

SERVICE, HIGH VOLTAGE PRODUCTS

# Asset Health for Switchgear

## Condition Based Maintenance Solution

### 4-step workflow process to asset health management



**1. Capture**  
Unified view of all asset data in proven analytics platform



**2. Analyse**  
Algorithms codify experience to predict and prioritize risk



**3. Inform**  
Industry-standard KPIs and expert decision support



**4. Act**  
Holistic asset performance management

The primary objective of a maintenance organization is to ensure asset availability and performance goals are met on a predictable basis. To do so successfully, requires visibility and collaboration with the appropriate personnel so that the right maintenance activity can be performed, when it is needed, to reduce unnecessary downtime.

### About us

ABB, the leading global player in high-voltage products, offers a wide range of electrical infrastructure solutions and services encompassing:

- Gas Insulated Switchgear (GIS)
- Hybrid Switchgear Plug and Switch System (PASS)
- Air Insulated Switchgear (AIS)
- Generator Circuit Breakers (GCB)
- Capacitor Banks and Filters
- Instrument Transformers
- Surge Arresters

As a globally operating technology organization and product manufacturer, we complement our offerings with a comprehensive range of round-the-clock support and life cycle services. The goal of ABB's product support services is to improve the reliability and extend the operating life of your high-voltage equipment, while reducing operation and maintenance costs in each life-cycle phase. To meet the challenges of the evolving high-voltage service market, we continue to develop our portfolio, increase customer satisfaction, and improve our operations.

The challenge is having all the relevant information available at the right time, in the right form, and accessible to the right people.

### Asset Health Switchgear (AHS) for High Voltage Assets

Asset Health Switchgear offers the ability to view all relevant asset condition information in one seamless interface. This interface provides a complete picture of the health and performance of all assets while embedding the analyzing capabilities of comprehensive, specialized software.

AHS uses patented "Aspect Object TM" technology that collects and displays all information required to maintain each high voltage asset in one place. Collected information is customizable and can be asset specific: covering all aspects such as documentation, alarms, events, camera feeds, maintenance reports, et cetera.

### Key features of Asset Health Switchgear Software:

#### Visualization:

AHS software provides an overall visualization of each of the substation asset devices which can assist in planning breaker maintenance. The dashboard provides context menu navigation to each device being monitored. This allows additional analysis and interaction with the substation assets. Standard screens from the AHS software provides an easy user interface for maintenance personnel. It includes a static map overview of substation location with drill down capabilities for all individual assets.

Plus a details screen of each asset, messaging and alarming information. Green, yellow and red color coding helps visually identify the troubled assets quickly and easily.

#### **Predictive Performance Models:**

The AHS solution aggregates, and consolidates the breaker information from the CBS Lite pre-engineered cabinets. The data is then driven into ABB's predictive performance models. The predictive models add further enhancements and early notifications of maintenance activities. Algorithms are KPI (Key Performance Indicators) for end users to effectively support predictive maintenance.

#### **Standard Reports:**

Reports are automatically run in the system and stored in the scheduling structure of the AHS on a periodic basis. Reports include data such as SF<sub>6</sub> Gas, Life Expectancy for ALL circuit breakers within the fleet.

#### **Remote Connectivity:**

ABB remote access enhances the maintenance of the system as well as related system activities. The remote connectivity provides secure access to a selected node on the system network. This remote connection supplements the troubleshooting of the system with a direct view of the equipment and associated software applications. Secure access to the system also allows subject matter experts (SME) to safely view and monitor data and recommend improvements in applications, extended training and overall customer support.

#### **Benefits**

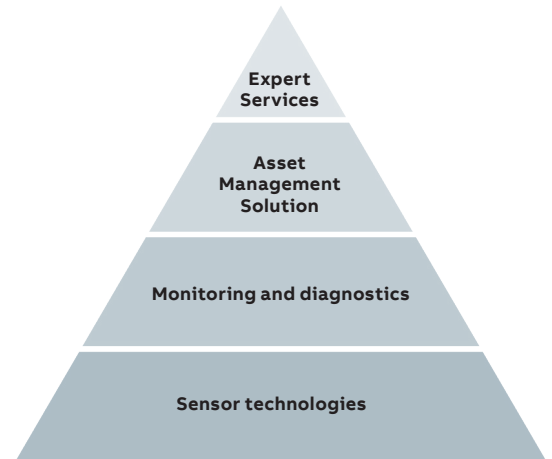
- Enables adoption of predictive maintenance strategies, due to advanced or detailed knowledge of asset condition or an impending event
- Real-time monitoring of asset health facilitates fast, reliable implementation of corrective measures
- Reporting and analysis visualization tools support consistent report of asset health as well as root cause determination
- Consistent, data-driven reporting of asset health-supporting informed decisions

#### **Additional features**

- Centralizes accessibility to ALL asset information within or external to this system, including both IT/OT
- Substation level communications & data aggregation for online & offline data

- Scalable from a single substation to multiple regions, including ABB or customer hosted solutions
- Advanced asset monitoring via ABB universal monitoring devices
- Asset specific Performance Models based on years of OEM SME knowledge
- Full range of services including: project implementation, technical support, field services, and consultation for complete life cycle support

#### **Asset Health Switchgear, part of ABB's Power Intelligence**



#### **Asset Management Solution**

- Product performance models
- Risk mitigation and maintenance planning

#### **Monitoring and diagnostics**

- Monitoring and data storage. TR local /remote control
- Diagnostics, analysis and trend information

#### **Sensor technologies**

- Basic and advanced sensors. Local display and preparation for remote connection.
- off-line data

#### **Sample Assets - contact ABB for a specific list of assets**

