# PRECITEC

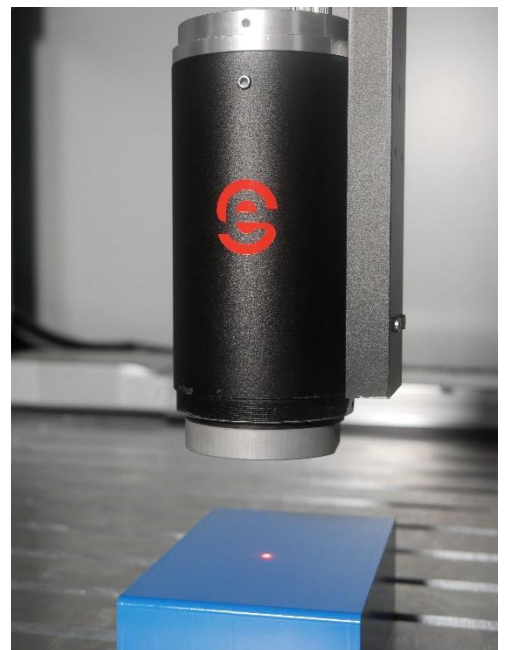# THICKNESS MEASUREMENT OF PAINT ON BATTERY CELL

Precise monitoring and control of layer thickness via laser photothermal radiometry

## Advantages:

▶ Nondestructive and fast measurement to avoid product quality issues.
▶ Allows process monitoring to reduce scrap rate and paint consumption.
▶ 100% control for an immediate Return On Investment

The sensor technology proposed by Precitec Enovasense provides a direct measurement of the paint thickness.

This technology allows measurements that are non-contact, non-destructive, non-intrusive, non-radiative, fast and repeatable.

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# INNOVATIVE LASER MEASUREMENT TECHNOLOGY

**Presentation**

The sensor can measure the entire surface (corner, edge, etc.), both inline and at line in an automated control station. It is possible to measure parts at high temperature.

The measurement data are automatically stored and archived; data are streamed in live communication to the line controller.

It can be implemented in line – to control 100% of the produced parts and is available in fully automated 3 axis measurement stations – to control by the line.

**INLINE: SENSOR**



**TURNKEY SOLUTION: HKL 2.0**



See this solution in action:
https://vimeo.com/361235380
https://vimeo.com/731650066

| | |
|---|---|
| Dimensions of a measuring head | L35 x W35 x h105 mm |
| Maximum part size in the HKL | L550 x W500 x h400 mm |
| Distance probe-part | 40 mm |
| Spot diameter | 0.8 – 10 mm |
| Repetition time | 0.5 s |
| Thickness range | 1 – 500 µm |

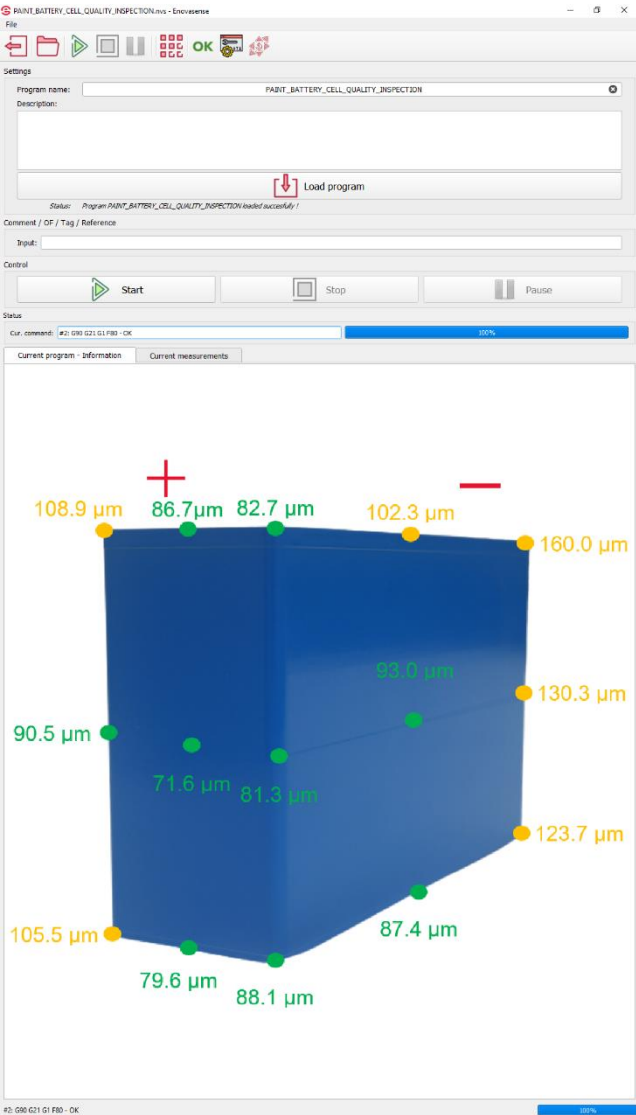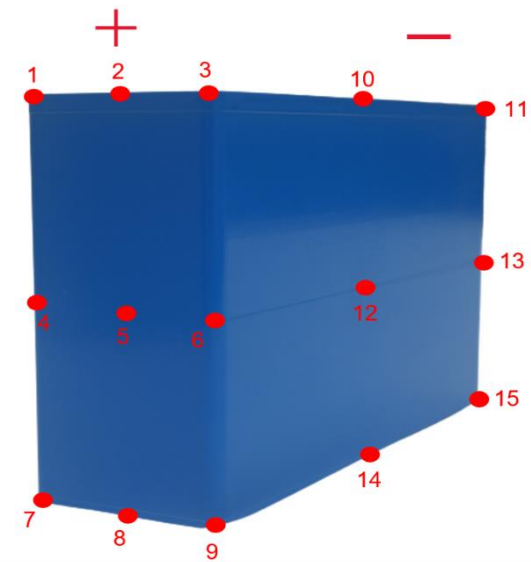# MEASUREMENT RESULTS

**Accuracy & Repeatability comparison**

30 measurements on the same location for a 100 µm paint

| Thickness (µm) | Wedge cut method | Eddy current | Precitec Enovasense |
|---|---|---|---|
| Correlation with reference | Destructive reference | 92% | 99% |
| Standard deviation | Destructive reference | 4.83 | 0.34 |

## HOW YOU BENEFIT

▶ Improve quality process thanks to great repeatability.
▶ Compact and lightweighted – Easy to measure coating thickness in-line.
▶ Expertise your parts with fast and high-resolution coating thickness scanning

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**Example : Quality paint inspection on battery cell with a HKL**



## PARTNERING WITH YOU

Enovasense is a French innovative company member of the group Precitec Optronik GmbH, a German manufacturer of highly innovative sensors and optical probes. Our Enovasense® product line sets the standard in contact-free layer thickness measurements.

Enovasense and Precitec products deliver in process, inline and offline measurements with the highest precision and ultra-fast measuring speeds on all materials and measurement ranges form nano- to millimeters.

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