

FURNITURE & WOOD BASED INDUSTRY SEMINAR IN SABAH, JAN 23RD 2019

Embracing transformation

Efficient robot-based automation for wood industries

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Agenda

What is ABB ?

Why is robotics important ?

Is the wood industry ready for robotics ?

What is the role of robotics in Industry 4.0 ?

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→ What is ABB ?

Why is robotics important ?

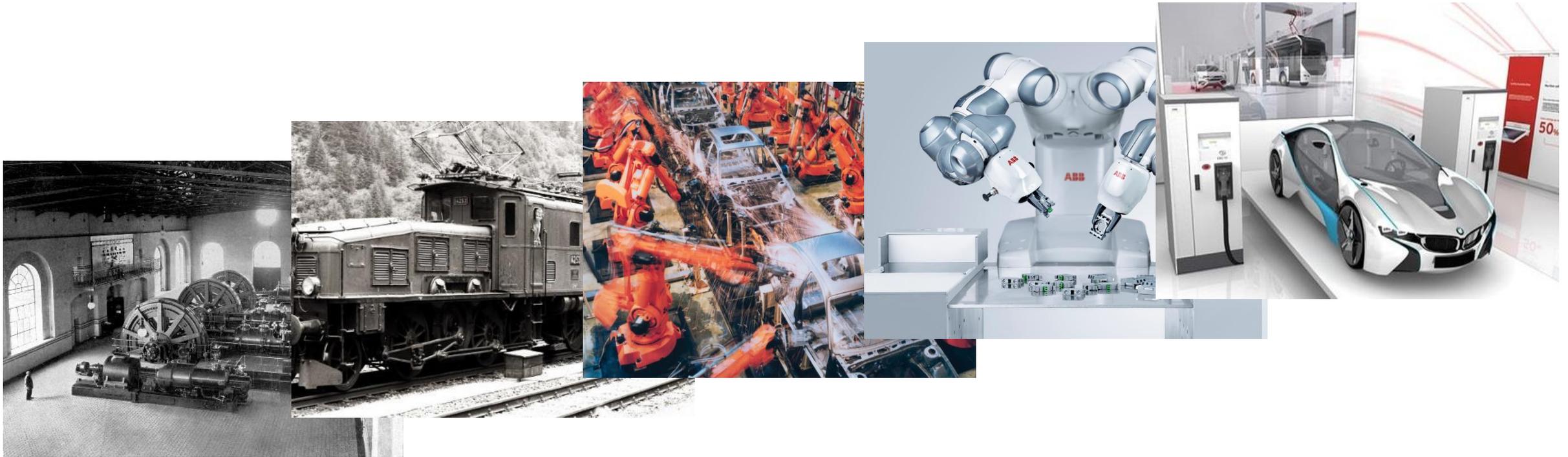
Is the wood industry ready for robotics ?

What is the role of robotics in Industry 4.0 ?

128 Years of ABB



We have always been writing the future of industries...

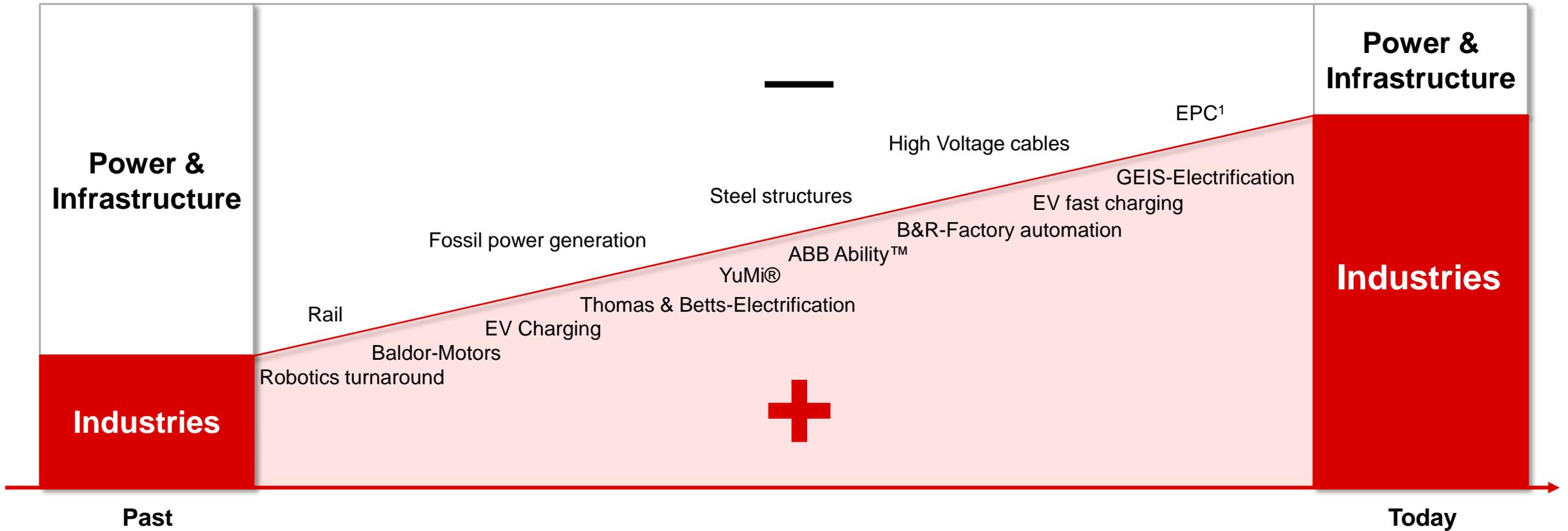


19th century

20th century

21st century

...by shifting the center of gravity of our portfolio



Agenda

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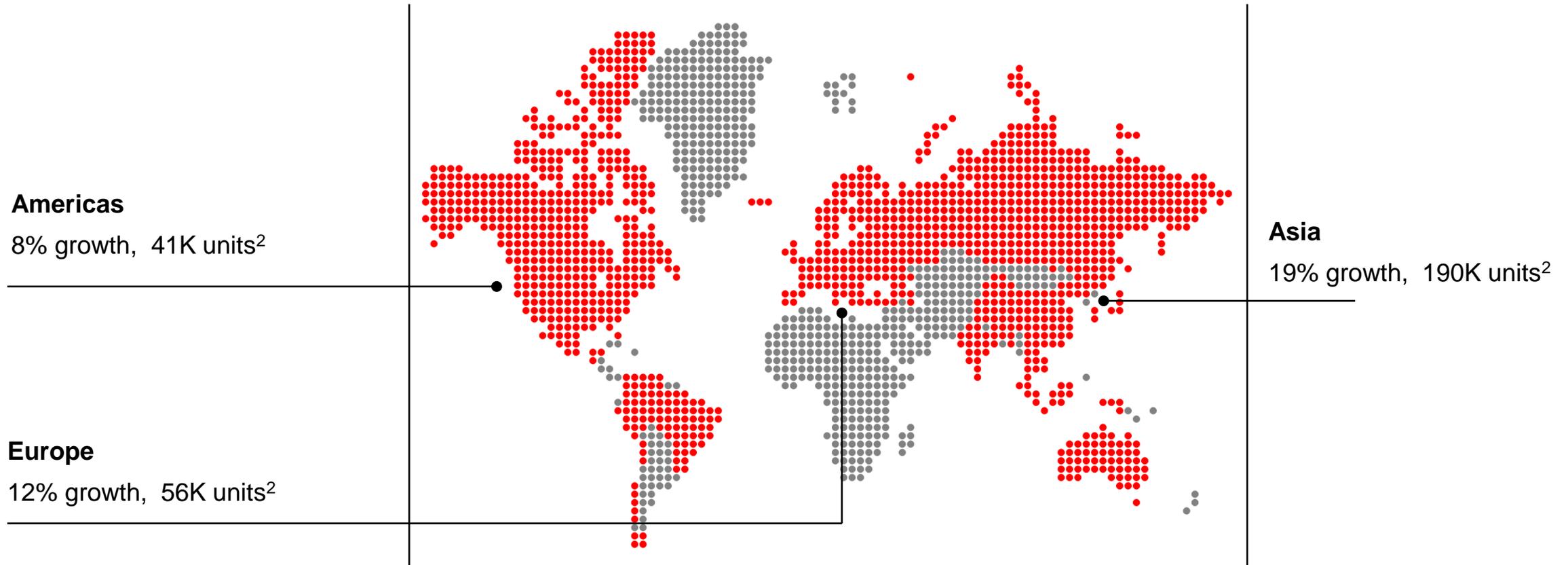
→ Why is robotics important ?

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What is the role of robotics in Industry 4.0 ?

2016 – the fourth consecutive year of record-breaking growth!

Robot shipments grew by 16% to 294K units while the global economy grew around 3%¹



What is behind this tailwind?

New and traditional trends are both fueling record growth

Flexibility



Low volume / high mix the new normal
Agility for shorter product cycles
The importance of engineering efficiency

The high cost of downtime



Critical in capital intensive industries
Reliability important to emerging growth sectors like food & beverage
Focus on total cost of ownership

Cost and productivity



Rising labor costs and talent shortages
Quality and consistency

Robots have a critical role in the 'Factory of the Future'

Flexible and agile



**Shorter cycles,
faster launches**



**Increased cost
of downtime**



**Greater human/
robot interaction**



The Factory of the Future is characterized by flexibility and enabled by collaboration & digitalization

The opportunities behind the change . . .

Fundamental changes to make the way we work better

A demographic time bomb



Providing more meaningful work



The current and future workforce wants safer, more rewarding challenges

The opportunities behind the change . . .

Entry barriers are coming down

Yesterday: robots helped mainly bigger businesses



Today: robots are helping smaller manufacturers



Simpler to install, program and use robots will increasingly help small and medium sized businesses

The opportunities behind the change . . .

Flexibility to manage the shift from high volume/low mix to low volume/high mix

Economies of scale



Mass customization



Automation flexibility is needed to efficiently adapt to fast moving market cycles

Robots have a critical role in the 'Factory of the Future'

Flexible and agile



Efficient at every level



Reliable and available



Integrated ecosystem



Flexible and agile



The Factory of the Future is characterized by flexibility and enabled by collaboration & digitalization

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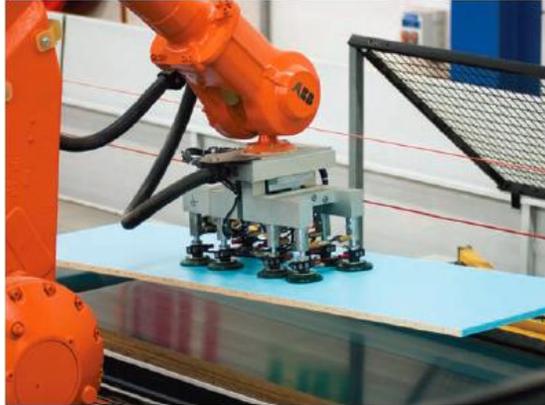
Why is robotics important ?

→ Is the wood industry ready for robotics ?

What is the role of robotics in Industry 4.0 ?

Future of Robotics – Growing with wood

Material Handling



Sanding & Polishing



Assembly

Cutting



Painting & Coating



Packing & Palletizing

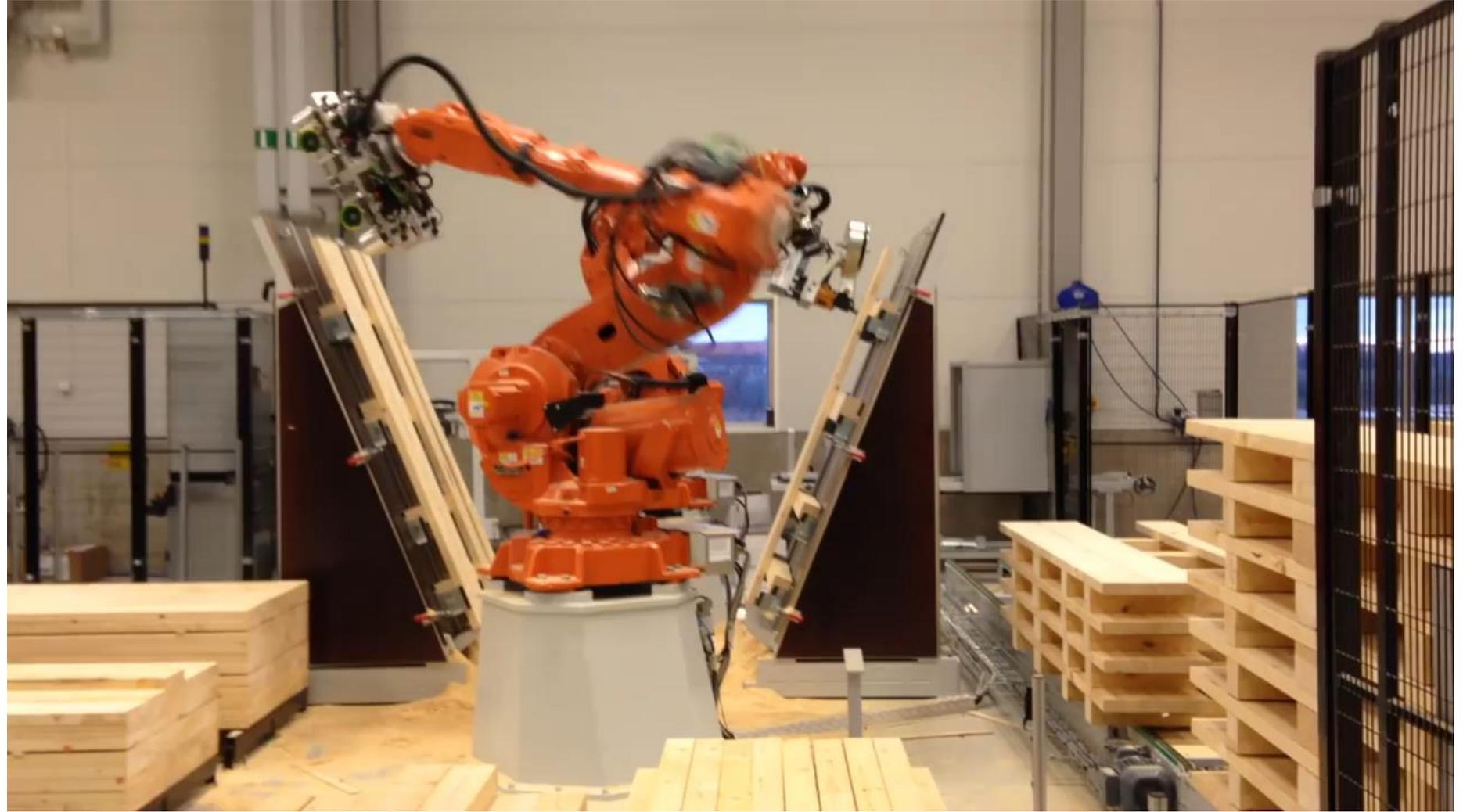
Pallets Assembly

Benefits:

- Less manual intervention.
- High outputs.
- High mix capabilities.

Applications :

- Handling.
- Punching.
- Drilling.
- Vision Detection.
- Material Positioning.



Packaging and palletizing

Benefits:

- Minimizing human errors.
- Sustainable production.
- High mix capabilities.

Applications :

- Sorting.
- Packaging.
- Palletizing.



Wood Panels production

Benefits:

- Seamless production process
- High mix capabilities.

Applications :

- Sanding.
- Brushing.
- Painting.



Chairs Painting

Benefits:

- HSE consideration.
- Steady coating.

Application :

- Wood Painting





Adakah Malaysia bersedia juga ?

Malaysia References

Case Studies

Chair
Cutting



Coffin
Painting



Malaysia References

Case Studies

Frame
Painting



Grinding /
Polishing



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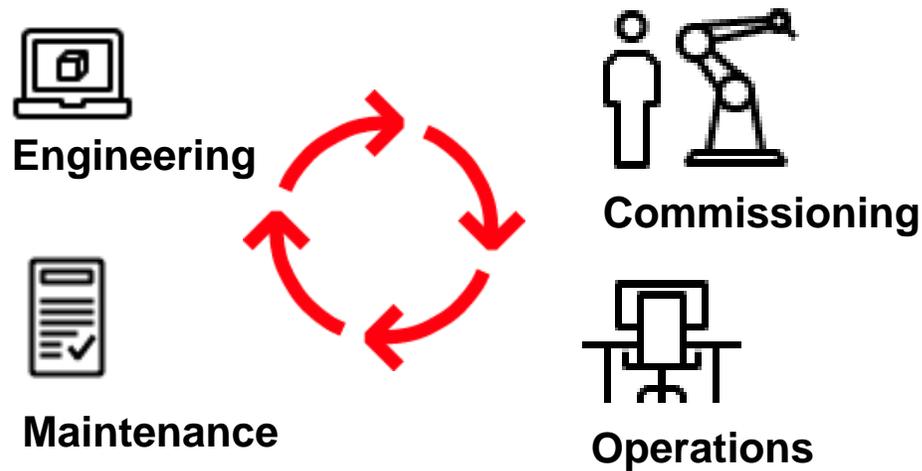
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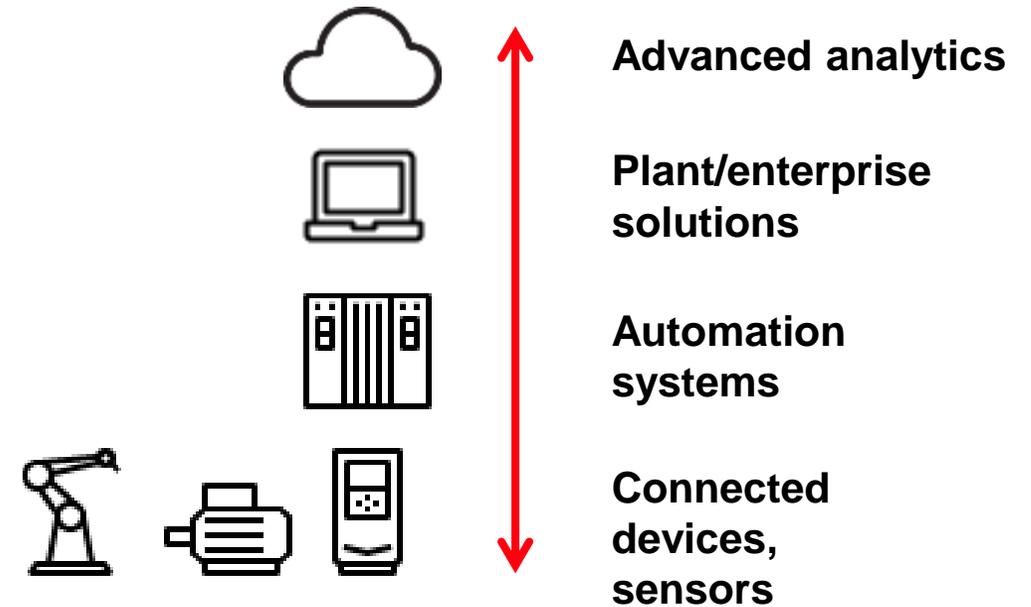
→ What is the role of robotics in Industry 4.0 ?

To win in the digital world it takes ability.

Creating value at each stage of the automation lifecycle



Collaboration from the factory floor to the cloud



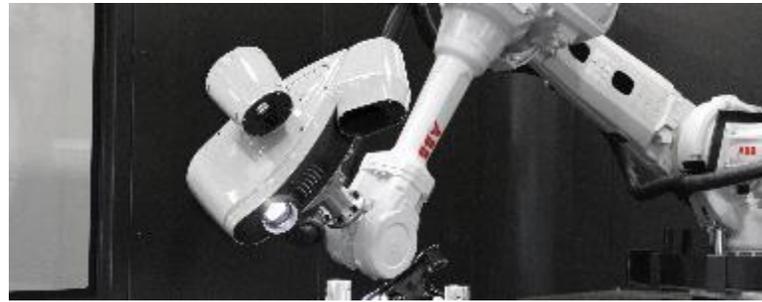
The ABB Ability platform combines our leading portfolio with our application and digital expertise

Collaboration and digitalization are unlocking real customer value

Flexibility



Quality



Performance



Scalability



Efficiency



Reliability



Robots have a critical role in the 'Factory of the Future'

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**Shorter cycles,
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**Increased cost
of downtime**



**Greater human/
robot interaction**



**RobotStudio
virtual commissioning**



**ABB Ability™
Connected Services**



**SafeMove2
collaborative
automation**



Turnkey solutions to support the Factory of the Future, today.

A B B