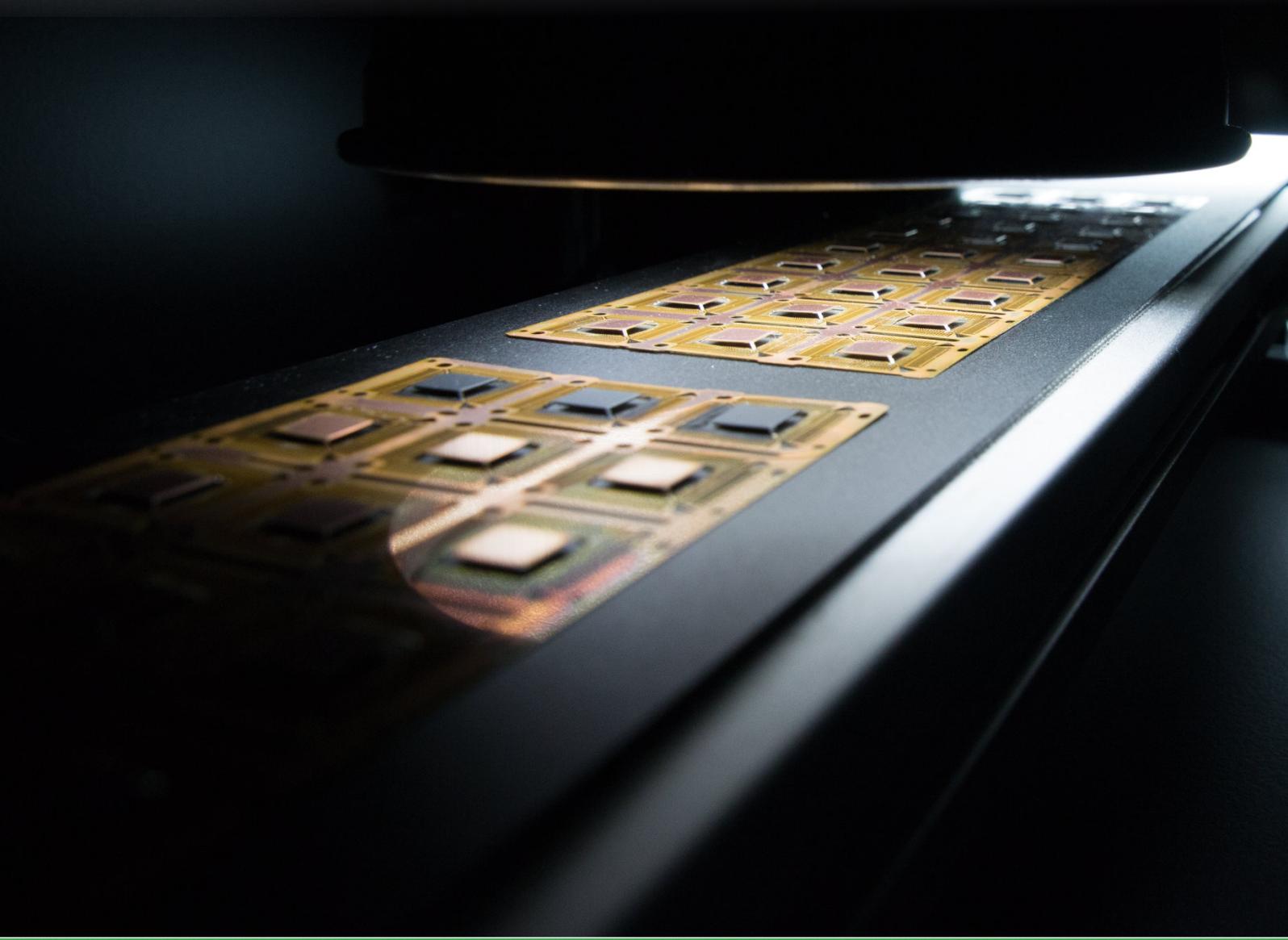




**NANOTEST**  
Berliner Nanotest und Design GmbH

# INFAS



**In-Line Failure Analysis System**

Modular building kit  
Hardware and software solution  
for in-line failure analysis  
and quality assessment

## A straightforward solution

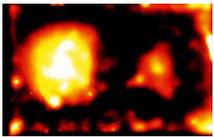
INFAS is a modular and highly customizable failure analysis system for installation in production lines for in-line failure analysis and quality assessment. It allows detection of a wide range of defects in various types of modules and components by means of contactless and non-destructive techniques.

### Range of detectable defects

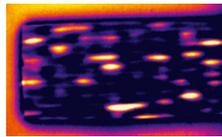
- ▶ Voids and material inclusions
- ▶ Delamination
- ▶ Cracks and tilt

### Unique selling points

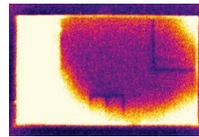
- ▶ Compact form factor
- ▶ Complete solution in hard- and software
- ▶ Contactless measurement
- ▶ Open and flexible system design
- ▶ Results within seconds
- ▶ Adaptable to individual customer needs



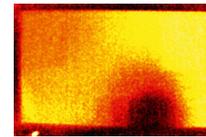
Voids in solder die attach layer



Voids in carbon fiber reinforced polymer



Delamination in sintered power module



Large-area delamination in sintered die attach layer

## Thermal based imaging

INFAS utilizes thermal image processing. A suitable thermal excitation of the sample generates a typical failure contrast which is captured by a thermal imaging camera. An efficient image processing algorithm improves the contrast to reach the physical detection limit.

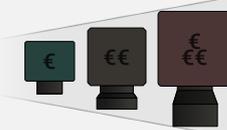
The high degree of modularity uncloses a wide (budgetary) range of components for incorporation in an individual production-line-specific INFAS system.

Component suppliers

Excitation sources



Thermal imaging systems



Computation



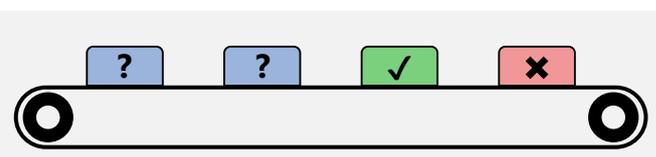
INFAS

Failure analysis hardware | custom fusion of excitation and imaging hardware



Smart software image processing, defect localization and decision making based on machine learning

Production line



## Your system, your rules

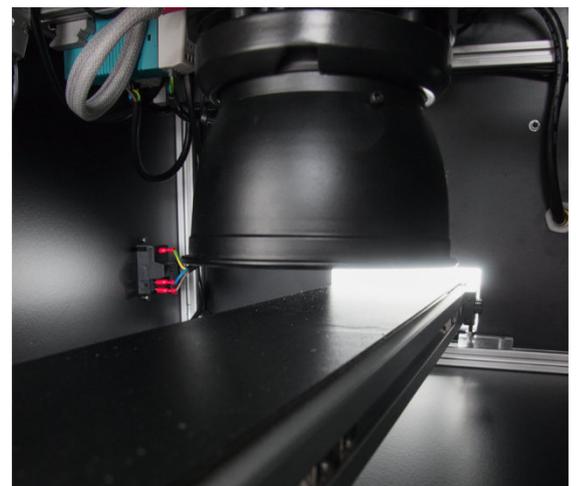
The options to configure the INFAS system are numerous and allow a perfect fit to any specific application.

### Hardware options

- ▶ IR camera mid to far IR, low- to high-res
- ▶ Excitation source flash, laser, Joule, eddy current
- ▶ Optical positioning support

### Features

- ▶ Various detectable failures voids, inclusions, cracks, tilt, ...
- ▶ Pulsed, lock-in & pulsed-phase
- ▶ Advanced IR image processing
- ▶ Production line interfaces



[nanotest.eu/infas](http://nanotest.eu/infas)