

# FOREIGN OBJECT DETECTION ON HIGH-VOLTAGE BATTERIES

MINIMIZING RISKS IN ELECTROMOBILITY

Quality control systems

**SICK**  
Sensor Intelligence.

When assembling high-voltage batteries for electric vehicles, maximum precision and care are required. Especially when there are frequent changes between manual and partially automated production steps, undetected foreign objects can damage the surface of the high-voltage batteries. This can result in short circuits or even fires in electric vehicles and production lines with high property damage or personal injury.

By using the foreign object detection system this risk can be minimized. The system is used for precise and non-contact surface inspection and foreign object detection in high-voltage batteries.



Guarantees  
consistently high  
product quality



Avoids production  
losses and failure  
costs



[www.sick.com/Foreign\\_Object\\_Detection\\_System](http://www.sick.com/Foreign_Object_Detection_System)

## Three-dimensional object detection for advanced detection requirements

- Impervious to texture and color changes
- Definition of foreign-object size in millimeters possible
- Scanning speeds of 350 mm/second
- Individually adjustable inspection regions for targeted inspection, especially for large and complex surfaces

- + Reliable test results
- + Detection of foreign objects of any shape or color

## High-performance system components

- Scalable system head consisting of Ranger3 3D cameras from SICK and laser
- Flexible adjustment of the optics according to requirements, e.g., use of different laser colors and focal lengths
- Individual adjustment of the fields of view as well as pre-calibration, complete alignment and commissioning by SICK
- SICK Sensor Integration Machine recording, evaluation and archiving of camera and sensor data

- + Precise and contactless detection
- + High planning reliability
- + Quality control and process analysis for vertical integration in Industry 4.0

## Recipe management

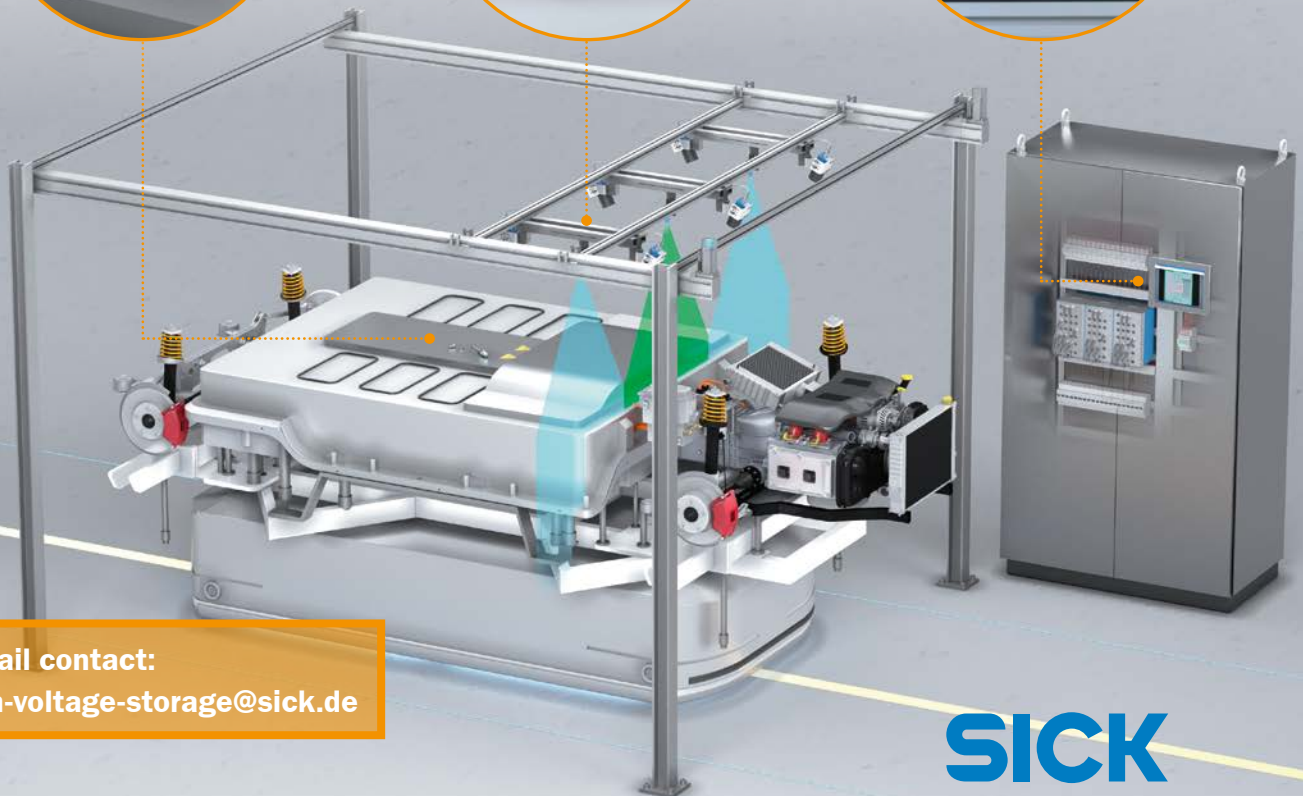
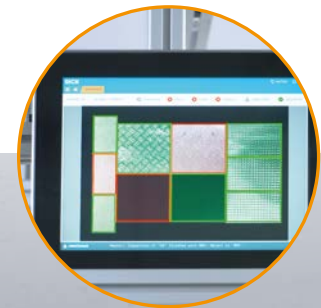
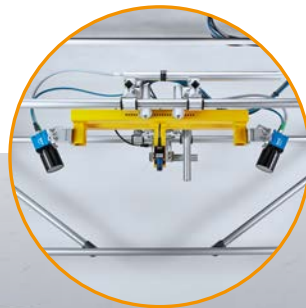
- Storage and production-related recall of individual inspection criteria and inspection regions

- + Quick and easy change of inspection objects

## Advanced inspection with additional integrated features

- Detection of missing and incorrectly positioned screws
- Detection of imprecisely placed adhesive and sealing beads
- Detection of foreign objects clinging to the adhesive and sealing beads

- + No additional hardware effort
- + Avoidance of false alarms



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