ABB Ability™ Condition Monitoring for switchgear
SWICOM with PDCOM
Reliable Asset Management
PDCOM
Partial discharge sensor
SWICOM

On-premises solution with scalability to cloud
What’s happening in the switchgear

PDCOM

- One sensors per line-up (or one every 10 panels)
- Measurement is based on capacitive coupling principle
- It is easily installed and connected in parallel to the capacitive coupler of VIS (Voltage Indication System), and can detect any PD (not just the surface, but also internal ones)
- The output is used to drive maintenance on condition
MV Switchgear monitoring & diagnostic

Different sensor connection
What’s happening in the switchgear

PDCOM – KPIs and measurements

**PD status**
Proprietary analytic output processing the measurements

**Additional KPIs**
- PD warning free time (0…100%)
- Warning (Y) free time over the last 7 days
- PD warning free time (0…100%)
- Warning (Y) free time over the last 28 days
- PD alarm free time (0…100%)
- Alarm (R) free time over the last 7 days
- PD alarm free time (0…100%)
- Alarm (R) free time over the 28 days

**Measurements**
- PD presence indicator (0/1)
  The switchgear is affected by any “PD like” phenomena
- PD strength (0…100)
  PD phenomena intensity after noise removal
- PD pulse rate (Hz)
  Amount of PD events above noise level over the time
- PD strength variation (0…100%)
  Intensity variation over the last 24 hours (rate of change)
- PD strength increase (0…100%)
  Today intensity vs last 28 days trend (speed of change)
- PD warning persistence (Hours)
  Duration of “PD status” KPI in warning status
- PD alarm persistence (Hours)
  Duration of “PD status” KPI in alarm status
SWICOM system

- On premises solution with Local HMI with touch screen
- Read circuit breaker operations from relays (IEC61850) without extra sensors
- Scalable condition monitoring with additional sensors: environmental, thermal sensors and partial discharges
- PDCOM provides PD indication to a switchgear level