



ELECTRIFICATION | DIGITAL

ABB Ability™ Asset Manager

Simplicity and flexibility in asset performance management

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Make better, data-driven decisions

Real-time operational data from equipment, delivering predictive analytics and maintenance advice that help customer make timely decisions to optimize the asset performance



Maximize up-time

Reduce the risk of unplanned outages, which directly affect revenue generation



Reduce total cost of ownership

Optimize maintenance schedule and increase work force efficiency



Increase safety and sustainability

Engage field service engineers only when needed, optimizing resources and extending asset life while maintaining safety

ABB Ability™ Asset Manager

Business value of better performances



[Take a look to our success stories](#)

Up to

40%

Savings on
maintenance cost (*)

Up to

100%

Avoid unplanned
labor

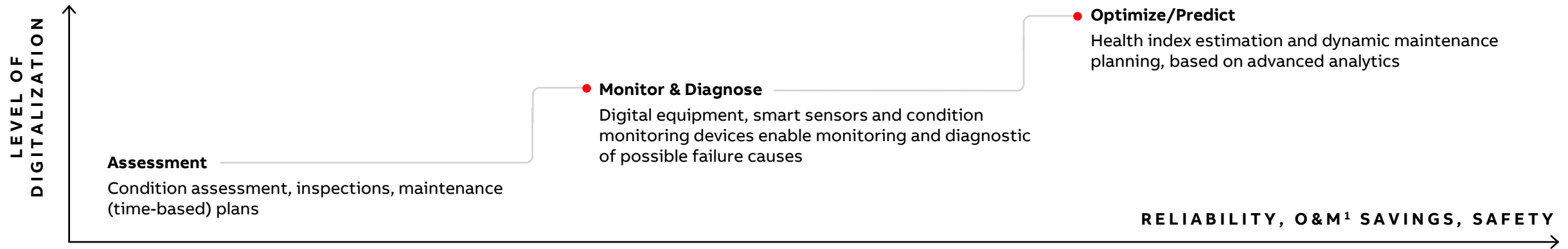
Up to

30%

Increase of the
time interval of
maintenance (*)

(*) Source: "ABB Internal case study on Data Center"

ABB Ability™ Asset Manager Journey



Let's have a look

Time-based maintenance actions or just observation and inspections activities (which could trigger reactive maintenance actions)



Manual procedures

There is a problem now

What condition does our asset have?
Are all parameters in the normal range?
Where is the source of the problem?



Threshold calculations, mathematical equipment models

A problem will happen

When can we expect a malfunction or failure?
What is the component which might fail?
What I need to do?



Forecasting, knowledge base, artificial intelligence

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Solution preview

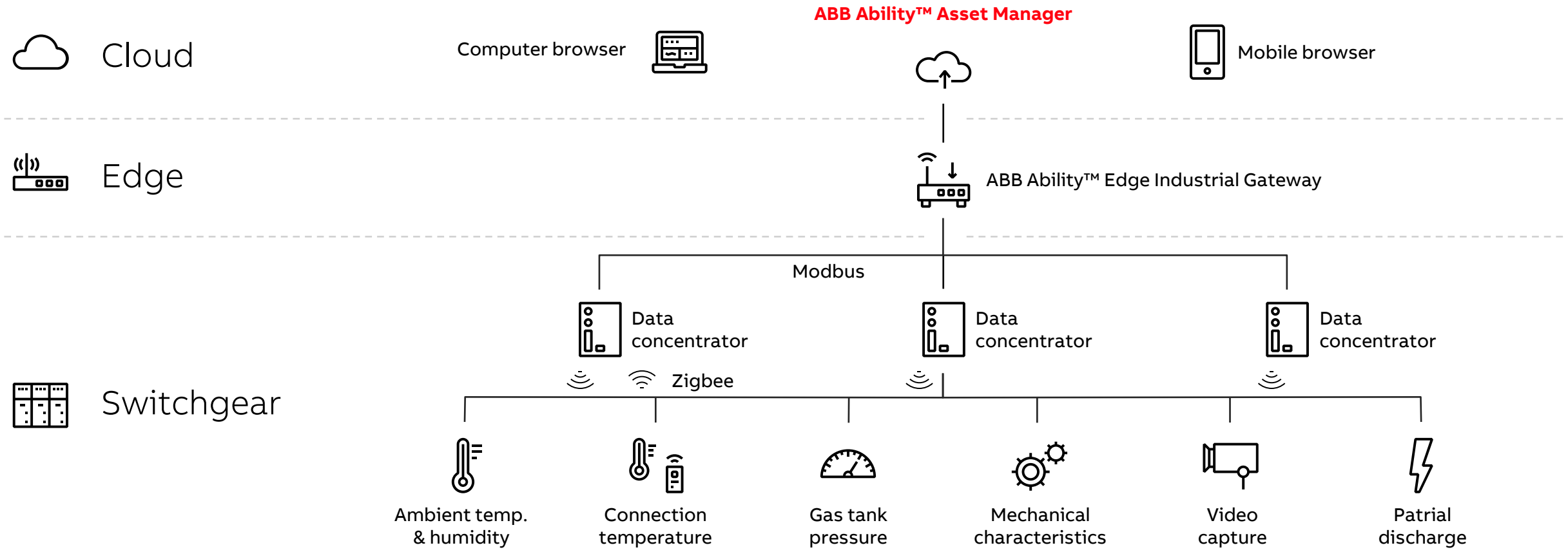


ABB Ability™ Asset Manager

What is the ABB Ability™ Asset Manager ?



It is an **asset management tool** for monitoring the condition and performance of the electrical system from low voltage to medium voltage.



It **provides maintenance advice**, based on sophisticated data analysis



It is a **cloud-based platform** and plug & play solution, to gather data from smart assets, monitoring devices and sensors.



It is a **cost-efficient solution** with add-ons and premium services




It features a **flexible user interface**, providing users with pre-configured or customized dashboards and views.



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Additional features




Asset
management



Monitoring &
diagnostics



Data
analysis



Events &
notifications



Maintenance
planning



Interactive
reporting

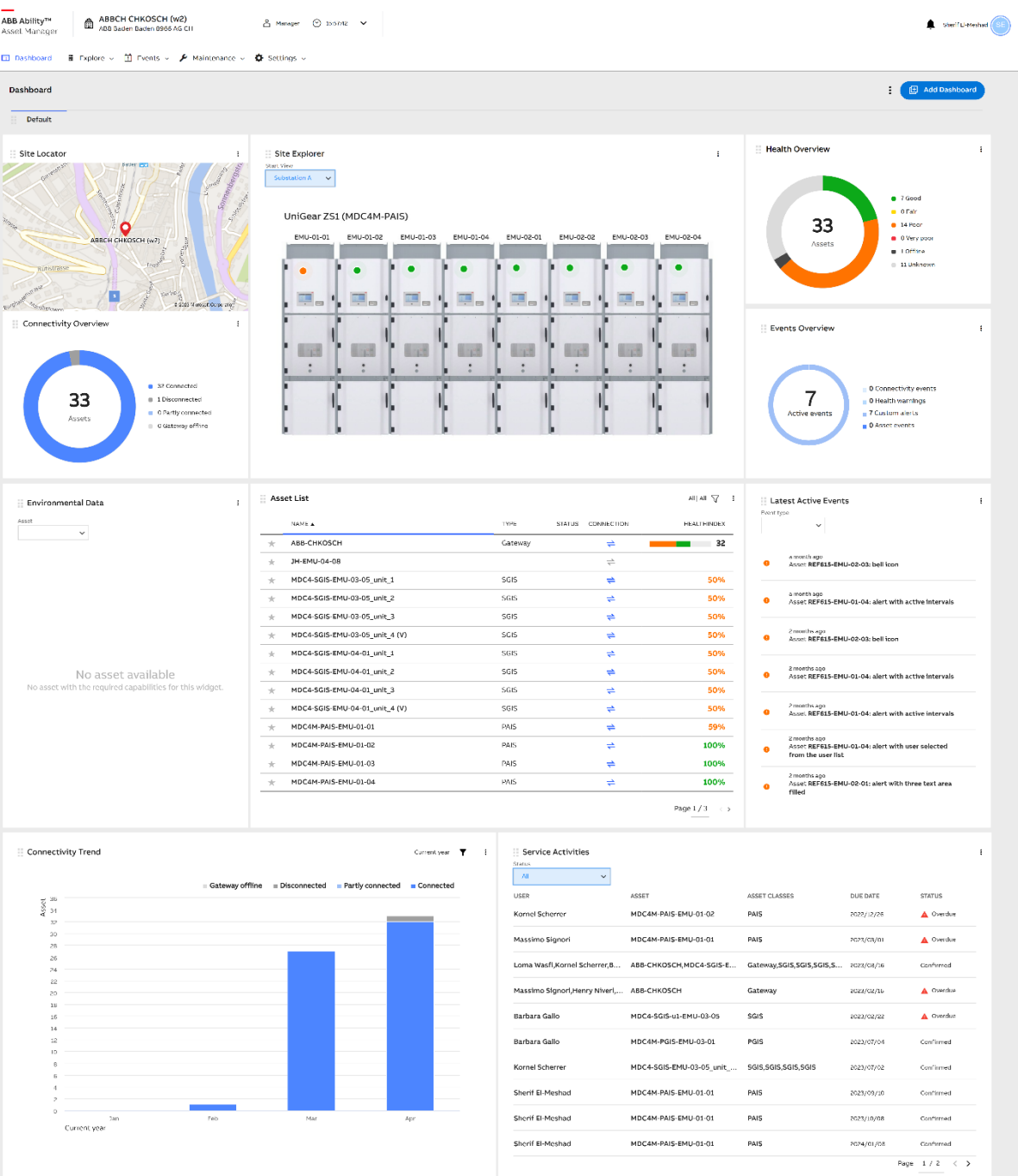
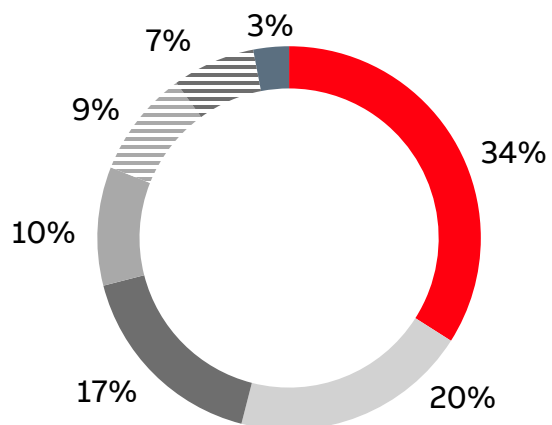


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Identifying evolving faults

Failure Modes



- ① 34% Loose connection/joints
- ⑥ 20% Environment conditions (humidity, dust, etc.)
- ④ 17% Incorrect work (human mistakes)
- ② ③ 10% Faulty insulation (dielectric problems)
- ④ ⑤ 9% Faulty equipment (mechanical)
- ≡ 7% Other
- 3% Overload

Solution



① Main circuit temperature monitoring

- Continuous temp. monitoring of key hot spots
- Factory integrated design, production, testing



② Insulation gas density monitoring

- Gas pressure, temperature compensation, alarm contact
- Factory integrated design, production, testing



③ Partial discharge monitoring

- UHF or capacitive coupling methods
- Sensors are isolated from primary circuit



④ Video monitoring

- Visible monitoring of chassis, ES, 3PS movement
- Observation window, digital camera integrated in panel



⑤ Mechanical characteristics monitoring

- Nonintrusive Hall sensor for coil/charging motor current
- Motion sensor for CB contact travel



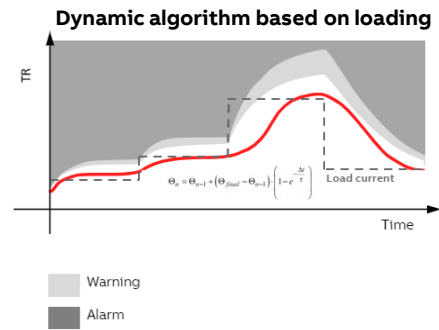
⑥ Ambient temperature & humidity monitoring

- Ambient temperature of site
- Ambient humidity of site

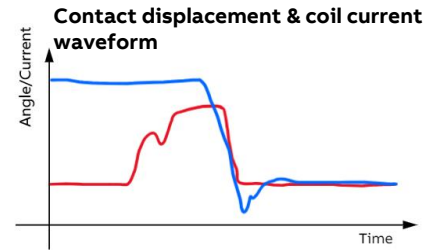
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Asset health analysis

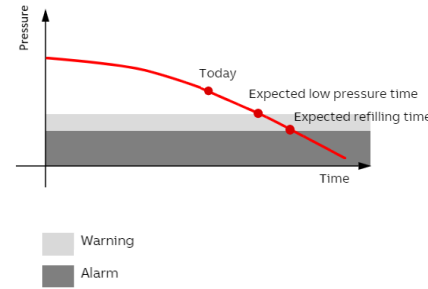
Thermal



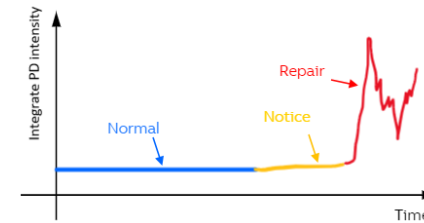
Mechanical



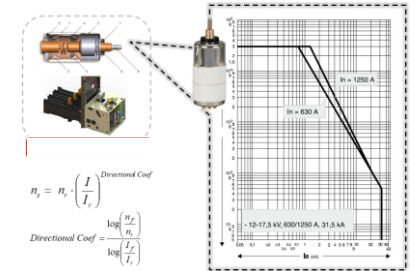
Dielectric – gas insulation



Dielectric – air/solid insulation



CB residual life prediction



Adaptive temperature analysis

- Connection degradation analysis
- Connection temperature
- Current flow
- Ambient temperature
- 3 phase temperature balance

Self-learning analytics of CB model specific mechanism

- CB mechanical performance analysis
- Contact travel
- Open/close coil current
- Spring charging motor current

Predictive gas insulation analysis

- Gas refilling date prediction
- Temperature compensated gas density
- Adaptive analytics for slow and fast leakage detection

Partial discharge analysis

- Insulation degradation analysis
- PD presence indication
- PD strength (Db)
- PD intensity after noise removal
- PD pulse rate (Hz)
- Amount of PD events above noise level over time
- Phase or panel fault indication

VI life analysis

- VI contact degradation analysis
- load/short circuit breaking current
- VI breaking characteristic diagram
- characteristic curve
- Model based VI remaining life prediction algorithm



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Get in touch



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