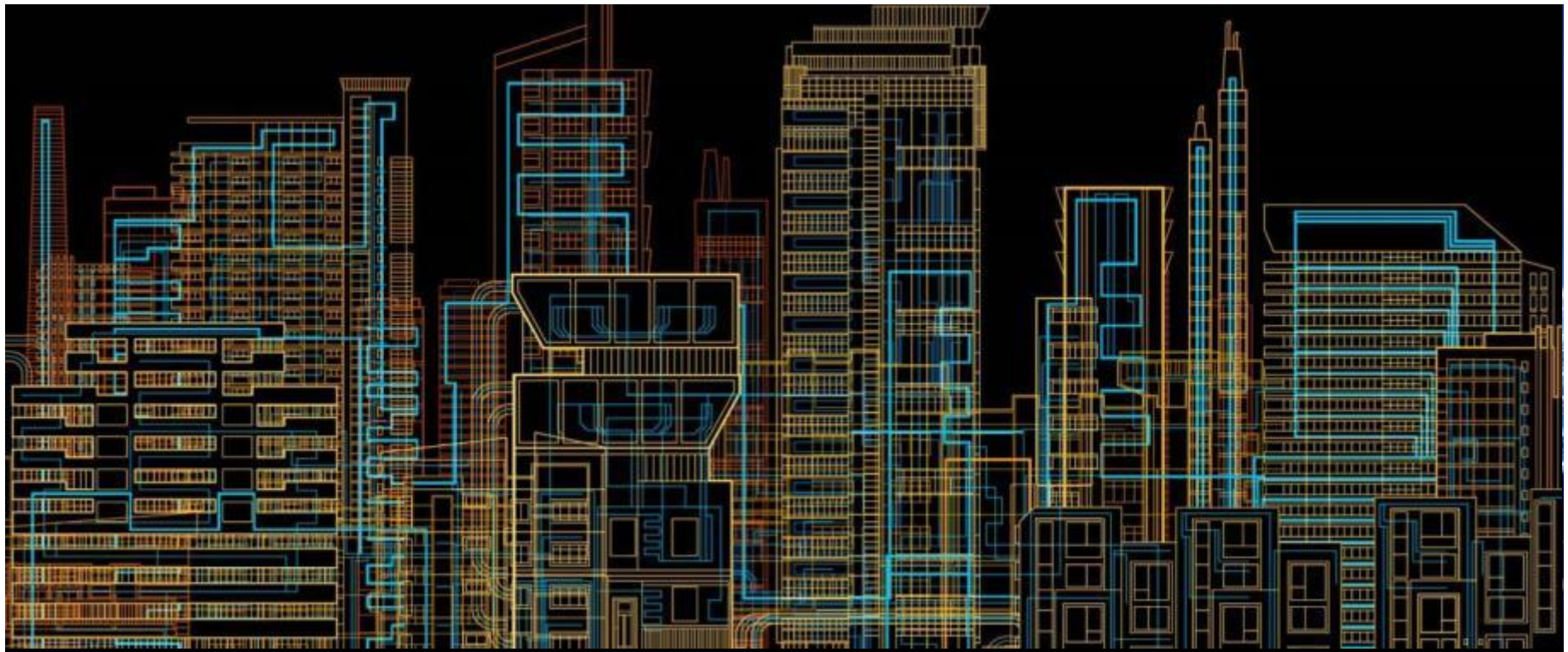




Capital Markets Day London, September 12, 2012

# Driving competitiveness



Bill Black, Capital Markets Day, London, September 12, 2012

# Driving competitiveness Through cost savings and productivity

# ABB has evolved over the past decade

## From holding company to globally optimized organization

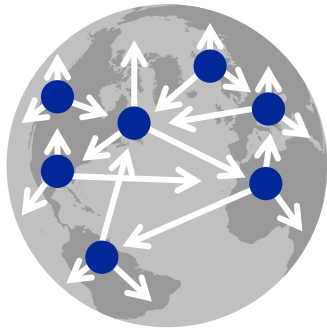
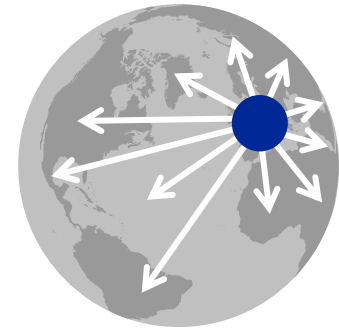


ABB in 2000



### Highly decentralized conglomerate

#### Cons

- 1000s of P&Ls
- Little scale
- Poor coordination
- Little best practice sharing

#### Pros

- 1000s of P&Ls
- Local autonomy
- Speed to market
- Market segmentation

### Highly centralized organization

#### Pros

- One size fits all
- Leverage scale
- Process optimization
- Best practice sharing

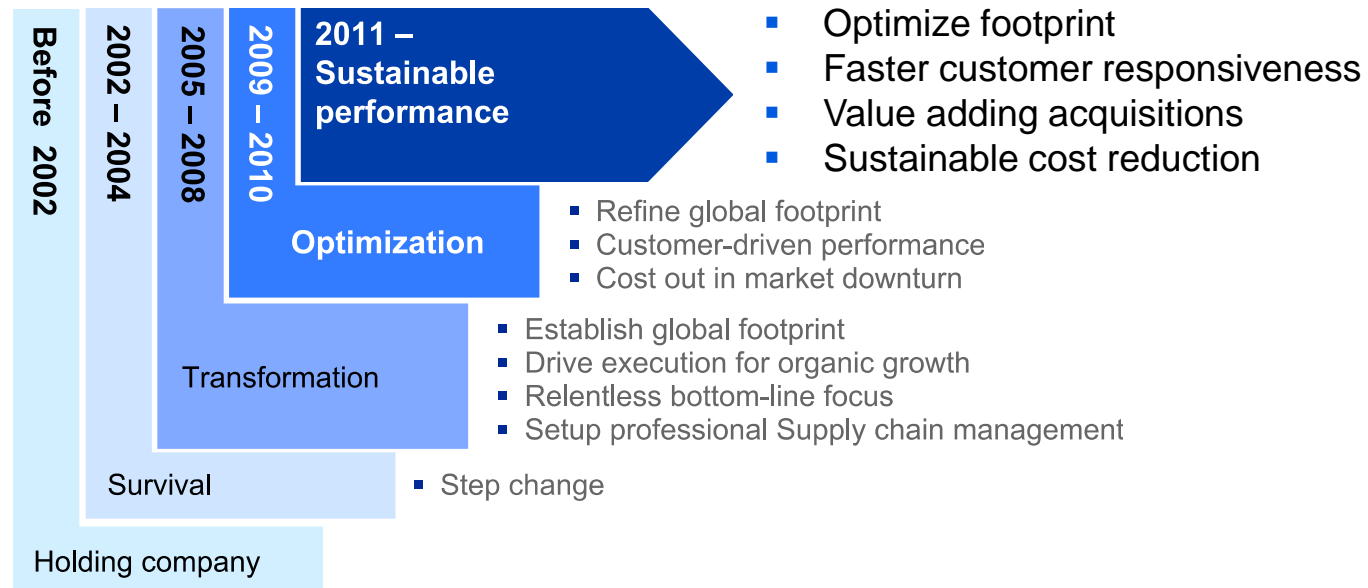
#### Cons

- Operational flexibility
- Corporate down view
- Slow to market
- Local market effectiveness

# Evolution in cost and productivity

## Moving from crisis response to performance culture

### ABB's quest for excellence

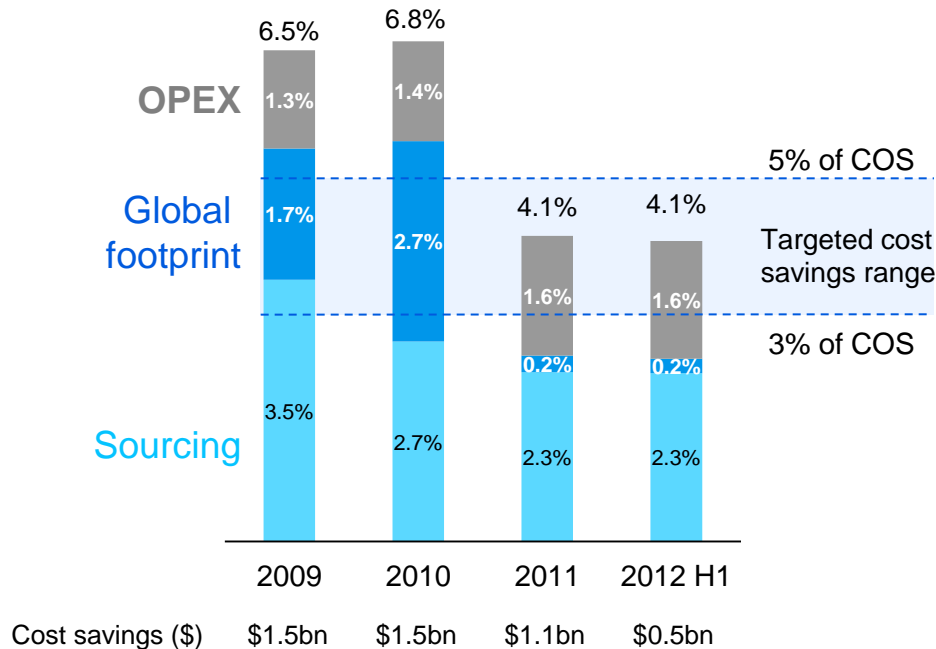


# We aim for best-in-class performance

## 3-5% cost of sales saved every year

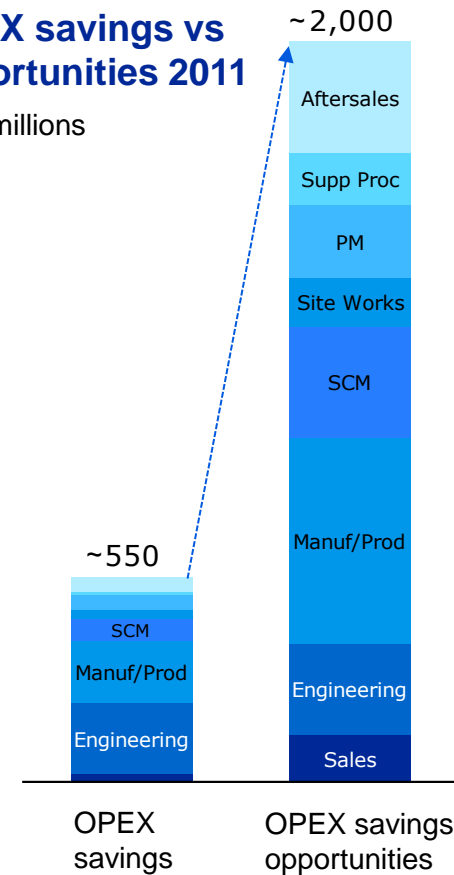
### Cost savings 2009-2012

% of cost of sales (COS)



### OPEX savings vs opportunities 2011

US\$ millions



<sup>1</sup> Incl. G&A savings

>2,000 OPEX projects running, already >\$300 mln benefit expected in 2013



# Savings by type and value

## Practical examples

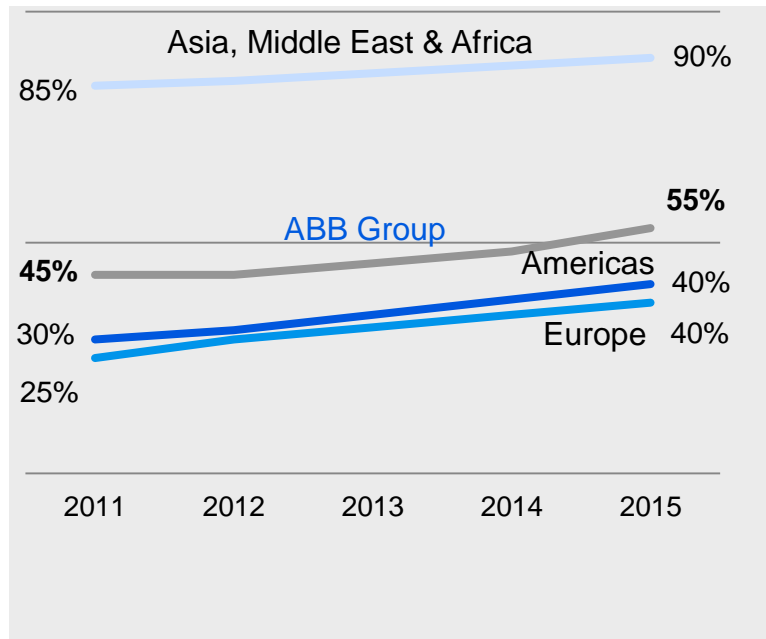
		Savings	
Supply chain	Professional SCM	15-20%	> 3,000 buyers active
	Re-sourcing	10-15%	Emerging market, best cost sourcing
	Collaboration and consolidation	15-20%	Steel procurement and indirect materials
Global Footprint	Restructuring	5-15%	Self-sufficient trading zones
Operational excellence	OPEX projects	40-50%	Design-to-cost
Total		3-5 % COS	

# Re-sourcing from global best cost suppliers

## More emerging market sourcing

### Re-sourcing

Estimated share of emerging market sourcing by zone  
2011-2015



- Emerging market sourcing growing to 55% of total
- Best cost sourcing overlaid on EM sourcing
  - Optimize transport and logistics costs
  - Minimize in-shipping inventory
  - Minimize customer lead time
  - Optimize customs and import duties

# Savings by type and value

## Practical examples

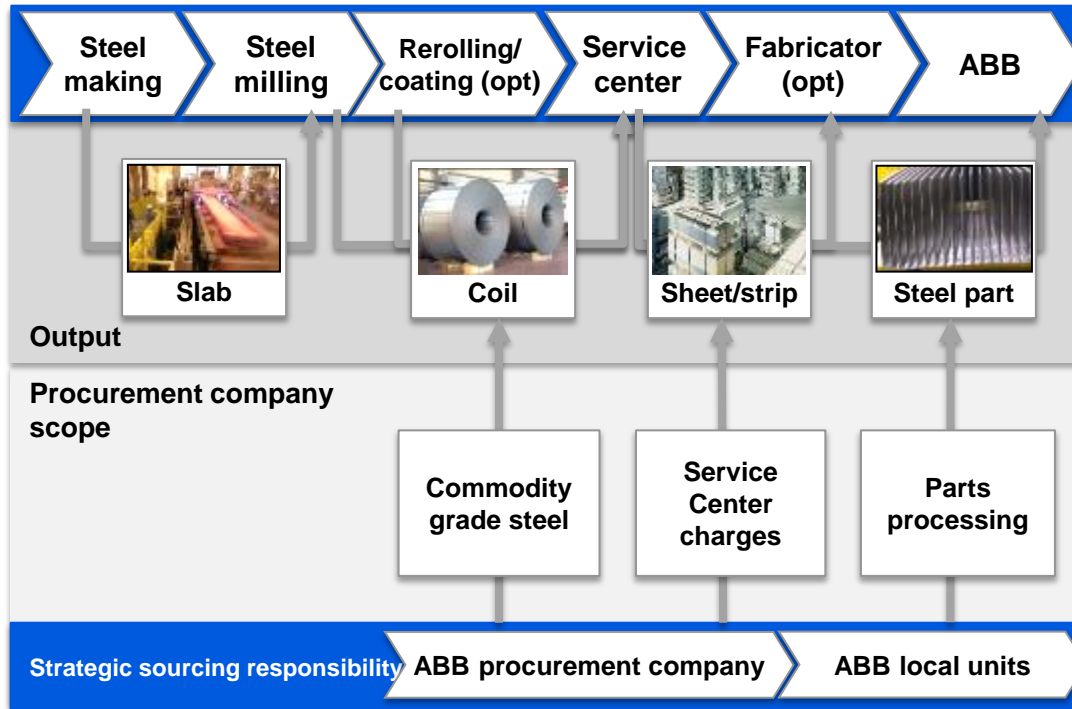
		Savings	
Supply chain	Professional SCM	15-20%	> 3,000 buyers active
	Re-sourcing	10-15%	Emerging market, best cost sourcing
	Collaboration and consolidation	15-20%	Steel procurement and indirect materials
Global Footprint	Restructuring	5-15%	Self-sufficient trading zones
Operational excellence	OPEX projects	40-50%	Design-to-cost
Total		3-5 % COS	



# Collaboration and consolidation

## Procurement company - Steel

### Value chain



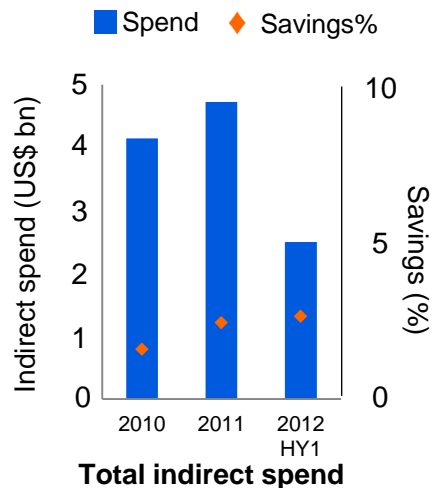
- Currently served by 25 service centers and 12 steel mills
- Down-selecting to 5 service centers and 2 steel mills
- 1<sup>st</sup> shipment expected October 2012

Annual savings potential ~\$30 million in Europe

# Collaboration and consolidation

## Indirect spend

- Procurement standardization for indirect spend across ABB
- Leverage supply channels for key purchases, eg, travel, services, supplies
- Rationalization of demand, pre-negotiated catalogs and content
- Kick off in 2012 in Sweden, Finland, Switzerland, Germany, India and the US



### More spend managed by SCM professionals

- Ramp up of skilled SCM resources
- Strategic sourcing
- Procure-to-pay efficiency

Annual savings potential ~\$200 million

# Savings by type and value

## Practical examples

		Savings	
Supply chain	Professional SCM	15-20%	> 3,000 buyers active
	Re-sourcing	10-15%	Emerging market, best cost sourcing
	Collaboration and consolidation	15-20%	Steel procurement and indirect materials
Global Footprint	Restructuring	5-15%	Self-sufficient trading zones
Operational excellence	OPEX projects	40-50%	Design-to-cost
Total		3-5 % COS	

# Global footprint strategy

## Self-sufficient trading zones

### Americas

- Lift self-sufficiency to 80%
- Synergies from acquisitions
- Extend Mexico and Brazil

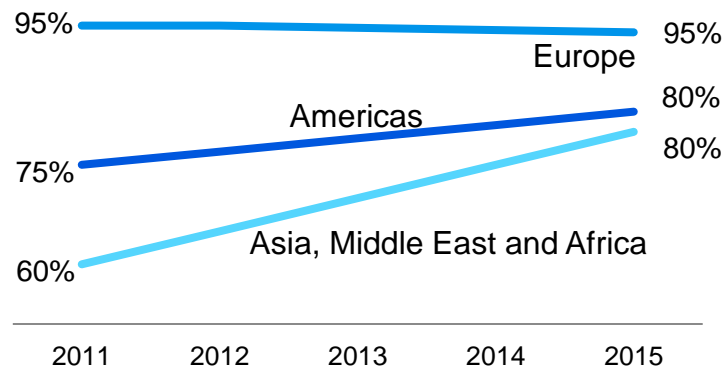
### Europe

- Europe-for-Europe growth
- Renewable energy
- Extend eastern Europe activity

### Asia and MEA

- Lift self-sufficiency to 80%
- More local engineering, R&D
- Increase exports within zone

Self-sufficiency ratios<sup>1</sup> by zone 2011-2015



<sup>1</sup> Share of locally generated revenues met by local supply, estimated

# Savings by type and value

## Practical examples

		Savings	
Supply chain	Professional SCM	15-20%	> 3,000 buyers active
	Re-sourcing	10-15%	Emerging market, best cost sourcing
	Collaboration and consolidation	15-20%	Steel procurement and indirect materials
Global Footprint	Restructuring	5-15%	Self-sufficient trading zones
Operational excellence	OPEX projects	40-50%	Design-to-cost
Total		3-5 % COS	

# Operational excellence projects

## Design-to-cost: miniature circuit breaker



### Problem

- Next stage of competitive performance needed

### Solutions

- New design, global production concept
- Global portfolio in all producing units

### Results

- Market-beating product portfolio
- Global MCB portfolio produced in region, for region

Annual savings potential ~ \$16 million



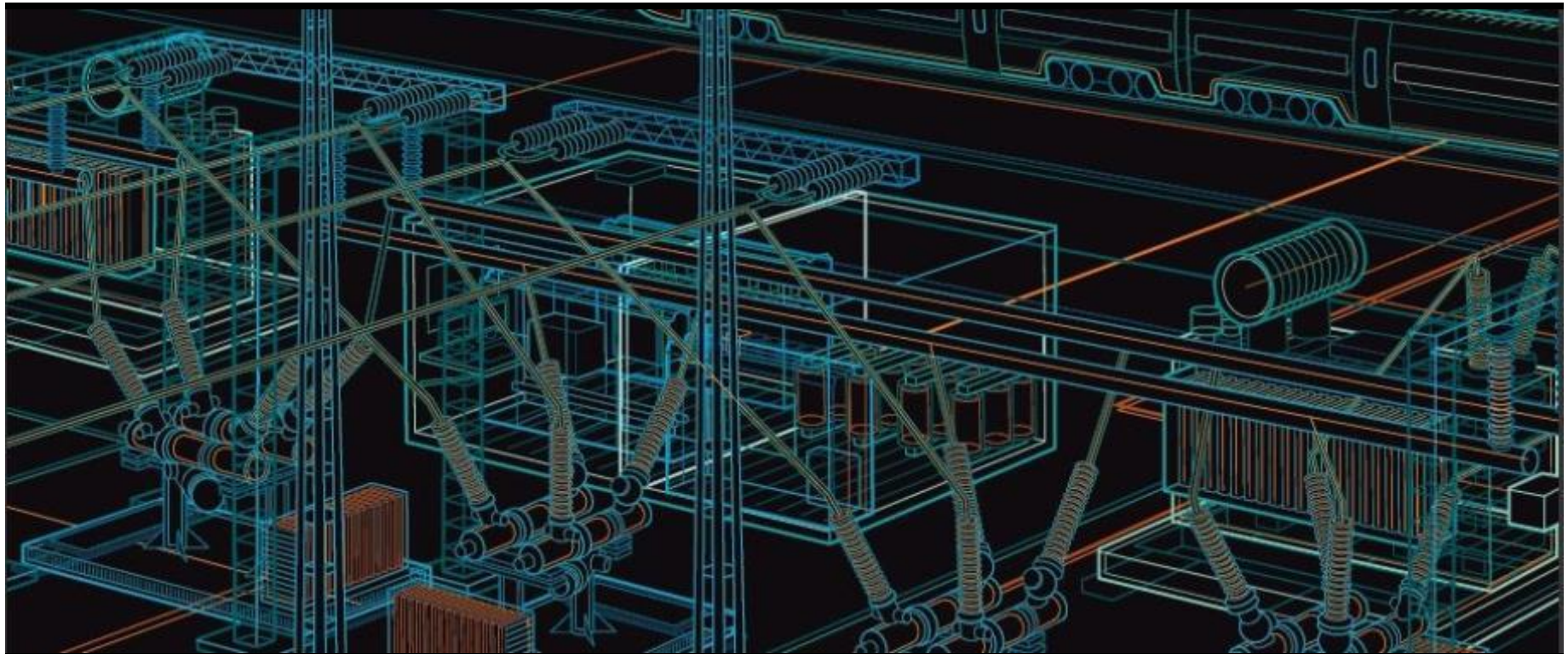
# On track to deliver 3-5% savings into the future

## Still many untapped opportunities



- Solid track record of driving performance
- Robust savings delivery in 2009, 2010, 2011 and 2012
- New supply chain opportunities still to be tapped
- 3,500 operational excellence projects in the pipeline

ABB is well on track to deliver 3 – 5% COS savings every year



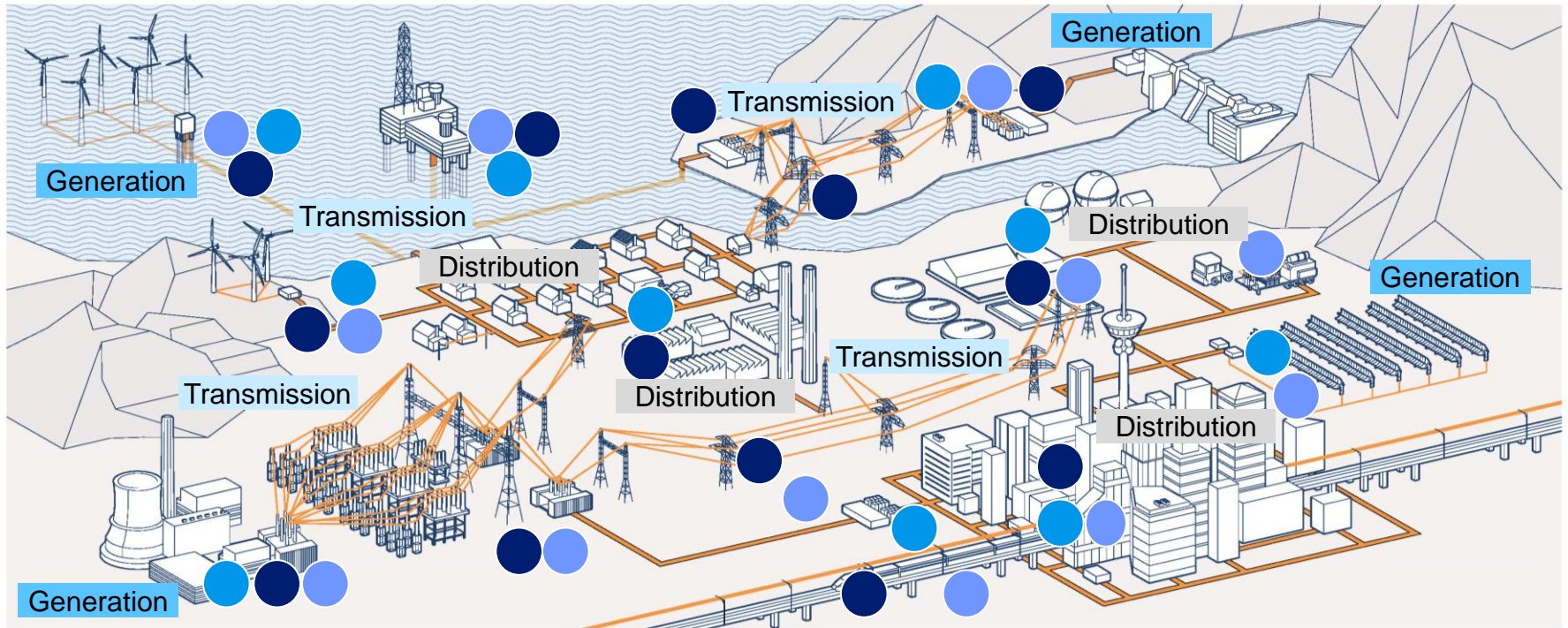
Bernhard Jucker, Capital Markets Day, London, September 12, 2012

# Driving competitiveness in Power Products



# The broadest offering for efficient power delivery

## From power plant to end user


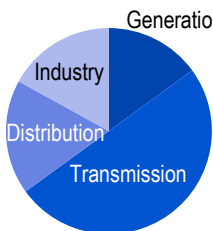
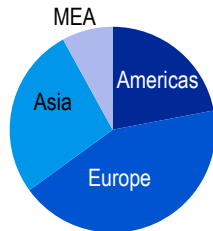

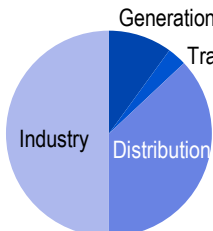
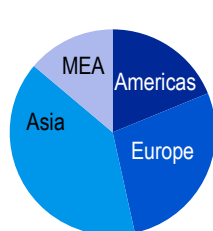

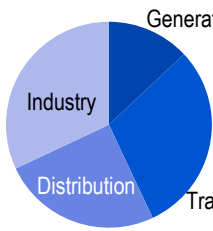
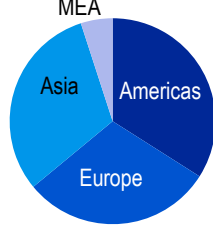


● High voltage products

● Medium voltage products

● Transformers

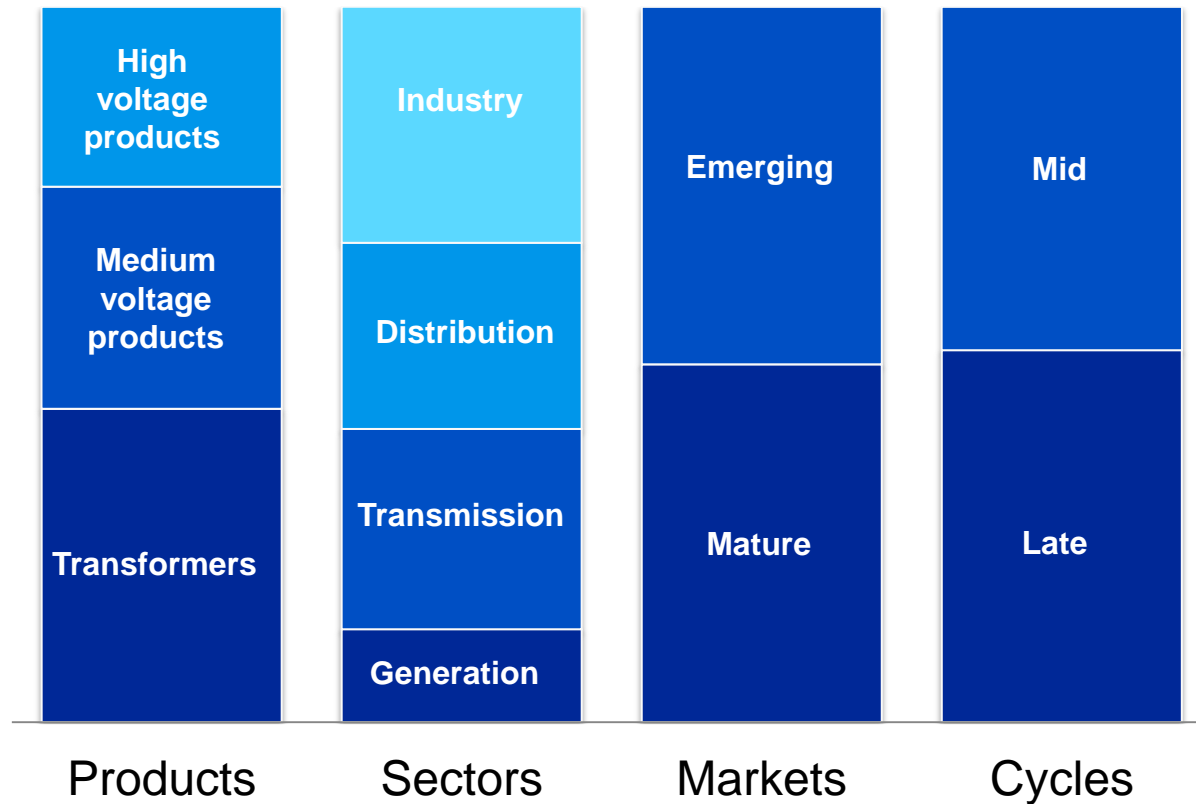
# ABB's comprehensive Power Products offering Serves major sectors across geographies

Main products		Sectors	Geographies <sup>1</sup>
<b>High voltage</b> <ul style="list-style-type: none"> <li>▪ Gas insulated switchgear</li> <li>▪ Generator circuit breakers</li> <li>▪ Breakers and modules</li> <li>▪ HV components</li> <li>▪ Services</li> </ul>			
<b>Medium voltage</b> <ul style="list-style-type: none"> <li>▪ Switchgear</li> <li>▪ Apparatus</li> <li>▪ Distribution automation</li> <li>▪ Modular systems</li> <li>▪ Services</li> </ul>			
<b>Transformers</b> <ul style="list-style-type: none"> <li>▪ Power</li> <li>▪ Distribution</li> <li>▪ Dry</li> <li>▪ Insulation and comp.</li> <li>▪ Services</li> </ul>			

<sup>1</sup> Based on 2011 orders received

# Differentiated and balanced portfolio

## Enables benchmark growth and profitability levels





















Estimated split  
based on typical  
mix of orders  
received

# Relative competitive advantages

## ABB uniquely positioned

### Key growth and margin drivers

	Product scope	Geographic coverage	Production footprint	Installed base	Technology	Service capability
ABB						
Emerging global companies						
Local companies						

### ABB advantages

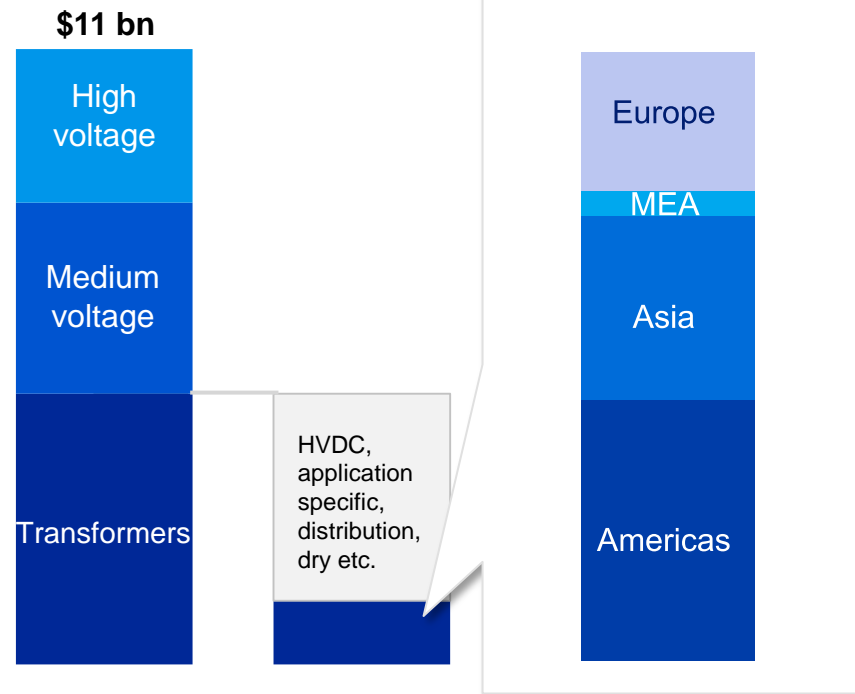
- Breadth of offering
- Depth of technology
- End-user segment diversity
- Global view and presence
- Vast installed base
- Market leading positions
- Local market focus and footprint advantage
- Ability to leverage scale
- Multiple channels to market
- People and domain competence



# Diversified portfolio mitigates downside risks

## Low exposure to 'commoditized' power transformers

### Power Products orders 2011



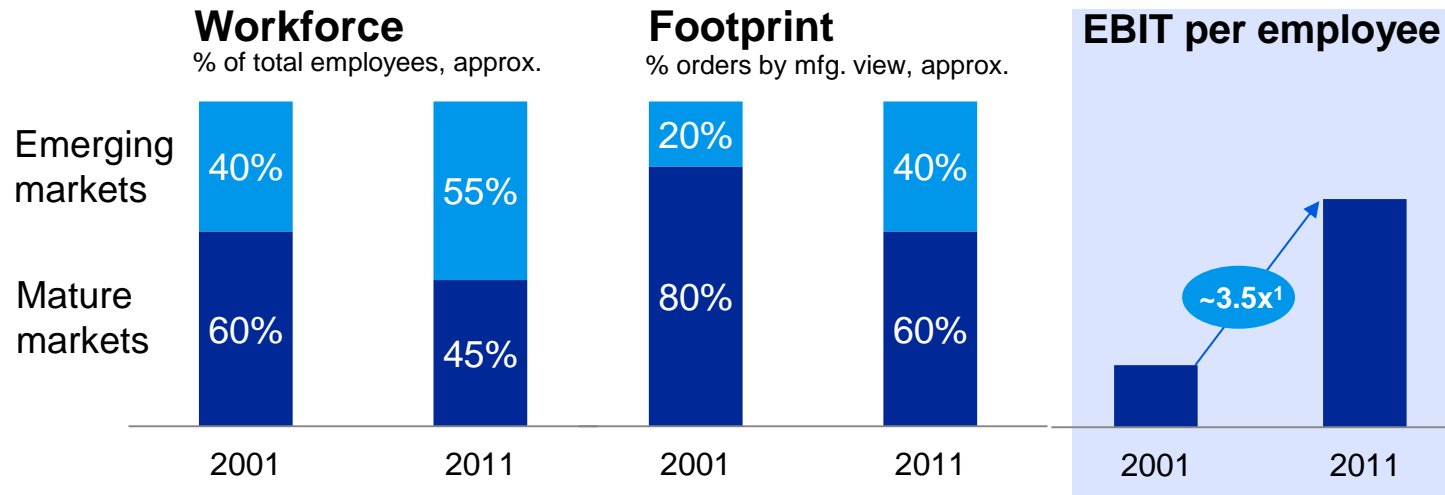
- ABB market share is higher in products and markets where margins are better
- Priority: relentless cost reduction
  - Reduced capacity by ~20% since 2008 (~10% last 12 months<sup>2</sup>)
  - Product benchmarking
  - Standardized product platforms
- Grow the rest of the portfolio where barriers to global markets are higher

<sup>1</sup> Estimated

<sup>2</sup> 12 months to June 2012

# Staying ahead of the curve

## By taking the lead on cost and productivity



- Improved productivity<sup>2</sup> by ~60% since 2001
- \$1.3 billion cost savings 2009-2011
- Share of service revenues doubled from 2001-2011
- Technology investments driving ~30% reduction in product costs

<sup>1</sup> Growth rate. In local currencies

<sup>2</sup> Based on value add

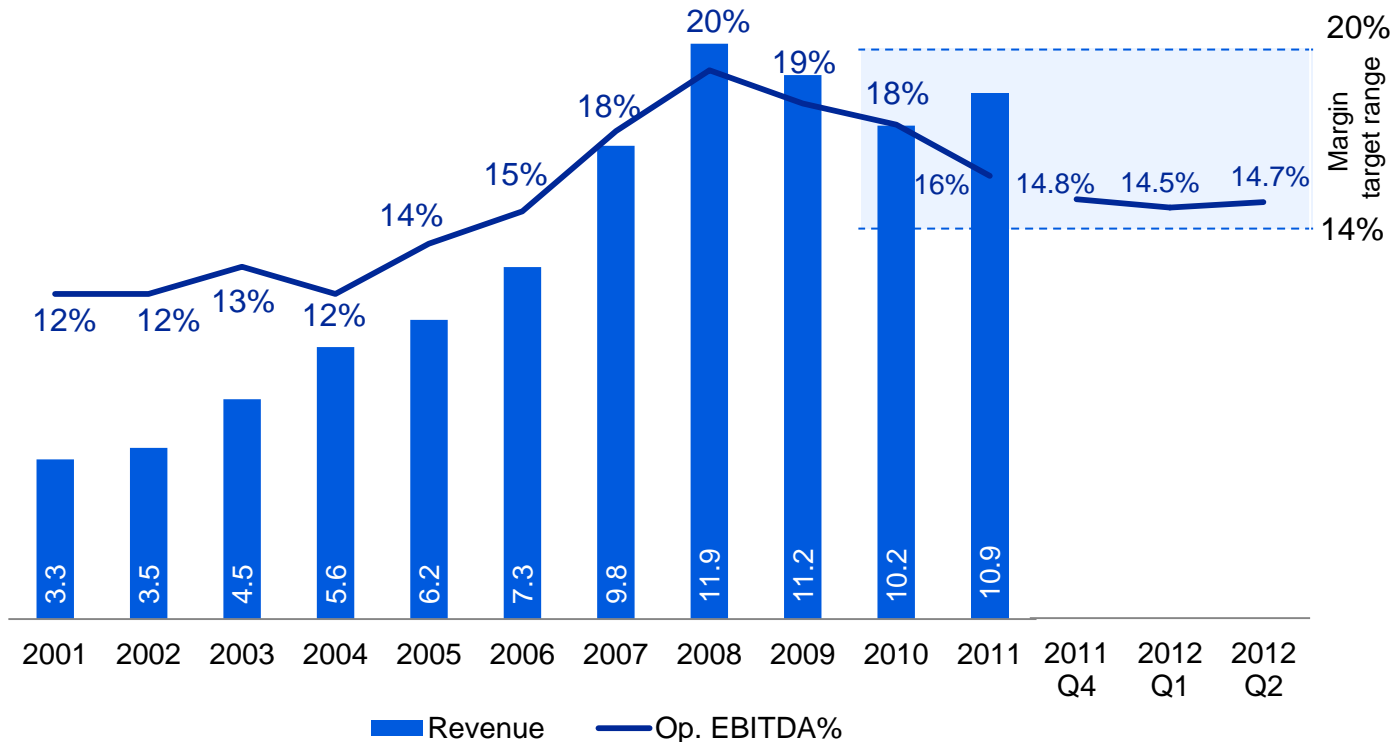
Note: 2001 numbers are management estimates

# Broad portfolio and footprint

## Key to our sector-leading profitability

### Power Products revenue and operational EBITDA margin 2001-Q2 2012

US\$ billions and % of revenues



Note: For all periods pre-2009, revenues and op EBITDA % are management estimates and have not been adjusted for FX/commodity timing differences

Focus on margin reinforcement and expansion

# A resilient and time tested business model

## Ensuring profitable and sustainable growth

### Market structure

Established globally with ability to see ~85% of market demand

#### Demand side

- ~2,500 sales staff in 100 countries, ~65% in emerging markets
- Focused on creating demand locally

#### Supply side

- Focused on selectivity (optimal factory utilization) and product management

#### End-market focus



### Cost structure

Balanced footprint; focused on cost optimization across economic cycles

#### Flexible

- 230 product lines manufactured in 110 locations
- Ability to quickly mobilize resources and adapt capacity
- 70% of total cost<sup>1</sup> is variable

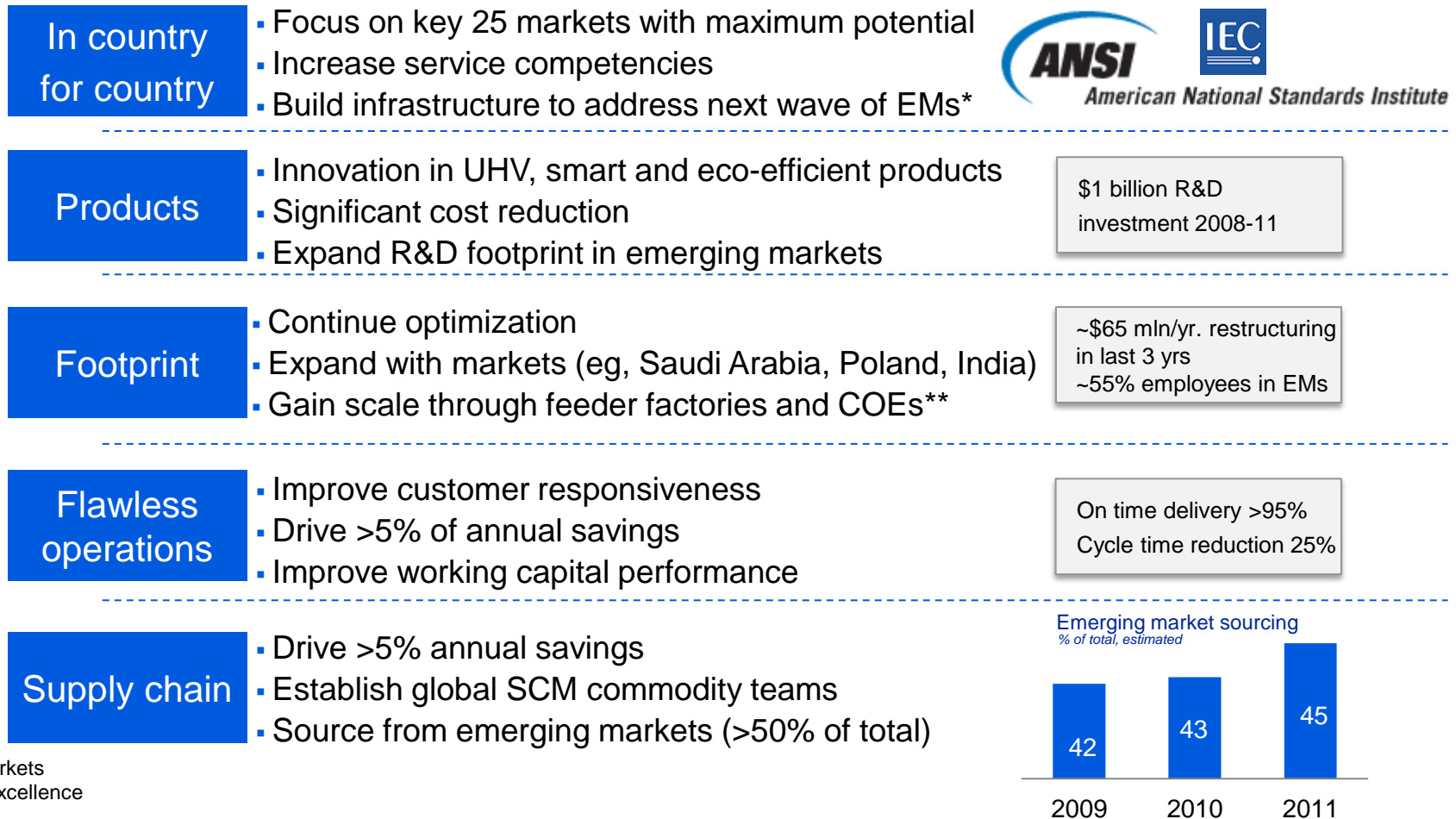
#### Cost competitive

- ~55% workforce in emerging markets
- Footprint close to markets while maintaining economies of scale
- 5% annual productivity<sup>2</sup> gain

<sup>1</sup> Management estimate, Total Cost includes COS and SG&A; <sup>2</sup> Cost savings as % of prior year's Total Cost

# Key priorities to secure market leadership

## Technology, cost competitiveness and customer focus



\*Emerging markets  
\*\*Centers of excellence

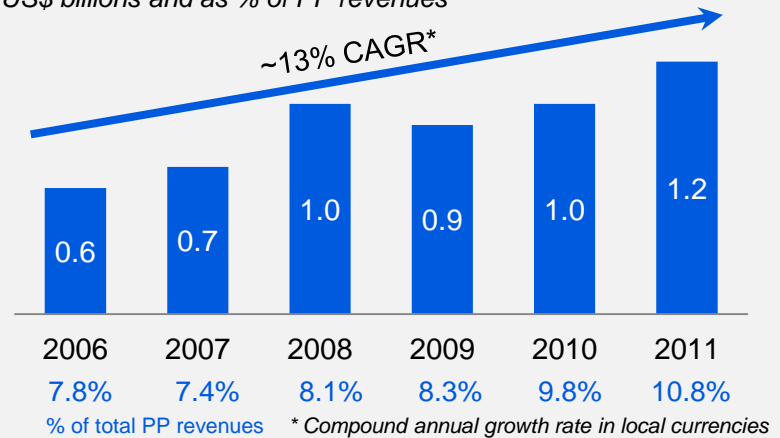
# Service

## Driving consistent growth



### Power Products service revenues 2006-11

US\$ billions and as % of PP revenues



- Moved from reactive 'fix and repair' services to reliability and asset management
- New services (eg, on-site repair, diagnostics, life cycle management, retrofits)
- New service centers set up in >15 countries (eg, Poland, Qatar, Mexico, Chile)
- Added ~1,500 service staff around the world



# Aging installed base driving demand

## Service potential, example transformers



**Installation and  
commissioning**



**Field service and  
maintenance**



**Condition  
assessment**



**Trafo site repair™**



**Spare parts**



**Factory repair  
and upgrades**



**Trafo site testing™**



**Sensors and real  
time monitoring**



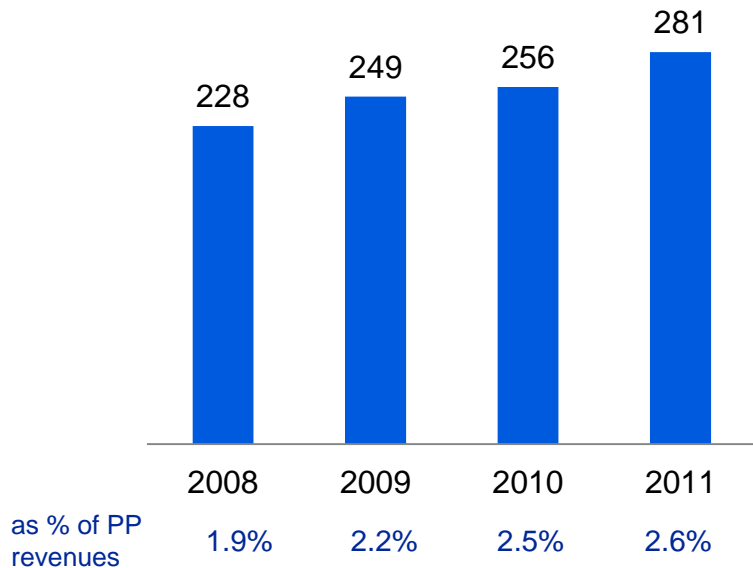
- 20% of initial transformer investment constitutes lifetime service (excl. repair and upgrades)
- Significant number of transformers commissioned in 1960-80s approaching end-of-life: major opportunity for life-cycle extension services
- Utility regulation on power availability and reliability driving transformer asset management
- Preventive maintenance program safeguards industry from expensive down-time
- Monitoring (onsite/remote) integral to evolution of smarter grids

# Differentiate through innovation and cost optimization

## Developing stronger, smarter and greener products

### R&D investment

US\$ millions



- Disciplined investment even in uncertain times
- Expand R&D workforce in emerging markets (~35% of total)
- Leverage corporate research competencies

### Recent product launches

Cost optimization



Safe link outdoor MV switchgear



Metal enclosed capacitor bank

Smaller product footprint



420 kV GIS



DC Trac high speed railway circuit breaker

Green portfolio



Gridshield recloser



Power electronics traction transformer

Intelligent products



800/1100kV HVDC transformers

Higher voltages

# Transformers

## Leveraging technology as a key differentiator

Lowering  
environmental  
impact



Amorphous core



Dry type



BIOTEMP fuel



Vacuum tap changer

Raising voltage  
levels



800 kV DC



1100 kV DC; 1200 kV AC

Special  
applications



Subsea transformers



Ultralow noise



Power electronics  
traction transformer

# High voltage products

## Push on cost optimization and eco-efficient products

Innovations across product and voltage range

- Reliability
- Performance
- Efficiency
- Design and cost optimization
- Life cycle approach
- Eco-efficient products



Generator circuit breaker high efficiency; low maintenance; environmentally friendly



420 kV Gas insulated switchgear (GIS)  
33% volume reduction  
40% SF6 gas reduction



245 kV GIS  
40% volume reduction  
20% SF6 gas reduction



72.5 kV GIS  
20% volume reduction  
50% SF6 gas reduction



72.5kV CO<sub>2</sub> breaker  
SF<sub>6</sub> gas alternative



BIOTEMP® instrument transformers with 97% biodegradable oil



Cryogenic SF6 gas recycling system

# Medium voltage products

## Focus on new technologies and local markets

### New technologies



Relion 615 electronic relay  
(Europe & ANSI-US)



Thermoplastic  
embedded poles



Ultrafast earthing  
switch



DC Trac high  
speed railway  
circuit breaker

### Serving local markets



ZN1 primary distribution  
switchgear (India)



Safelink Ring  
Main Unit (India)



Gridshield recloser  
ANSI version (US)



ZSSG primary distribution  
switchgear (China)

# Continuous improvement

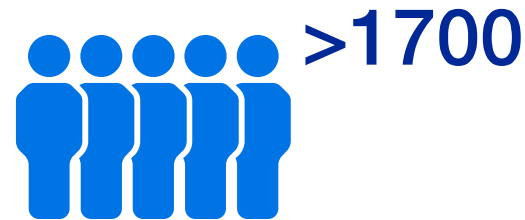
## Critical to yield 5% annual productivity

### Several areas of focus



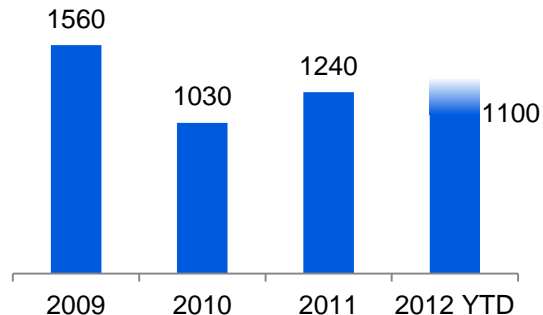
### Improving operational capability

# of employees trained since 2009



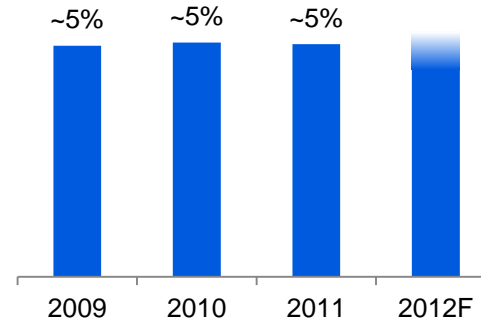
### Collective idea generation

# of OpEx projects initiated



### Ensures sustainable productivity

Savings as a % of prior year's Total Cost





# Driving productivity through lean manufacturing

## Example of high voltage products factory








High voltage GCB factory, Switzerland  
European factory of the year award 2010

Delivery time	50%	↓
Production time	90%	↓
Production space	40%	↓
Production capacity	56%	↑
Storage area	66%	↓
Inventory	53%	↓
Net working capital	50%	↓
Full cost	26%	↓

# Key power market drivers intact

## ABB well positioned

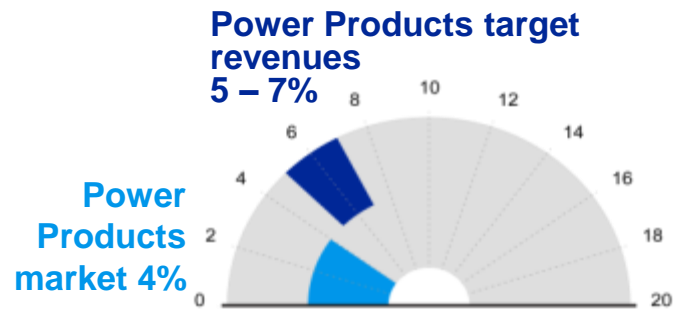
Key market drivers		Europe	Americas	Asia and MEA
Urbanization		Eastern Europe	South America	Increasing population Growing middle class
Energy intensive industries		Retrofits for efficiency	Oil and gas, metals and mining in South America	Major process industries
Remote bulk generation from renewables		Germany and UK offshore wind connections	Large hydro in South America	Large hydro, offshore wind and utility solar
Distributed generation		Interconnections Grid upgrades	Wind in key US states	Likely to come in India
Cost pressure, aging infrastructure		Drive for energy efficiency in T&D	Increasing power outages in US	Reduced blackouts
		Renewables, interconnections, grid upgrades	Grid upgrades, smart grids	Power capacity and infrastructure

# Power Products

## Differentiators driving consistent performance

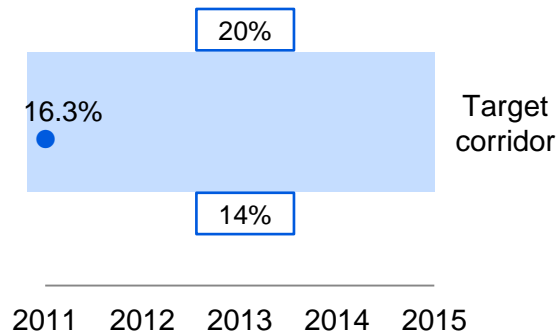
### Target revenue growth vs market 2011-15

CAGR base year 2010, % change in local currencies



### Op. EBITDA margin target corridor 2011-15

% of operational revenues



### Differentiating factors

- Comprehensive product portfolio
- Global footprint
- Large installed base for service
- Multiple channels to market
- Extensive geographic coverage
- Diversified end market exposure
- Penetration in key high growth markets
- Balanced exposure to economic cycles

# To find out more information please refer to the following links

- [New amorphous core transformers \(Press release\)](#)
- [World's most powerful ultra high-voltage direct current \(UHVDC\) converter transformer \(Press release\)](#)
- [New generation gas-insulated switchgear \(GIS\) \(Press release\)](#)
- [ABB Glossary](#)

Power and productivity  
for a better world™

