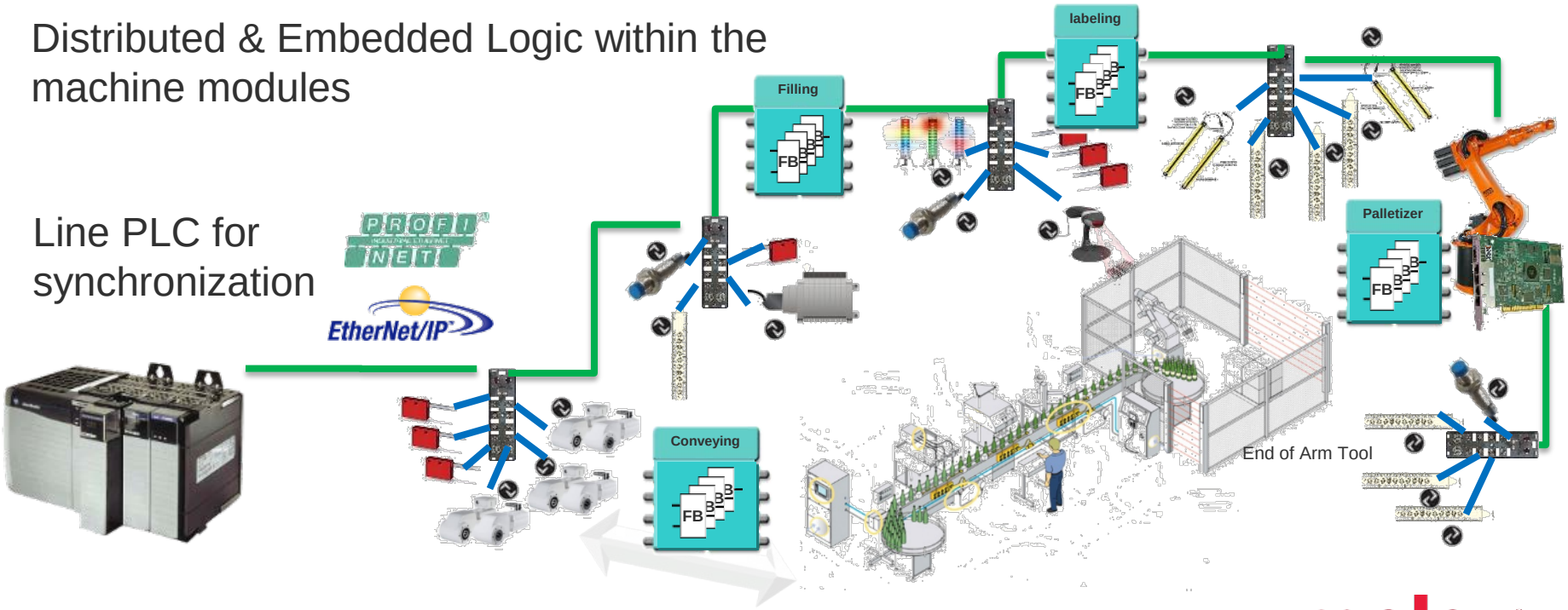
- Main line PLC integrates validated program modules
  - AddOn Functional Programs for each module



Control Architecture Evolution – I3.5

→ **Smart & Autonomous machines**

- Distributed & Embedded Logic within the machine modules
- Line PLC for synchronization



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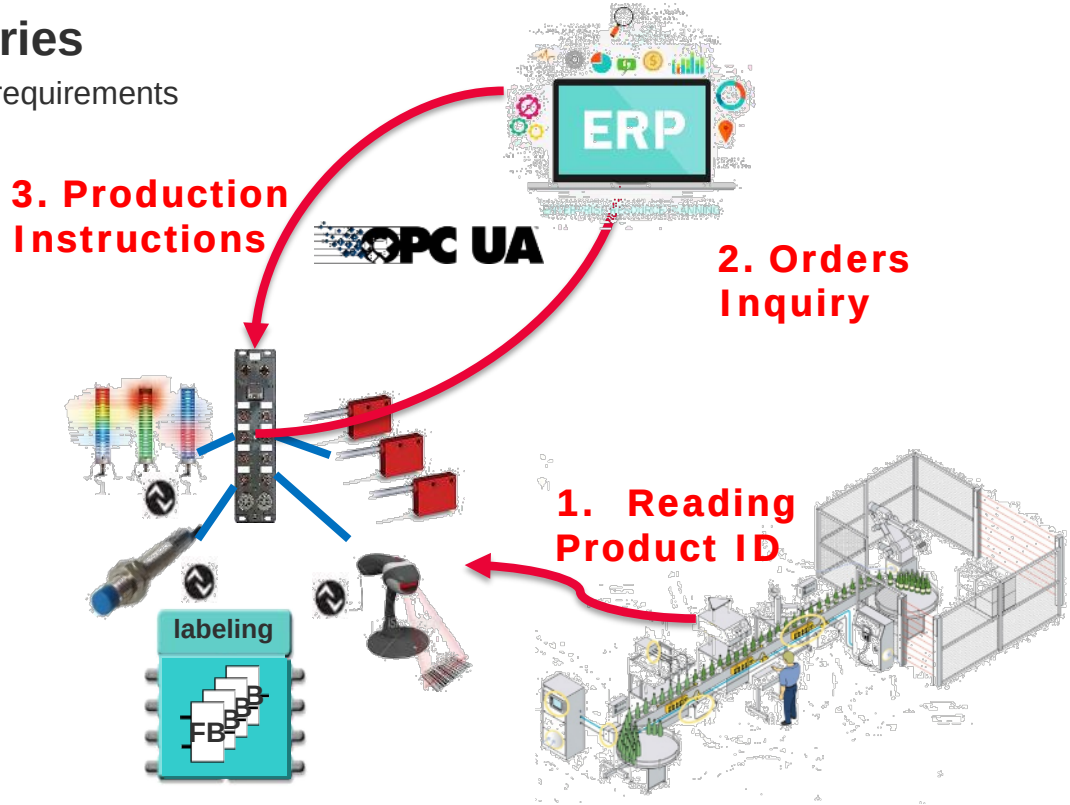
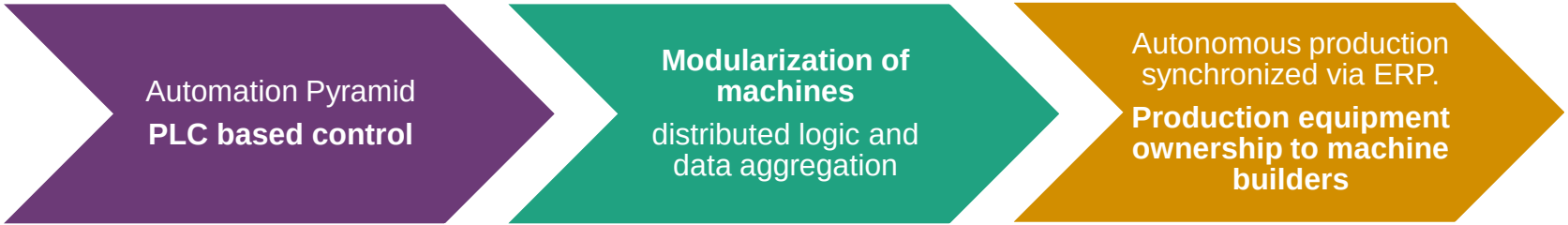
Control architecture evolution – I4.0

- **IT Leadership transition for factories**
  - MES systems get knowledge on production requirements
  - Line PLC disappears
  - Self configurable production
- **Full decentralized Functional intelligence**
  - Autonomous & standardized production Unit
  - Flexible & customized production
- **Machine ownership change**
  - Machine rented based on production time
  - Responsibility on machine builder



Technology and responsibility transitions

- **Control Architecture Evolution**



- **Maintenance and Diagnostic Evolution**

Some Molex products to go to Industry 4.0

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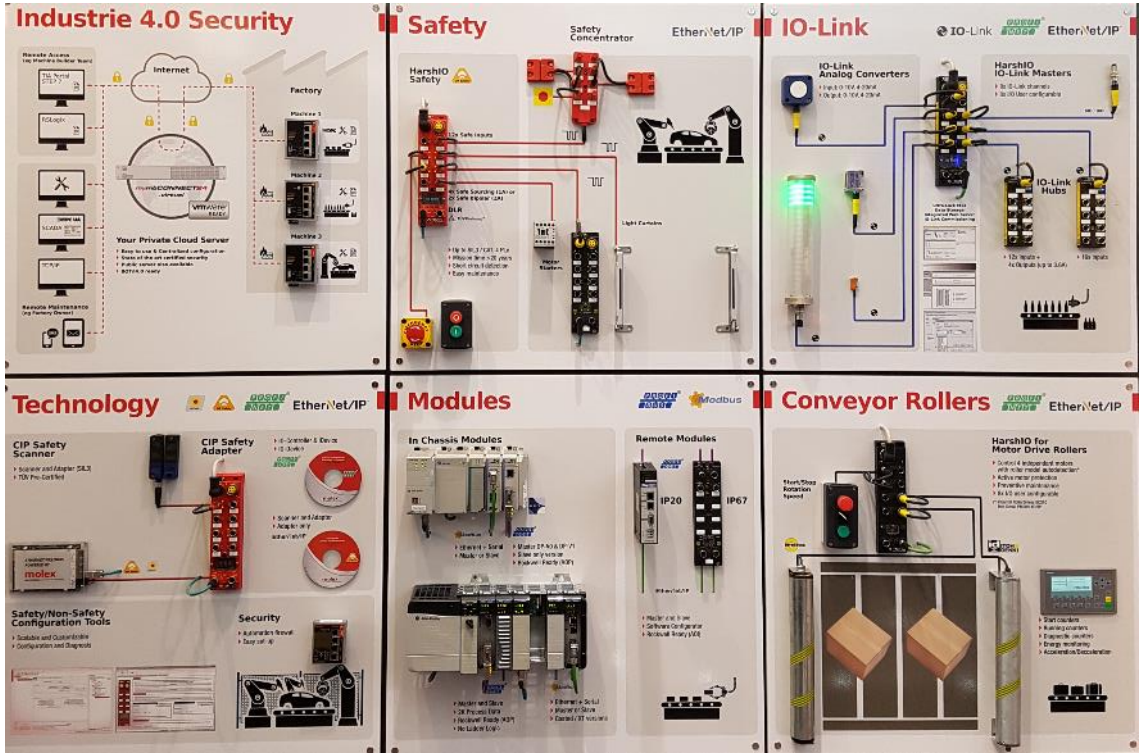
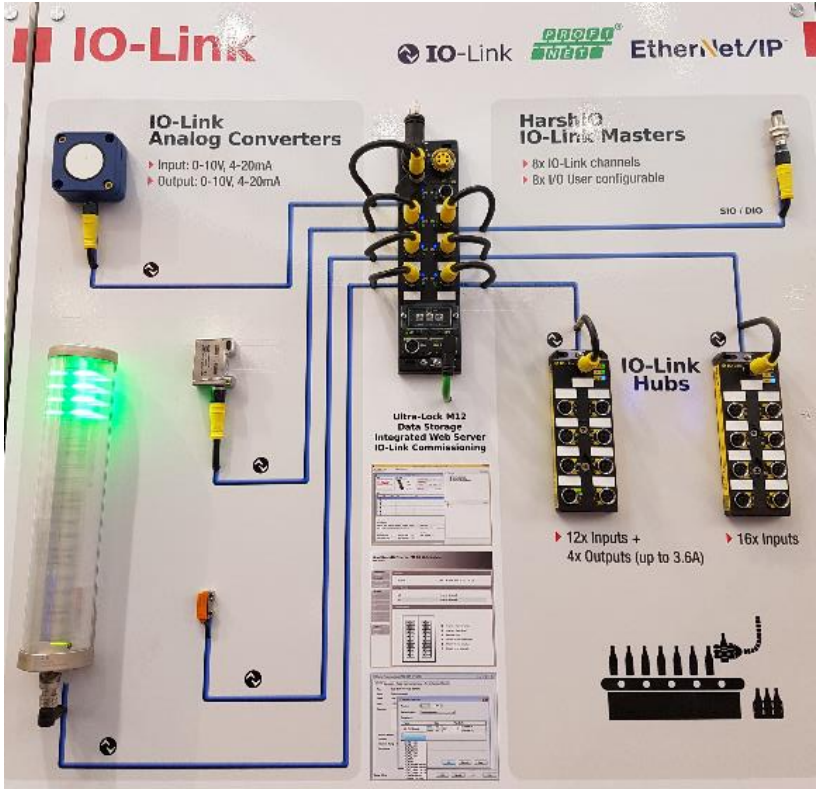
Communication and
Connectivity for Automation
Simply Solved



Machine Mount IO with IO-Link Technology



- All-In-One: Digital + Analog IO signals + I/O hub to simplify Ethernet Infrastructure

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Machine Mount IO for Motor Drive Rollers

- Simplify Your Ethernet Conveying control & Infrastructure
- Decentralized control for Roller Drives

PROFINET®

EtherNet/IP™

INTERROLL

id ITOH DENKI

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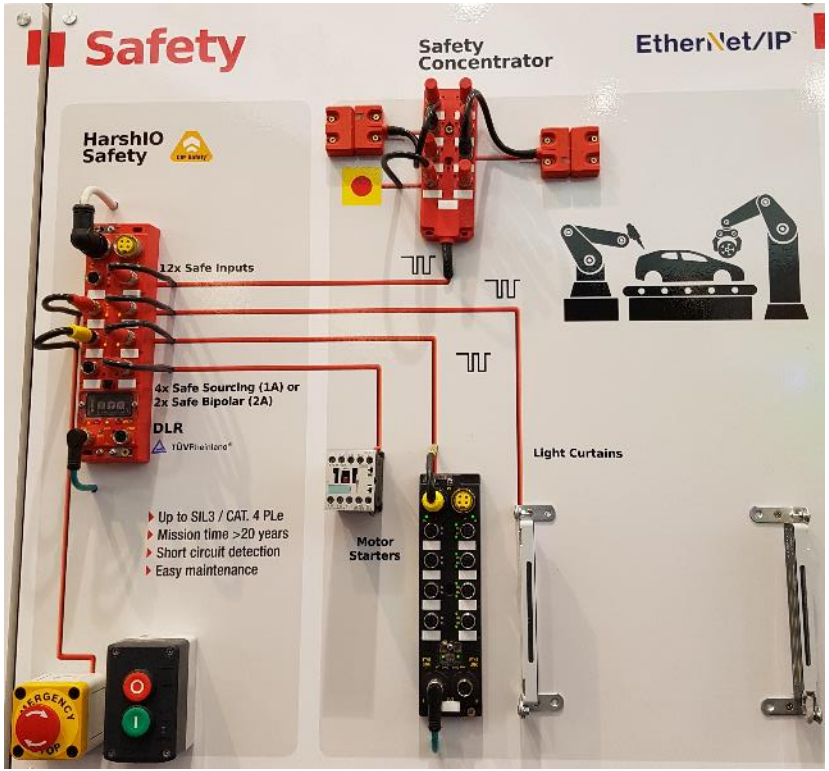
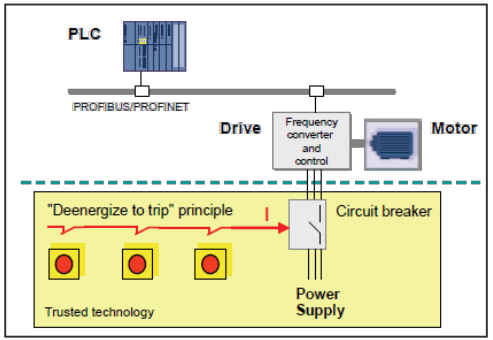
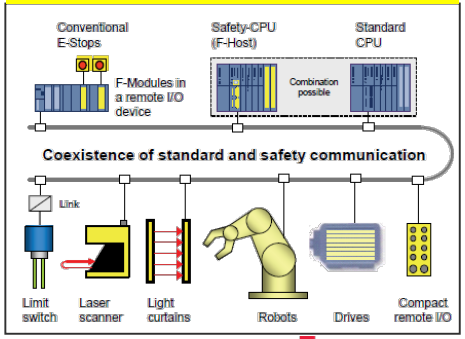
Machine Mount for Safety IOs



FROM
Classic « Hard-wired »Safety



TO
Ethernet Safety bus



CIP Safety™

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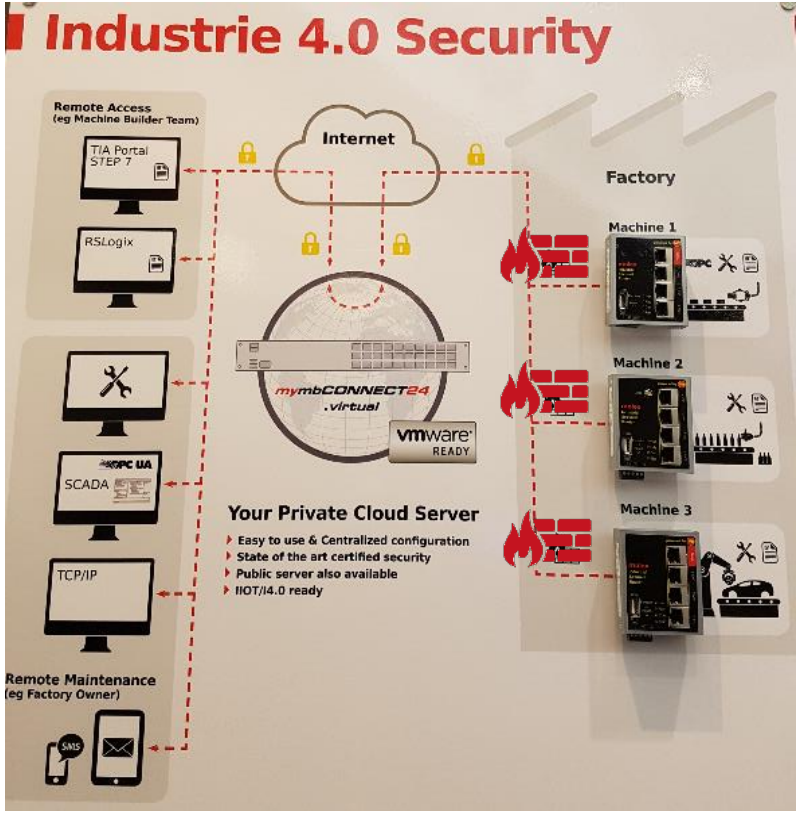
Ethernet Remote SECURED access



- Security Network access for Industry

Bundesamt für Sicherheit in der Informationstechnik

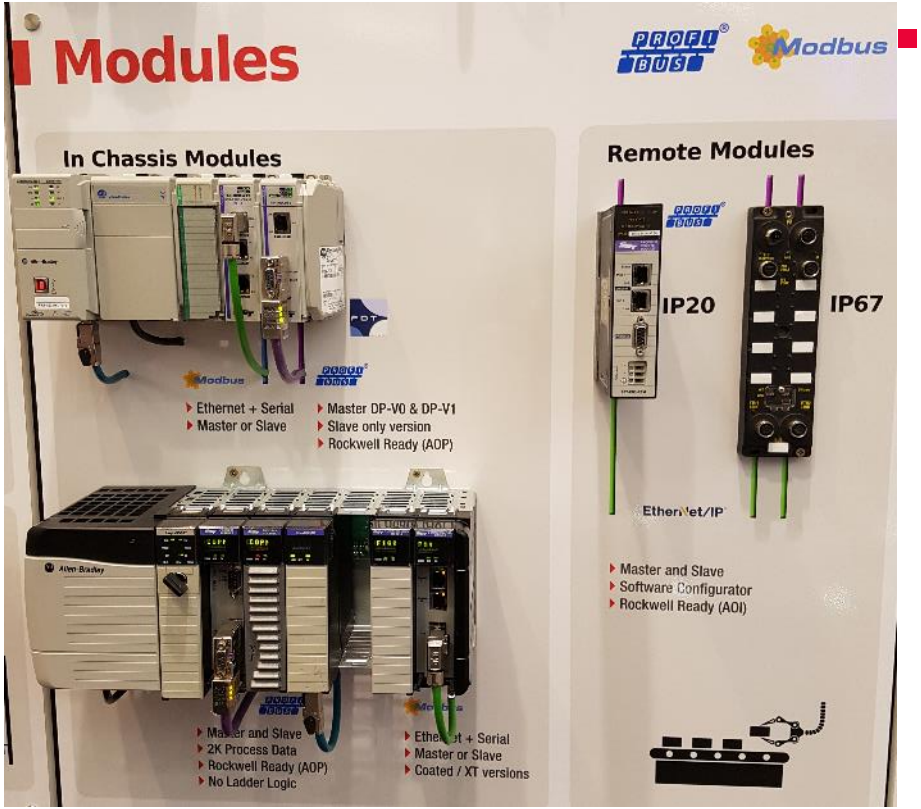
Allianz für Cyber-Sicherheit

SECURITY CERTIFIED MB

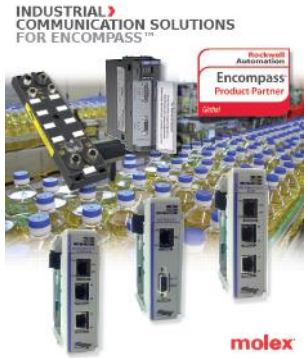
SecurITy made in Germany

TeleTrusT Quality Seal
www.teletrust.de/itsmig

Communication modules for Rockwell PAC



- For CompactLogix and ControlLogix



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Control - Communicate - Connect - Power

Thanks

Questions?

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