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ABB LTD, FEBRUARY 28, 2019

# Robotics & Discrete Automation

Writing the future of flexible manufacturing and smart machines. Together.

Sami Atiya, President Robotics & Discrete Automation



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# Important notices

This presentation includes forward-looking information and statements including statements concerning the outlook for our businesses. These statements are based on current expectations, estimates and projections about the factors that may affect our future performance, including global economic conditions, and the economic conditions of the regions and industries that are major markets for ABB Ltd. These expectations, estimates and projections are generally identifiable by statements containing words such as “expects,” “believes,” “estimates,” “targets,” “plans,” “outlook”, “on track”, “2019 framework” or similar expressions.

There are numerous risks and uncertainties, many of which are beyond our control, that could cause our actual results to differ materially from the forward-looking information and statements made in this presentation and which could affect our ability to achieve any or all of our stated targets. The important factors that could cause such differences include, among others:

- business risks associated with the volatile global economic environment and political conditions
- costs associated with compliance activities
- market acceptance of new products and services
- changes in governmental regulations and currency exchange rates, and
- such other factors as may be discussed from time to time in ABB Ltd’s filings with the U.S. Securities and Exchange Commission, including its Annual Reports on Form 20-F.

Although ABB Ltd believes that its expectations reflected in any such forward-looking statement are based upon reasonable assumptions, it can give no assurance that those expectations will be achieved.

Some of the planned changes might be subject to any relevant I&C processes with the Employee Council Europe and / or local employee representatives / employees.

This presentation contains non-GAAP measures of performance. Definitions of these measures and reconciliations between these measures and their US GAAP counterparts can be found in the ‘Supplemental reconciliations and definitions’ section of “Financial Information” under “Quarterly results and annual reports” on our website at

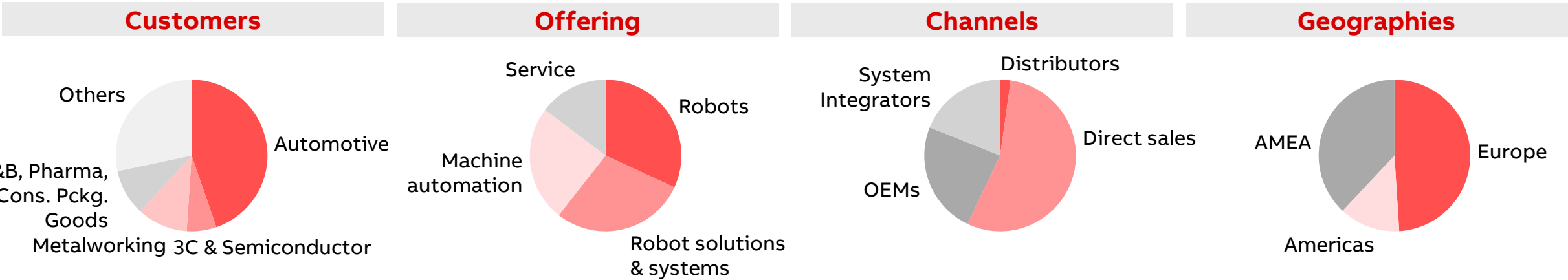
[www.abb.com/investorrelations](http://www.abb.com/investorrelations)

# Robotics & Discrete Automation at a glance

## Key figures

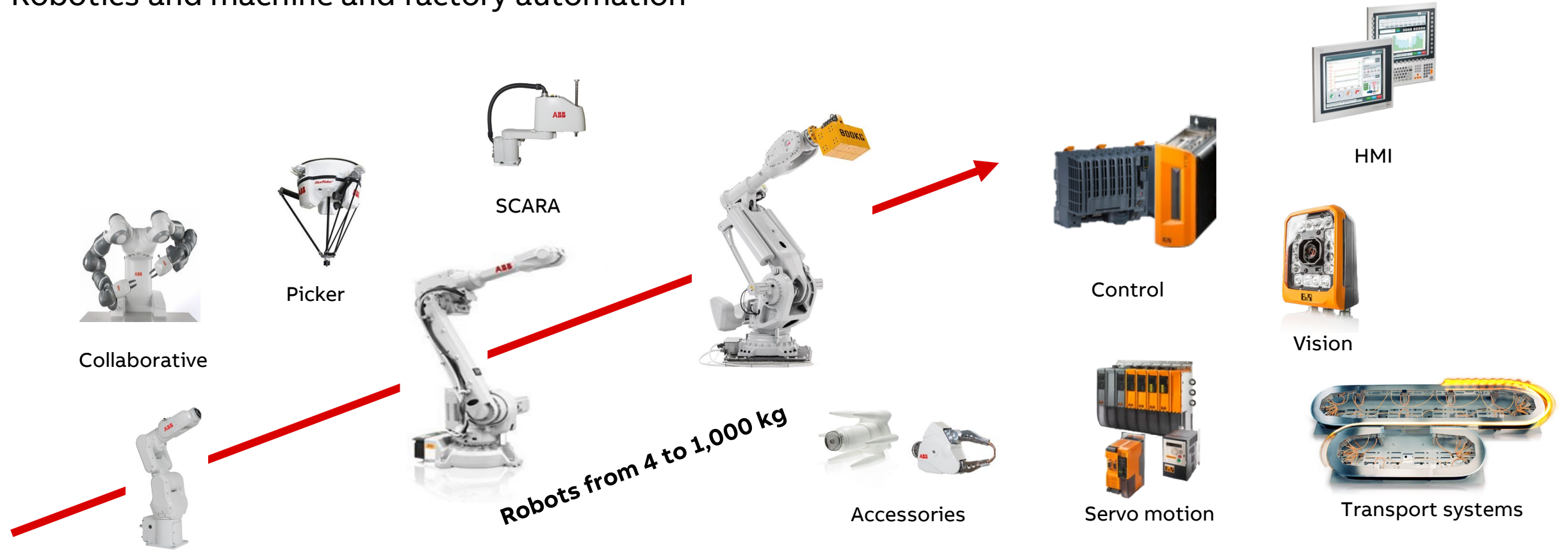
<b>Global #2</b> #1 in growth #2 in robotics, #1 in China Top 5 in PLC	<b>\$80 bn</b> Market size	<b>\$3.6 bn</b> 2018 revenues	<b>14.6%</b> 2018 Op. EBITA	<b>~11 k</b> Employees worldwide
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## Business mix (by revenue)



# A unique product portfolio...

Robotics and machine and factory automation



**Unique scope across robotics and machine automation**

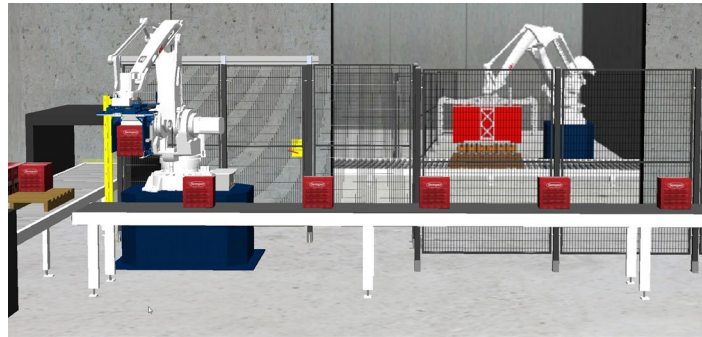


## ...as a base for value creating solutions

Unique product portfolio



Advanced engineering and simulation tools



Domain expertise



### Automation solutions for flexible manufacturing and smart machines

Automotive



Electronics



Consumer goods



Food & beverage



Metal fabrication



Plastics

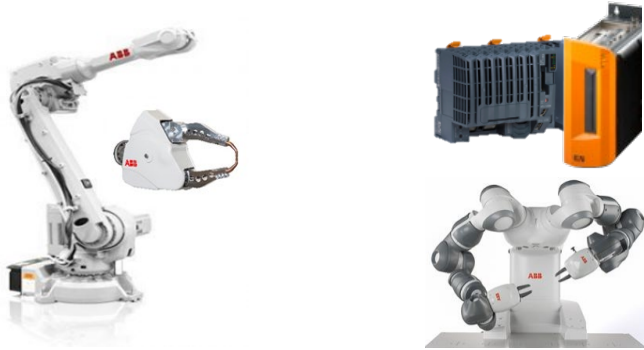


Logistics

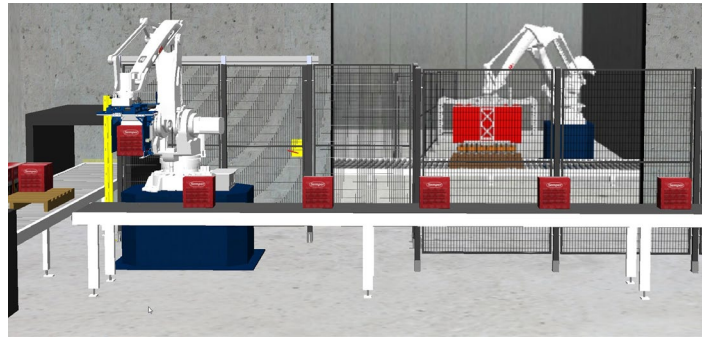


## ...as a base for value creating solutions

### Unique product portfolio



### Advanced engineering and simulation tools



### Domain expertise



### Concrete customer value



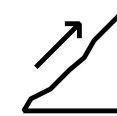
Increased productivity  
0.5 seconds to fill a beer  
bottle



Highest flexibility  
Batch size 1



Maximum uptime  
25% fewer incidents



Improved output quality  
100% parts inspection

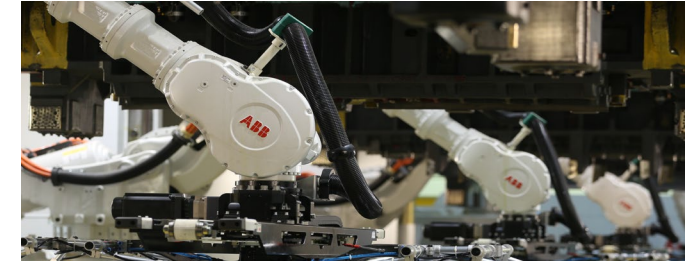


Fast time to market  
16 weeks for a complete  
assembly line

# 2018 results

## Profitable Growth

10% order and 6.2% revenue growth<sup>1</sup>  
~1,700 application and system engineers  
Acquired AB Rotech, intrion



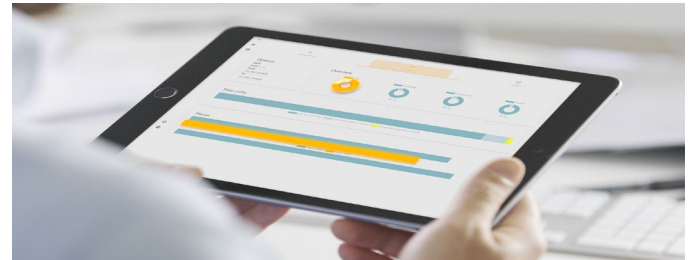
## Relentless Execution

Op. EBITA margin of 14.6%  
Op. excellence initiatives to support margin  
B&R integration ahead of plan



## Business-led Collaboration

Working on >100 concrete joint customer opportunities<sup>2</sup>  
Started investment in new R&D campus in Austria  
Building state-of-the-art robot factory in China  
Continued to attract people to support growth

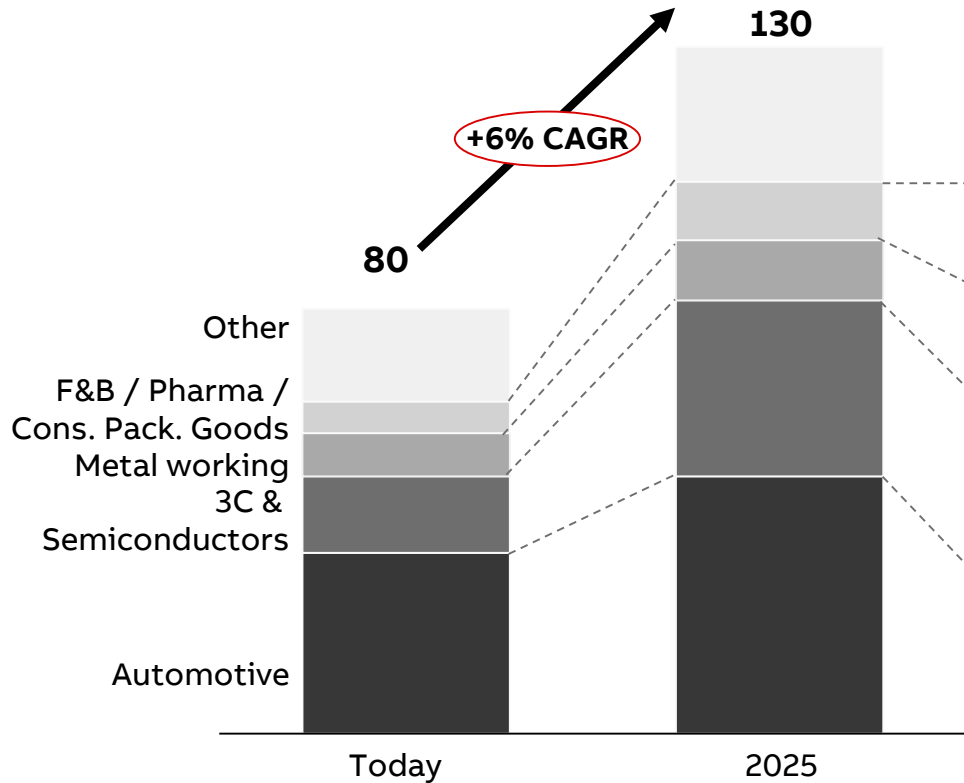


# Operating as a market maker in attractive markets

Creation of new automation applications ensures mid-term growth vs. short-term slow down

## Global addressable market

in \$ bn



## Business exposure

% of revenues



More variants and customization  
New automation applications and digital services



More manufactured, packaged goods; more variety  
New automation applications and digital services



Increasing flexibility and more complex machines  
New automation applications and digital services



Short-term: consumer demand slow down  
More variants and customization  
Automation of more complex tasks, factory automation



Short-term: slow down with growth in EV manufacturing  
New model launches  
Flexible manufacturing

## High-growth segments (examples)

**New machine and manufacturing concepts<sup>1</sup>**  
>10%

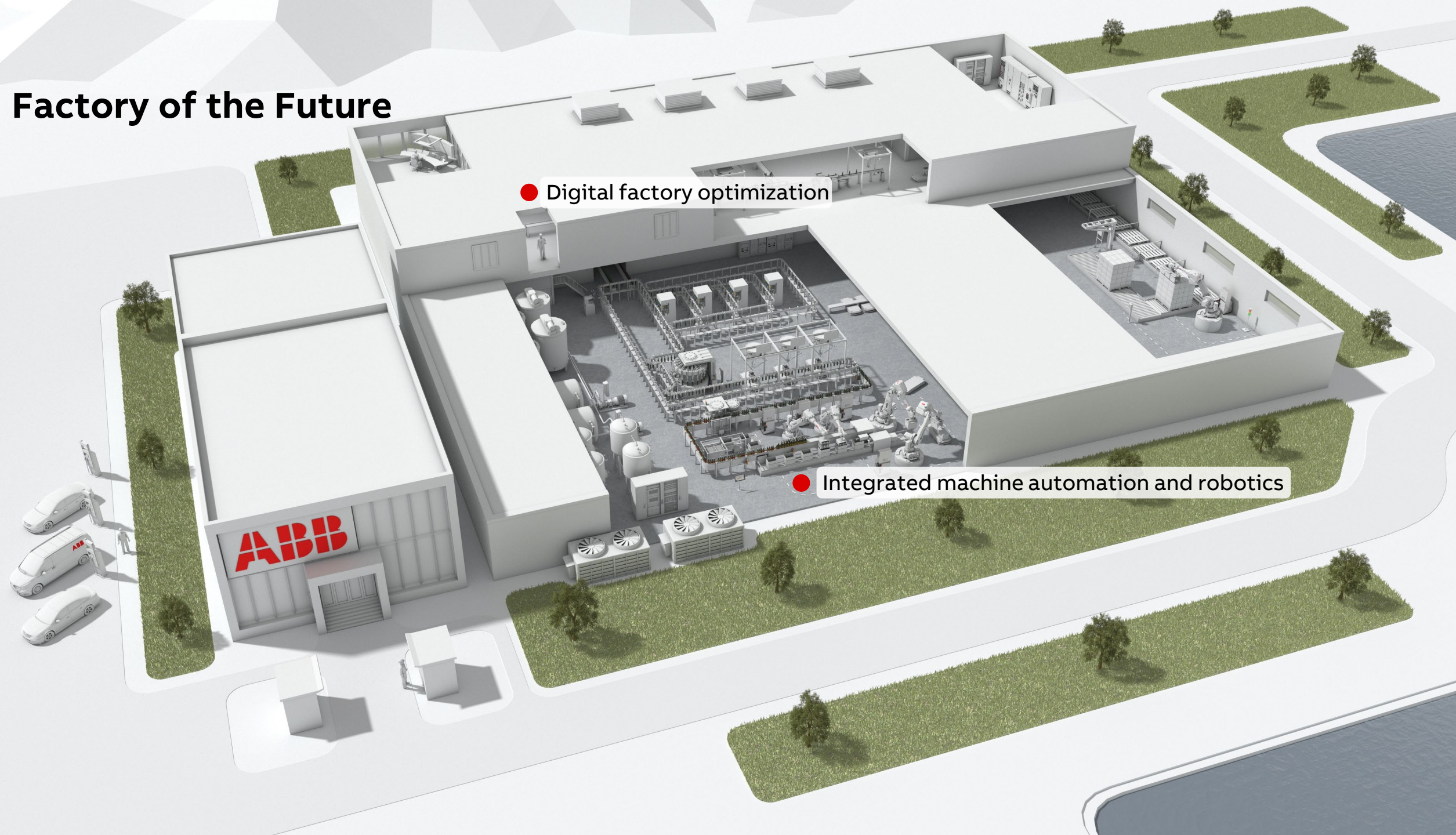
**Electronics**  
>10%

**EV: cars and batteries**  
~10%

**Logistics**  
~10%



# Factory of the Future



● Digital factory optimization

● Integrated machine automation and robotics

# Unique, comprehensive offering for our market

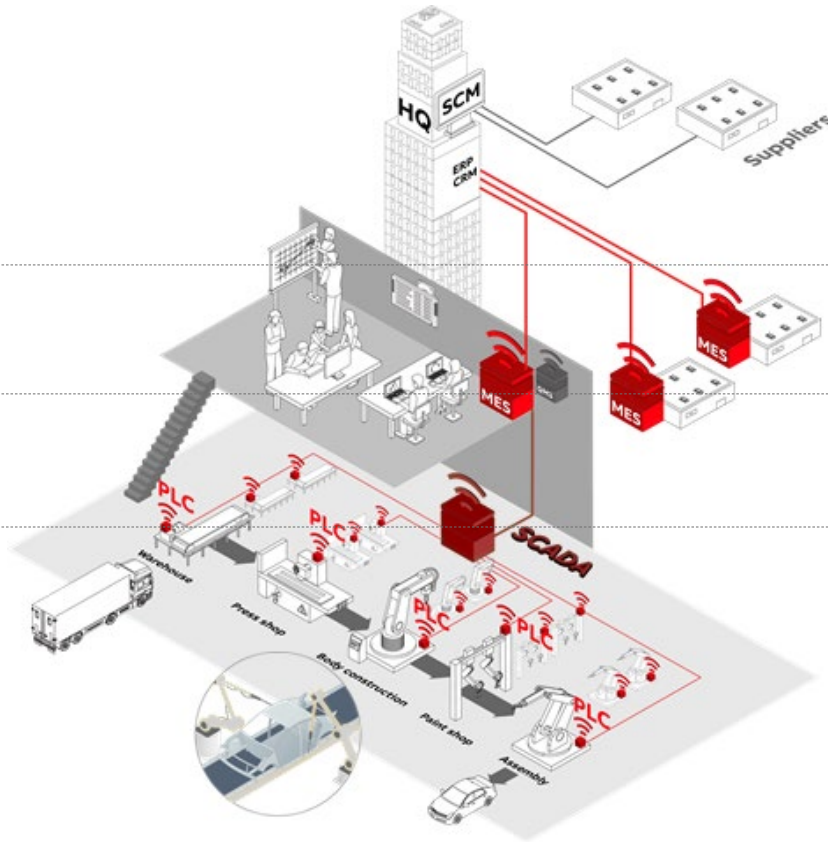
Strong base to further build on

Enterprise level<sup>1</sup>  
(digital layer)

Factory level  
(digital layer)

Line level  
(digital layer)

Machine level  
(physical layer)



Plan / design

Build

Operate

ABB Ability™

Manufacturing Execution System

Line and factory automation  
Intra-logistics

Machinery control

Robots

Customer services  
and digital  
operations  
optimization

Engineering  
and  
simulation  
tools

Servo  
motion

partnership

DASSAULT  
SYSTEMES

Machine & Factory Automation

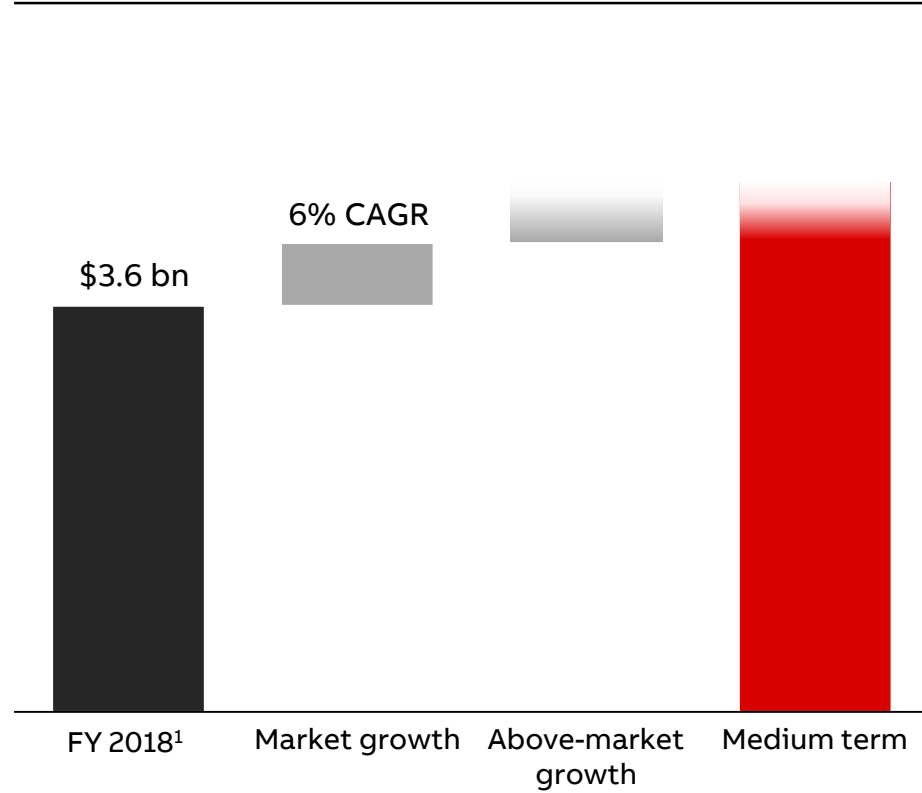
Robotics

Both



# Driving above-market growth medium term...

## Medium term revenue development

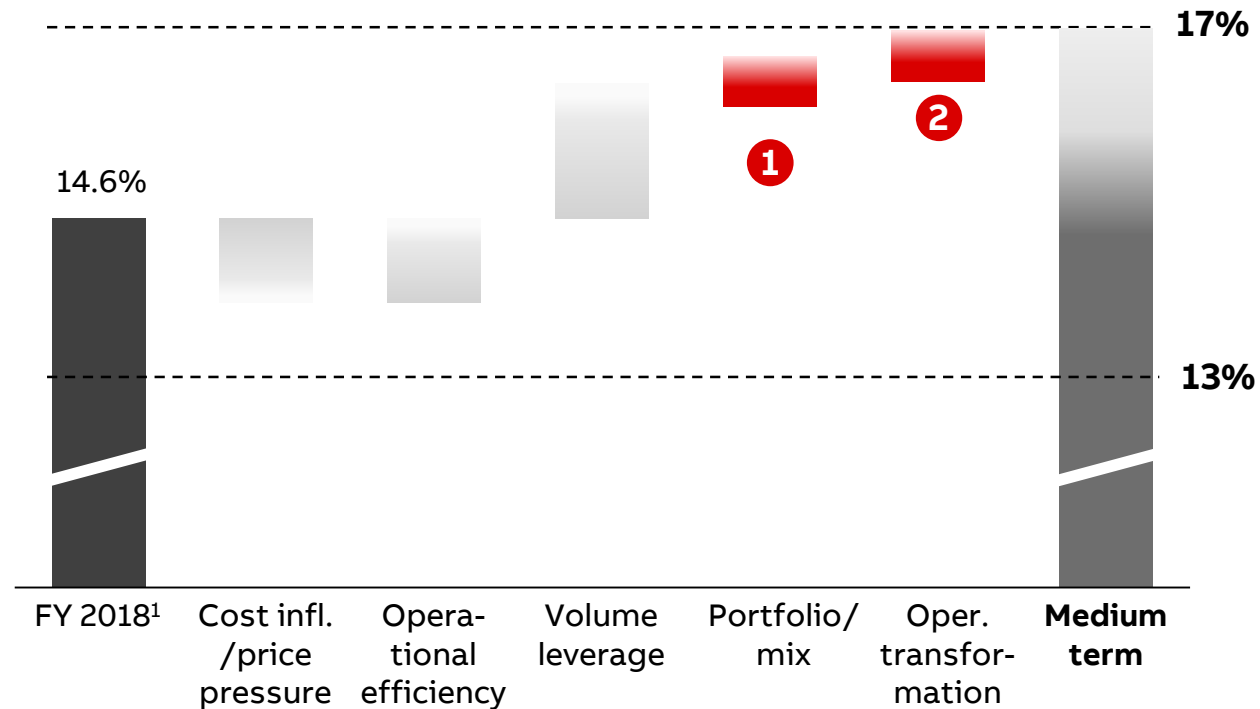


## Drivers for above market revenue growth

Penetration	Cross-selling to complementary customer base
	Emerging market and US penetration
	Strong segment and account focus
Innovation	Analytics and Artificial Intelligence
	New solutions through machine-robotics integration
	New segments, robot types and expansion in service robotics
Expansion	Expanding ABB Ability™ solution offering building on strong portfolio
	Portfolio and regional expansion for machine automation
	Partner eco-system – e.g. with Dassault

## ...at attractive op. EBITA margin

### Operating EBITA margin



### Details on key drivers

1

**Portfolio/  
mix**

- Modularity and standardization
- Engineering productivity through automation and Artificial Intelligence
- Software and service share increase

2

**Operational  
trans-  
formation**

- Sales efficiency, project and engineering execution excellence
- ABB-OS™ savings, e.g. simpler organization
- Integration cost synergies



# Creating value for customers and ABB

Writing the future of flexible manufacturing and smart machines

## Attractive growth

- High-growth market: ~2x GDP
- Unique combination of robotics and machine automation
- Proven track record of double digit growth
- Innovative offering expansion, esp. ABB Ability™

## Stronger margins


- Top-line growth drives increasing profits
- Modularity, standardization and software tools / AI accelerate scale
- Operational performance initiatives and lean ABB-OS™
- Completion of successful realization integration cost synergies

## Optimizing capital

- Investing in the future: ABB Ability™ and new technologies
- Partnerships – e.g. with Dassault – for accelerated offering expansion and shared investments
- Assessing strategic acquisitions to expand offering

**Medium-term  
operational EBITA margin**

**13 – 17%**



**Let's write the future of flexible manufacturing  
and smart machines. Together.**

**ABB**