



F&B CUSTOMER DAY 2018 | SURABAYA , SEPTEMBER 5, 2018

ABB Robotics Overview

Solution in F&B Industry – ‘Factory of the Future’

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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



Americas

8% growth, 41K units²



Europe

12% growth, 56K units²



Asia

19% growth, 190K units²

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 will play a critical Role in the ‘Factory of the Future’

Low Mix, High Volume to High Mix, Low Volume Shift needs Flexible Automation

Efficient at every Level

Flawless operations with lower fixed costs and uncompromised quality and safety.



Reliable and Available

Proactive, actionable intelligence that reduces incidents and speeds recovery.



Integrated Ecosystem

Seamless collaboration across the value chain to better respond to customer needs.



Flexible and Agile

Automation processes which can quickly and efficiently adapt in real-time to new situations.



The Factory of the Future is characterized by Flexibility and enabled by Collaboration & Digitalization

ABB Robotics is delivering the Factory of the Future, today.

Well positioned to help our customers on their journey

About ABB Robotics

- At home in over 100 locations and 53 countries, over 300,000 robots delivered
- 6,000+ professionals, including the industry's broadest service network
- A technology and service pioneer and early mover in digital
- A one-stop-shop from robots to turnkey solutions and the industry's best software



Solutions to improve productivity and reduce our customer's pain points

What makes ABB Robotics different?

Technology leadership

- 1 A pioneer in industrial robots, collaborative robots and first mover in digitalization

Global/local footprint

- 2 Strong local sales and engineering coupled with deep, global domain expertise and supported by the industry's broadest service offering and network

Unique offering

- 3 An integrated one-stop-shop from components to complete solutions from a trusted brand

Strong solutions focus

- 4 Working closely with our customers to develop tailored, purposeful solutions for specific industries and applications based on simplification, collaboration and digitalization

ABB is much more than a robot company

What makes ABB Robotics different?

Our global and local footprint

At home where our customers are home

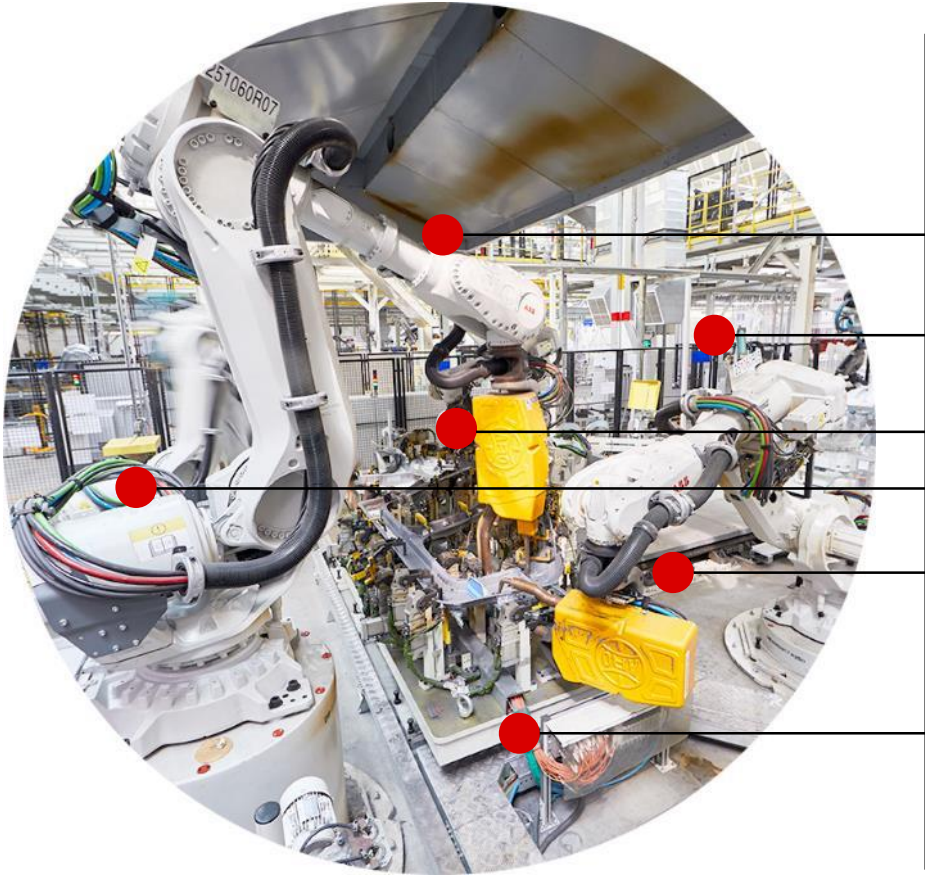
A strong sales and engineering presence,
supported by 25 global application centers
Unique Authorized Value Provider network



Unique insights and solutions
to help our customers.

What makes ABB Robotics different?

Our unique offering



Software



Robots



Complete systems



Equipment



Comprehensive services



Cells, function packages

An enormous range of complete solutions from one trusted brand.

ABB Robotics' differentiators:

Simplification, collaboration and digitalization

Simplification



- Managing increased automation complexity
- Removing entry barriers for many new robot users
- Speeding launch time and efficiency

Collaboration



- Increasing the flexibility of people and automation systems
- Unlocking entirely new applications
- Balancing the imperative for safety with the need for productivity

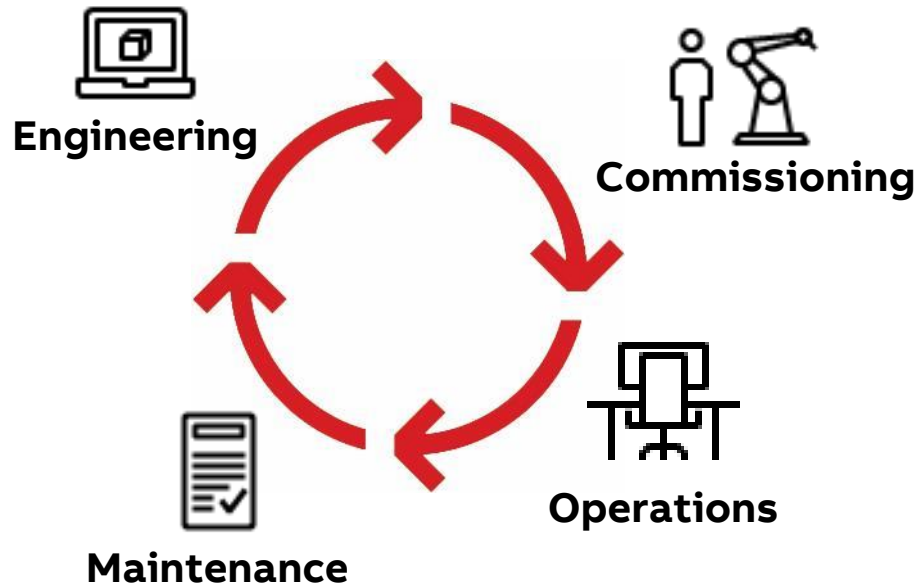
Digitalization



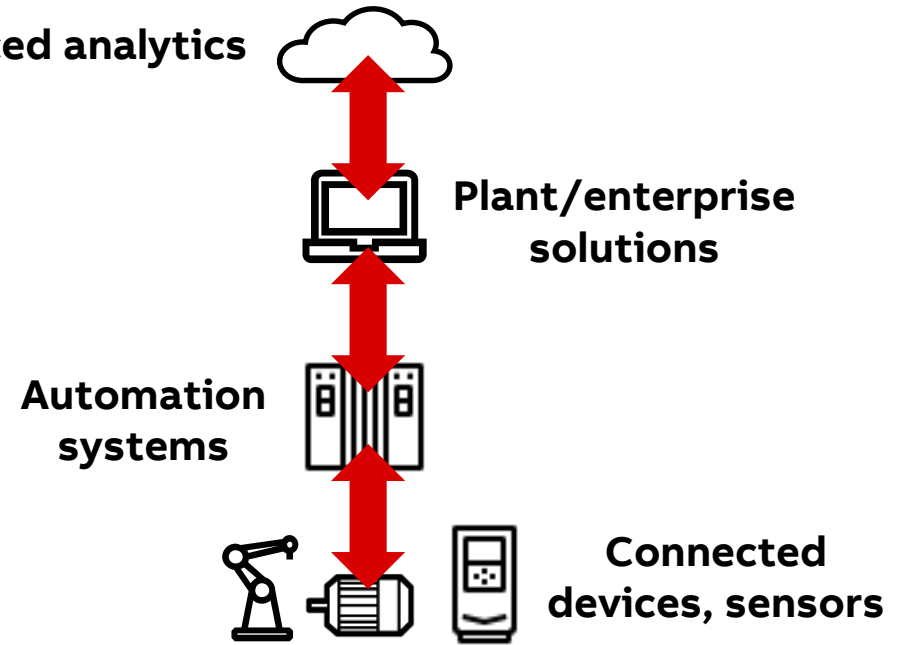
- Efficiency through the entire lifecycle: design, build, operate and maintain
- Actionable and proactive intelligence for greater reliability
- Connecting islands of automation across plants and enterprises

To win in the digital world it takes ability. ABB 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

The future is now

Connected Service

ABB began connecting its robots to advanced services in 2007, and today has delivered 40,000 robots with embedded connectivity, with some 7,000 connected robots to the ABB Ability Connected Services platform in more than 750 customer sites in 40 countries.

All ABB robots come ready to be connected to ABB Ability Connected Services, wirelessly or hard wired, unlocking a world of possibilities in predictive, proactive and immediate support at your fingertips anytime, and any place.

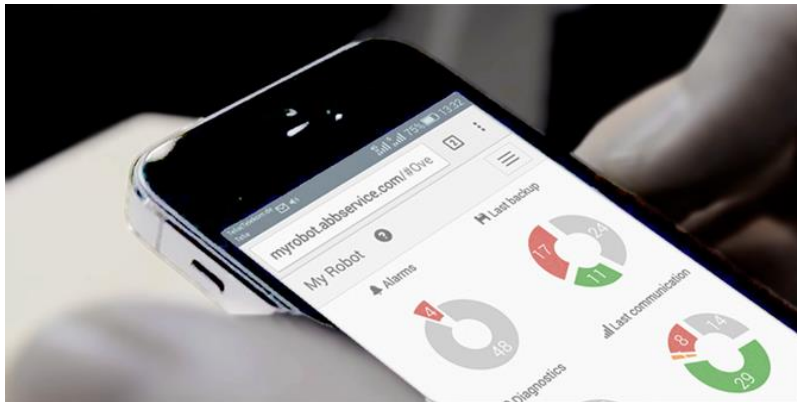


ABB Robotics - Digitalization



Solutions to meet our customers' biggest challenges



Shorter product cycles, more frequent launches

Shop floor disruptions, higher engineering and commissioning costs.

RobotStudio virtual commissioning



Increased cost of downtime and focus on reliability

Higher total lifetime ownership costs from increased preventative services and planned downtime.

ABB Ability™ Connected Services



Increased need for human and robot interaction

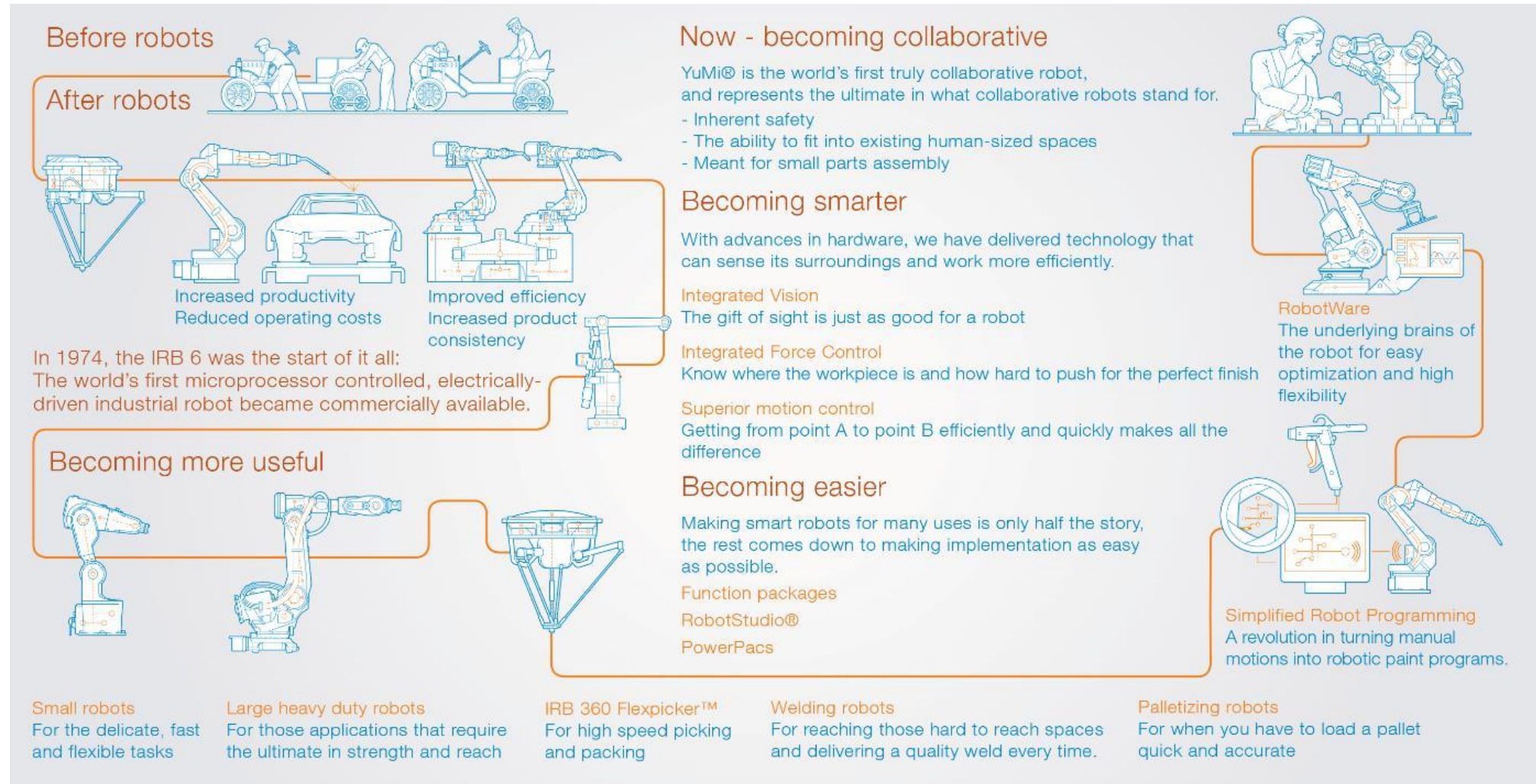
Lost productivity to maintain safety and less factory floor layout flexibility.

SafeMove2 collaborative automation



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

ABB Robotics Evolution



What we offer

The range of ABB Robots



What we Offer

Customer Service

ABB Robotics

Parts & Logistics

Right part, right place, right time.

Field Service

Assists you for the best possible uptime

Training

Reduce your costs and improve efficiency with professionally trained employees

System Service

Offers solutions for life extension of your equipment

A partnership for productivity improvement



Who we serve

ABB Robotics' major market industries align with Indonesia 4.0

Automotive & tiers



Electronics



Food & beverage



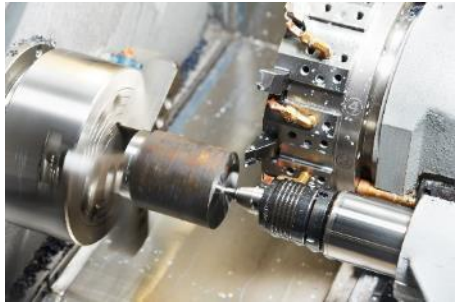
Foundry/Forging



Metal fabrication



Machine tools



Logistics



Plastics & rubber



Pharmaceuticals



Transportation



F&B Value Chain

Focus Value Chain Areas

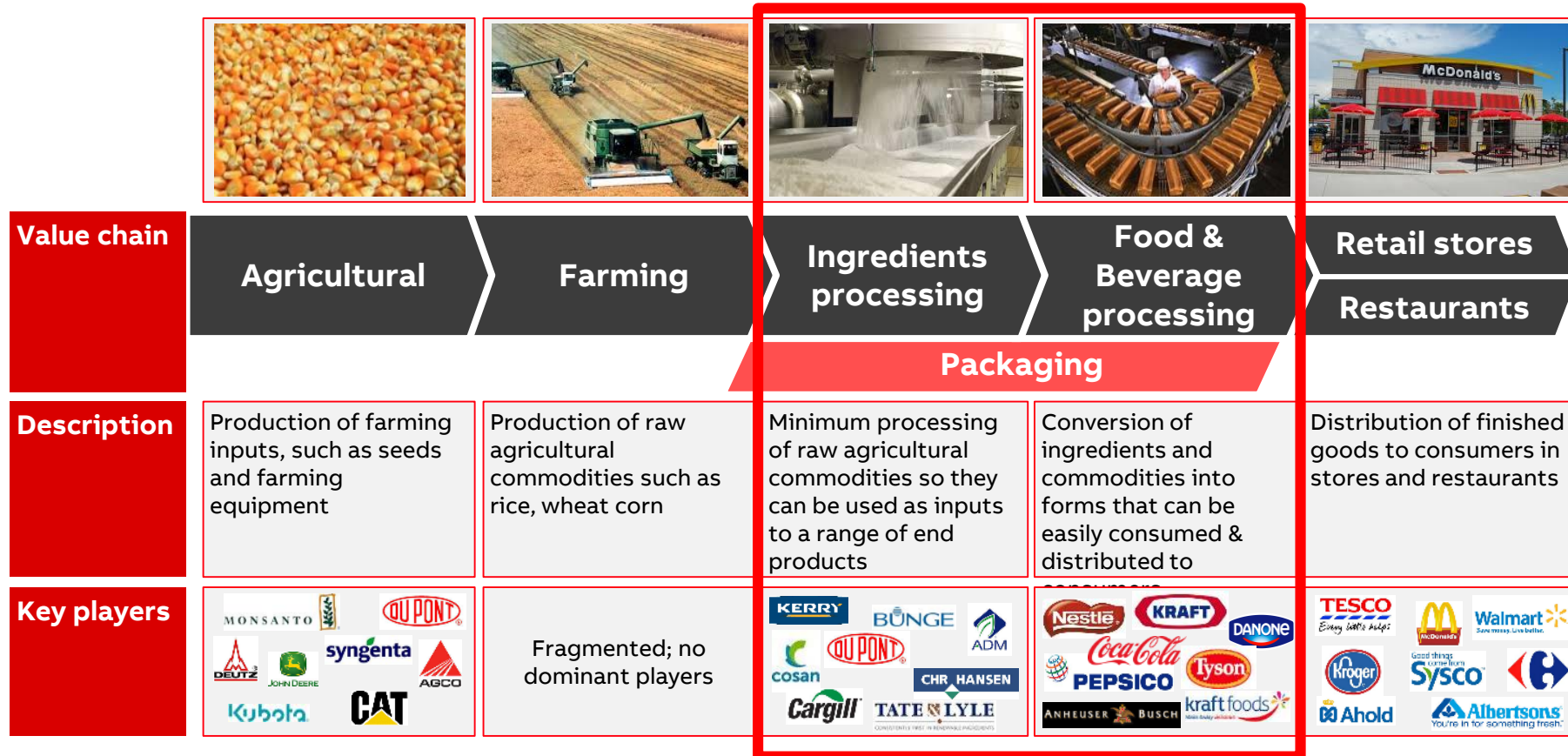
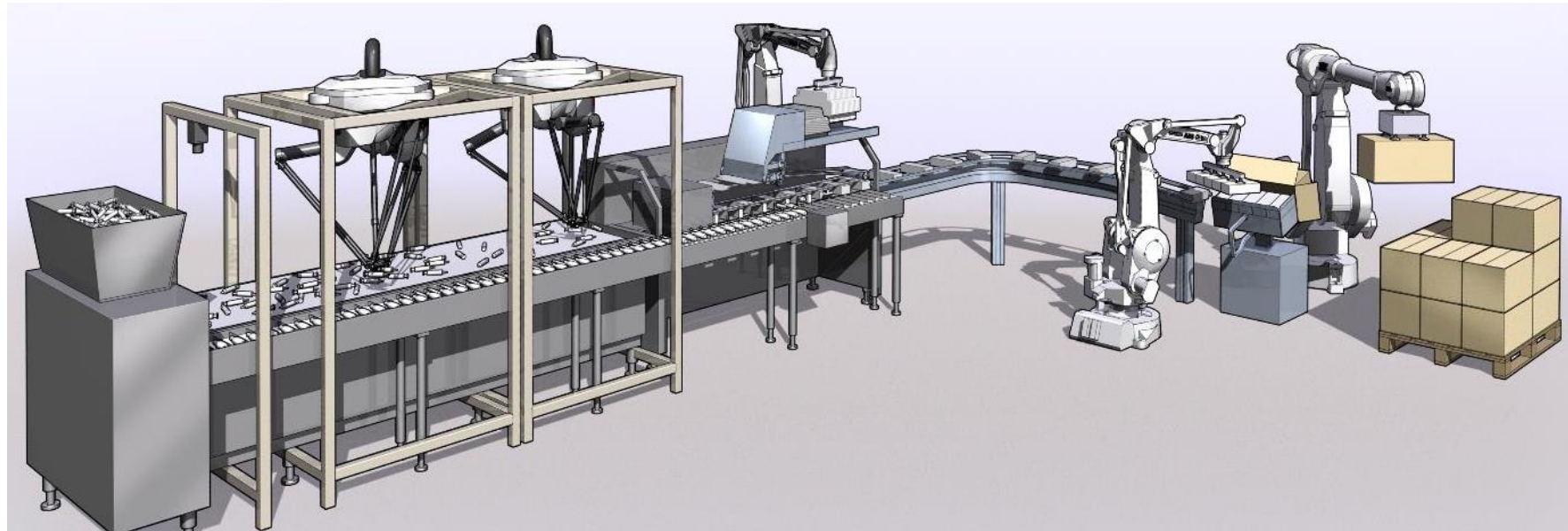


ABB Robotics

F&B - Packaging System



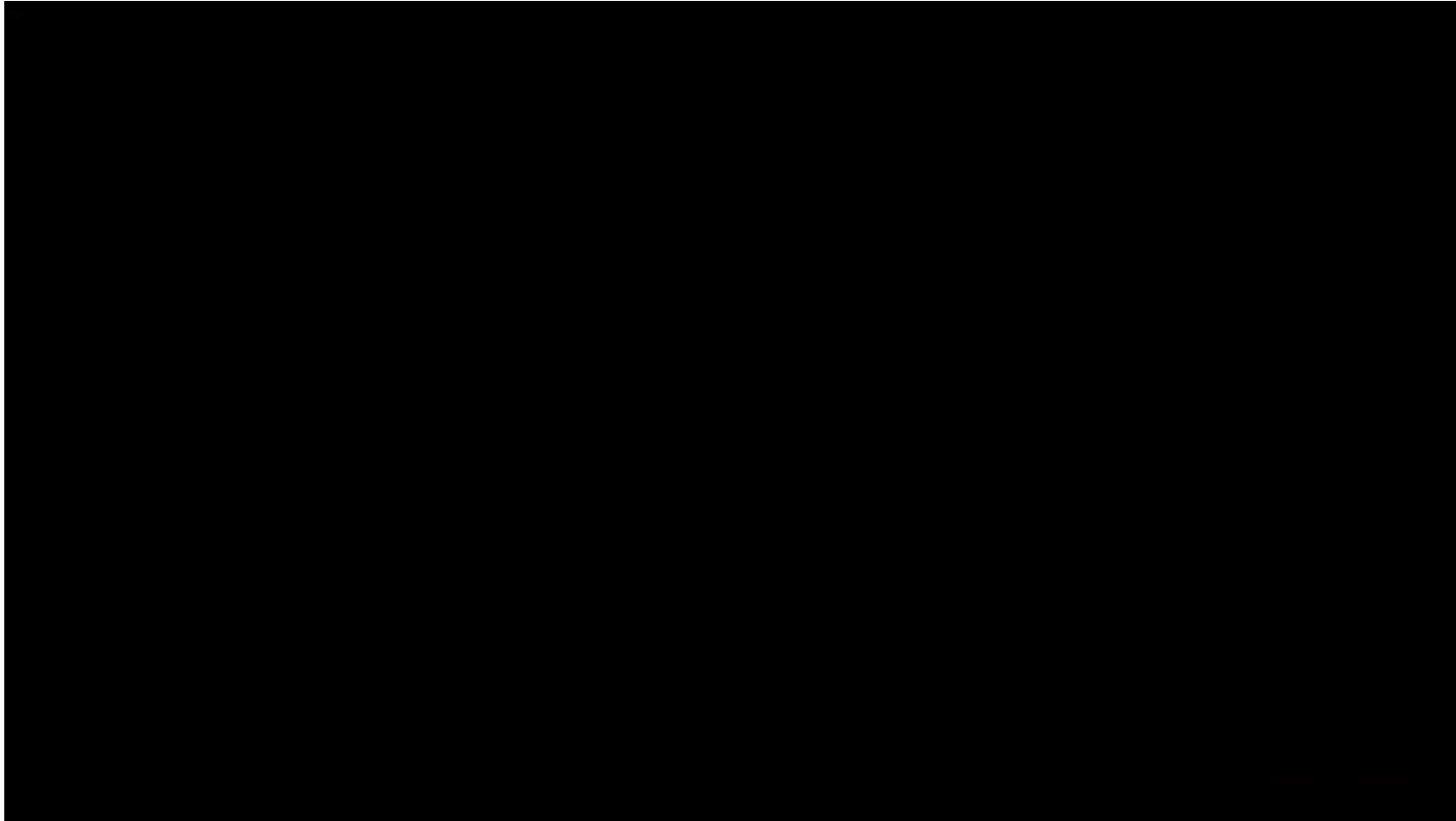
Enhance innovation and competencies in regional hubs for **Picking, Packing and Palletizing** applications

Customize affordable robot-based packaging and minimize risk exposure for the end user

Help end users and value providers to **succeed in robot integration**

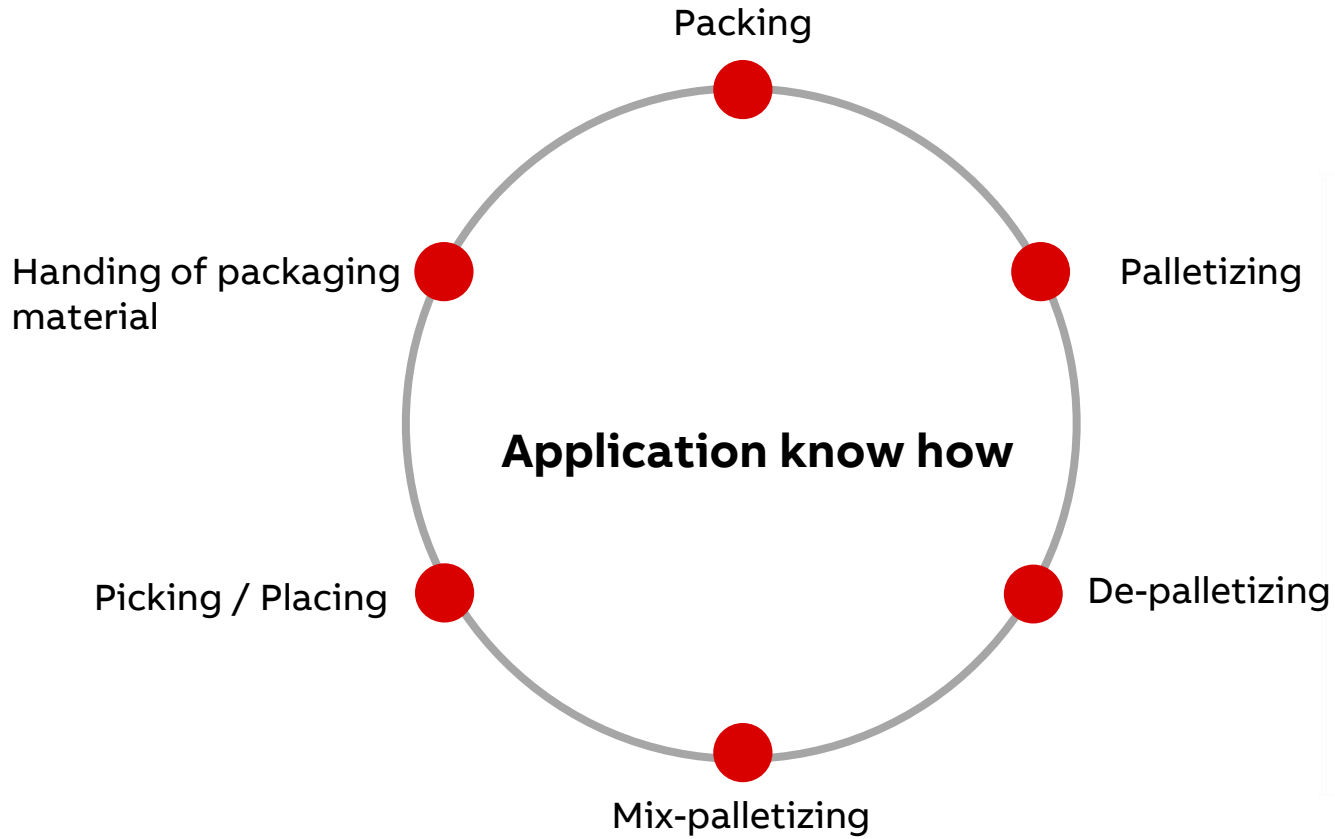
ABB Robot Types

Palletizing Robot



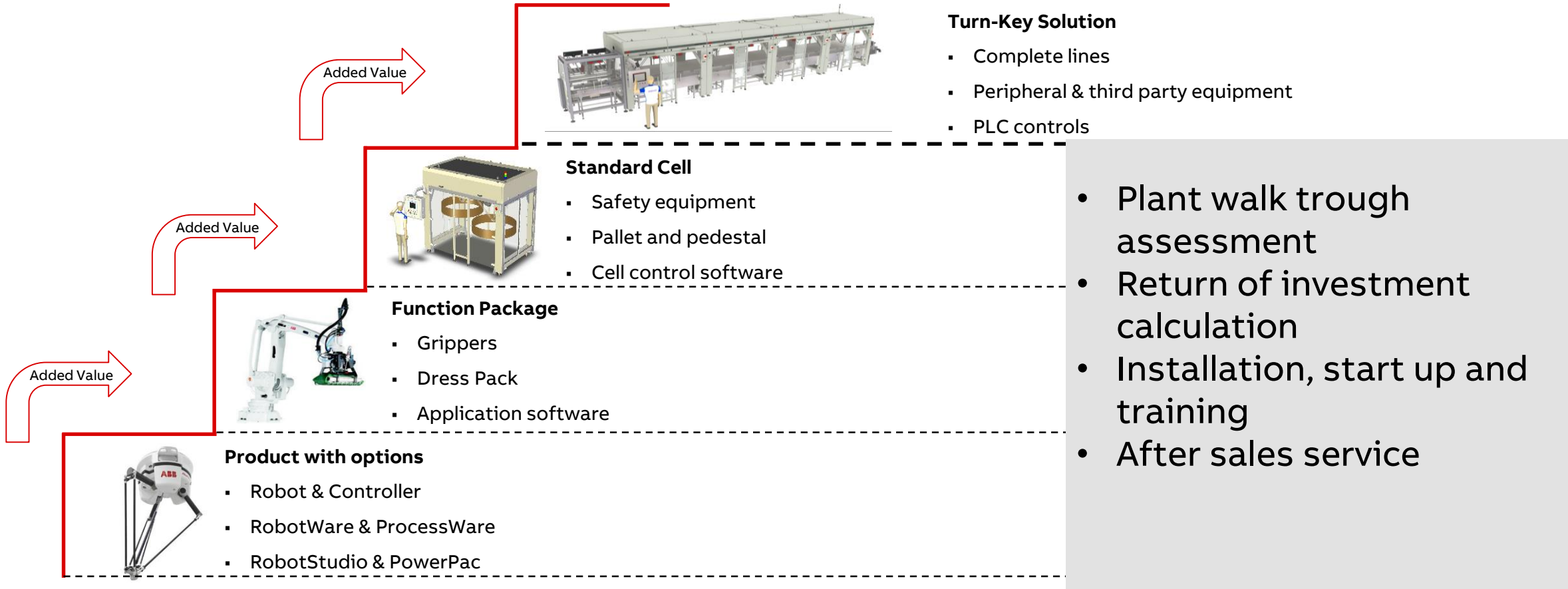
Packaging

Business line



Productivity & Flexibility

Value add in every step



The future is now

Collaboration – Digitalization – Simplification

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So let's talk



ABB