



ABB LTD, CAPITAL MARKETS DAY, OCTOBER 4, 2016

# Power Grids Next Level Stage 3

Partner of choice for a stronger, smarter and greener grid

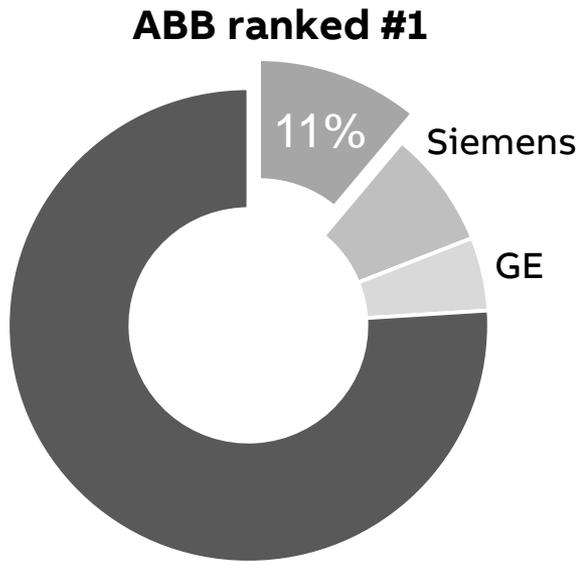
Claudio Facchin, President Power Grids Division

# Partner of choice for a stronger, smarter and greener grid

Undisputed global leader

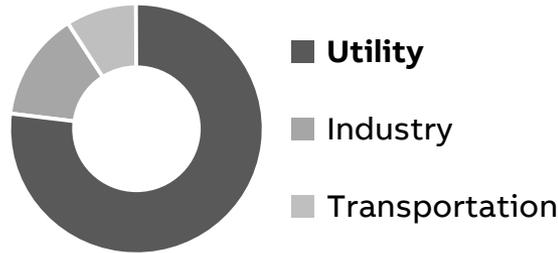
## Global leader in a ~\$110 bn<sup>1</sup> market

### Estimated market shares



## Power Grids revenue split

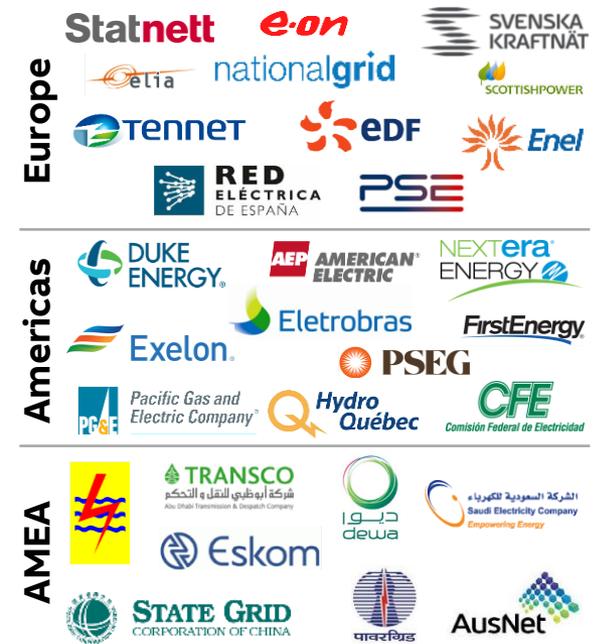
### By customer segment in %



### By region in %



## Utility customers



Global leader in size, technology and profitability

# Uniquely positioned and a pioneering technology leader

Enabling a stronger, smarter and greener grid

## Stronger

Ultra High Voltage DC and AC  
Resilient transformers  
Power quality solutions & FACTS<sup>1</sup>  
Interconnectors



**Continuously breaking records:  
more power over longer distances  
(12 GW over 3,000 km)**

## Smarter

Digital substations  
Grid automation  
Sensor-based technologies  
Enterprise software solutions



**Digital substation: smart  
configuration and interoperability,  
up to 80% less cabling, up to 50%  
fewer outages**

## Greener

Eco-efficient Gas Insulated  
Switchgear  
Ultra low loss, amorphous core and  
biodegradable oil transformers  
HVDC Light<sup>2</sup> and FACTS for  
renewable integration



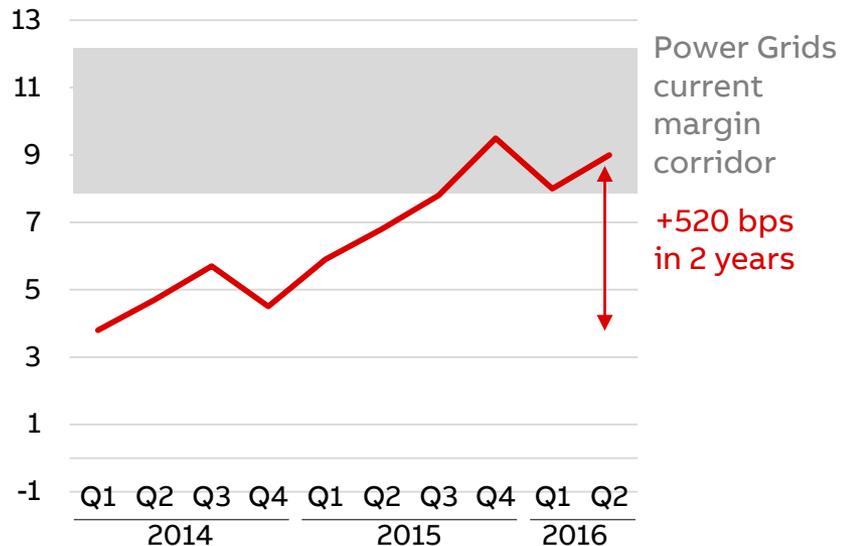
**Transformers: up to 70% less losses  
GIS<sup>3</sup>: up to ~100% less greenhouse  
gases  
FACTS: more capacity in existing  
lines**

# A successful turnaround

Ready for sustainable growth and further margin accretion

## Successful turnaround

Power Grids Op. EBITA margin<sup>1</sup> (%)



## Step Change achievements to date

- Improved project execution yielding visible results
- 2 out of 3 Offshore Wind Connection projects delivered, 1 in final stages of completion
- Rigorous business & project risk management rolled-out
- New orders reflect shift in business model and backlog quality

## Focus for 2017 & beyond

- Continuous improvement of tendering, execution & project close-out processes
- Continue to invest in project resource planning for more predictability
- Further strengthen project operations and engineering hubs

Power Grids Operational EBITA up 520 bps from Q1 2014 to Q2 2016

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# Strategic portfolio review

Way forward: continued transformation under ABB's ownership

Market attractiveness?

“Highly attractive”

Offering?

“Leading business with big potential for differentiation and digital”

Business model?

“Transformation to reduce risk and capture growth potential”

Ownership?

“Significant value upside for ABB shareholders”

# Continued transformation

## Program pillars

### Sharpening our winning portfolio & business models

Focus on higher growth & profitability in core segments

Digitalize the portfolio

Strengthen the core whilst reducing risk and capital intensity

Strategic partnering to generate customer value

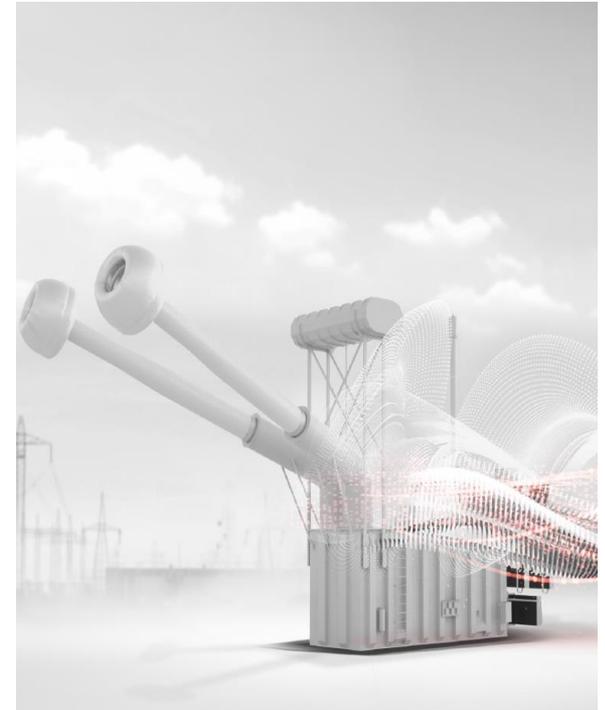
### Drive for world-class execution

Deliver industry leading cost and quality

Top-quartile operating performance

Enhance service operations

Achieve world-class front-end performance



**Substantial opportunity identified**

# A dynamic, changing market, creating unprecedented opportunity

## Digitalization as a catalyst for growth

### Energy revolution

#### Supply

- Dramatic renewables growth
- Increasing intermittency

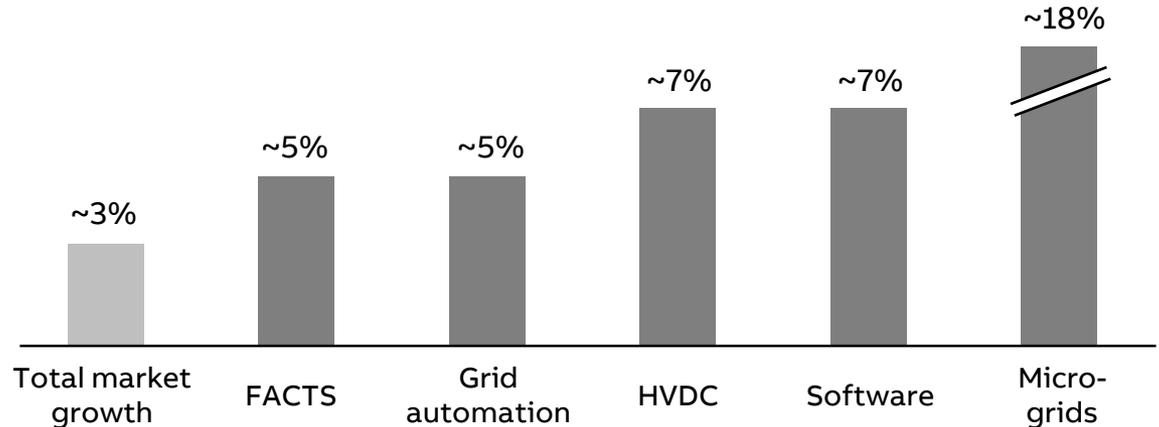
#### Demand

- Continuing electrification of society
- Emerging market consumption growth

#### Grid

- Increasing complexity, need for stability
- More feed-in, take-off points
- Bulk transmission and interconnectors
- Aging grids, need for upgrades

### Power Grids global #1, strong focus on high growth segments



Total market above \$110 bn<sup>1</sup>

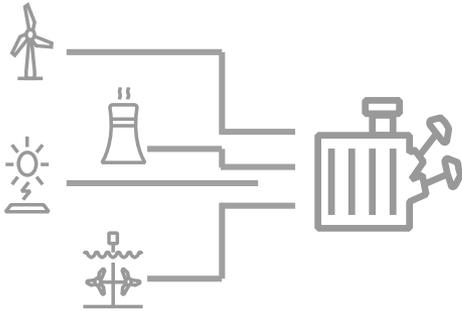
More than one-third of market growth is from the high-growth segments

Digitalization impacting across the value chain

# Digitalization opens up new, large opportunities

Increased productivity: uptime, speed, yield

## Digital equipment



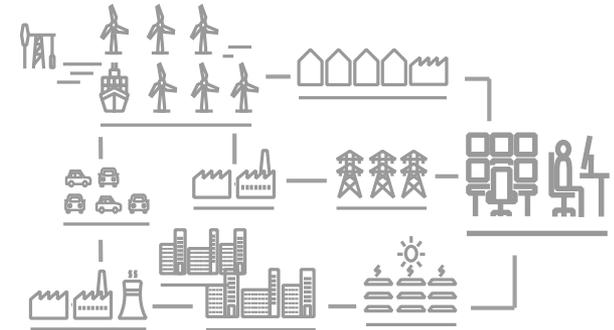
- Real-time supervision
- Higher reliability
- Maintenance optimization

## Digitally-enhanced systems



- Faster installation, more configurable
- Power quality
- Better integration of renewables
- Managing volatile supply & demand

## Operations and asset optimization software



- Real-time control
- Smart asset management
- Planning optimization

Differentiation via intelligent products, communication and software

# Sharpening our winning portfolio & business models

Actively shaping for future growth and profitability

## Strengthen core portfolio

Digitalization of leading transformer & HV portfolio

System integration and grid automation

Innovation leadership in HVDC and power quality

Microgrids and storage integration

Penetration of largest installed base, expand advanced service and software offering

## Partnering to grow & de-risk

### EPC<sup>1</sup> large substation global partnership with Fluor

- Enable growth & de-risk
- Build on Fluor's scale and expertise

**FLUOR** + **ABB**

### Offshore Wind Grid Connections partnership with Aibel

- Aibel as EPC<sup>1</sup> and platform provider
- ABB as HVDC system sub-contractor

**aibel** + **ABB**

## Better ownership

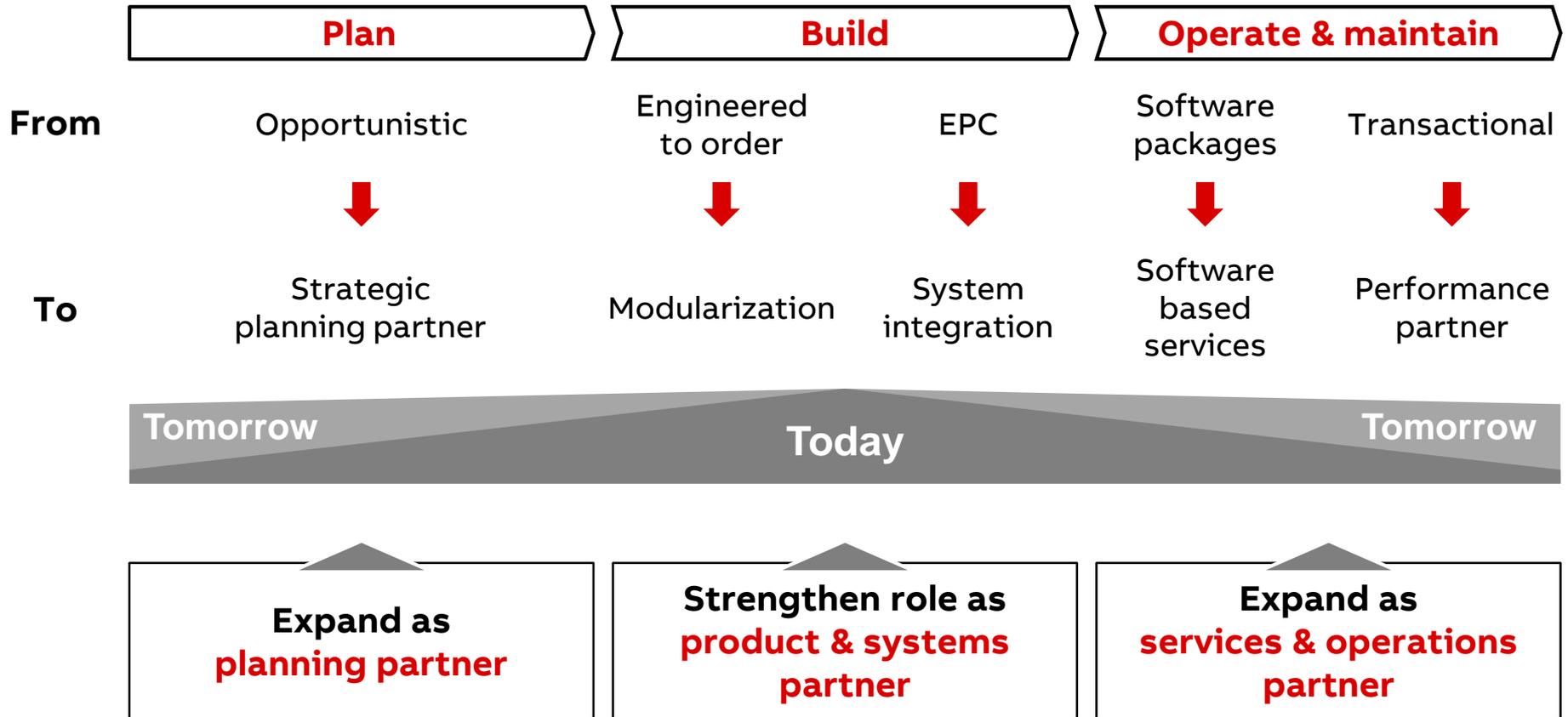
### HV Cable divestment to NKT Cables

- Helps NKT to become a leading cables player
- Long-term strategic partnership
- Well positioned for renewable integration and interconnectors growth

**nkt** cables

# Sharpening our winning portfolio & business models

Strategic partnering with our customers throughout the life-cycle



# Drive for world class execution

Industry leading cost and quality

## Engineering efficiency

TrafoStar global transformer design platform

Meeting local requirements via modularization



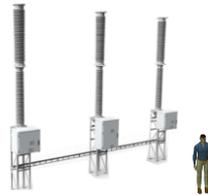
**Guarantees uniform quality, high reliability, low maintenance & low losses**

## Emerging market competitiveness

245 kV live tank breaker, Indian innovation

Indian supply chain & manufacturing

Highly competitive in India



**Increased market share by 15% pts.**

## Emerging market differentiation

New generation 145 kV GIS<sup>1</sup>

Conceived and designed in China

To compete in China & globally

Modular, small footprint, easy to install



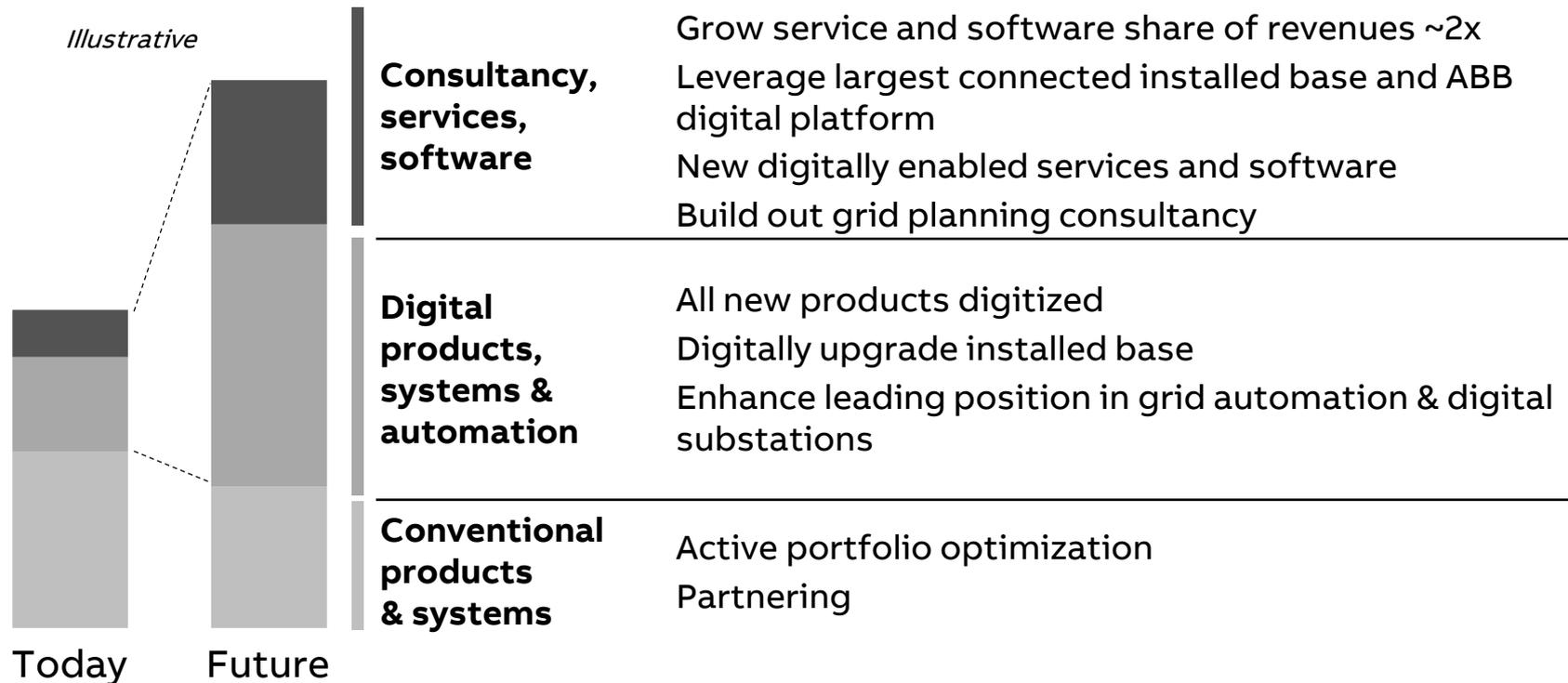
**60% less greenhouse gas emissions**

**13% weight saving**

Uniquely combining global scale and expertise with in-country design & manufacturing

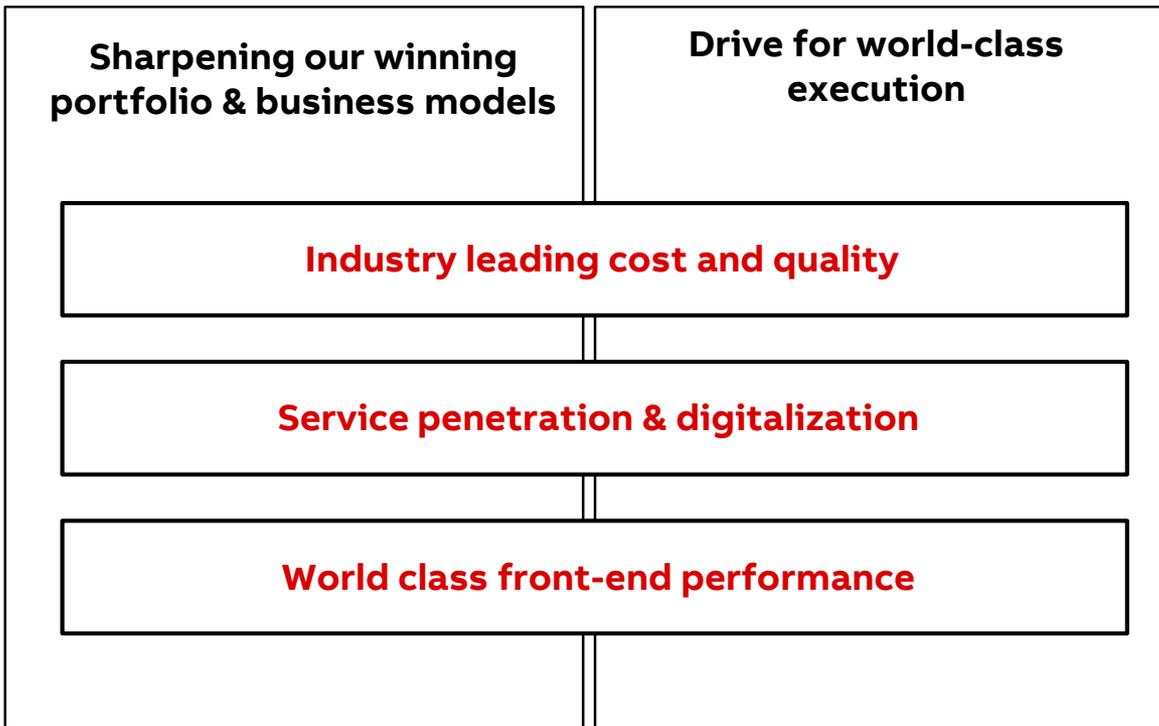
# Transformation of business mix supported by world-class execution

Unlocking value by enabling a stronger, smarter and greener grid



Largest digitally connected installed base will provide further differentiation versus our competitors

# “Power Up” – our transformation program



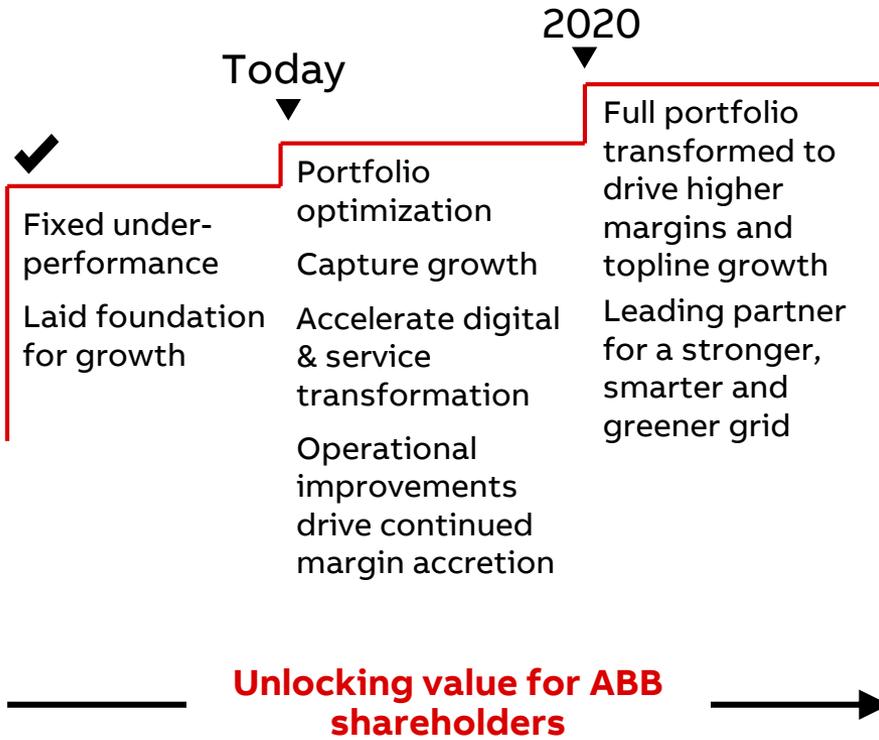
## To deliver full transformation:

- \$200 mn investment 2017 – 2018
- Involving >500 staff
- Business led program
- Focused and entrepreneurial
- Aligned incentives

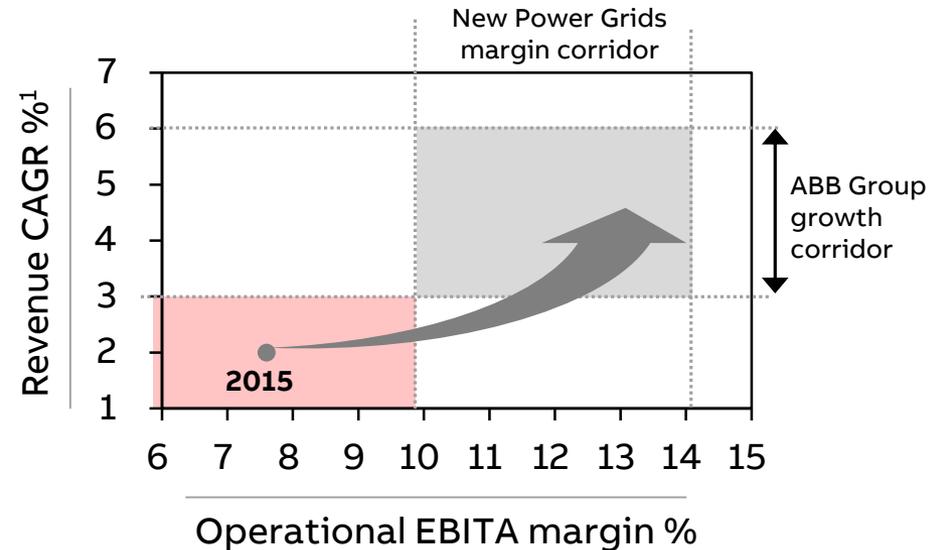
Fully resourced, incentivized, “Power Up” transformation program kicked-off

# Power Grids: significant revenue and margin expansion ahead

## Execution roadmap



## Industry-leading value creation



**New margin corridor 10 – 14%,  
to be entered in 2018**

**Targeting growth above market**

# Robust transformation plan to continue margin accretion

Mainly driven by execution and portfolio mix

## Operational EBITA margin %



Massive margin improvement, mainly driven by self-help

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# In summary

Significant opportunity to unlock value for ABB shareholders

## Market and competitive position

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World-market leader in size, technology, global presence and profitability

Market with attractive growth and unprecedented differentiation opportunities, arising now

## Transformation

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“Power Up” transformation program

- Sharpening our winning portfolio & business models
- Driving for world-class execution
- Delivering sustainable growth
- New margin corridor: 10 – 14%, to be entered in 2018

Clear benefit from ABB Group and ABB’s digital platform



**ABB**