AUBURN HILLS, SEPTEMBER 6, 2017

Leadership in industrial automation

ABB Innovation & Technology Day

Ulrich Spiesshofer, CEO
Presentations given during the ABB Innovation & Technology Day 2017 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” 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.

The presentations and the related discussion may also contain or refer to non-GAAP measures of performance. Definitions of these measures and reconciliations between these measures and their US GAAP counterparts can be found in the “Financial information” documents under “Quarterly results and annual reports” on our website at http://new.abb.com/investorrelations/
## ABB: the pioneering technology leader

### Offering

<table>
<thead>
<tr>
<th>Products</th>
<th>Systems</th>
<th>Software &amp; services</th>
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<tbody>
<tr>
<td><strong>Pioneering technology leadership</strong></td>
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### Customers

<table>
<thead>
<tr>
<th>Utilities</th>
<th>Industry</th>
<th>Transport &amp; Infrastructure</th>
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<td><strong>Globally</strong></td>
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### Geographies

<table>
<thead>
<tr>
<th>Asia, Middle East, Africa</th>
<th>Americas</th>
<th>Europe</th>
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<tr>
<td><strong>Globally</strong></td>
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- ~$35 bn revenue
- ~100 countries
- ~136,000 employees

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Proforma: 2016 figures including B&R full-year figures
Why are we here today?

#1 economy in the world

#1 automation market globally for the industry sector

#1 market globally for ABB

- ~20,000 employees
- 60 manufacturing sites
- ~$11 bn capital deployed since 2010

Auburn Hills
Cradle of robotics in the US
Purpose of today

Inform

Next Level update
Industrial Automation
Robotics & Motion
ABB Ability™
Innovation – what’s next?

Experience

Robotics solutions and factory tour
ABB Ability™ System 800xA® – intelligent Chemical Projects
B&R – Machine & Factory Automation
ABB Ability™ – mining solution and platform
ABB Ability™ Collaborative Operations™ – digital transformation in Marine

Discuss

Open forum
Executive and business management dialogue
Next Level transformation – update

ABB’s leadership in industrial automation
## 2017: living Next Level
Clear priorities, implementation well under way

<table>
<thead>
<tr>
<th>Profitable Growth</th>
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<tbody>
<tr>
<td>Driving growth in four market-leading entrepreneurial divisions</td>
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<tr>
<td>Shifting the Center of Gravity: competitiveness, growth, risk</td>
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<tr>
<td>Quantum leap in digital</td>
</tr>
<tr>
<td>Value creating, strategic acquisitions and partnerships</td>
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</tbody>
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<table>
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<tr>
<th>Relentless Execution</th>
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<tbody>
<tr>
<td>World-class operational excellence across the whole organization</td>
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<tr>
<td>– White Collar Productivity, Net Working Capital, Quality</td>
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<tr>
<td>Linked strategy, performance management and compensation</td>
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<tr>
<th>Business-led Collaboration</th>
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<tbody>
<tr>
<td>Market focused and lean organization</td>
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<tr>
<td>Continued leadership development</td>
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<tr>
<td>Strengthening the global ABB brand</td>
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</tbody>
</table>
Growth momentum building

Market growth across industry sectors
Share of ABB industry market

<table>
<thead>
<tr>
<th>Year</th>
<th>&gt;3% p.a.</th>
<th>0-3% p.a.</th>
<th>Negative</th>
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<tbody>
<tr>
<td>2015-17</td>
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<tr>
<td>2017-20</td>
<td>&gt;3% p.a.</td>
<td>0-3% p.a.</td>
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</table>

ABB base order growth, yoy, comparable

<table>
<thead>
<tr>
<th>Quarter</th>
<th>2016</th>
<th>2017</th>
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<tbody>
<tr>
<td>Q1</td>
<td>-6%</td>
<td>2%</td>
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<tr>
<td>Q2</td>
<td>-1%</td>
<td>3%</td>
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<td>Q3</td>
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<td>Q4</td>
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<tr>
<td>Q1</td>
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<tr>
<td>Q2</td>
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PIE “growth machine” working
Penetration: all regions, food & beverage, automotive, service
Innovation: ABB Ability™, digital substation, select I/O
Expansion: B&R, Robotics acquisitions, Africa
### New division structure working well

Partner of choice for ...

<table>
<thead>
<tr>
<th>Power Grids</th>
<th>Electrification Products</th>
<th>Industrial Automation</th>
<th>Robotics and Motion</th>
</tr>
</thead>
<tbody>
<tr>
<td><img src="image1.png" alt="Power Grids image" /></td>
<td><img src="image2.png" alt="Electrification Products image" /></td>
<td><img src="image3.png" alt="Industrial Automation image" /></td>
<td><img src="image4.png" alt="Robotics and Motion image" /></td>
</tr>
</tbody>
</table>

- **Power Grids**: … a stronger, smarter and greener grid
- **Electrification Products**: … electrification of all consumption points
- **Industrial Automation**: … perfection in automation
- **Robotics and Motion**: … robotics and intelligent motion solutions

#### Transformation progressing

- Closing out legacy risks
- Business model transformation
- Market-leading profitability

#### Integration of all ABB LV-/ MV-activities

- Innovation, e.g. home automation, smart products
- Expansion in growth sectors, e.g. e-mobility, renewables, data centers

#### Integration of all control-based solutions: DCS, PLC/IPC¹

- Expansion, e.g. B&R, Pharma
- Leading in digitalization, software and service

#### Focused, simplified portfolio

- Robotics: innovation & customer value leader
- Motion (motors & drives) bottoming out, early cycle momentum building

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¹DCS: distributed control system, PLC: programmable logic controller, IPC: industrial PC
Shifting ABB’s Center of Gravity
Steady action stream driving the transformation

- Launch of Next Level Strategy in September 2014, examples shown from last 12 months

Strengthening competitiveness

- Service: growth from large installed base
- Partnerships: IBM
- Software / digital: ABB Ability™
- Cable divestiture
- Business model change
- Intrinsic business risk: execution of legacy backlog in offshore wind
- KEYMILE acquisition
- Robotics acquisitions, e.g. NUB3D
- Discrete: B&R acquisition
- PIE: expansion in high-growth markets (e.g. Robotics, F&B)

Lowering risk

Driving organic growth

1Launch of Next Level Strategy in September 2014, examples shown from last 12 months
ABB Ability™: industry-leading digital solutions
Successful launch in Europe, Americas and AMEA\(^1\) in H1 2017

180+ ABB Ability™ solutions

- Utilities solutions
- Industry solutions
- Transportation & Infrastructure solutions

Platform
(common technologies for device, edge, and cloud)
# ABB’s group targets 2015-20

**Ambition confirmed**

<table>
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<tr>
<th>Metric</th>
<th>Target</th>
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<tr>
<td>Revenue growth(^1)</td>
<td>3 – 6%</td>
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<tr>
<td>Operational EBITA %(^2)</td>
<td>11 – 16%</td>
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<tr>
<td>Operational EPS growth CAGR(^3)</td>
<td>10 – 15%</td>
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<tr>
<td>FCF conversion to net income</td>
<td>&gt;90%</td>
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<td>CROI %(^4)</td>
<td>Mid-teens</td>
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\(^1\)Average annual revenue growth on a comparable basis over 6 years, base year 2014; \(^2\)Target is on a full-year basis; \(^3\)CAGR:Compound Annual Growth Rate, base year is 2014 and assuming constant exchange rates; \(^4\)Temporary reduction possible in the event of larger acquisitions
Next Level – summary

- Next Level transformation well under way
- Topline growth and steady profitability despite market head winds & ongoing transformation
- 2017 crucial transition year
- Market dynamics improving
- ABB returning to profitable growth
- 2018 first year of “new normal”
Next Level transformation – update

ABB’s leadership in industrial automation
**Industrial automation**

ABB positioned as pioneering innovation and technology leader

**ABB’s leadership in industrial automation**

- Global #1 in process control software
- Global #1 in motion
- Global #2 in robotics, #1 in China

**Innovation & growth leader in machine and factory automation**

- Large installed base incl. motion, robotics, process control systems
- ABB Ability™ – leading industrial solutions

**Innovation and technology trends**

- Internet of things / digitalization
- Robotics
- 3D printing
- Blockchain
- Artificial intelligence

Well positioned in a world of accelerating innovation
Industrial automation market
A >$200 bn market for ABB expected to grow ~3% p.a.¹

Utilities | Industry | Transport & Infrastructure
---|---|---
**Process**
Oil & gas
Refining & chemicals
Water & waste water
**Discrete**
Mining & metals
Food & beverage
Packaging & logistics
Automotive
Pharma
Machinery
Electronics

¹Expected growth 2017-20
Our customers’ operations

Example: oil, gas & chemicals
Our customers’ operations – example: chemical plant

ABB has a complete offering for process industries

- Central control room & process control system (DCS)
- Telecom systems
- Safety systems
- Power management system
- Programmable Logic Controller (PLC)
- Motor control center
- Analyzers
- Sensors
- Intelligent field instruments
- Operator mobility
- ABB Ability™, Software & Services

- Chemical plant
- Motors
- Variable-speed drives
- Intelligent switchgear
- HV / MV / LV power distribution

ABB Ability™, Software & Services
Our customers’ operations

Example: electronics manufacturing plant in discrete industries

- Water treatment
- Polishing and grinding
- Packing, picking, and palletizing logistics
- Incoming component logistics
- Display and battery assembly
- Off-line assembly
- Laser marking
- Final assembly and testing
- Packaging
- Control room
- Heating, ventilation, air conditioning (HVAC)
Our customers’ operations – example: electronics manufacturing plant

ABB has a complete offering for discrete industries

- Servo motors and drives
- PLC, IPC, HMI
- Software, incl. automation studio
- Manufacturing Execution System (MES), control room
- CNC machine tending cell
- Polishing cell
- Collaborative robots
- Vision-guided robots
- Assembly robots

ABB Ability™, Software & Services
Our customers’ operations – example: electronics manufacturing plant
Our customers’ operations – example: electronics manufacturing plant

ABB robotic solutions tailored to customers’ process and needs

Examples of processes with ABB robotics solutions

- Material handling & machine tending
- Injection molding
- Polishing
- Deburring
- Assembly
- Testing
- Packaging
- Collaborative
Our customer value proposition for industrial automation

ABB is the partner of choice for value creation through automation and digitalization
ABB’s unique competitive differentiation

Three building blocks

- Leading portfolio
- Solution-oriented business model
- Innovation dynamics
ABB’s leading industrial automation portfolio

<table>
<thead>
<tr>
<th></th>
<th>Sensing &amp; analytics</th>
<th>DCS¹</th>
<th>PLC / IPC² servo motion</th>
<th>Industrial motion³</th>
<th>Robotics</th>
<th>Digital platform</th>
<th>Electrification⁴</th>
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| Industrial Automation | Robotics & Motion | ABB Ability™ | EP⁵, PG⁶ |

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Note: indicates competitive offering; ¹DCS: Distributed Control System; ²PLC: Programmable Logic Controller, IPC: industrial PC
³Motors, drives; ⁴LV, MV and power quality; ⁵EP: Electrification Products; ⁶PG: Power Grids
ABB’s leading industrial automation portfolio

Targeted portfolio development results in solid #2 position

Source: Management estimate, based on revenues, †Excl. electrification
Solution-oriented business model for industrial automation

From…  

Distributed Control Systems (DCS)  
Robots  
Motors  
Programmable Logic Controller (PLC)

To…

Process optimization solutions  
Robotics solutions  
Intelligent Motion™ solutions  
Machine automation solutions

“Products”  —  “Solutions for customer value”
Solution-oriented business model for industrial automation

Increasing customer value along the entire lifecycle with ABB Ability™

Customer asset lifecycle
- Plan / design
- Build
- Operate

Our customer relationship
- Planning partner
- Product, solutions, systems partner
- Operations partner

130+ ABB Ability™ solutions for industry

Our "traditional" value proposition

Our enhanced digital value proposition
ABB innovation dynamics
Continuous innovation dynamics for Next Level customer value
What to expect from ABB in industrial automation?
Targeted, disciplined combination of all means of growth

<table>
<thead>
<tr>
<th>ABB Technology Ventures</th>
<th>[Grabit]</th>
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<tbody>
<tr>
<td>Partnerships</td>
<td>[Swatch Group] [Microsoft] [IBM]</td>
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<tr>
<td>Active portfolio management</td>
<td>[newave] [gomTec] [ventyx] [Mincom]</td>
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<tr>
<td>Organic growth</td>
<td>Penetration, Innovation, Expansion actions, service growth, digital</td>
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- Copper & iron
- Electronics
- Automated operations
- Digital operations
- Autonomous operations
What to expect from ABB?

Unique growth dynamics

- Increasing automation intensity
- New solutions for digital industry
- Underlying industry growth

- 0–3
- 3–5
- 6+
What to expect from ABB?
Improved quality of business

**More automation:** lower exposure to underlying industry cycles, secular tailwind

**More recurring revenue:** digital, services – leveraging large installed base

**More high value-add solutions:** attractive economics, less “copper and iron”

**More stability:** more base orders, less EPC

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1EPC: Engineering Procurement and Construction
ABB’s leadership in industrial automation

Well positioned

- Next Level transformation – #2 in industrial automation today
- Strong history of pioneering technology – well positioned for the future
- Large installed base, strong domain and process expertise
- Unique industrial automation portfolio

Competitive differentiation

- Targeted solutions-oriented business model
- Leading innovation

Attractive economics, good growth prospects