



NOVEMBER 5, 2019

Further insights and case studies

ABB Electrification Investor Day

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”, “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.

On December 17, 2018, ABB announced an agreed sale of its Power Grids (“PG”) business. Consequently, the results of the Power Grids business are presented as discontinued operations. The company’s results for all periods have been adjusted accordingly. Net income, EPS and Cash flow from operating activities include results from continuing and discontinued operations.

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, annual reports and regulatory filings” on our website at

www.abb.com/investorrelations

Meet the Electrification team

Business lines



Alessandro Palin
Managing Director,
Distribution Solutions



Giampiero Frisio
Managing Director,
Smart Power



Oliver Ittisberger
Managing Director,
Smart Buildings



Matthias Heilmann
Managing Director,
Installation Products

Global markets



Mike Mustapha
Head of Global
Markets

U.S.



Maryrose Sylvester
U.S. Head of
Electrification

Functions



Christian Nilsson
Chief Financial Officer



Amina Hamidi
Chief Technology
Officer



Tarek ElHadidi
Chief Information
Officer



Andrea Menti
Head of Operations



Anton Kotov
Head of Strategy &
Digital



Monique Elliott
Head of Customer
Experience



SECTION ONE

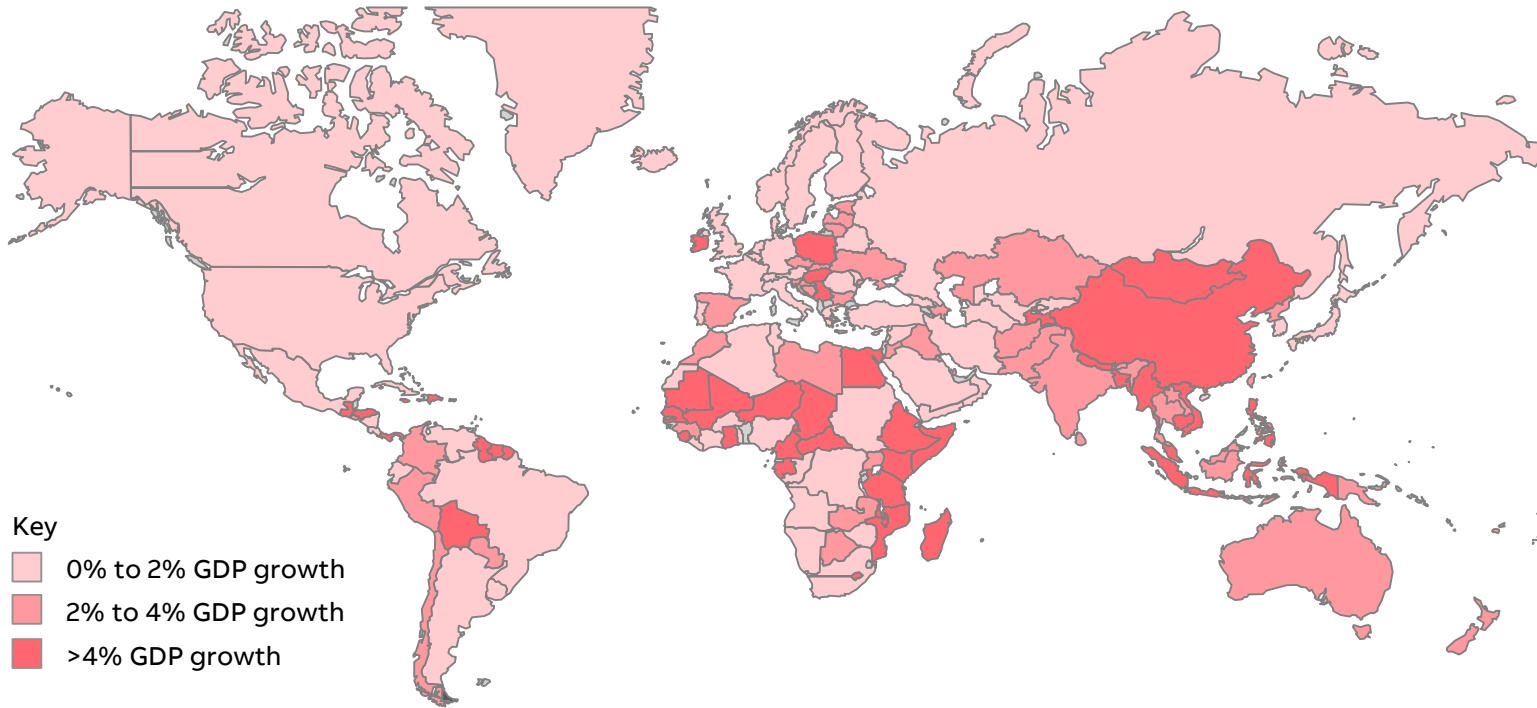
Differentiating in growth markets

Mike Mustapha, Head of Global Markets; Maryrose Sylvester, U.S. Country Managing Director, U.S. Head of Electrification; James-Yongzhan Zhao, Lead Business Manager, China



Fragmented regional markets

Well positioned geographically to maximize growth in globally mixed markets



ABB's major strategic markets

Must win

- U.S.
- China

Strong position

- Germany
- Italy

Growth engines

- APAC (excl. China)
- South America

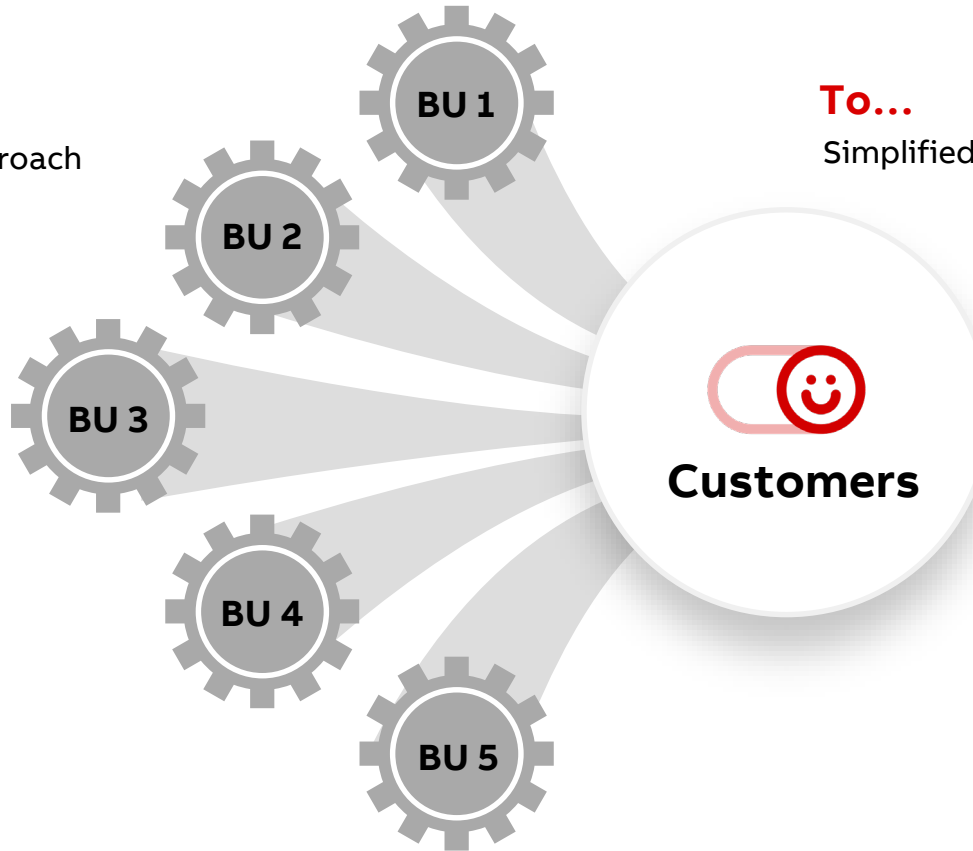
Local strategy for all markets

Unmatched market coverage

Global sales organization: local focus, global coordination

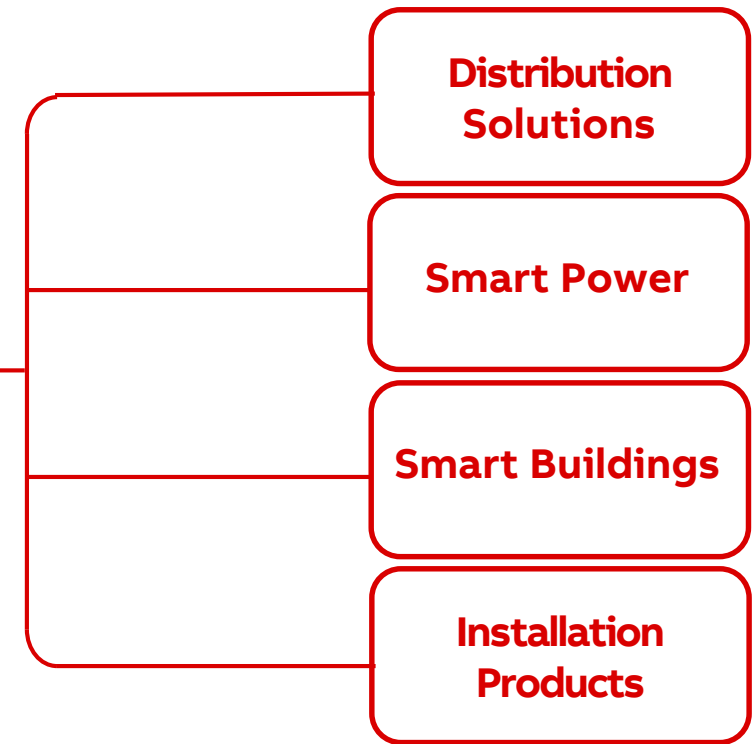
From...

Business line specific approach



To...

Simplified 'market-in' model



Continuing to invest in our 14,000 strong sales team

Unique capability to address complex market requirements

Global scale, local solutions: extensive partner network



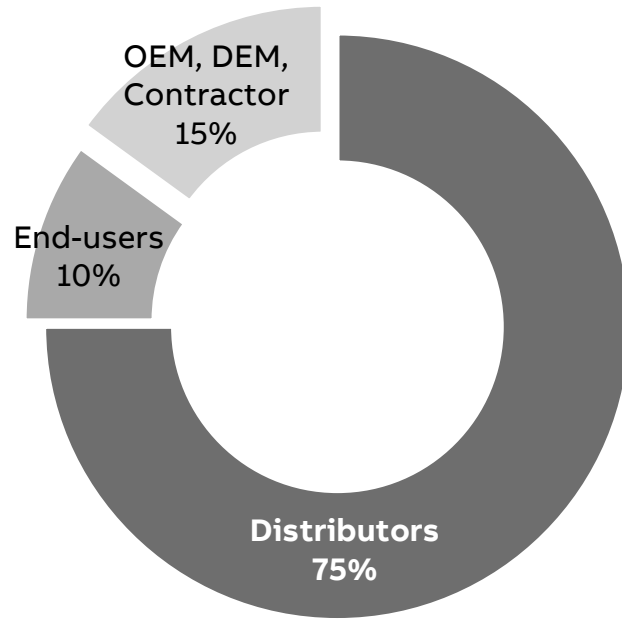
>50%
revenues through
distribution partners

Local partners provide us market access and insights not otherwise possible

Case study – U.S.: broader channel access to market

Acquisition of GEIS key to ABB's distributor success

U.S. market, sales by channel



U.S. market, sales by distribution category

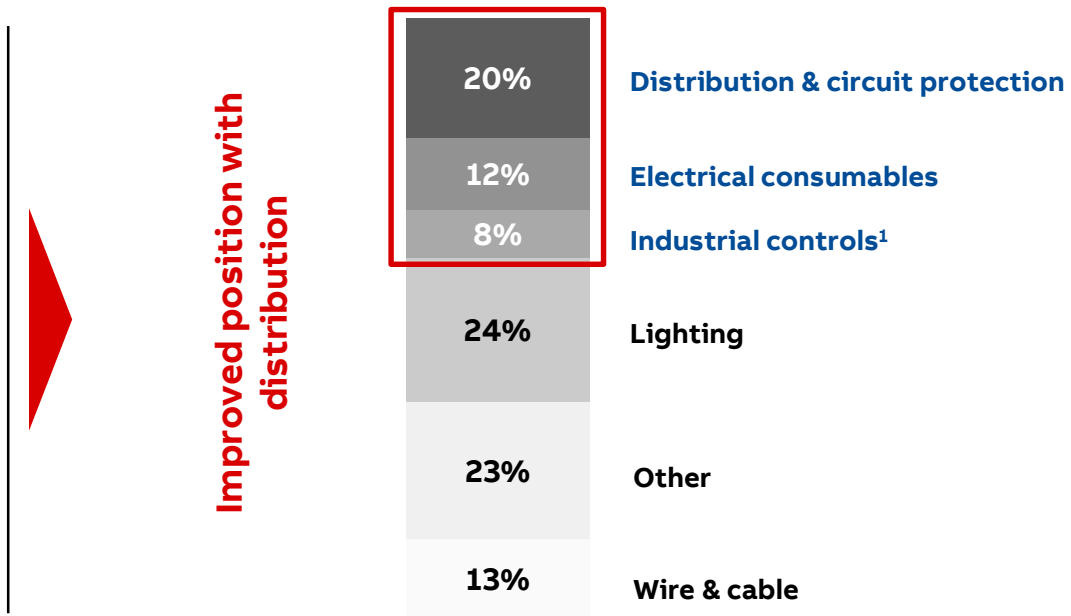


ABB + GEIS = doubled position in distributors market to 40%

Recent U.S. success stories

Complete electrical one-line portfolio allows ABB increased access to customers and distributors

City of Houston – Water Works



Success criteria

- Full electrical one-line offering
- GEIS distribution channel

Products: MV assemblies, motor control

Value: \$26 mn

Rexel



Success criteria

- Full electrical one-line offering
- GEIS longstanding relationship

Products: Busway, LV assemblies, components

Value: \$14 mn

Tyson Foods



Success criteria

- Installation Products relationship
- Added LV offering to master specification

Products: Switchboards, panelboards, motor control centers

Value: \$10 mn

Case study – China: heritage of leadership in the Chinese market



First office
1974



First factory
1992



**#1 medium
voltage**



#2 low voltage



**Attractive
profitability**

2019

Complete local value chain supports evolving Chinese market

Wide-spread coverage

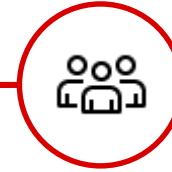
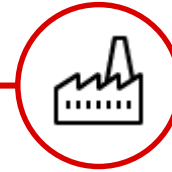
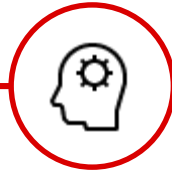
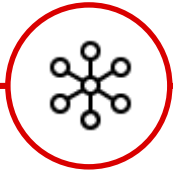
All 285 cities

Experts in focus segments

Best-in-class fulfillment

New Xiamen Hub, largest worldwide

34 services centers



Advanced R&D capability

4 technical centers

850 engineers

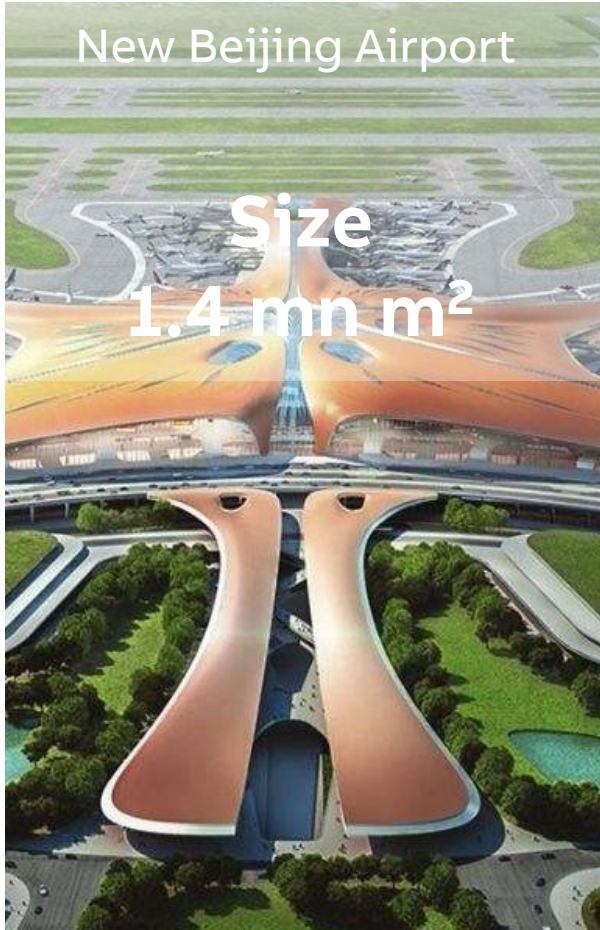
Market-driven leadership

90% local leadership

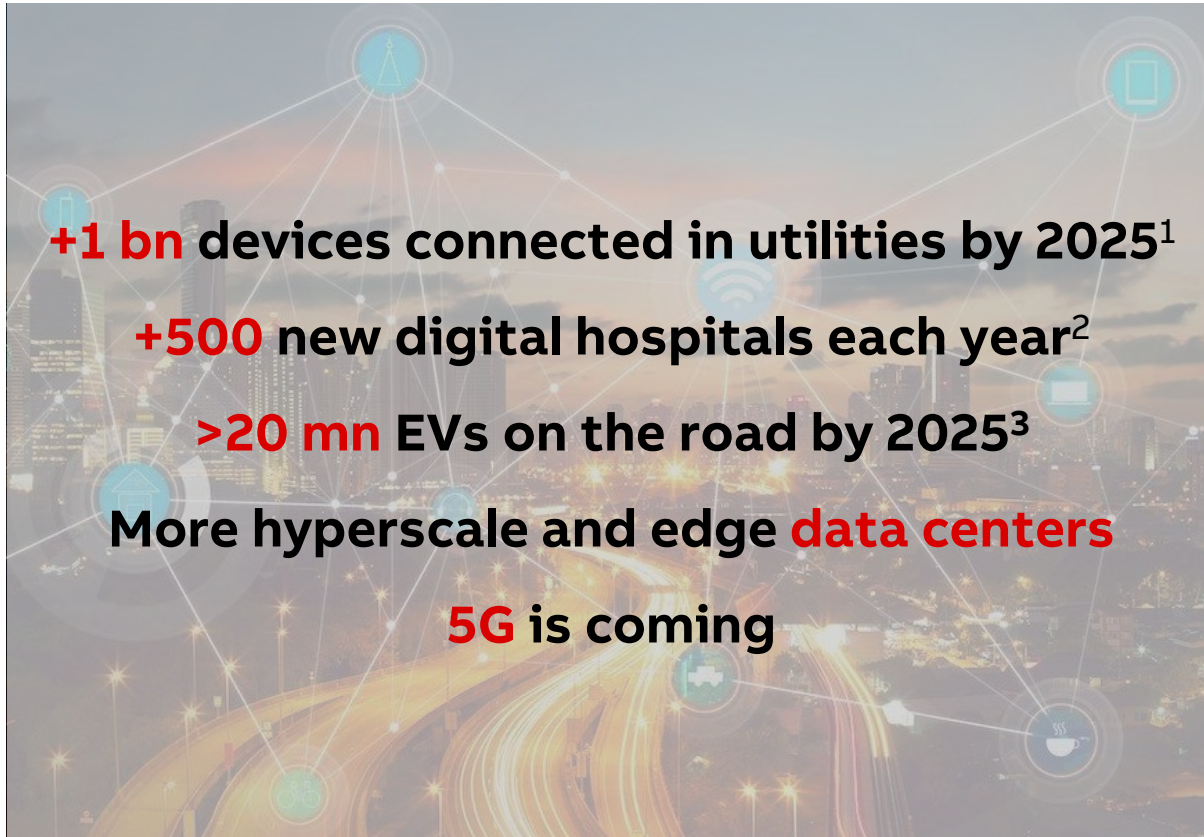
Strong market awareness

Recent China success stories

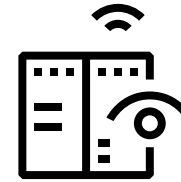
A trusted technology partner for flagship projects



Well positioned in China's evolving digital market place



+1 bn devices connected in utilities by 2025¹
+500 new digital hospitals each year²
>20 mn EVs on the road by 2025³
More hyperscale and edge **data centers**
5G is coming



Digital China for China

- E-commerce
- Tailored digital solutions
- Digital eco-system
- People transformation



+50% digital business growth

- References in major segments
- Dedicated solutions centers
- Large scale digital partners



SECTION TWO

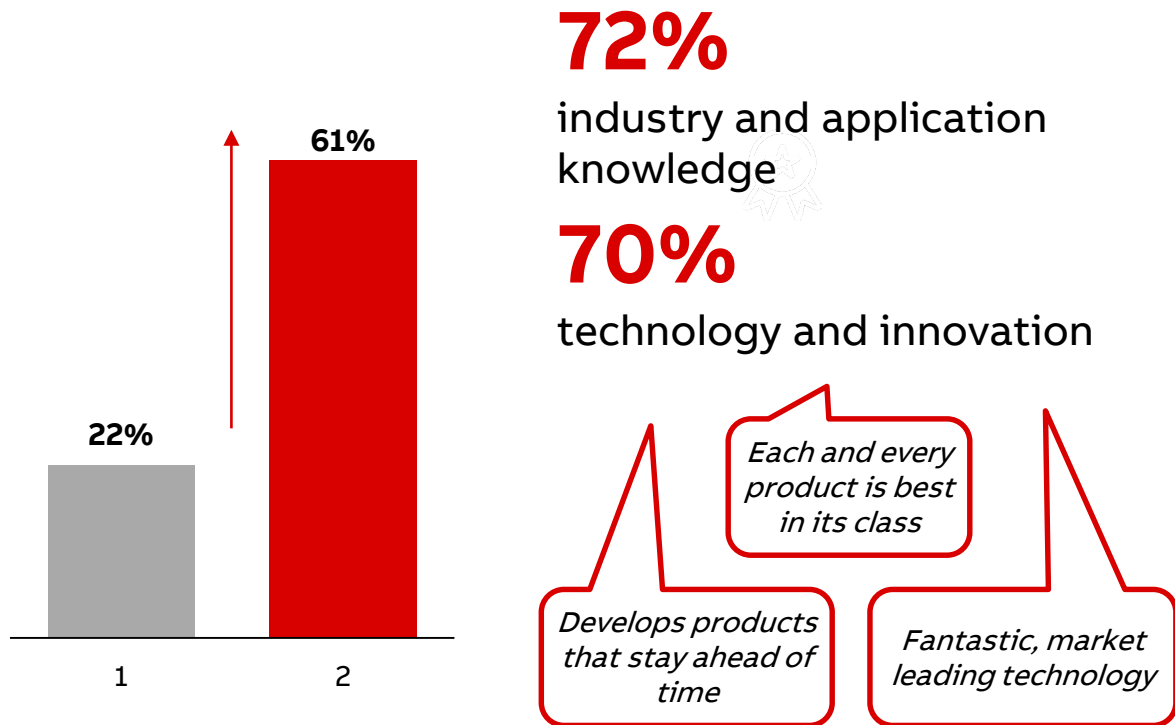
Differentiating through core technologies and digital

Amina Hamidi, Chief Technology Officer; Alessandro Palin, Managing Director Distribution Solutions



Differentiating through domain knowledge, technology and innovation

Net Promoter Score feedback



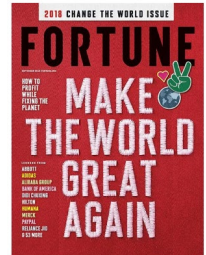
Examples of external recognition



PCIC
EUROPE
PETROLEUM & CHEMICAL INDUSTRY COMMITTEE

2019 Certificate of Appreciation

#8 for E-mobility innovations



2015



2018 special contributions to IEEE Std. C37.100.2



2019 open innovability award – innovation by vendors –

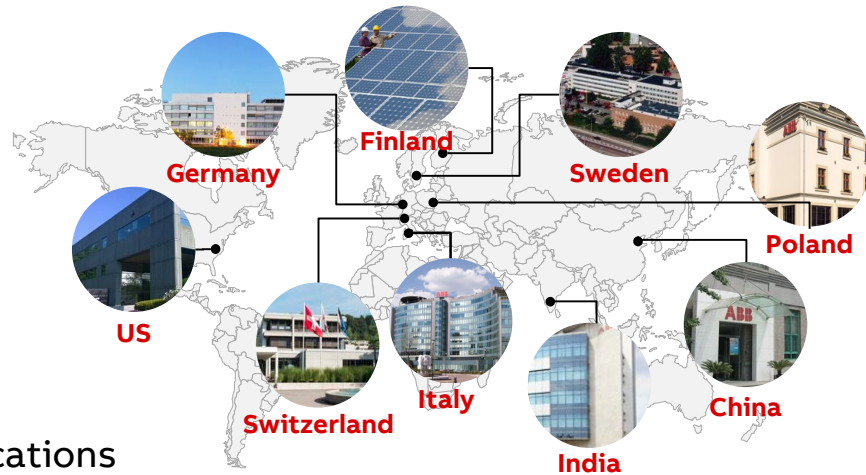


reddot design award winner 2019



Our technology leadership, grounded on people and competences

Extensive innovation ecosystem



48 locations

2,700 technologists

Expanded ecosystem of 25 universities, 27 start-ups & 9 strategic partners (Microsoft, IBM, HPE, Ericsson etc.)

Market-defining products and solutions

>70 new products / solutions released p.a.

>4,200 patent families, **40%** related to digital

>10 million connectable¹ devices

30 ABB Ability™ solutions

~\$400 mn R&D investment², +20% CAGR in digital spend³

Smart LV breakers, well positioned for the future

Best-in-class technology for strong base business

\$8 bn available market,
ABB #2

Best-in-class size and
digital offering

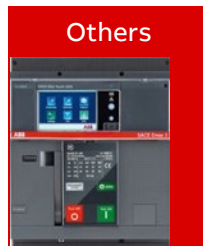
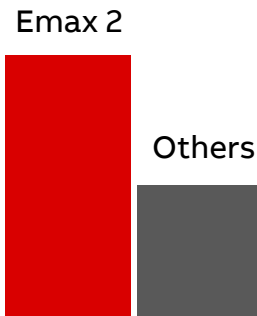
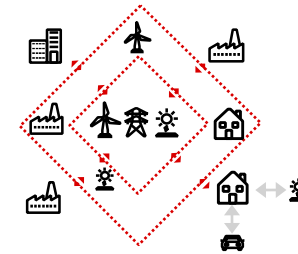


ABB smart LV
breaker Emax 2



Up to **30%**
space saving

The best ratings in the
smallest footprint



4x connectivity

Largest offering of
embedded communication
protocols: interact with
any digital system

2x software advanced functionalities

Built in microgrid, energy management and predictive
maintenance solutions



SECTION THREE




Focus on high-growth segments

Oliver Iltisberger, Managing Director Smart Buildings



Electrification business focuses on most relevant end-user segments


Focusing on three high-growth segments

	Data centers	E-mobility	Commercial buildings
Market size	 ~\$19 bn ¹	 ~\$5 bn ²	 ~\$21 bn ³
Mid-term growth ⁴	>6%	>8%	>4%
Growth drivers	Data & digitalization Sustainability, efficiency	Shift to electricity Decarbonization	Urbanization Decarbonization


Data center growth

Successful in bundled solutions for optimized operations, uptime, efficiency, total cost

Market insight¹

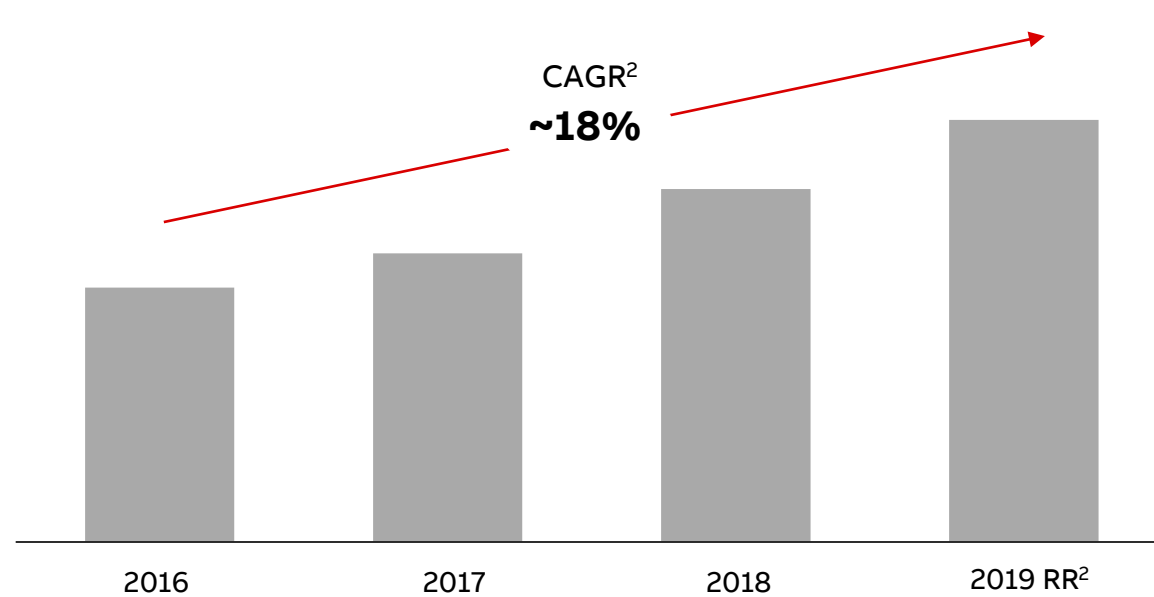
 Hyperscale and co-location segment growth

 Standardization and industrialization

 Focus on sustainability and energy efficiency

Market growth >6% CAGR

ABB captures potential with digitally connected solutions



>\$900 mn revenues run-rate³

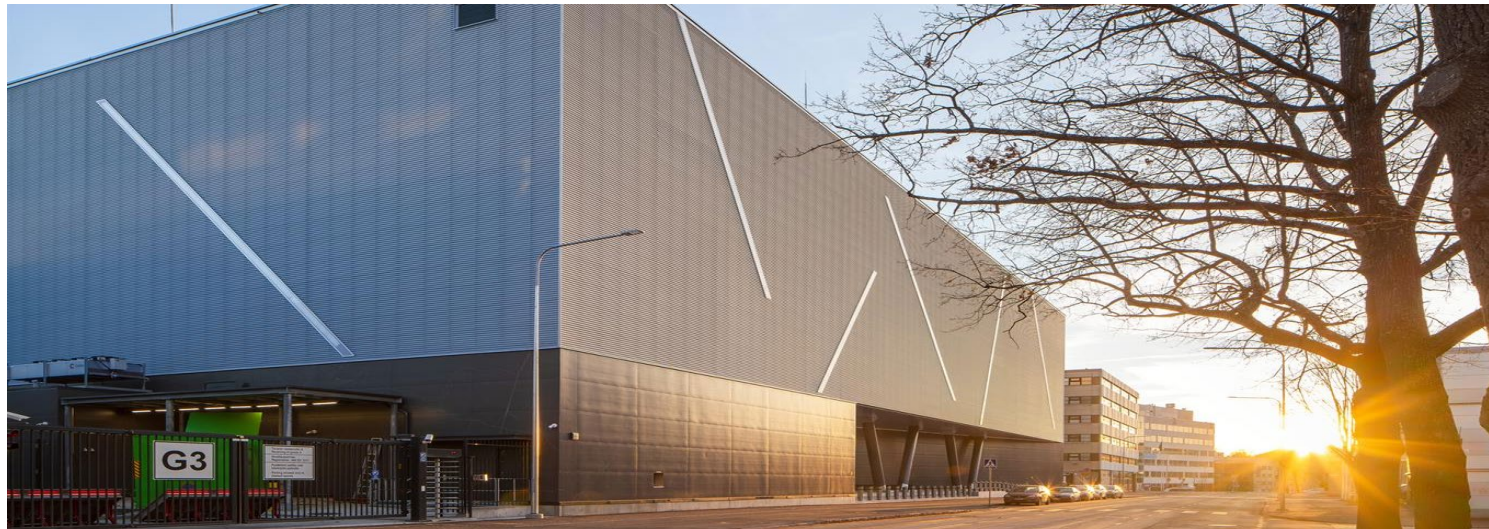
Example customers



Data center solution success: largest open data center in Nordics

ABB with unique solution, delivering the wide / comprehensive powertrain from grid to chip

Delivered solution with superior service capabilities



Value proposition and customer benefits



High quality technology, competitive engineering expertise



Breadth of portfolio



Project execution and delivery time



ABB's 24/7 service capabilities to ensure mission critical uptime



Footprint reduced by 10%



Installation time reduced by 25%



CO₂ emissions reduced¹

Digitalization

**Grid connection &
power distribution**

Solutions & service

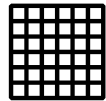
ABB is a global pioneer in connected E-mobility infrastructure

Best-in-class solutions with market leadership

Market insight¹



Fast charging key for EV adoption



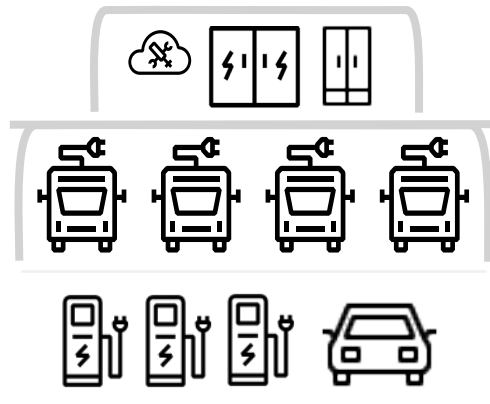
Grid-to-vehicle integration



Connected solutions required

Market growth >8% CAGR

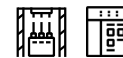
ABB offers integrated and connected E-mobility solutions



API integration, web tools, monitoring



Grid-side connection & market



Medium- low voltage power distribution and control



Fleet management, Energy management



End-user solutions & services

Market traction

>11,000

installed fast chargers in

+76

countries

E-mobility solution success: complete solution for large bus depot

ABB with vertically integrated and connected solution from grid to charging point

Delivered complete depot electrification and charging solution



Digitalization

**Medium and low
voltage power**

High-power chargers

Value proposition and customer benefits



Complete solution from grid-connection to charging point



Increased uptime thanks to digital service support



213 million passengers transported each year



110 bus lines electrified, covering more than 920 km



100% fleet electrification

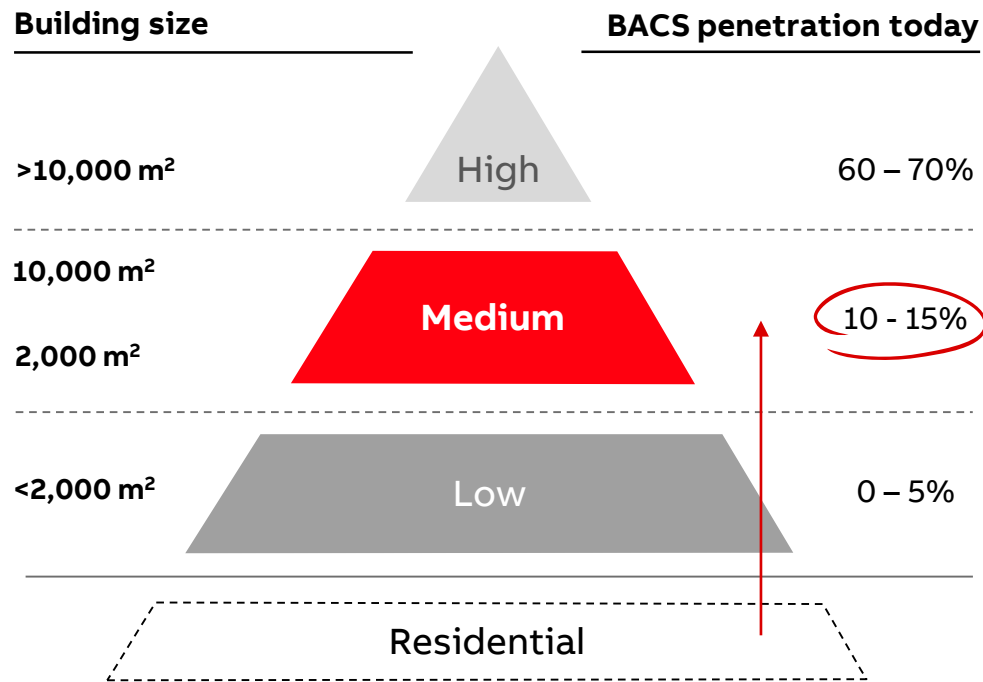


Emissions-free operations

Connecting building products into one IoT ecosystem

Mid-segment commercial building solutions a growth opportunity

Market insight¹






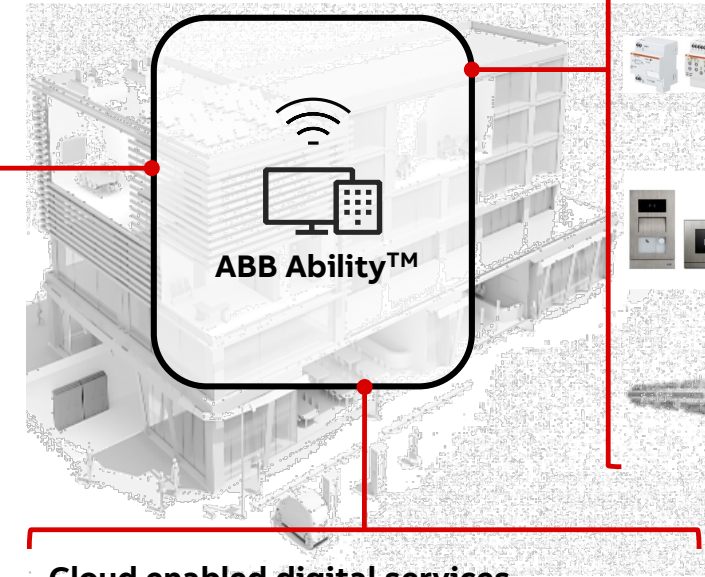
Solution expansion to deliver customer value

Connected products with embedded intelligence



-  Distribution, protection & connection
-  Sensing & metering
-  Emergency lighting
-  EV charging

Automation & Control

-  Lighting & shading control
-  Access control
-  HVAC control



Cloud enabled digital services

-  Energy management
-  Building management

Commercial buildings solution success: multi-tenant office in France

ABB with comprehensive building automation and electrification for mid-segment

Delivered full smart building solution



CARDINAL
promoteur immobilier

Value proposition and customer benefits



Complete offering with building electrification



Connecting all building functions into one system, managed by ABB Ability™ platform



Open API enables future expansions, external services easily integrated



Flexibility for multi-tenant solution



Up to 30% energy savings¹

Building
management

Power supply

Automation



SECTION FOUR

Operational excellence – GEIS integration

Giampiero Frisio, Managing Director Smart Power; Sarah Acker, Americas Smart Power & Smart Buildings Hub manager



Leadership in electrification

ABB acquired GE Industrial Solutions (GEIS) for \$2.6 bn



Deal rationale

Market access



Expanded access to North America
Significant global installed base

Performance improvement



ABB technology leadership
~\$200 mn cost synergies by 2022

Closing portfolio gaps



Complementary NEMA, LV products

Strategic supply partnership



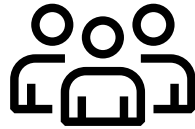
GE to tap ABB's leading portfolio through
long-term supply partnership

Reshape to prepare for growth

The 'Best of Both': ABB + GEIS

Delivering a best-in-class source to socket portfolio of industry leading technologies

Our customer proposition



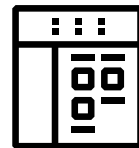
People

From field application engineers to sales we are adding expertise
Front end commercial process for customers to search, configure, order and track their orders



Process

Investment in new production capacity and manufacturing resources

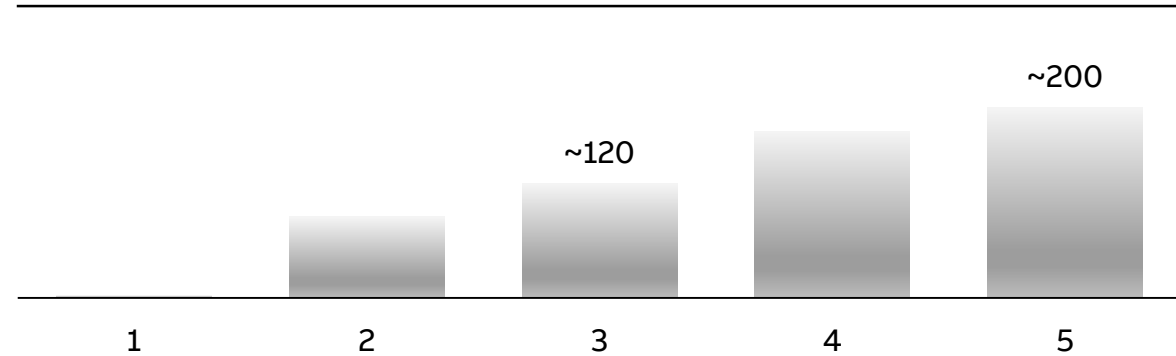


Products

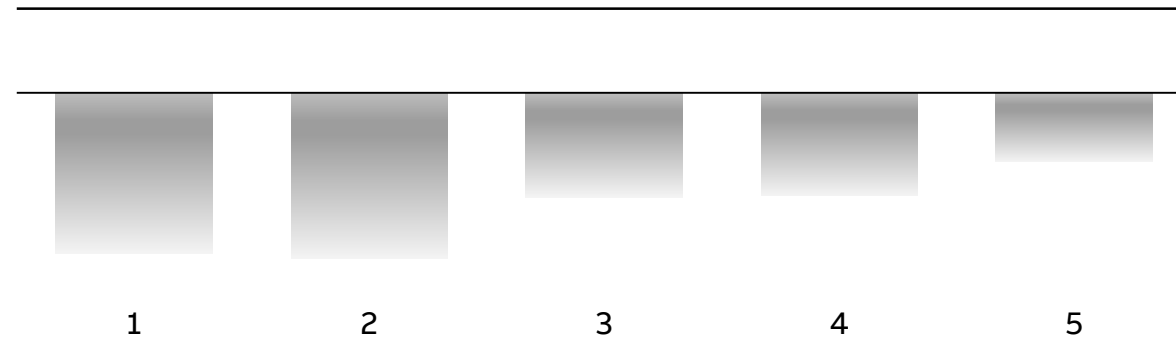
Integration of ABB's world-class technologies with GEIS' proven low voltage portfolio for a 'Best of Both' offering

ABB + GEIS: significant value creation potential

Expected annual cost synergies (\$ mn)



Expected annual costs (\$ mn)¹



Sources of synergies

~\$200 mn run-rate by 2022

- Product and technology portfolio harmonization
 - Footprint and process optimization
 - Supply chain savings
 - SG&A cost reduction
- ~80%

Post-closing integration costs, H2 2018 to 2022

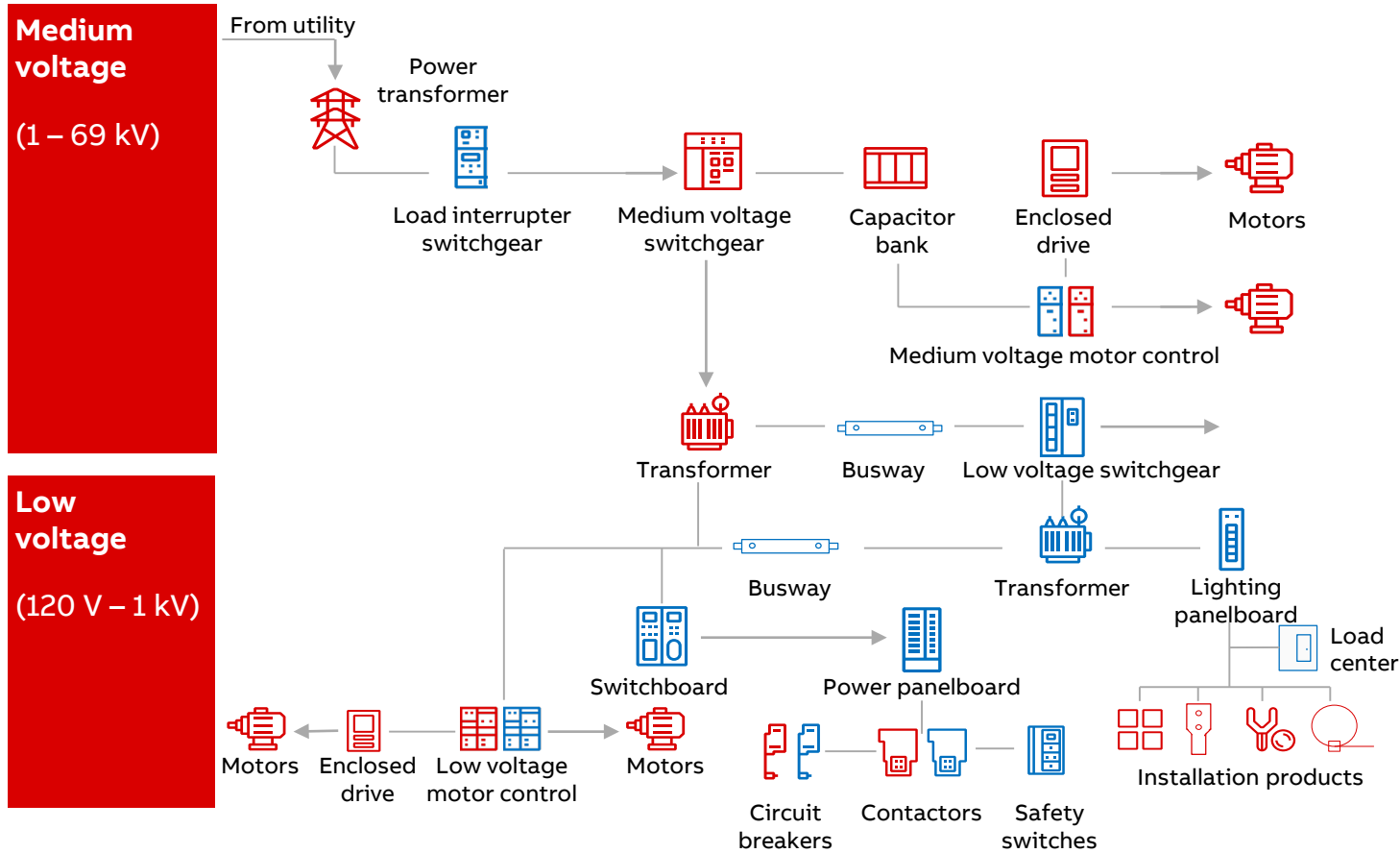
On track with ~\$480 mn² investment

- of which ~80% non-operational

~\$130 mn lower cash taxes versus pre-closing estimate

GEIS: why we have done the acquisition

New complete portfolio

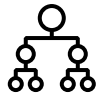


Filling white spot areas for ABB portfolio in North America

Leverage ABB's scale and technology investment

What have we done since the GEIS acquisition?

Organization



~13,000 employees successfully transitioned to the receiving business lines

Network rationalization



13 plant closures announced, 2 R&D centers closed, 3 assets divested
Operations processes reviewed

Preparing for growth



+\$100 mn investment to expand 4 North American facilities
+100 new products ready for introduction in 2020 in the U.S.

Synergy actions on track and in line with expectations

Process optimization: ~40% of the total cost synergies

Improving North America commercial process with legacy GEIS 'empower' platform

Legacy – slow and manual process

Up to 4 different ordering systems

Manual drawings & quotes

Manual updates

Future – driving customer productivity

One ordering system for all offerings

Automatic quote configuration

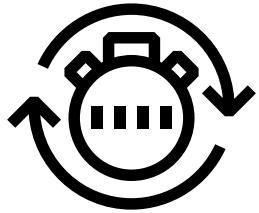
Real time status



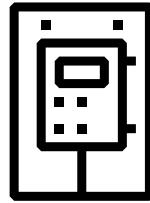
One interface for our partners to configure, order and track

Summary

Reshape to prepare for growth



Integration one-third complete
Execution in line with
expectations



'Best of Both' to drive
product synergies and
conversion



Footprint and process
excellence driving cost
synergies and customer value

ABB