The future of Chemical, Oil & Gas

ABB Ability™ building tomorrow's operations

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 collection

Connectivity

Know more
Visibility: assess, inform, measure

Do more
Transparency: monitor, control, manage

Do better
Predictability: optimize, predict, simulate

Together
Adaptability: collaborate, advice, re-think

ABB Ability™

Chemical, Oil & Gas operations

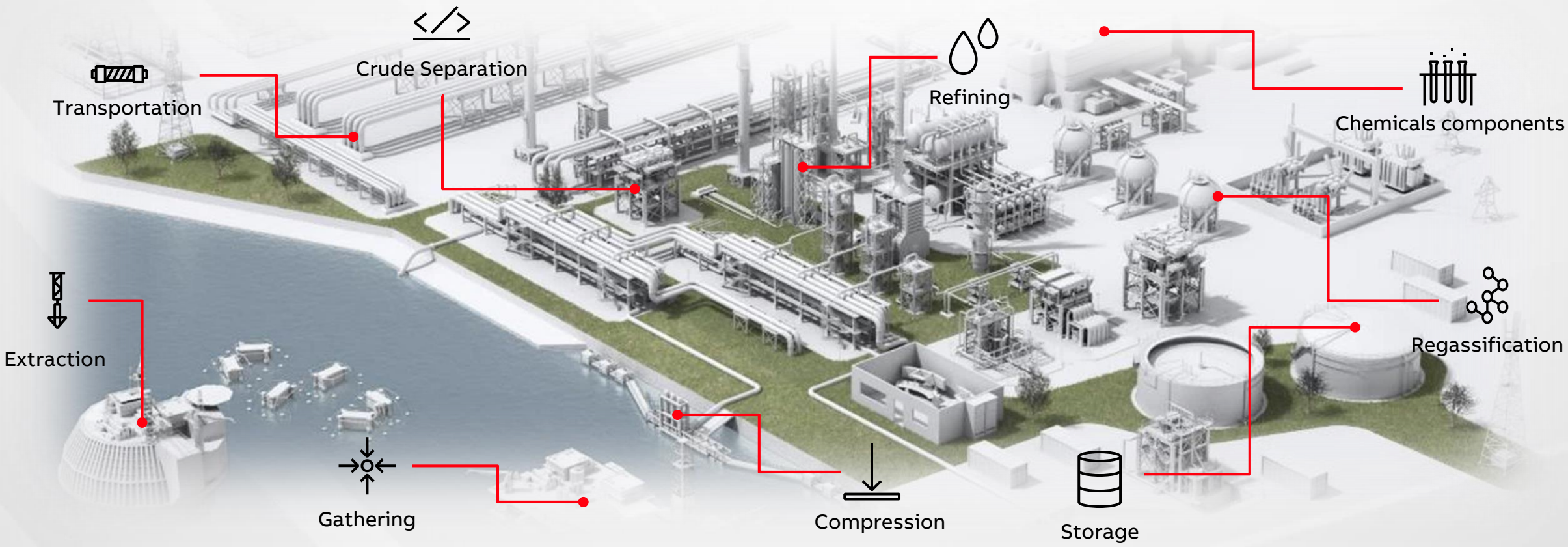


ABB Ability™ values for Chemical, Oil & Gas electrification

Chemical, Oil & Gas operations of tomorrow

Global lifecycle service and support

Safety

People protection
MV and LV certified switchgears against internal electrical arc fault.

Active people and equipment protection
Fast acting and coordinated arc protection systems applicable on and MV and LV systems, and on new and existing switchgear, to increase safety and minimize downtime.

Digital asset
Personnel not exposed to high-voltage with sensor technology during testing
Self-monitored digital communication bus and devices

Asset reliability

Condition monitoring
Sensors to detect possible asset aging and failure causes
Temperature monitoring of key components

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

Cyber asset management
Electronic devices inventory, configurations traceability, security firmware updates notification, plant data and documentation back-up

Process continuity

Power availability

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

Automatic transfer system ensuring power supply

Power management for critical processes

Power quality and stability

Integrated capacitor banks for power factor correction.

Modular and combined Uninterruptible Power Supply solution

Energy Storage modules

Troubleshooting

Events analysis providing possible causes and suggesting remedial actions, to minimize outage time

Easy to deploy

Digital switchgear and eHouse
MV/LV systems configurable and upgradable during lifetime reducing spare parts
Containerized pre-tested MV/LV systems to reduce on site time and risk ensuring rapid commissioning

All-in-one protection
Modular hardware and software solution to protect the electrical network, and adapt easily
Easy integration of renewables with automatic-synchronization function

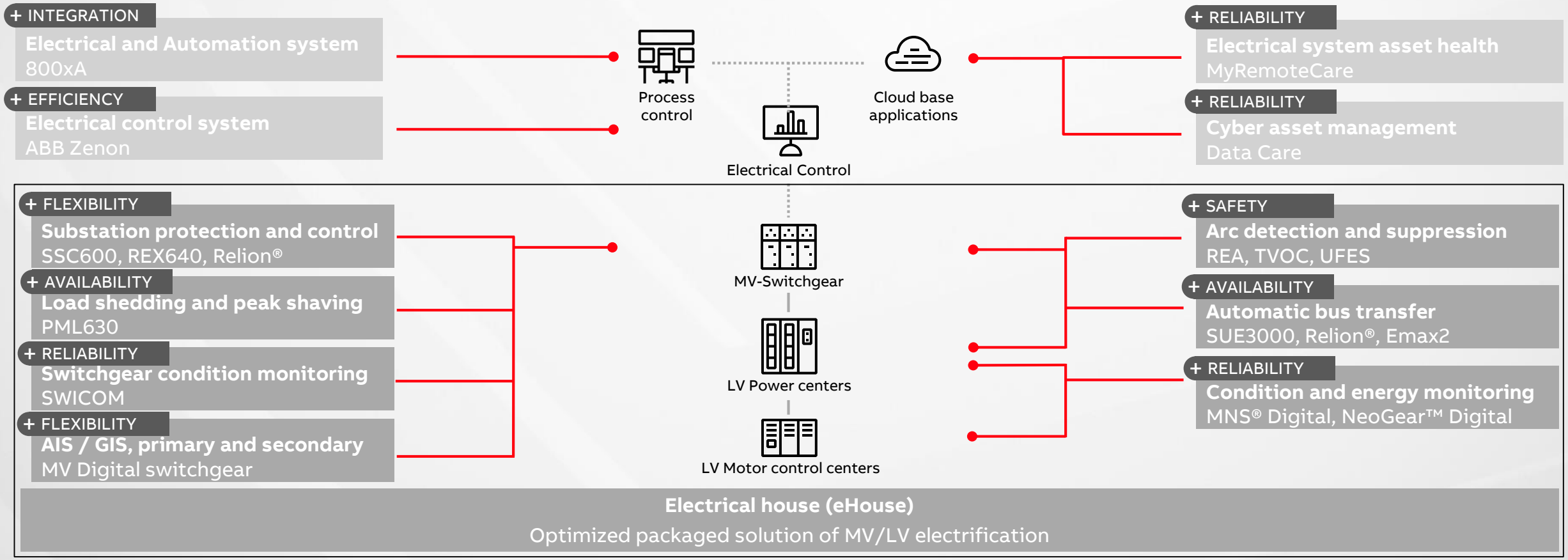
Smart substation protection and control
Centralized substation protection and control, ready to follow the plant evolution, with extensive application coverage
Fully modular and upgradable software

ABB Ability™ global and local support

10 Digital solution centers

40 Digital service centers

ABB Ability™ electrification offering

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