



2018

ABB Ability™

Digitalización en la Industria

SIEC 2018



ABB Ability™

Enabling us to know more, do more, do better, together.

For more information about ABB Ability
please visit our website

new.abb.com/abb-ability



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

ABB Ability™

Responding to a changing world



A Digital Transformation

Expanding the Horizons



Digital technologies are driving new innovation in industrial markets

Media is focused on B2C but the “killer app” is in B2B



**Virtual/augmented
reality**



**Software-defined
machines**



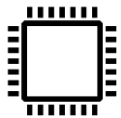
Machine learning



**Time-sensitive
networking**



Big data



**Inexpensive
computing**



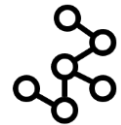
**Cloud
computing**



Cybersecurity



Connectivity



Blockchain

Industrial markets primed to adopt digital technologies

Computing + connectivity + cloud + analytics set to unlock value

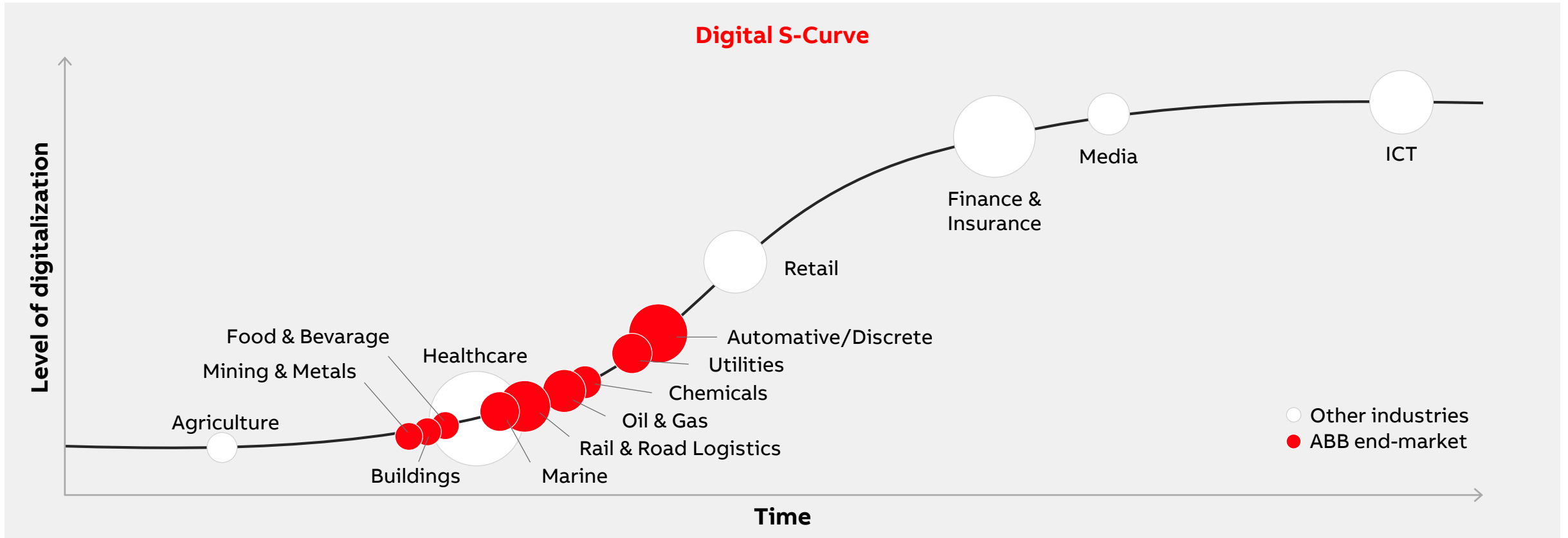
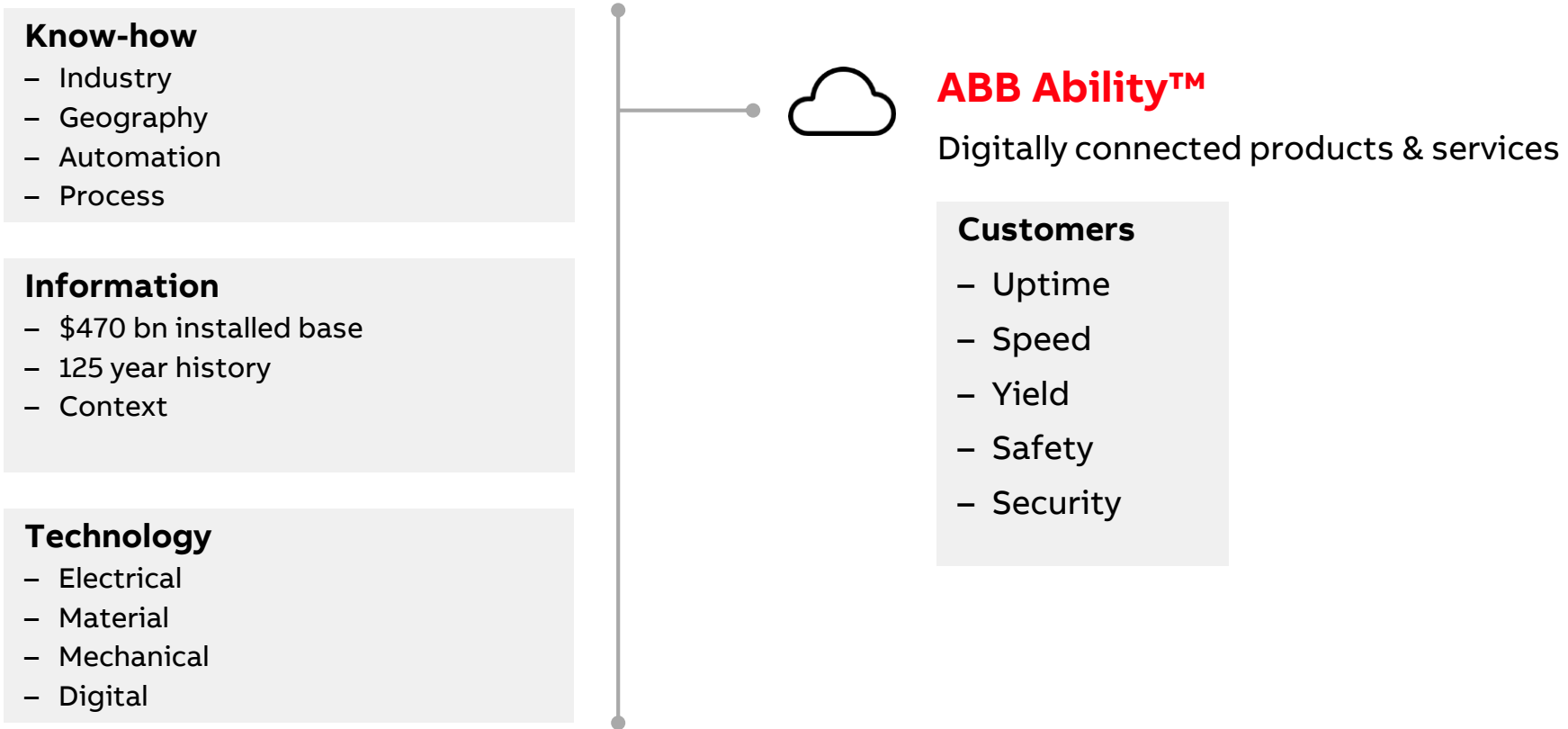


ABB Ability™: industry-leading digital solutions

ABB in digital – uniquely qualified



Unlocking the ABB potential in digital

ABB Ability™: industry-leading digital solutions built on a common set of standard technologies

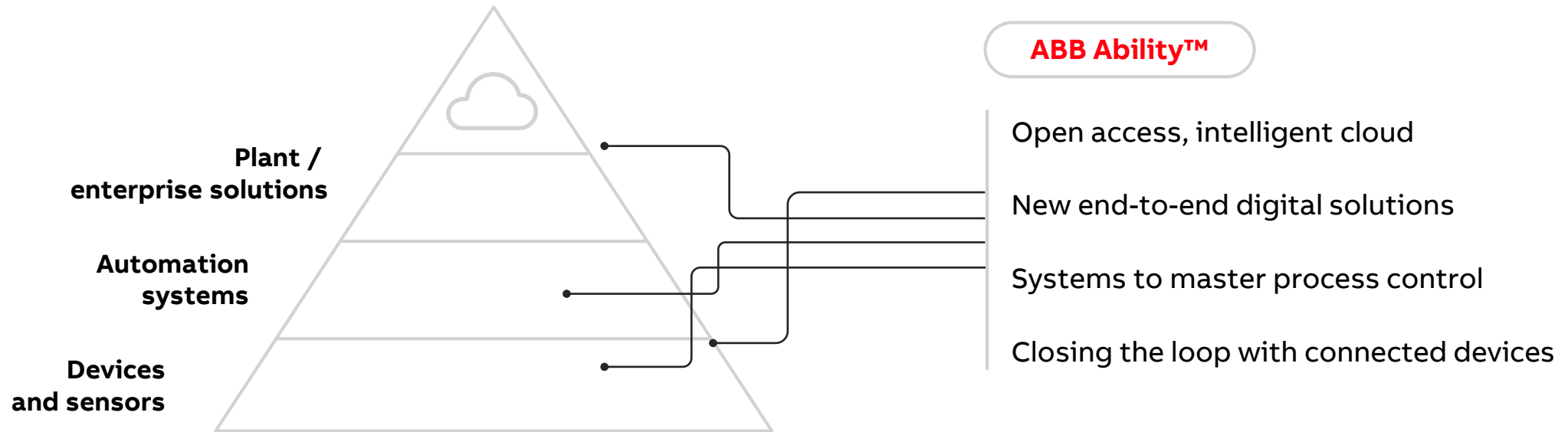


ABB Ability™ solutions & platform

210+ ABB Ability™ solutions

ABB Ability™



Utilities
solutions



Industry
solutions



Transport &
Infrastructure
solutions



Platform
(common technologies for
device, edge, and cloud)



What

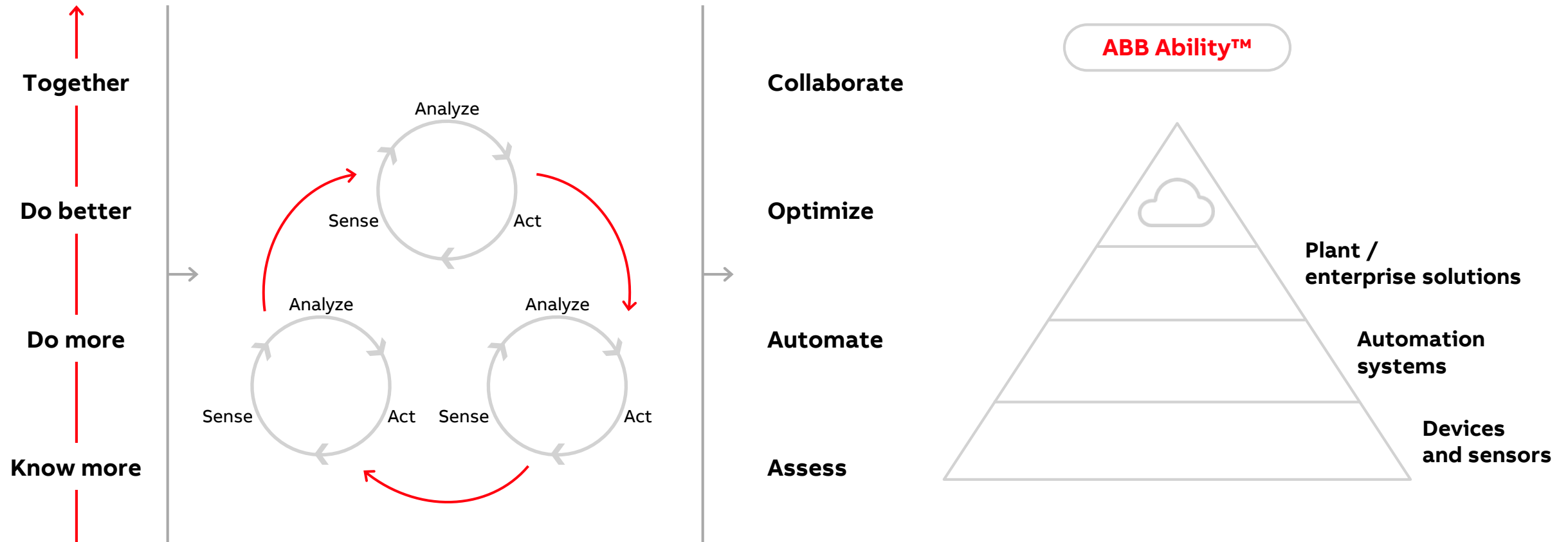
Delivers customer value
(safety, uptime, speed,
yield...)

How

Provides ABB with efficiency
and scale

How ABB Ability™ solutions deliver value

Digitally connected products and services providing expertise



Our future: portfolio development for enhanced customer value creation

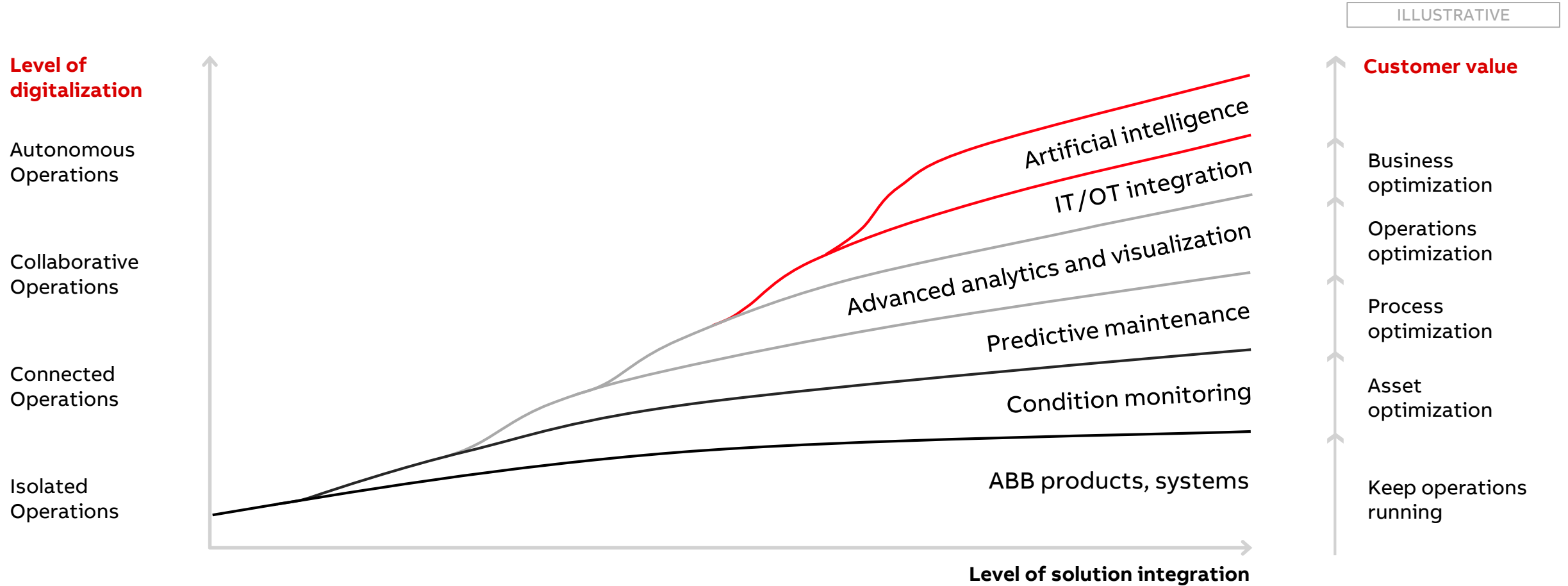


ABB Ability™ services

Use cases

Digital solutions for industry

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



SELECTION

Digital operation



**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**

Digital solutions for utilities

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



SELECTION

Digital operation



Microgrids



Maintenance workflow
management



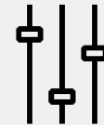
Energy market
trading system



Automated digital
substation



Distributed energy resource
management



Asset performance
management

Digital solutions for transport & infrastructure

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



SELECTION

Digital operation



**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**



Customer sectors

Utilities

ABB Ability™ for Utilities

Digital offering examples



Collaborative operations

Connect customer operations, engineering and business management with ABB Ability solutions and expertise; improve asset availability and operational efficiency through integrate digitalization

☑ Power generation and water

Performance optimization

Compare system and process performance against peak operating conditions or industry standards and develop improvement plans

☑ Control systems
☑ Substations
☑ Grid
☑ LV drives

Condition Monitoring

Monitor equipment maintenance conditions and identify needs for preventive maintenance

☑ Analyzers
☑ Breakers
☑ Drives
☑ HV equipment
☑ HV motors
☑ LV motors
☑ MCCs
☑ Measurement devices
☑ Power gen. vibration
☑ Power gen.. performance
☑ Shaftlines
☑ Solar plants
☑ Transformers

Asset health

Assess the condition of the equipment and evaluate its remaining life. Monitor key parameters related to the critical aspects of the equipment and get reliable early warnings and recommended maintenance actions

☑ Asset Health Center
☑ HV Breakers
☑ Transformers
☑ Electrical systems
☑ Measurement devices
☑ HV motors

Remote assistance

Remote assistance in case of an equipment issue

☑ FACTS
☑ HVDC
☑ Measurement devices

Lifecycle assessment

Evaluate condition and criticality of products/ systems to better plan maintenance and future investments

☑ Drives
☑ Electrical systems
☑ Substation automat.
☑ Transformers

Backup management

Ensure fast (remote) restoration of system data configurations and settings in case of critical situation or system failure

☑ Electrical systems
☑ Grid automation

ABB Ability™ for Utilities

Digital offering examples



Cyber security

Address gaps compared to industry standards and best practices that could endanger employees, assets or uptime

- ❑ Control systems
- ❑ FACTS
- ❑ Grid automation
- ❑ HVDC systems
- ❑ Power generation

Energy optimization

Analyze customer energy needs and usage, identify and prioritize thermal and electrical energy efficiency improvements across entire plants or businesses; develop and implement a comprehensive energy efficiency program

- ❑ Drives and motors
- ❑ Power generation

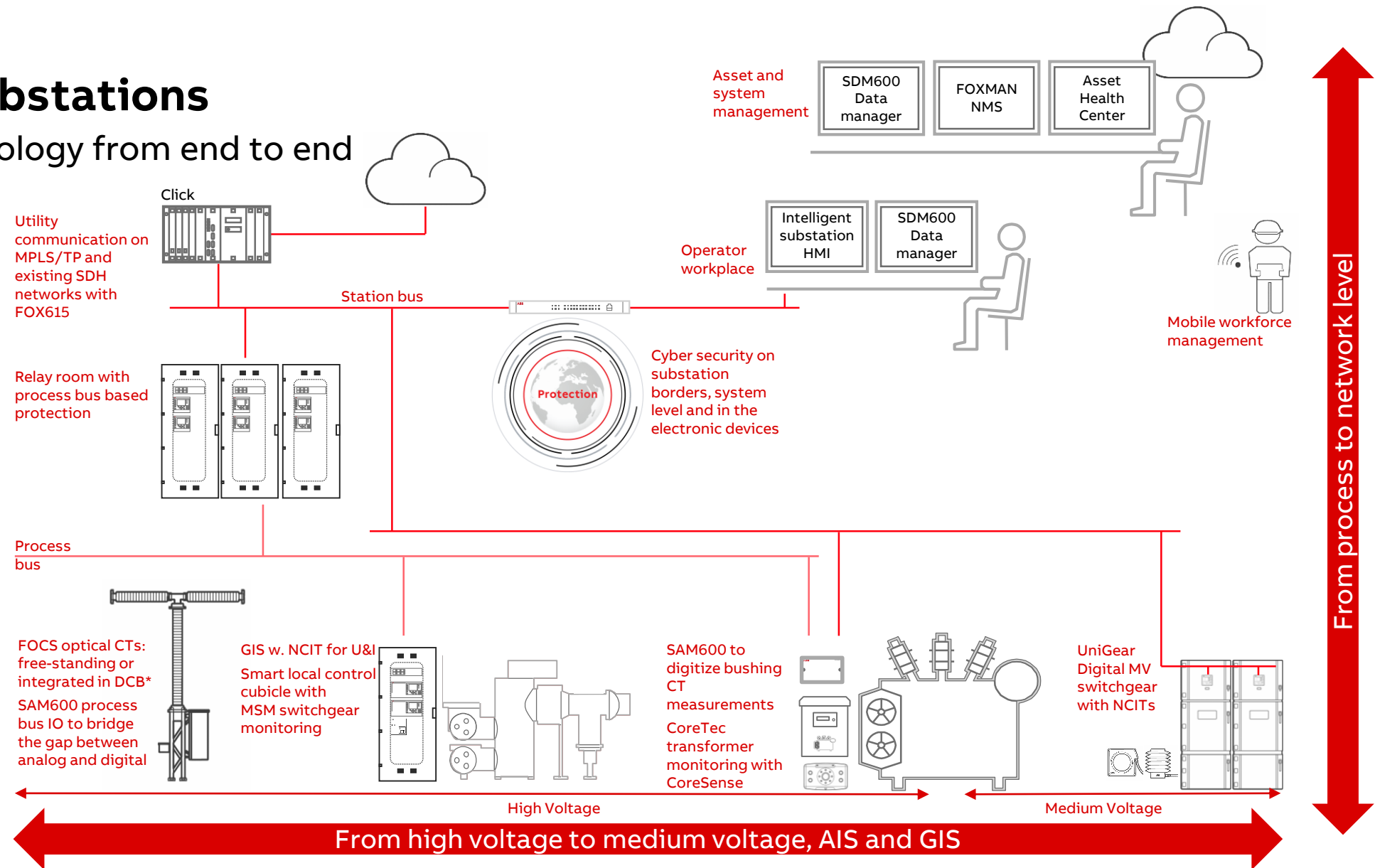
Inspection

Check product health and accuracy

- ❑ Flowmeters
- ❑ LV products

Digital substations

Digital technology from end to end



The ABB offering for digital substations

Connected Asset Lifecycle Management, CALM

Asset Health Center

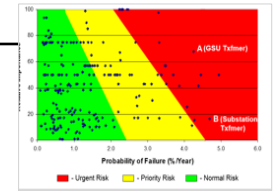
Asset Health Center leverages ABB's substantial, industry-leading expertise in electrical equipment manufacturing and service to ...

- Consolidate information from a variety of sources
- Determine current condition of electrical assets
- Predict and assess at-risk assets
- Provide recommendations for corrective action
- Prioritize maintenance and replacement across the fleet and aid in creation of Work Requests

Predictive analytical models recognize complex contexts

Asset Health Center on network level

Health Guide for optimized condition and risk based fleet maintenance planning based on risks versus importance of assets



Plant/Substation information

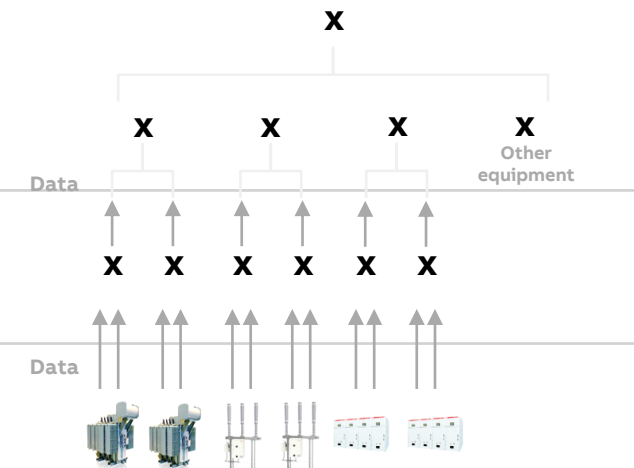
Diagnosis and visual risk status information of equipment at plant level

Product information

Product level analysis and storage of data
Product specific fingerprint

Data capture

Signals from sensors
Off time maintenance,
field testing and product data



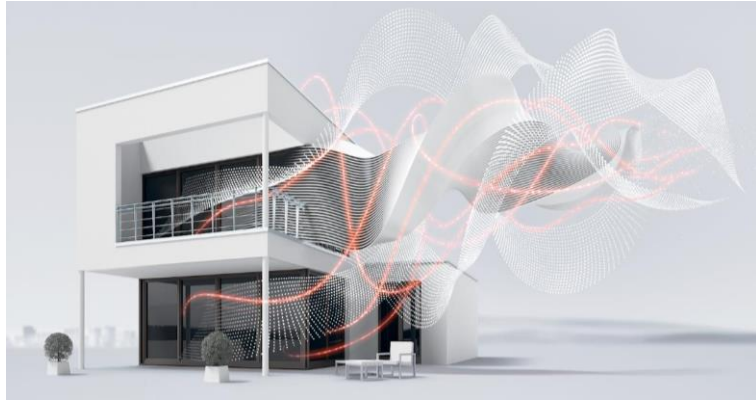


Customer sectors

Building Automation

Building automation

ABB i-bus® KNX



Future proof

The well-established ABB i-bus® KNX system is available today for the demands of tomorrow. It is based on the worldwide KNX standard and is open for ever increasing demands – for the utmost safety in planning.

Smart home & Smart building

ABB i-bus® KNX is the synonym for smart home and intelligent building control. In this innovative system, all devices communicate with one another via a single bus cable which is installed alongside the normal power lines. This means that all electrical functions are connected with one another via the bus system, both in residential and commercial buildings..

Flexibility

With the ABB i-bus® KNX system, the buildings we occupy are easier to manage and control, resulting in increased flexibility, security, economic efficiency and convenience. The operational flexibility of an ABB i-bus® KNX electrical installation allows the everyday working or living environment to be easily adapted to the individual's needs - now and in the future.

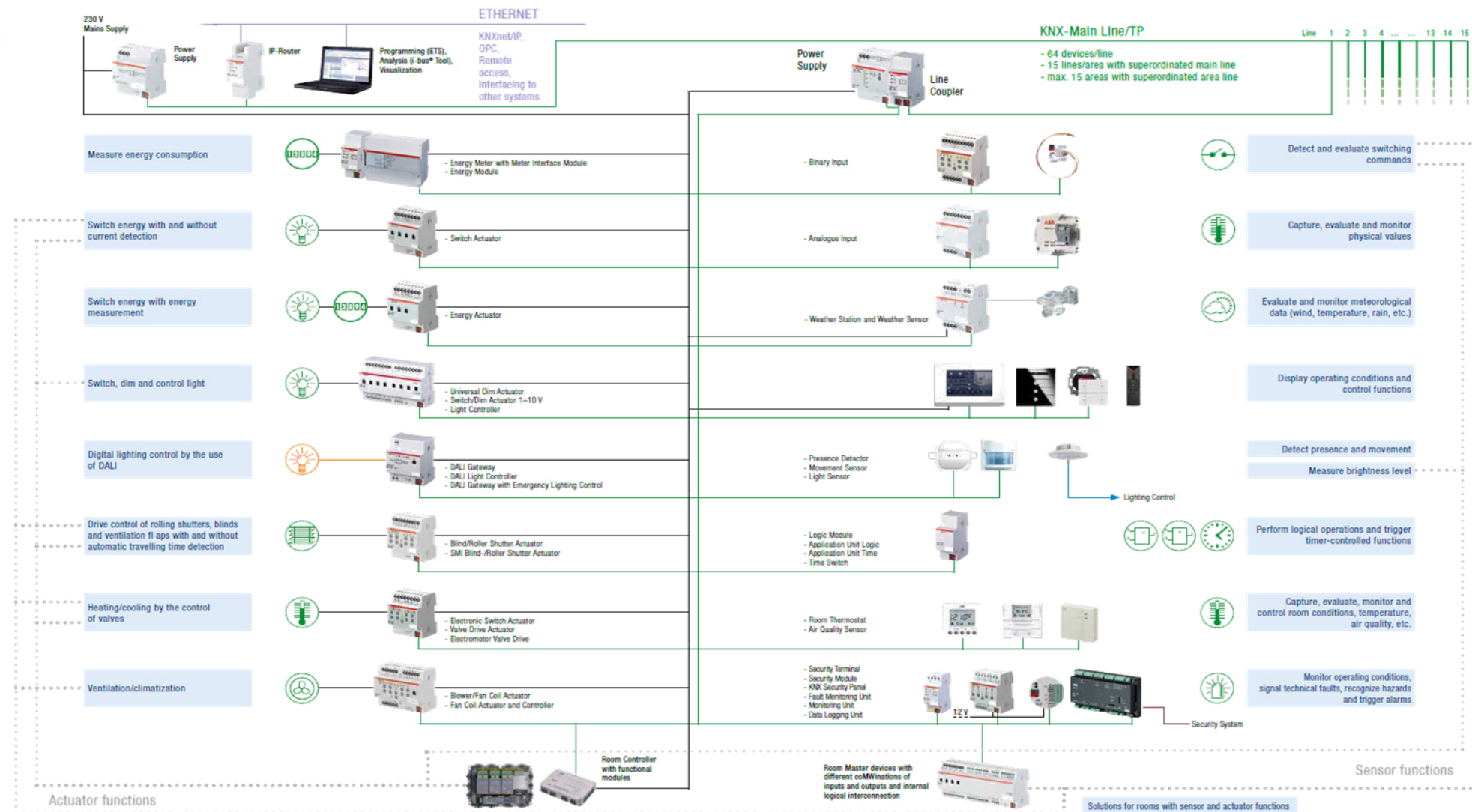
Complete solution

The ABB i-bus® KNX product range includes components covering the complete spectrum of applications found in today's buildings, ranging from lighting and shutter control to heating, ventilation, security, energy management, and many more.

Scalable

The KNX topology is arranged in lines that can be interconnected via couplers depending on the size of the network. The devices in the respective lines (sensors and actuators) are supplied with energy by a power supply (30 V) whereby the entire KNX bus system can be configured with more than 50.000 bus devices.

ABB i-bus® KNX



ABB