The Future of Industry: Maximizing Efficiency and Intelligence in Manufacturing

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Panel D: Future Robotics, Flexible Automation, and Autonomous Systems

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What's currently occurring in the field of automation and robotics?

- In the past, robots were primarily utilized for repetitive and precision-oriented tasks.
- However, today, we can already observe the benefits of increased computational intelligence and autonomy.
- Robots that complement human capabilities could already provide significant advancements in various sectors such as factories, logistics, healthcare, and the agrifood industry. This evolution also supports the automation of diverse industries.
- The impact of these developments is expected to rise significantly in the near future.
- In this discussion, we will delve into the types of processes needed to benefit from this transition and examine the potential advantages and risks.

Increasing automation and large scale investments	**Advanced robotics, human-robot (cobot) and advanced kinematics**	**Novel development processes in manufacturing**	**Towards autonomous machines and production**

Moderator
Mikko Uuskoski
CEO, Beckhoff Automation Oy

Intro/case & panelist
Giuseppe Sarago
Director of AM,
Wärtsilä

Panelist
Timo Laitinen
Vice President
Sandvik Corporation

Panelist
Mika Laitinen
Solution Sales Director,
Fastems Oy Ab

Panelist
Juha Mäkitalo
CEO, Pemamek

Panelist
Janne Honkonen
CEO, Advian

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Welcome
Giuseppe Saragó !

Relevant claims?

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1

The manufacturing industry is changing rapidly

2

Companies face significant demands from the market, as they must reduce their consumption of raw materials, energy, and other consumables

3

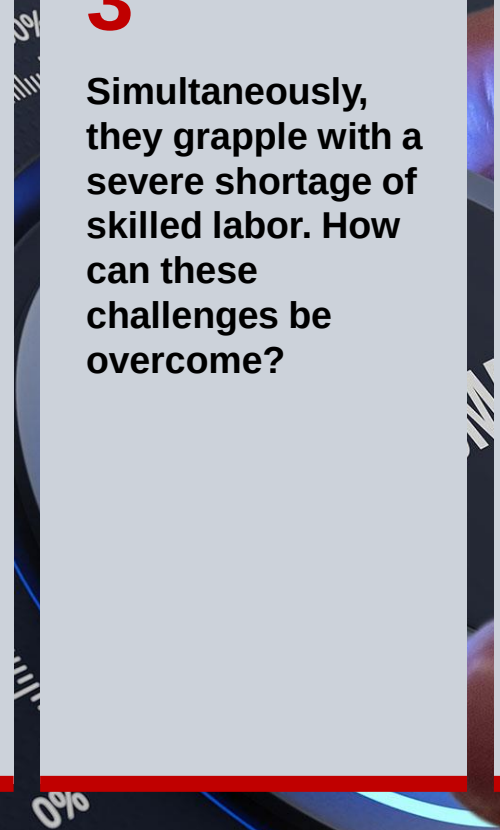
Simultaneously, they grapple with a severe shortage of skilled labor. How can these challenges be overcome?

4

The current situation necessitates new performance standards for machines and production lines. Automation systems, including various types of robotics and kinematics, are evolving rapidly to address this issue.

5

By implementing higher levels of automation and autonomous systems, we can achieve more resilient production with a smaller environmental footprint. This also helps to decrease the over-all demand for and level of labor.



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Human knowhow role in manufacturing

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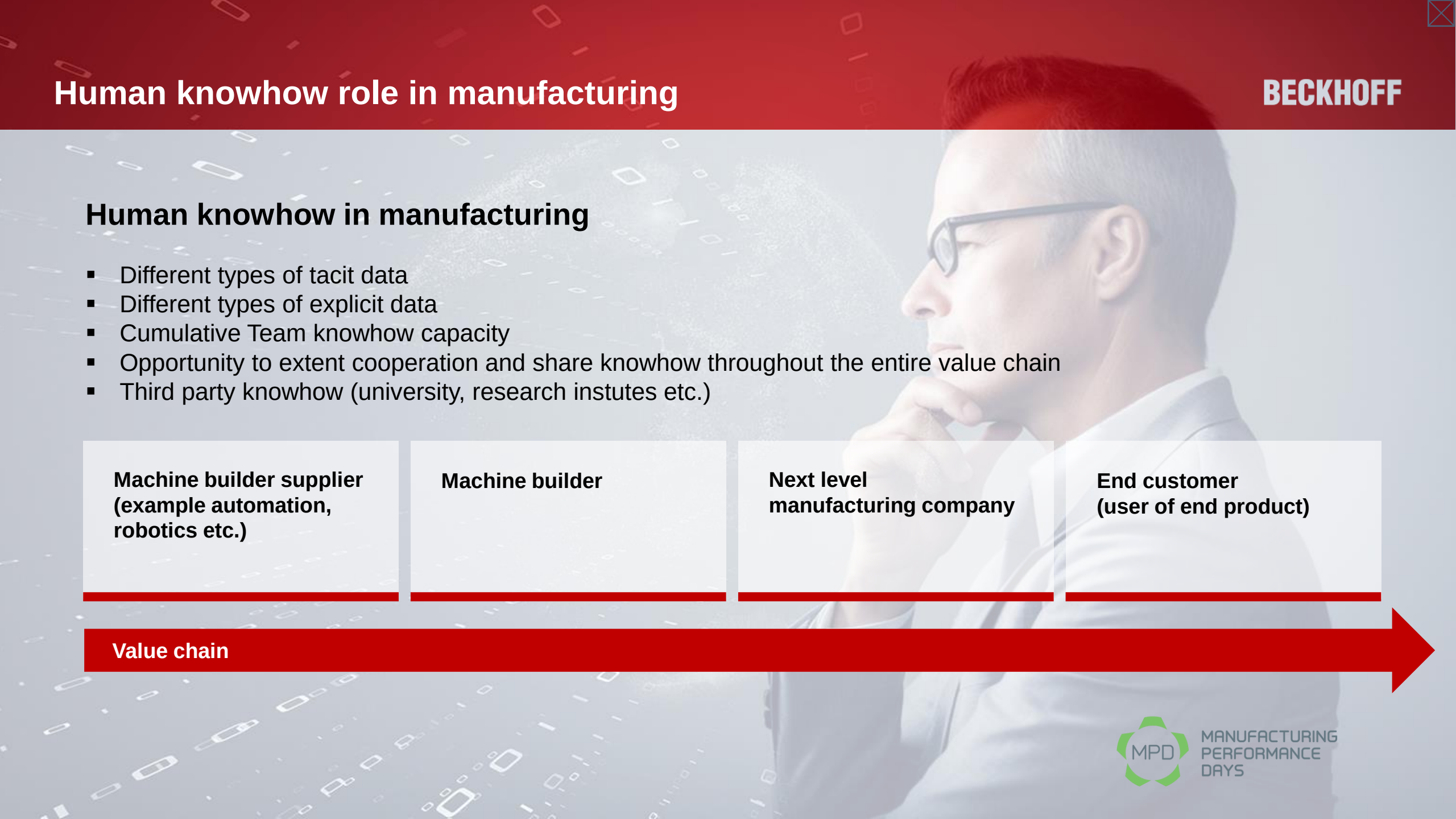
Human knowhow in manufacturing

- Different types of tacit data
- Different types of explicit data
- Cumulative Team knowhow capacity
- Opportunity to extent cooperation and share knowhow throughout the entire value chain
- Third party knowhow (university, research instutes etc.)



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How to get added value from the data and data processing?

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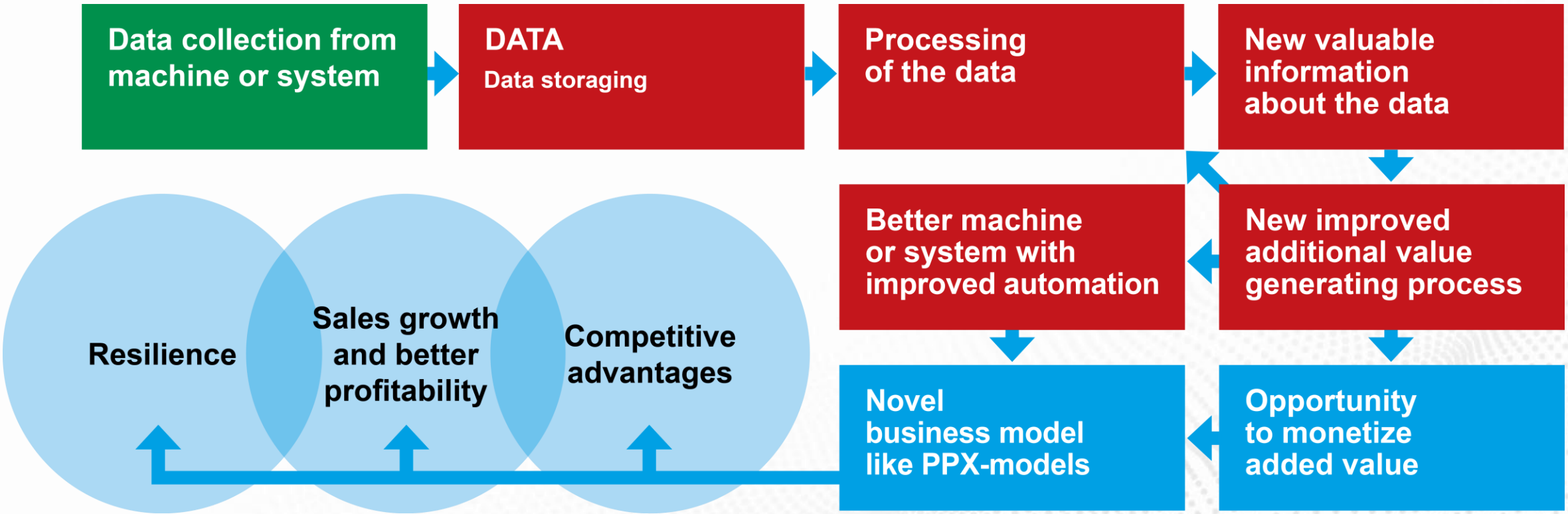

Technology integration

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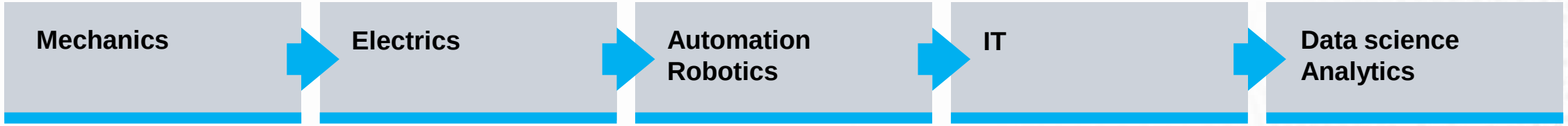
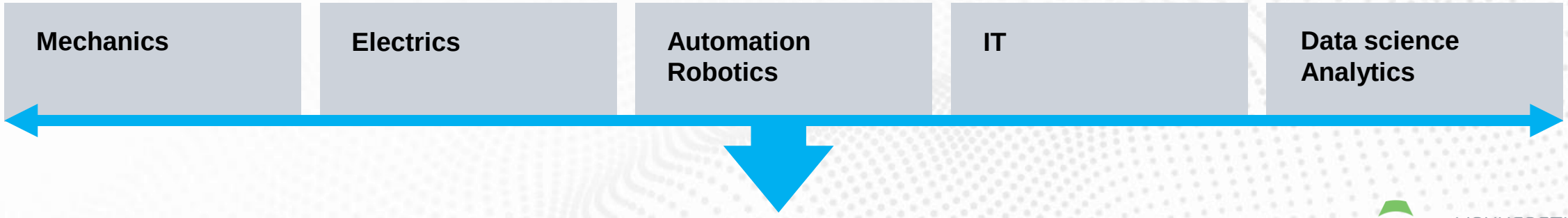
How to foster higher technology level in the machines with positive impact to the growth and profitability?

Traditional model: Integration of different technologies



Modern model Integral R&D and engineering processes of different fields



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The overall expected benefits of ”doing together” strategy in value chain

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Value chain

Machine builder supplier (example automation, robotics etc.)	Machine builder	Next level manufacturing company	End customer (user of end product)
▪ **Bigger scope** of supply ▪ **Better knowhow** about customer needs ▪ Opportunity to development **better products for the machine builder**	▪ **Bigger scopy** of supply ▪ **Better knowhow** about customer needs ▪ Opportunity to development **better services and products** ▪ **More constant cashflow** with novel business models ▪ **Less educated manpower** needed for machine production, istallation and service	▪ **Better and more reliable performance** of the machines ▪ **More profitable** ▪ **Ongoing process** to develop products and services with the value chain ▪ **More constant cashflow** and **smaller balance sheet value** ▪ **Less consuming products** ▪ **Less educated manpower** needed for operating machines	▪ **Better quality products** ▪ **More reliable deliveries** ▪ **Less enviromental footprint**

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