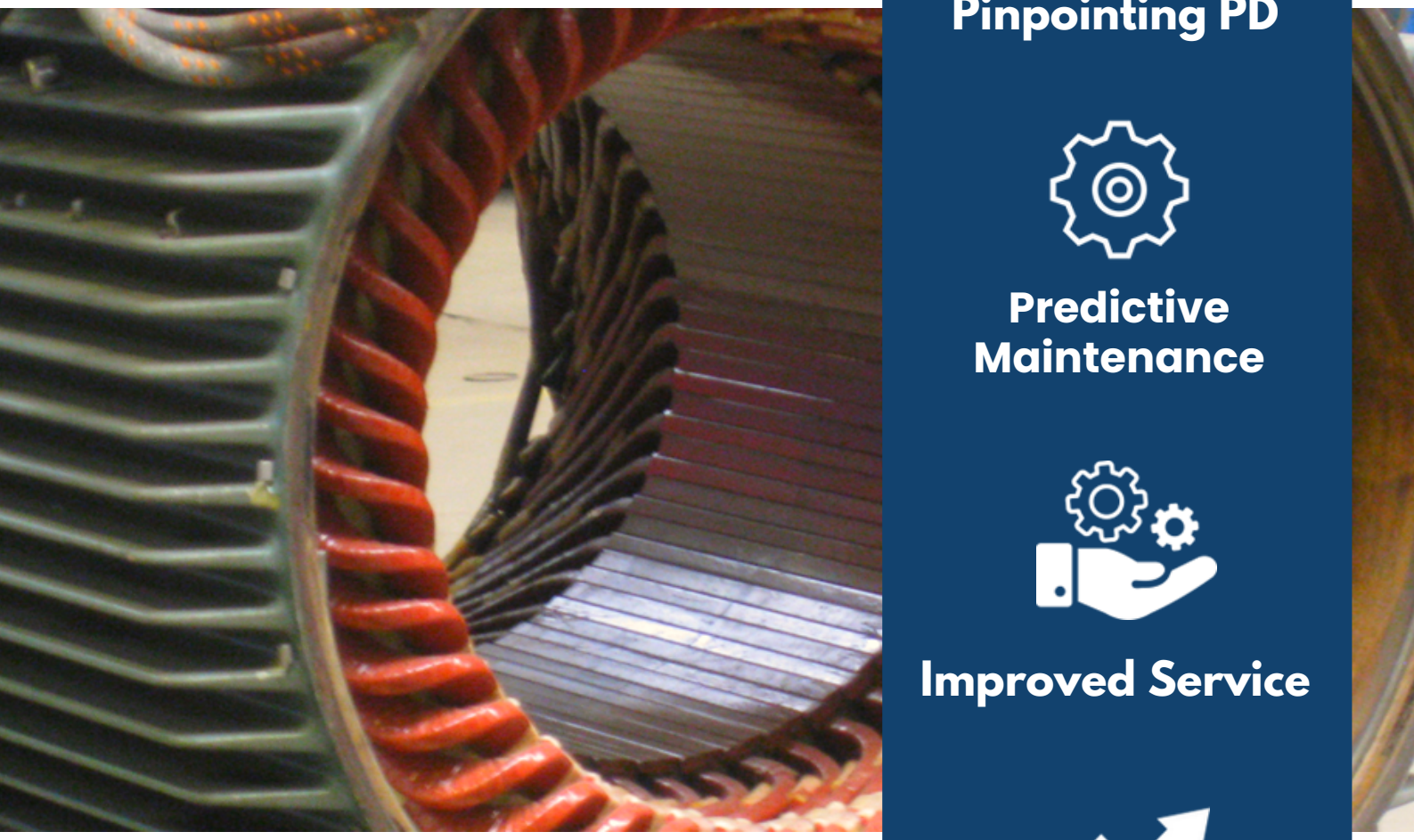
OFIL SYSTEMS >> *Advanced Inspection Solutions*

Partial Discharge (PD) Pinpointing Solution for High Voltage Motors & Generators



Benefits

- Pinpointing PD
- Predictive Maintenance
- Improved Service
- Extend Machine Lifespan

Solar Blind UV Camera Inspection

Industry Standards

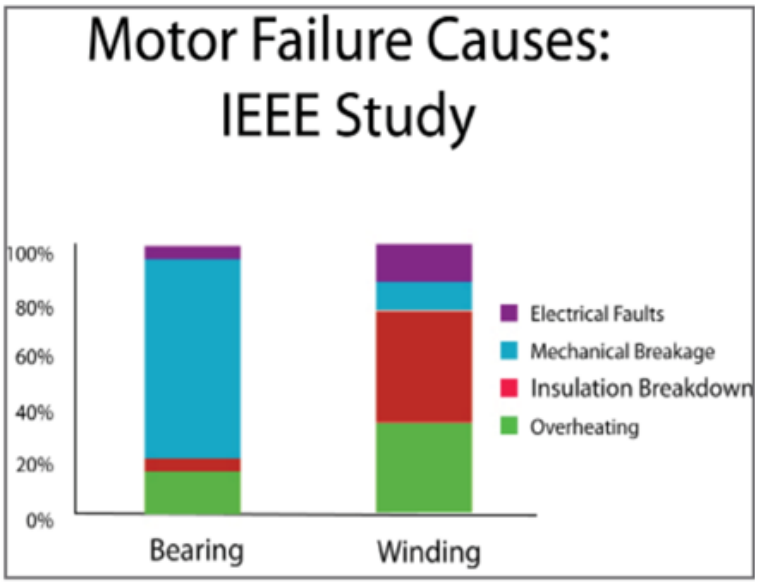
Compliance with IEEE 1434-2014 and IEEE 1799-2022

QUICKLY PINPOINT PARTIAL DISCHARGE IN HV MACHINES, SAVE COSTS AND INCREASE RELIABILITY

Modern HV motors and generators are designed for up to 50% increased working stress and are more sensitive to PD than in the past.

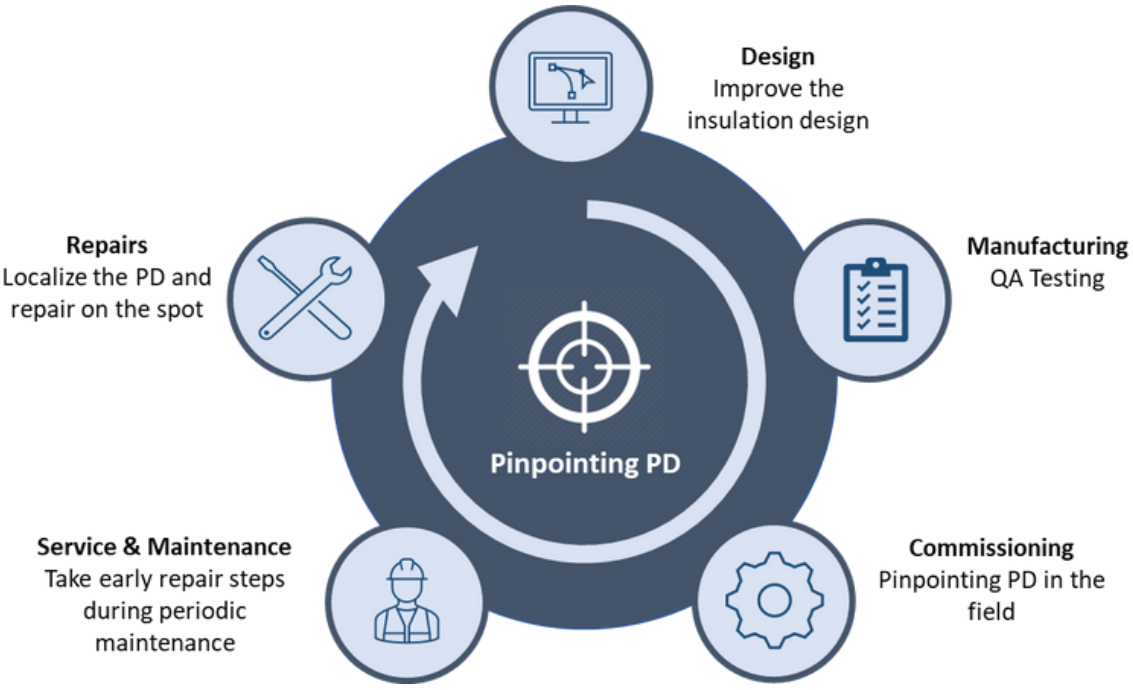
PD causes the degradation of the insulation and leads to electrical failures.

The ability to detect and pinpoint the PD at an early stage with Ofil's SBUV cameras allows manufacturers and service providers to perform simple and low-cost remedies such as cleaning and re-coating. Detection at a later stage may require a much more complex and expensive repairs.



The majority of electrical motor failures are caused by the breakdown of the windings' insulation. By detecting PD at an early stage, those types of failures can be prevented

Pinpoint PD using Ofil's SBUV Cameras in All Life Stages

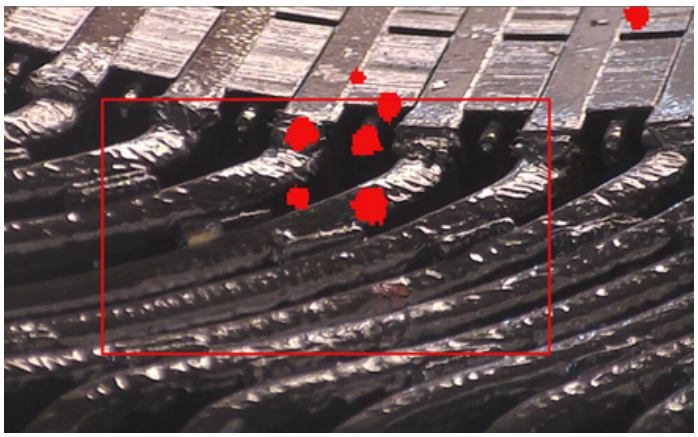


OFIL'S DAYCOR UVOLLÉ SBUV CAMERA

- High sensitivity to UVC light: accurate detection of partial discharge
- No dark environment required: Use the camera in full daylight without the need for a dark environment.
- User-friendly design: Benefit from an intuitive and user-friendly design that makes it easy to inspect and record images and videos.
- Safe inspection: Inspect from a safe distance without having to get too close to the machine
- Record and document: Capture and record images and videos of partial discharge for documentation and analysis

Motor Insulation burnt by PD

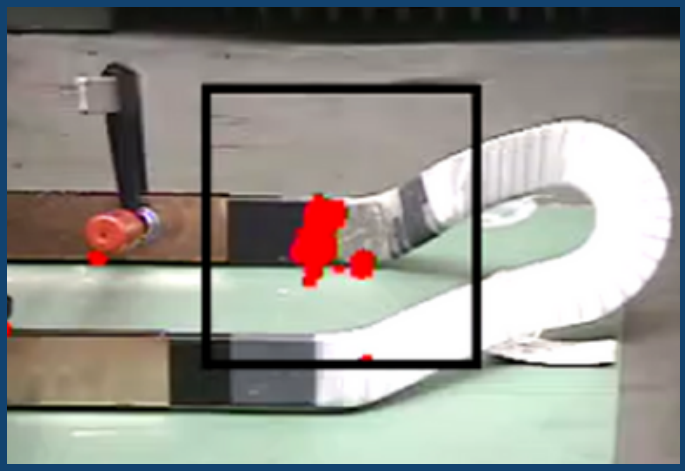
PD Pinpointing on motor's windings



The Institute of Electrical and Electronic Engineers (IEEE) Recommends using the UV camera to shorten the test duration and make it easier to locate PD sites.

IEEE 1434-2014 and IEEE 1799-2022

PD Pinpointing on Stator Coil



External PD in Motors & Generators

- External PD is the most harmful type of PD, that leads to most of machine failures.
- External PD is easy to repair if accurately pinpointed with a SBUV camera, by cleaning contaminated windings or re-coating the insulation.
- After the repair, the SBUV camera is used to quickly check the effectiveness of the remedy.

Case Study: Oil & Gas Motor

Background

- The motor is connected to a pump that drills oil & gas from the sea
- The motor is kept off-shore inside a concrete block to avoid humidity & contamination
- The motor was sent to be overhauled and refurbished

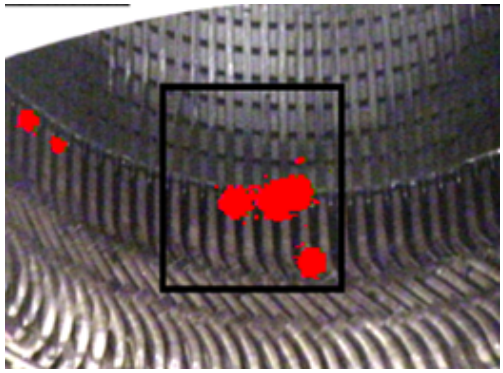
Test

- Camera was positioned 3m from the stator
- Motor was connected to an external HV power
- Voltage was raised from 0 kV
- At 4 kV corona was first detected by the Ofil Camera

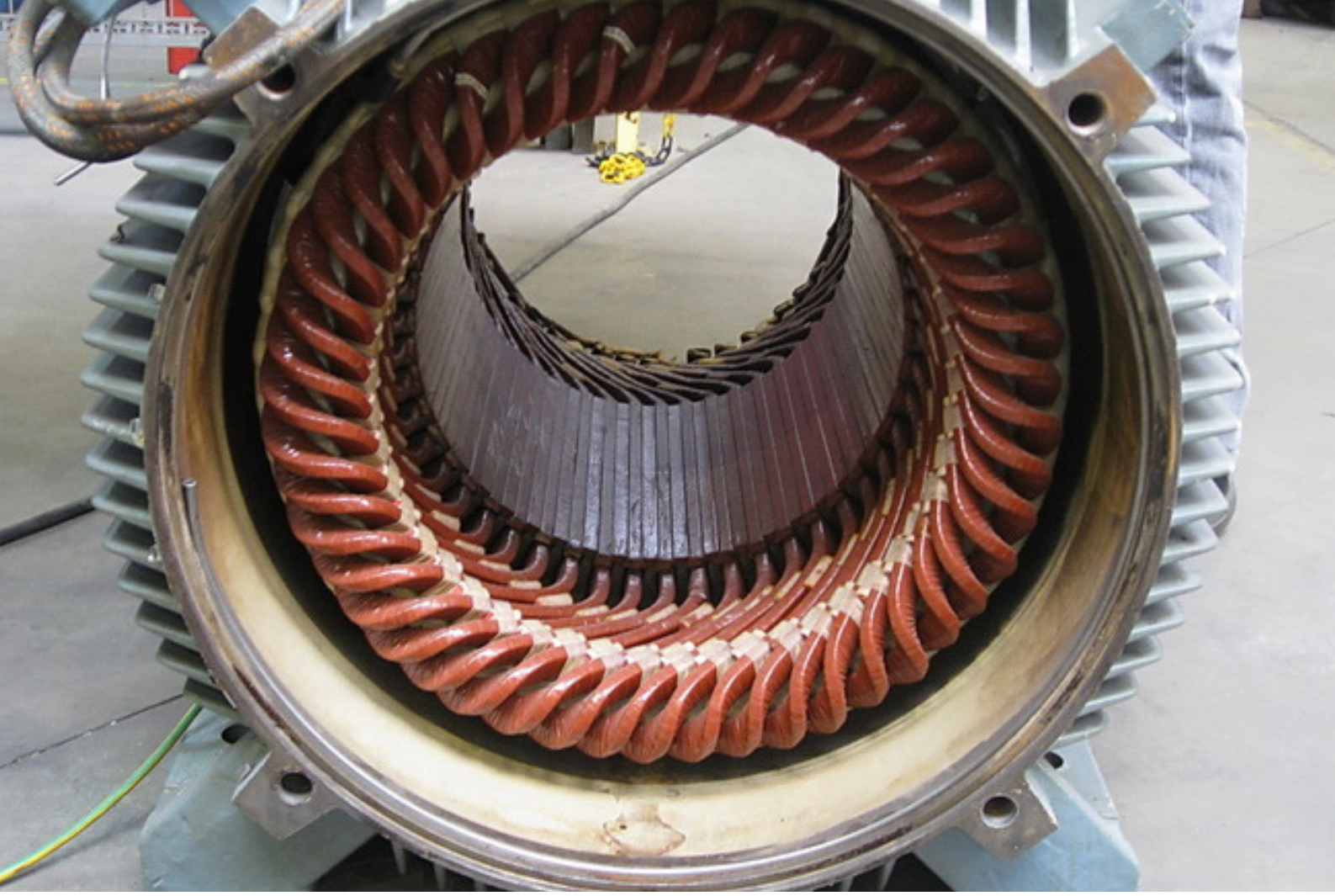
Results

- Immediate results – the insulation fault was detected and repaired instantly
- Prevented emergency shutdown
- Spared time & cost for recurrent shipping/dismantling/handling
- Spared workshop recurrent testing

Oil Drilling company sent the 15 years old stator to be overhauled



PD Detected by Ofil Camera



Ensure the safety of your non-sparking, explosion-proof machines by pinpointing PD using Ofil's SBUV Camera.

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