



The future of data center electrification

ABB Ability™ building tomorrow's data centers



ABB Ability™ solutions for Industry 4.0



1712 – Industry 1.0
Thomas Newcome builds
the first steam engine

158 Yrs.



1870 – Industry 2.0
Electricity is used for
Industrial Production

99 Yrs.

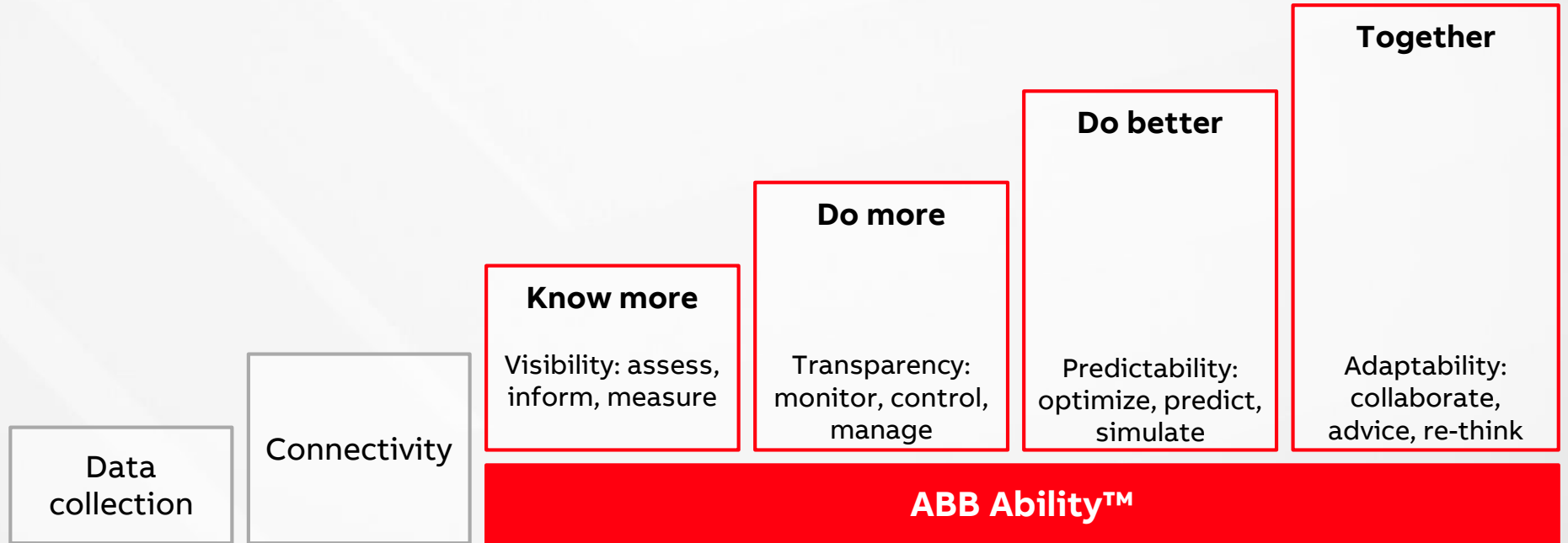


1969 – Industry 3.0
Programmable logic

47 Yrs.



Today – Industry 4.0
Communications between people,
services, and things



Data centers

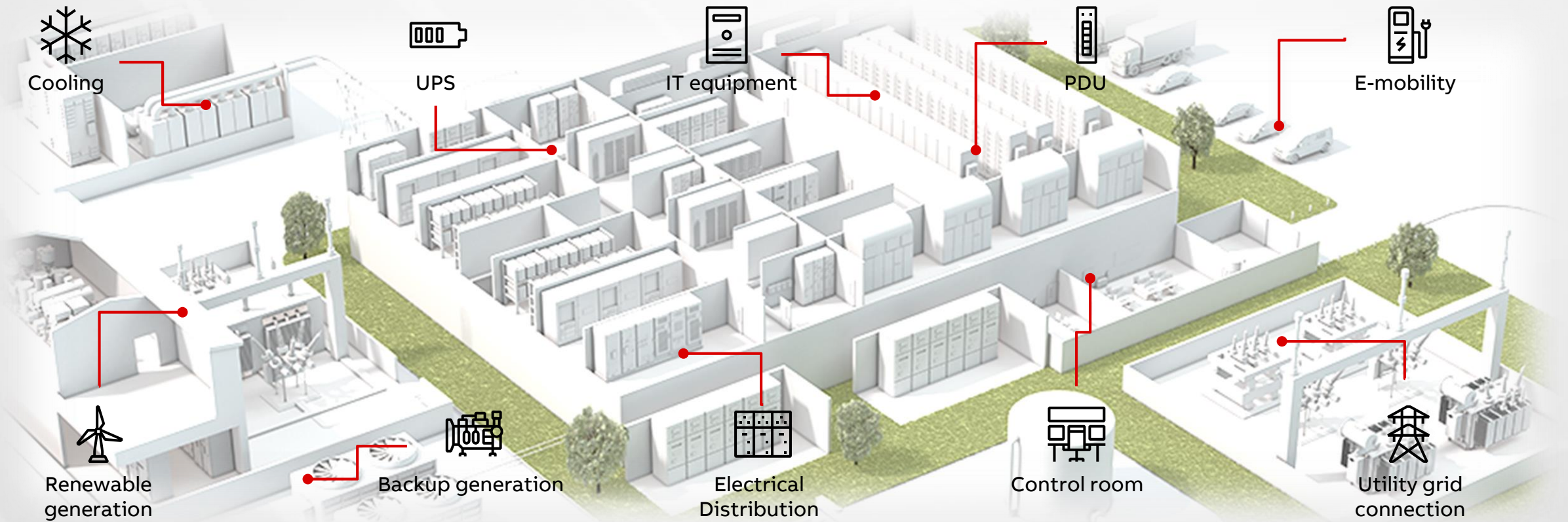


ABB Ability™ values for data centers electrification

Data centers of tomorrow



**Safety and asset
availability**



Continuous operation



**Flexibility and space
saving**



**Energy efficiency and
sustainability**

Global lifecycle service and support

Safety and asset availability

People and equipment protection

Certified switchgear against internal electrical arc fault.

Fast acting and coordinated arc protection systems applicable also on existing switchgear, to increase safety and minimize downtime.

Condition monitoring

Sensors to detect possible failure causes, like temperature monitoring of critical parts and joints. Switchgear condition monitoring to support troubleshooting and drive service activities.

Predictive maintenance

Site and multi-site asset health analysis to predict and notify potential faults, minimizing maintenance, while increasing safety and asset lifetime



Continuous operation

Power supply management

Load-shedding and peak-shaving to keep up and running critical loads

Automatic transfer system ensuring power supply

Power management, integrating generators and renewables

Power Quality and Stability

Integrated capacitor banks for power factor correction.

Modular and combined Uninterruptible Power Supply solution. Embedding UPS into a digital switchgear reduces cost by 10%, and 30% footprint.



Flexibility and space saving

Digital switchgear

Wiring reduction up to 90% using digital bus communication.

Easy to update during lifecycle.

State-of-the-art and wide-range current and voltage sensors allows 10% reduced footprint and 25% faster commissioning.

Smart grid connection

All-in-one protection for any power distribution application, with fully modular and upgradable software

Centralized substation protection and control, ready to follow the evolving grid, with extensive application coverage, giving the possibility to save 15% lifecycle costs



Energy efficiency and sustainability

Energy management

Energy monitoring and reporting to have deep component consumption visibility
Real-time control of energy flows, load management and power quality analysis

Grid and renewables integration

Intelligent grid connection
Easy integration of renewables with automatic-synchronization protection function.



ABB Ability™ global and local support



10 Digital solution centers



40 Digital service centers

ABB Ability™ electrification offering

+ INTEGRATION

Data Center Infrastructure Mgmt
ABB Data Center Automation

+ EFFICIENCY

Electrical control system
ABB Zenon

+ FLEXIBILITY

Substation protection and control
SSC600, REX640, Relion®

+ AVAILABILITY

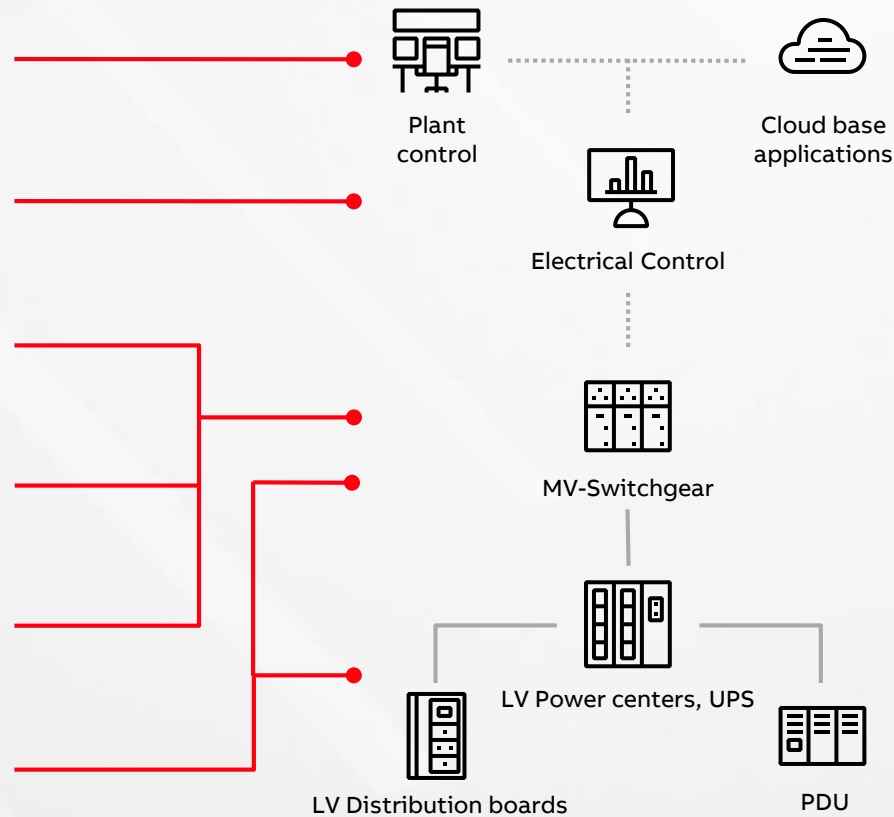
Load shedding and peak shaving
cPMS

+ RELIABILITY

Switchgear condition monitoring
SWICOM

+ SAFETY

Arc detection and suppression
REA, TVOC, UFES



+ RELIABILITY

Electrical system asset health
MyRemoteCare

+ RELIABILITY

Cyber asset management
Data Care

+ EFFICIENCY

Energy monitoring
EDCS

+ FLEXIBILITY

AIS / GIS, primary and secondary
MV Digital switchgears

+ AVAILABILITY

Bus transfer, ring reconfiguration
Relion, HSTS, Emax2, Loop Control

+ RELIABILITY

Condition and energy monitoring
MNS® / NeoGear™ Digital, MNS Up

ABB