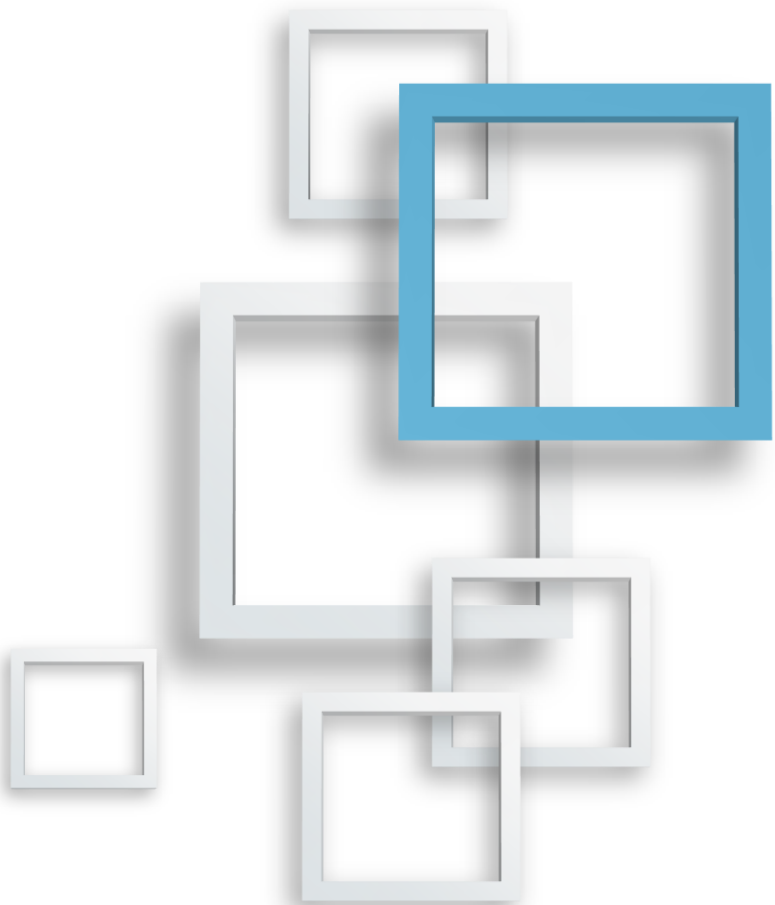


## **OptiSense Company Presentation**



Presentation – OptiSense

## **CONTENT**

**The OptiSense Story**

**The Photothermal Principle**

**OptiSense Solutions**

**At your service, wherever you are**

**References**

# Success takes Experience | The OptiSense Story

1998

Start as a spin-off of the Fraunhofer Optics Centre NRW in Bochum



2001

Audi in Ingolstadt becomes pilot customer for PaintChecker modular sensors



2007

Setting up the first laboratory measuring station in the own company



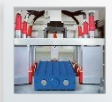
2016

Entry into the Chinese automotive market with the miniaturized PaintChecker Tube sensor



2018

The first industrial controller that measures the coating thickness at up to eight positions simultaneously was installed



2020

The high-power controller versions are specially developed for extremely thick layers



2021

Development of the DAkKS Lab certified Reference Sample



1999

The first photothermal coating thickness sensor for a robotic industrial application was developed



2002

Based on a solely thermoelectrically cooled infrared detector a new, photothermal coating thickness sensor was developed



2010

Based on uncooled infrared detectors, the first eye-safe photothermal hand sensor is created



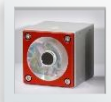
2017

The patented PaintChecker Mobile manual sensor goes into series production



2019

OptiSense launches the probably smallest cube sensor in the world



2020

Move to the new company building



2022

The PaintChecker Lab as a desktop device for continuous use in the laboratory goes into series production



# OptiSense. Company Presentation



## OptiSense – Clear Benefits at a Glance

- More than 30 years experience of photothermal measuring
- a wide variety of substrates
  - Industrial test systems – automated, contactless, fast and very precise
  - Mobile measuring devices – contactless, lightweight, network-independent and eye-safe
  - Professional 360°-Service throughout the entire life cycle – flexible, cost-saving and resource-efficient
- Maximum miniaturisation in coating thickness measurement
- Sensors are developed and manufactured in-house for tailor-made solutions
- OptiSense is certified according to DIN EN ISO 9001:2015

# OptiSense. Product Presentation



## Industrial Measuring Devices – Clear Benefits

- Up to eight measurements simultaneously, even with different sensors
- High-power versions for thick coatings, large measuring distance and higher energy density
- Short measuring time for high-speed production lines
- Longest service life, energy efficiency and vibration resistance, thanks to the semiconductor light source
- Small measuring spot for corners and edges
- For use in confined spaces
- Compact design and minimal weight, optimal for robot mounting and use in confined spaces
- Eye-safe models with patented LARES® technology available

# OptiSense. Product Presentation



## Mobile Measuring Devices – Clear Benefits

- Small measuring spot accurately detects small parts, corners and edges
- With the sensor, which is separated from the handheld device, even hard-to-reach areas can be accessed
- Robust semiconductor technology for long battery life
- Intuitive operation and acoustic feedback
- Three-point illuminated visor ensures correct measuring distance for freehand measurements
- Measurement results and evaluation can be seen at a glance on the large, clear display
- USB interface for data storage and analysis with PC and Excel

# OptiSense. Product Presentation



## OptiSense Services – Clear Benefits

- Expansion of automated quality controls
- Cross-process analysis options
- Parameters are precisely recorded, aggregated and documented as real-time data in the production process
- Always the most modern equipment
- Optimized processes that run „smoothly“
- Targeted use of resources
- On-site service upon request
- Transparent costs for your budgeting

# The photothermal principle

Measuring Method

## Measuring Method

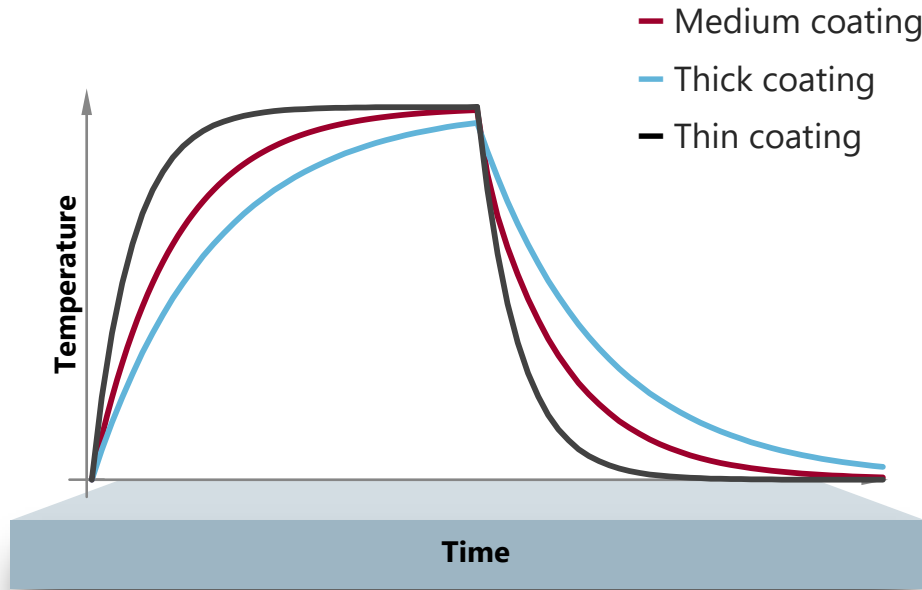
- A light beam heats the coating surface
- The heat travels downwards through the coating
- The coating cools down again at a rate depending on the coating thickness
- A detector measures the cooling time and uses it to calculate the coating thickness





# The photothermal principle

Layer thickness



# The photothermal principle

Materials



## Different light sources for optimal excitation of different materials

- LED infrared for rubber substrates
- LED ultraviolet for bright powder coatings
- Laser for small components and tight corners

# OptiSense. At your service, wherever you are



# OptiSense | Customer References



*OptiSense has been a reliable partner for non-contacting coating thickness measurement in automatic processes since 15 years. Complicated tasks have been excellently handled with their own know-how and stable measuring processes have been implemented in the coating systems.*

Bernd Biedermann,  
Industrielackierung BIEDERMANN GmbH



*With OptiSense we feel in good hands at all times. Professional knowledge on a high level not only in measurement technology, but also in the related processes and materials characterize the cooperation. The service is excellent.*

Dipl.-Ing. Ralph Jan Wörheide, ORONTEC

# OptiSense | Customer References



*With the mobile PantChecker, our coating staff can very quickly determine the coating thickness of the workpiece. This often saves us sampling – we can start production immediately.*

Horst Schuller  
GSO Oberflächentechnik GmbH



*From the inline coating thickness measurement, we can therefore not only check the quality of the coating, but also draw conclusions about the functional quality of the system technology.*

Dr. Felix Zabka  
ConceptColor GmbH

# OptiSense | Customer References



*For us, the early process control thanks to the non-contact layer thickness measurement is extremely valuable because the measurement results can be evaluated and assessed very early on.*

**Oliver Weist**  
WVO GmbH



*"The PaintChecker Mobile makes work much easier – Our staff really loves it..."*

**Benedikt Seidel**  
Meister & Abteilungsleiter Lackiertechnik  
Brückner Textile Technologies

# OptiSense | Kundenreferenzen



*Der PaintChecker garantiert stabilere Prozesse, weniger Ausschuss und wir sparen damit eine Menge Ressourcen ein.*

**Martin Kolenda**

Umwelttechniker Verfahrenstechnik,  
Ausbildungs- und Qualitätsleiter,  
Metob Unternehmensgruppe



*Mit der neuen Messtechnologie können wir jetzt auch in Bereichen messen, bei denen es mit herkömmlicher Technik keine vernünftigen Ergebnisse gab. Sogar an Kanten und Falzungen*

**Marco Jobst**

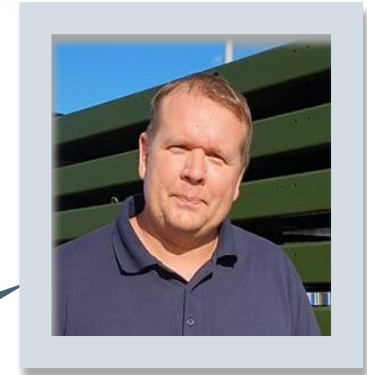
Geschäftsführender Gesellschafter, Metob Unternehmensgruppe

# OptiSense | Kundenreferenzen



*Die Schichtdickenmessung mit dem PaintChecker erspart Ausschusskosten von mehr als 1000 Euro pro Bauteil.*

**Ingo Wildermann**  
Geschäftsführer Giga-Coating



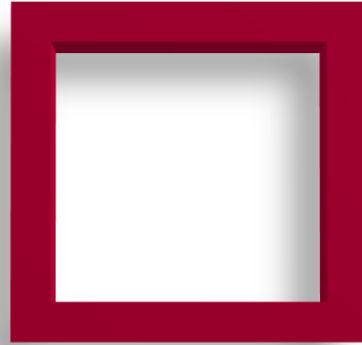
*Mit der neuen Messtechnologie können wir jetzt auch in Bereichen messen, bei denen es mit herkömmlicher Technik keine vernünftigen Ergebnisse gab. Sogar an Kanten und Falzungen*

**Thomas Maubach**  
Leiter Pulveranlagen, Giga-Coating GmbH



# OptiSense | Customer References





**Thank you.**