Client: E.ON Sweden

Description: The Swedish branch of E.ON Group, a Germany-based energy provider currently operating across Europe. In 2020, E.ON's workforce of 78,126 people was spread across 12 different countries, and the group garnered sales that amounted to 60,944 million euros.

Problem: Need for a troubleshooting device in power lines and substations that would be easy to use and would deliver clear results.

NL Solution: The NL Camera for partial discharge detection.

Results: E.ON Sweden was won over by the ease of use of the NL Camera and its accompanying NL Cloud software as well as by its clear results on several occasions.

As a result, E.ON Sweden considers the solutions to be the perfect addition to surveys and troubleshooting in power lines and substations.

THE NL CAMERA CONVINCED E.ON SWEDEN WITH SIMPLICITY AND CLEAR RESULTS

E.ON Sweden began using the NL Camera similarly to how technological products are often broken in: without reading the user manual. This was thanks to the camera's ease of use. After the device's introduction, the E.ON maintenance team was able to quickly find partial discharges in power lines, substation cable terminations, and 20 kV NAL disconnectors.

The Perfect Addition to Inspection Rounds

The combination of the simplicity of the camera and the clarity of results—seeing directly where and what type the fault is—gained praise from E.ON Sweden. The information the NL Camera and its accompanying NL Cloud software provided enabled users to judge the severity of faults.

"It is very easy to upload the pictures to the cloud, and you get easily understandable reports," comments **Patrik Hansson,** Maintenance Engineer at E.ON Sweden.

The NL solution delivered so well that E.ON Sweden views it as the ideal addition to their surveys and troubleshooting. The clear-cut results allowed users to take appropriate action to resolve their issues. The NL Camera detected partial discharge activity on power line cable terminations that were then washed. This solved the issue, as the camera indicated that the partial discharges had vanished.

*"With the NL Camera, you have better availability at your facility and can act before faults become severe."
- Patrik Hansson, Maintenance Engineer at E.ON Sweden*

NL Camera Enables Informed Evaluation and Follow-Up

The camera measured considerable partial discharge activity in calm weather from a distance that further impressed its users. According to E.ON Sweden, other partial discharge detectors could have found problems, but it was easier with the NL Camera, as it directly pinpoints the location of discharge.

"This is very valuable for the aim of making a good evaluation and follow-up," Hansson concludes.
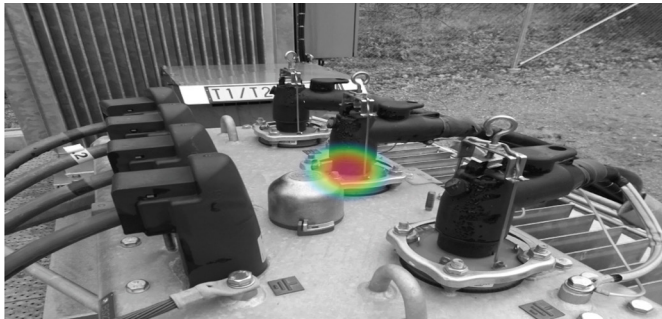

Image 2. The broken transformer bushing at the facilities of E.ON Sweden.

Allvarlighetsgrad

	Beskrivning
mycket hög	Detta klassificeras som en yturladdning eller intern urladdning. Urladdningen verkar vara stark och kan snabbt eskalera till ett fullständigt isoleringshaveri.
hög	**Rekommendation**
medium	Omedelbar åtgärd. Visuell inspektion. Rengöring av förorenade ytor. Reparation eller byte av komponenterna.
låg	

Egenskaper

Nivå	36.5 dB
Avstånd	5 ft
Spänning	10 kV
Plats	kabelände

Partiell urladdningstyp

- negativ korona
- positiv och negativ korona
- flytande urladdning
- yturladdning eller intern urladdning
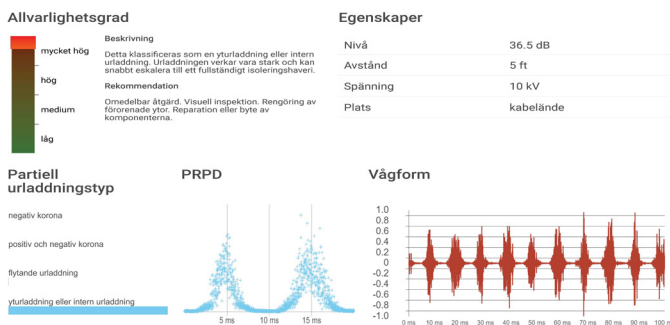
PRPD

Vågform

Image 1. The NL Camera picked up a partial discharge on a polymeric, insulated transformer bushing at E.ON Sweden's facilities. The NL Cloud classified the discharge as 'very high' in severity and with good reason: a week later, the bushing broke down completely (see Image 2.).