MECHATRONICS EXPLAINED BY COMPANIES
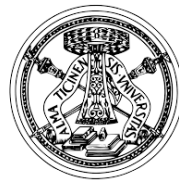
Present and future of industrial machines design

Università degli Studi di Pavia
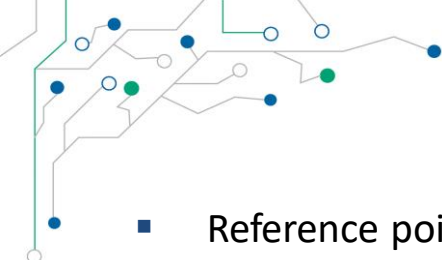*18 May 2020*

AGENDA

OPENING SESSION

- Welcome greeting by **Università degli Studi di Pavia**

- **Sabina Cristini,** *President of WG Mechatronics – ANIE Automazione*

OEM SESSION

- Samer Andraws, **FEDEGARI**

TECHNOLOGY PROVIDERS SESSION

1. TRANSMISSION AND MECHANICAL DESIGN	
Kinematic chain and dimensioning	BONFIGLIOLI - LENZE ITALIA
2. SAFETY AND SECURITY	
Safety	SCHMERSAL ITALIA
Cybersecurity	ROCKWELL AUTOMATION
3. AUTOMATION AND CONTROL	
Artificial Intelligence applied to robotics	MITSUBISHI ELECTRIC
Condition monitoring	BALLUFF AUTOMATION
Robot guidance	SICK
Closed-loop systems in robotics	HEIDENHAIN ITALIANA
Dynamic problems with robot wiring	LAPP ITALIA
4. SIMULATION AND VIRTUALIZATION	SIEMENS
5. LOGISTICS	OMRON ELECTRONICS - SEW EURODRIVE

ANIE Automazione

- Reference point for companies supplying advanced technological systems and solutions for industrial automation.

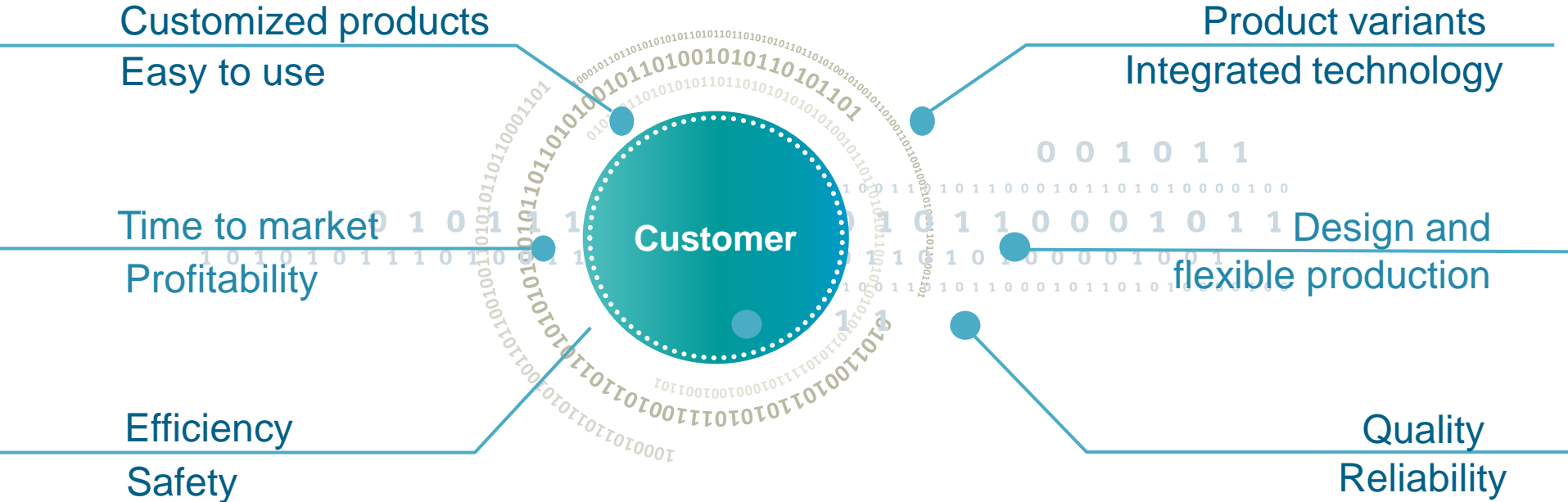- Member companies are organized into working groups, distributed on two areas:

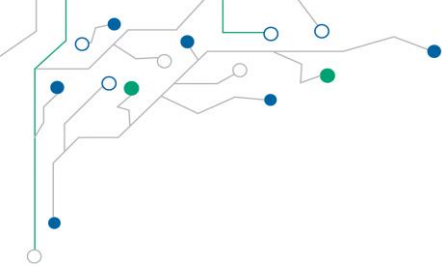| PRODUCTS	SYSTEMS
VARIABLE SPEED DRIVES	MECHATRONICS
COMPONENTS AND TECHNOLOGIES FOR MEASUREMENT AND CONTROL WG ENCODER, NETWORKING, RFID, SAFETY, WIRELESS, VISION SYSTEMS	INDUSTRIAL SOFTWARE
PROCESS CONTROL	REMOTE CONTROL SYSTEMS
HMI-IPC-SCADA	INTELLIGENT TRANSPORT SYSTEMS
PLC-I/O	

- A network committed to supporting and promoting the technological excellence of the sector.

- At the forefront on issues of digitalization and Industry 4.0.

Companies of WG Mechatronics

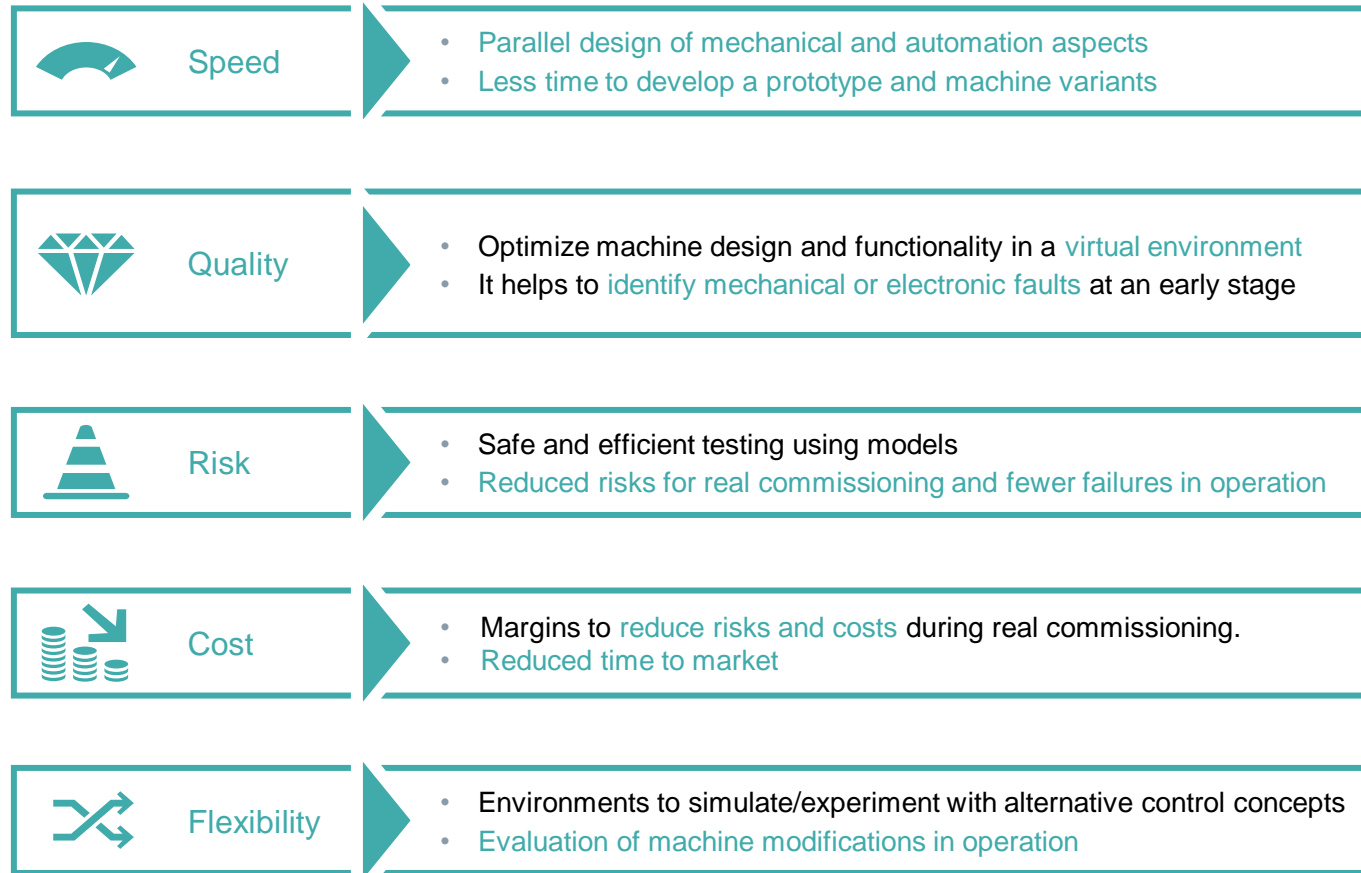# Growing global challenges in industry

Customized products
Easy to use

Time to market
Profitability

Efficiency
Safety

Customer

Product variants
Integrated technology

Design and
flexible production

Quality
Reliability

Advantages of the mechatronic approach and simulation

- Development of new machines
- Expansion of existing machines/lines
- Retrofits and optimizations

Speed
- Parallel design of mechanical and automation aspects
- Less time to develop a prototype and machine variants

Quality
- Optimize machine design and functionality in a virtual environment
- It helps to identify mechanical or electronic faults at an early stage

Risk
- Safe and efficient testing using models
- Reduced risks for real commissioning and fewer failures in operation

Cost
- Margins to reduce risks and costs during real commissioning.
- Reduced time to market

Flexibility
- Environments to simulate/experiment with alternative control concepts
- Evaluation of machine modifications in operation

TECHNOLOGIES SESSION

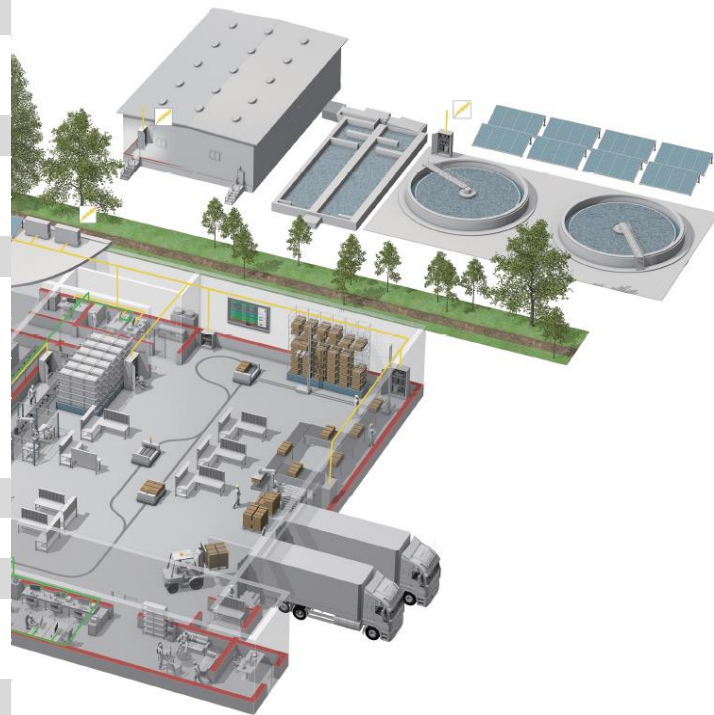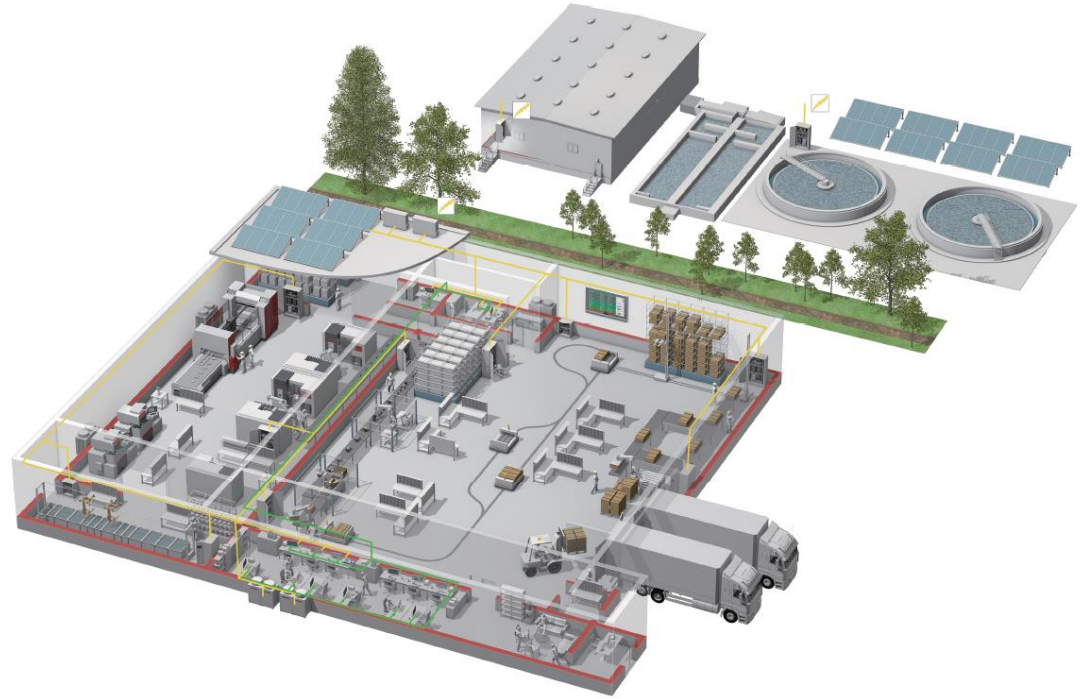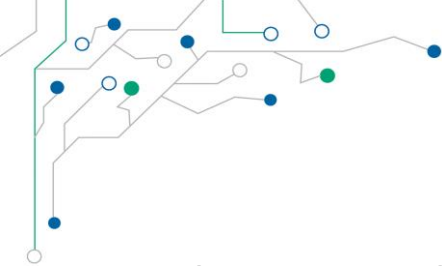|	
TRANSMISSION AND MECHANICAL DESIGN	
Kinematic chain and dimensioning	LENZE ITALIA - Marco Lombardi
	BONFIGLIOLI - Loredana Matea
SAFETY AND SECURITY	
Safety	SCHMERSAL - Massimo Eritale
Cybersecurity	ROCKWELL AUTOMATION - Massimiliano Spano
AUTOMATION AND CONTROL	
Artificial Intelligence applied to robotics	MITSUBISHI ELECTRIC - Simone Farruggio
Condition monitoring	BALLUFF AUTOMATION - Fabio Rosso
Robot guidance	SICK - Claudio Donadoni
Closed-loop systems in robotics	HEIDENHAIN ITALIANA - Oscar Arienti
Dynamic problems with robot wiring	LAPP ITALIA - Marco Artoli
SIMULATION AND VIRTUALIZATION	
	SIEMENS - Leonardo Cipollini
LOGISTICS	
	OMRON ELECTRONICS - Marco Mina
	SEW EURODRIVE - Daniele Arosio

OEM SESSION

FEDEGARI
Samer Andraws

*Head of Automation and
SW Development*

The workshop proceedings will be available on
www.anieautomazione.it

Contact us for the certificate of participation
anieautomazione@anie.it