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AUBURN HILLS, SEPTEMBER 6, 2017

# **Writing the digital future takes ability. ABB Ability™.**

ABB Innovation & Technology Day

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# Important Notices

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.

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:

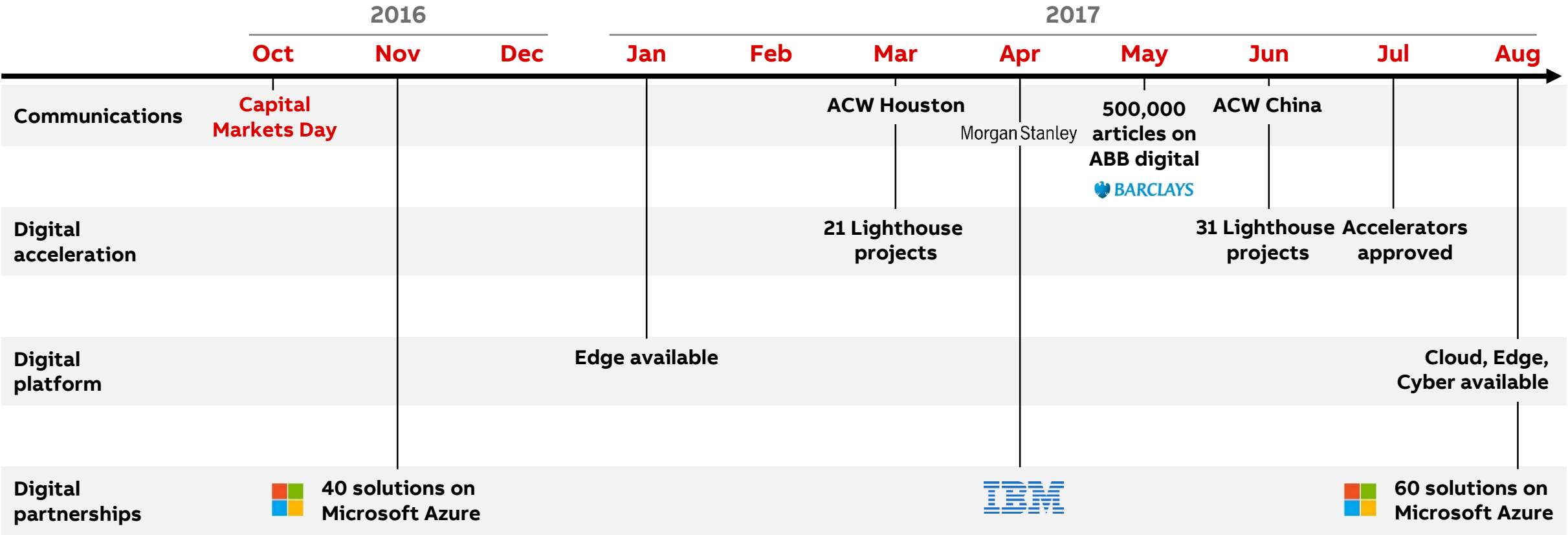
- business risks associated with the with the volatile global economic environment and political conditions
- costs associated with compliance activities
- market acceptance of new products and services
- changes in governmental regulations and currency exchange rates, and,
- such other factors as may 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/>

# Capital Markets Day 2016 to today

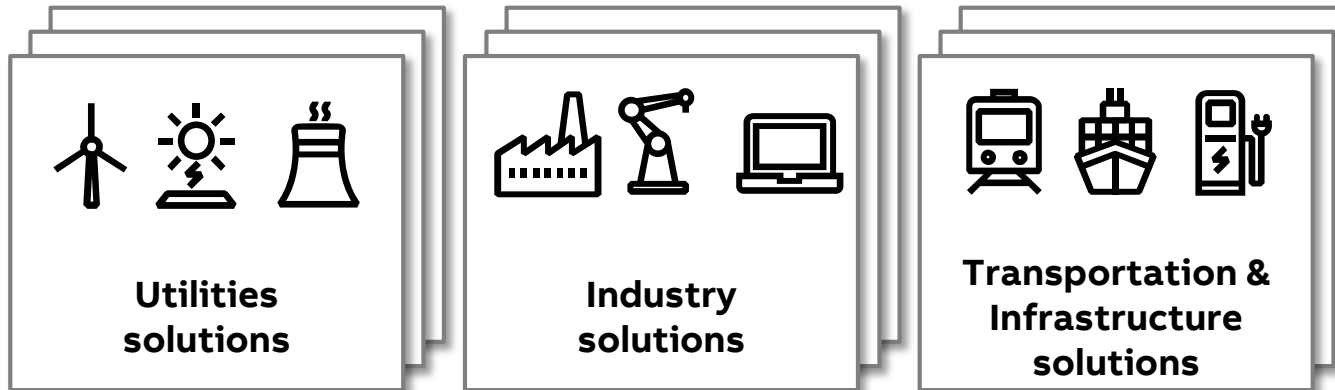
Accelerating momentum on digital



# ABB Ability™ solutions & platform

## 180+ ABB Ability™ solutions

ABB Ability™



Microsoft

Platform

(common technologies for device, edge, and cloud)



**What**

Delivers customer value  
(safety, uptime, speed,  
yield...)

**How**

Provides ABB with efficiency  
and scale





SELECTION

# Digital operations for utilities

Reduced installation time (-40%), maintenance costs (-50%) and outage time (-50%)

Digital operations

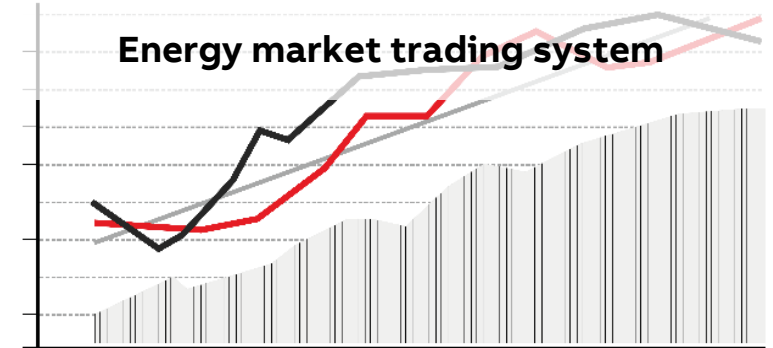
Microgrids



Maintenance workflow management



Energy market trading system



Automated digital substation



Distributed energy resource management



Asset performance management



# Digital operations for transport & infrastructure

Proactive detection of faults (90%), reduced maintenance costs (-20%) and energy costs (-5%)

## Digital operations

Remote monitoring for ship electrical systems



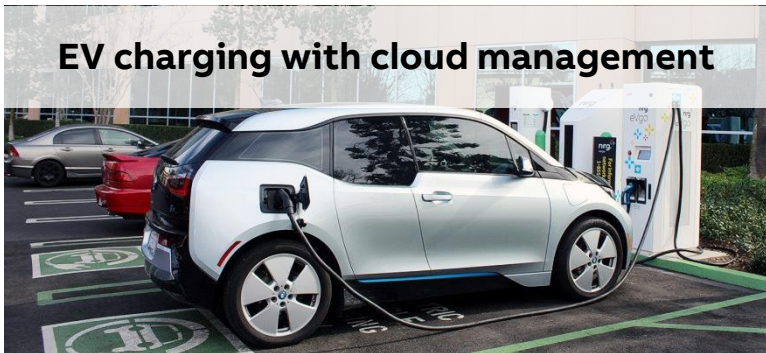
Building & vessel automation



Navigation optimization for fleets



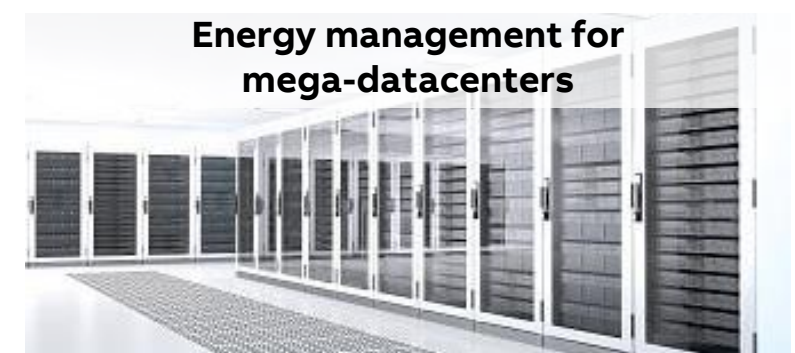
EV charging with cloud management



Vehicle-to-grid demand/supply coordination



Energy management for mega-datacenters





# Digital operations for industry

Improved productivity (+200%), reduced energy (-30%), and longer product life (+30%)

## Digital operations

**Digital simulation for robot deployment**



**Connected robots**



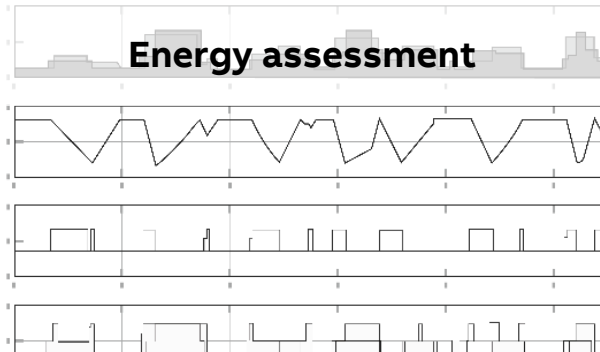
**Manufacturing execution systems**



**Distributed control systems**



**Energy assessment**



**Cybersecurity assessment**



**Power quality monitoring & demand-response**

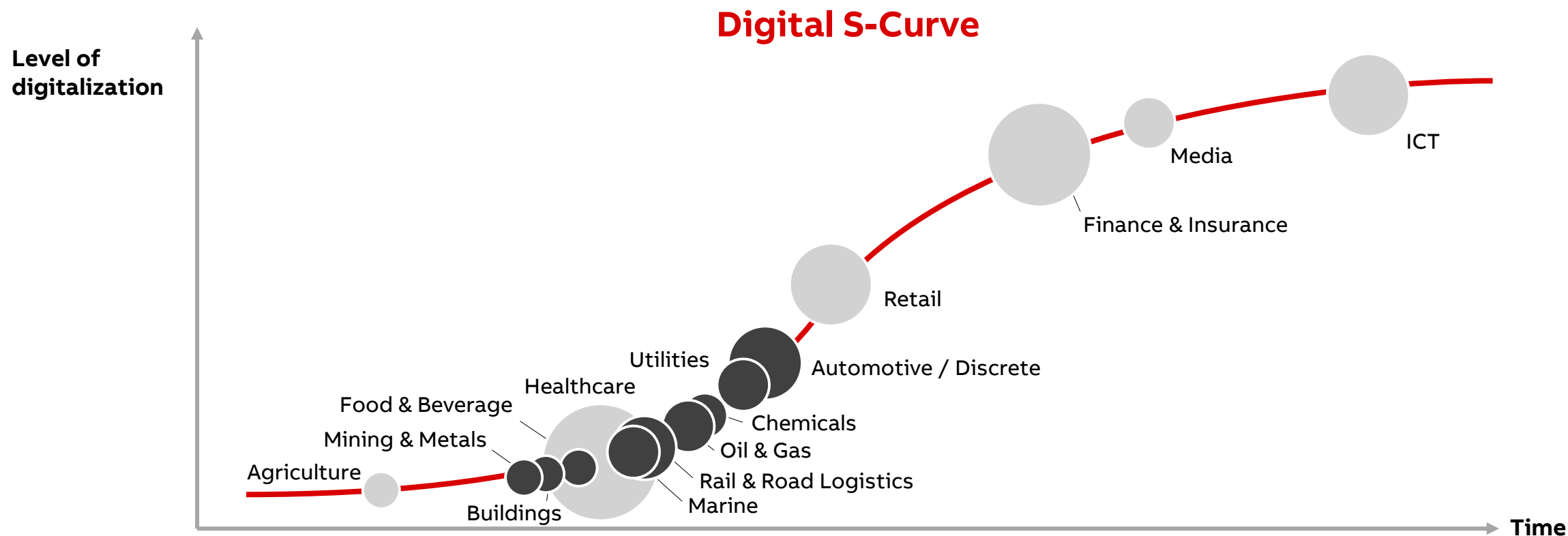


**Remote monitoring & optimization**



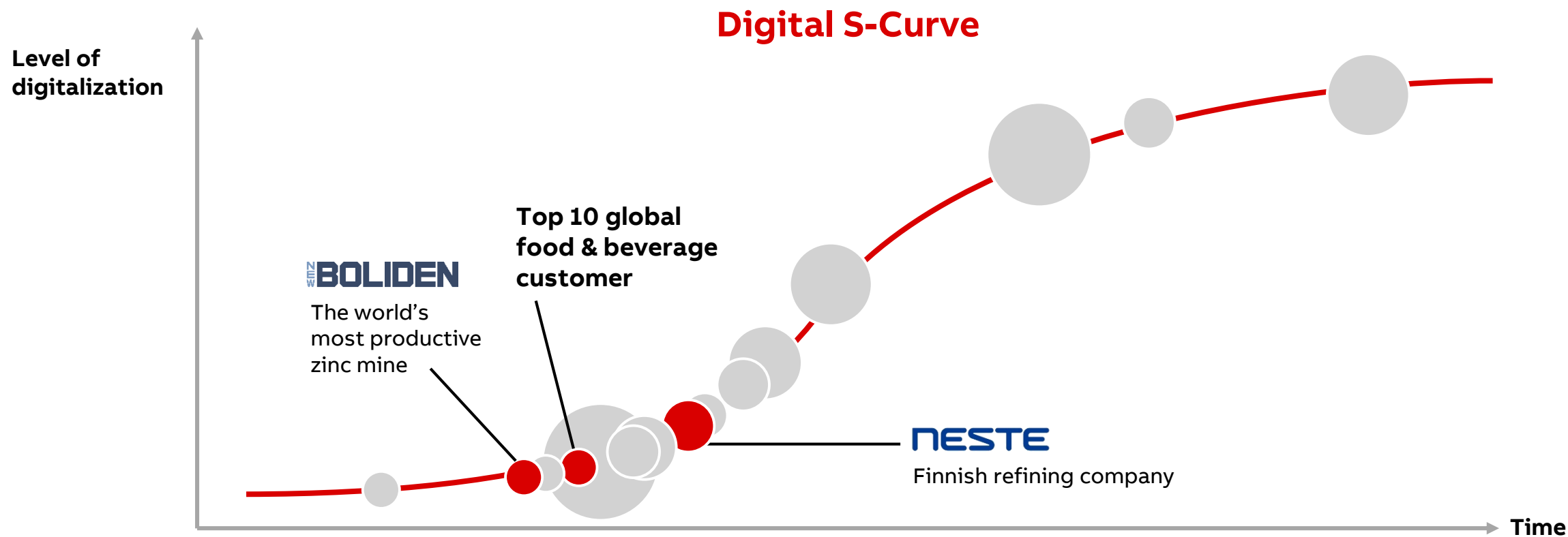
# Industrial markets primed to adopt digital technologies

Computing + connectivity + cloud + analytics set to unlock value



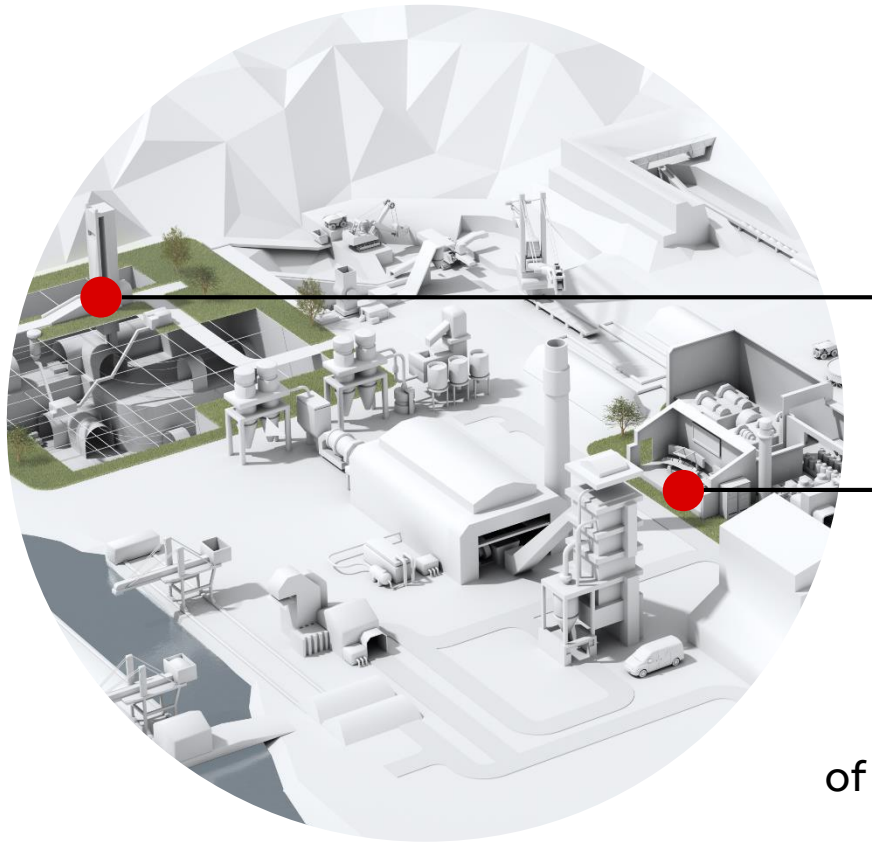


# Digital operations customer examples



# Mining: world-class productivity in low-yield mine

Smart ventilation for energy savings and remote monitoring to improve uptime



Mine operations



Customers' operations center



Remote control center

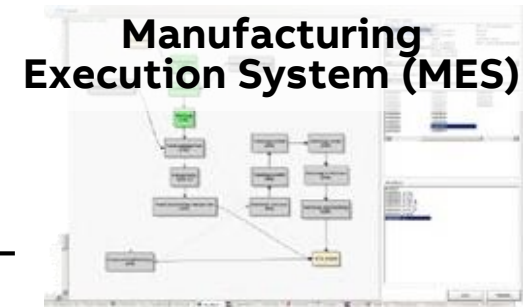
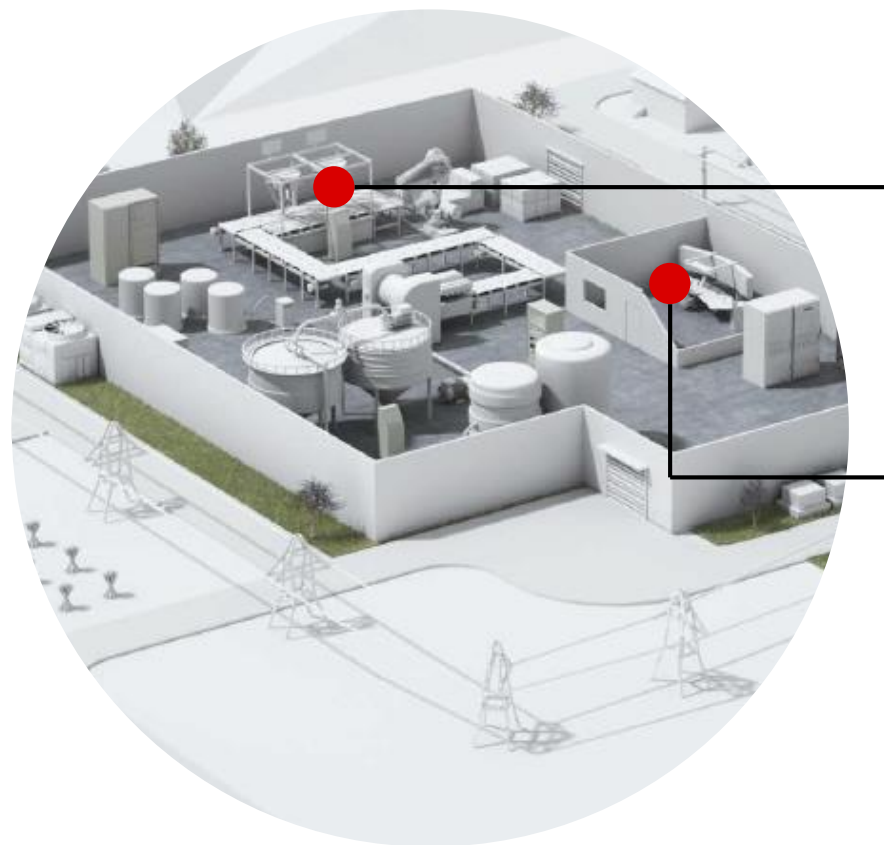


**5% uptime improvement**  
of mine hoists and gearless mill drives

**30 – 50% energy savings**  
in mine ventilation

# Food & beverage: integrated, digitally enhanced operations

Robot palletizer and Manufacturing Execution System (MES) to boost safety & productivity



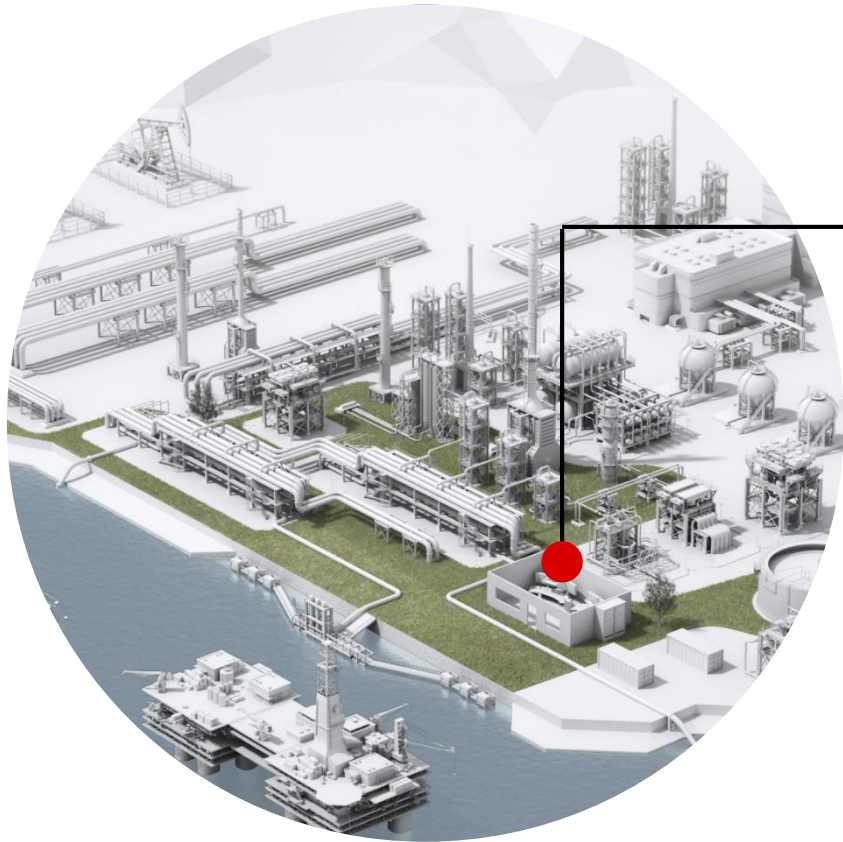
**100% increase in production**  
800 bags/hr produced vs 400/hr

**ROI in 2.3 years**  
Automation investment payback



# Refinery: complete end-to-end analytics

IT-OT integration to improve end-to-end productivity across the plant



**ABB Ability™ plant management system**



**Plant-wide end-to-end visibility**  
Integrating 15 3<sup>rd</sup> party DCS systems

**Industry-leading product quality & efficiency**  
81 applications automate every stage of production

# Customer feedback on ABB digital strategy

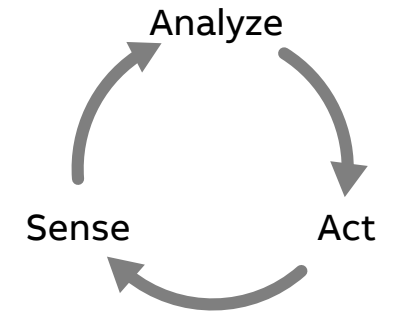
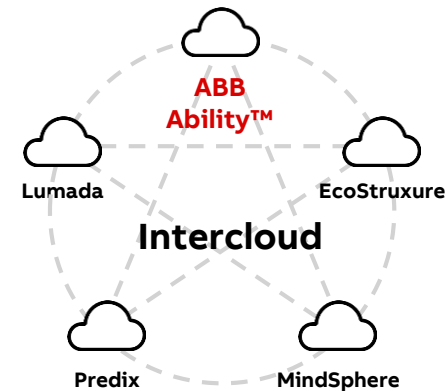
Message resonating well, opening the door for strategic enterprise-wide engagements



”ABB Ability™ combines **domain expertise and digital thought leadership** building on existing partnerships “



DATA MANIFESTO



”The **open architecture** of ABB Ability™ is **key to build future applications** “

**ABB**