Industrial Automation
Writing the future of safe and smart operations in process and hybrid industries
Peter Terwiesch, President Industrial Automation
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.

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- 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
Industrial Automation at a glance

Key figures

Global #2
#1 in DCS and process automation solutions
#3 in measurement & analytics
#1 in marine & turbocharging

~$90 bn
global market size

~$6.5 bn
2018 revenues

14.1%
2018 op. EBITA

~21 k
employees worldwide

Business mix (by revenue)

Customers

- Power Generation
- Oil & Gas
- Chemicals & Refining
- Marine, other T&I
- Other hybrid industries

Offering

- Services
- Products
- Systems

Channels

- Distributors
- System integrators
- OEMs
- EPCs
- Direct sales

Geographies

- Europe
- AMEA
- Americas

Footnotes:

1 New IA structure excluding B&R
2 Incl. Digital applications and software
Note: all 2018 results numbers based on management estimates
2018 delivered, positioned for profitable growth
Leadership in process automation – #1 in DCS, 19th consecutive year

<table>
<thead>
<tr>
<th>Profitable Growth</th>
<th>Orders $6.8 bn, 8% up; large orders returned to growth</th>
</tr>
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<tbody>
<tr>
<td></td>
<td>Revenues $6.5 bn, stable; ABB Ability™ digital service revenues doubled in two years</td>
</tr>
<tr>
<td></td>
<td>Order backlog grew for first time since Q4 2015</td>
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<table>
<thead>
<tr>
<th>Relentless Execution</th>
<th>Delivered $914 mn operating EBITA at a 14.1% margin</th>
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<tbody>
<tr>
<td></td>
<td>Profitability driven by strong execution and positive business mix, including EPC exit</td>
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<td></td>
<td>Decreased working capital, improved return</td>
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<th>Business-led Collaboration</th>
<th>Growth across regions and businesses in 2018</th>
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<tbody>
<tr>
<td></td>
<td>Cross-divisional collaboration, integral to IA business model</td>
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</tbody>
</table>

Note: all figures are in new IA structure excluding B&R
Addressing attractive markets

Global addressable market
in $ bn

<table>
<thead>
<tr>
<th>Segment</th>
<th>Today</th>
<th>2025</th>
</tr>
</thead>
<tbody>
<tr>
<td>Other hybrid ind.</td>
<td>~90</td>
<td></td>
</tr>
<tr>
<td>Marine, other T&amp;I</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Power Generation</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mining, Metals, Paper</td>
<td></td>
<td></td>
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<tr>
<td>O&amp;G</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Chemicals &amp; Refining</td>
<td></td>
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<tr>
<td></td>
<td>~90</td>
<td>~115</td>
</tr>
</tbody>
</table>

Business exposure
% of revenues

Increase in F&B and pharma investments driven by middle class growth; datacenter projects' multiplication

Energy efficiency; electric/zero emission vessels; digital and autonomous vessels

Sustainability and environmental regulations; conversion of coal to gas

Recovery of capex investments; digital solutions to raise productivity and improve safety

Recovery of capex investments; focus on EOR, safety, sustainability and digitalization

Middle class growth in Asia (e.g. plastics demand); growth in countries with cheap feed-stock

High-growth segments (examples)

- Midstream LNG
  - 7 – 10%

- Mining digital solutions
  - >10%

- Marine electric propulsion
  - 7 – 10%
Customer needs in process and hybrid industries

Addressing customer needs...

For capital projects:
- reduce...
  - Cost
  - Schedule
  - Risk

For operations:
- improve...
  - Safety
  - Productivity
  - Energy efficiency

...by mastering operations and asset loops during the project and operations phases

Operations

Assets
Positioned to win...

Safe and smart operations

1. Pioneering technology
   - #1 in DCS for 19th consecutive year
   - 125+ years in automation

2. Industry expertise
   - Enabling customers to realize most complex projects and run mission critical, real-time operations
   - Strong market share in industry-specific products

3. Solutions-oriented business model
   - Channel to market for ABB products
   - ABB Ability™ digital solutions

4. Vast global footprint
   - Largest service footprint
   - Presence in 100+ countries
   - 24/7 ABB Ability™ Collaborative Operations™

5. Sales after Service, Service after Sales
   - Largest installed base
   - 35,000 connected systems
   - 35,000,000 connected devices

Footnotes:
1. E.g. ABB IA as main automation supplier for Sadara, largest petrochemical complex built in one phase
Illustrative: typical scope of a greenfield opportunity in OGC

Typical automation vendor

- Digital
- Automation
- Motion
- Electrification

IA offering

- IA project scope
- Other ABB offering

Customer benefits

- Integrated automation of process, electrical and motion
- Augmented by software and digital services
- Reduced installation and maintenance costs
- Integrated lifecycle services across the full scope
IA generates value for ABB both directly and indirectly

Illustrative: example of a typical solutions order

<table>
<thead>
<tr>
<th>Profit</th>
<th>IA view</th>
<th>ABB Group view</th>
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<tbody>
<tr>
<td></td>
<td>IA profit</td>
<td>ABB profit</td>
</tr>
<tr>
<td>Cost</td>
<td>EP / MO / RA profit</td>
<td>ABB offering</td>
</tr>
<tr>
<td>Other ABB businesses offering</td>
<td>IA offering</td>
<td>3rd party offering</td>
</tr>
<tr>
<td></td>
<td>3rd party offering</td>
<td>ABB offering</td>
</tr>
</tbody>
</table>

1Other ABB businesses content: Electrification, Robotics & Discrete Automation, Motion, Power Grids
Serving customer needs with most comprehensive solutions portfolio
Leading solutions portfolio for ABB Ability™ Collaborative Operations™

Transforming the way we work with customers with 24/7 access to ABB experts

- For operations: improve...
  - Safety
  - Productivity
  - Energy efficiency

- # of customers connected
  - 900+ industrial plants
  - 800+ marine vessels
  - 40+ mines

- Key benefits (selection)
  - Increased productivity
  - Higher uptime
  - Lower maintenance costs
  - Improved operational performance

- Key results (selection)
  - Oil & Gas: -30% op. expenditures
  - Mining: $5 mn of op. savings p.a.
  - Pulp & Paper: -55% maintenance
  - Power Generation: +20% machine life
  - Marine: $350k savings per vessel

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February 28, 2019  
1 as of 2018
What’s next?
Towards autonomous: driving pioneering technology leadership in digital industries

1890 Today
1980 Tomorrow

- Autonomous operations
- Collaborative operations
- Isolated operations
- Connected operations

- ABB Ability™ platform
- Advanced services
- Digital twin, simulations
- Cloud-based engineering
- Digital marshalling
- Big data analytics
- Open standards, digital ecosystem
- Artificial Intelligence
Driving above-market growth going forward

Medium-term revenue development

**Medium-term**

FY 2018

$6.5bn

3% p.a.

Drivers for above-market revenue growth

**Penetration**
- Prioritize verticals and drive tailored growth initiatives
- Leverage unique installed base and vast service footprint to support customer lifecycle
- Drive industry consolidation and increase market share

**Innovation**
- Build on DCS leadership to provide integrated solutions across process, electrical, motion and digital
- Accelerate revenues from ABB Ability™ solutions, new software applications and service business models
- Innovate new sensor and analyzer technologies

**Expansion**
- Add industry-specific, differentiated solutions based on anchor products and comprehensive ABB offering
- Increase focus on fast-growing hybrid segments

1New IA structure excluding B&R, based on management estimate
Driving op. EBITA margin within the target margin corridor of 12 – 16% with little additional capital

Operating EBITA margin

- **14.1%**
- **16%**
- **12%**

**Details on key drivers**

1. **Operational efficiency**
   - Strive towards flawless project execution excellence
   - Use AI to further improve efficiency
   - Relentless performance culture

2. **Volume/mix**
   - Serve growing customer needs in process and hybrid industries
   - Balance growth, margin and ROCE

3. **ABB-OS™**
   - Drive towards a lean and simple organization
   - Align resources toward profitable growth priorities
   - Implement ABB-OS™ – zero-based budgeting

FY 2018¹ Cost inflation & price pressure, Operational efficiency, Volume/mix, ABB-OS™, Medium term

¹New IA structure excluding B&R, based on management estimate
Creating value for customers in process & hybrid industries and ABB
Writing the future of safe and smart operations

Attractive growth
- Address customer needs with differentiated, industry-specific offering, incl. ABB product pull-through, ABB Ability™ and integrated solutions
- Capture greater share of customer wallet in fastest growing verticals; leverage markets returning to growth

Stronger margins
- Implement clear initiatives to drive cost down and increase productivity
- Enhance efficiency through simplification

Optimizing capital
- Drive superior returns targeting highly attractive ROCE
- Invest into the future: ABB Ability™, innovation, differentiated solutions and thought leadership

Medium-term operational EBITA margin
12 – 16%

Note: operational EBITA margin target is in new IA structure excluding B&R
Let’s write the future of safe and smart operations. Together.