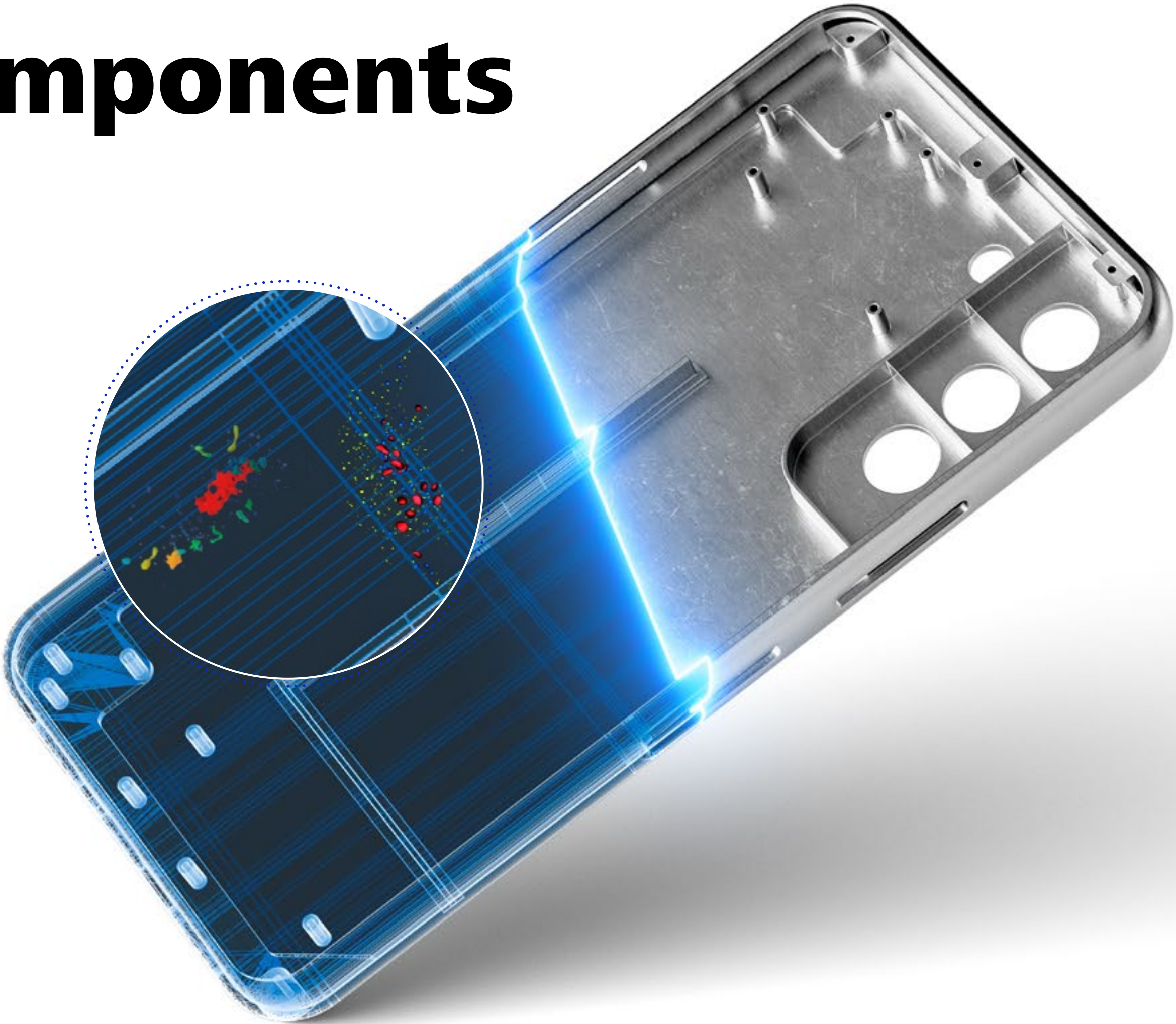


ZEISS Industrial Quality Solutions

Electrify Quality Assurance for structural components



Seeing beyond



Take a closer look →

Quality at Every Stage of Production

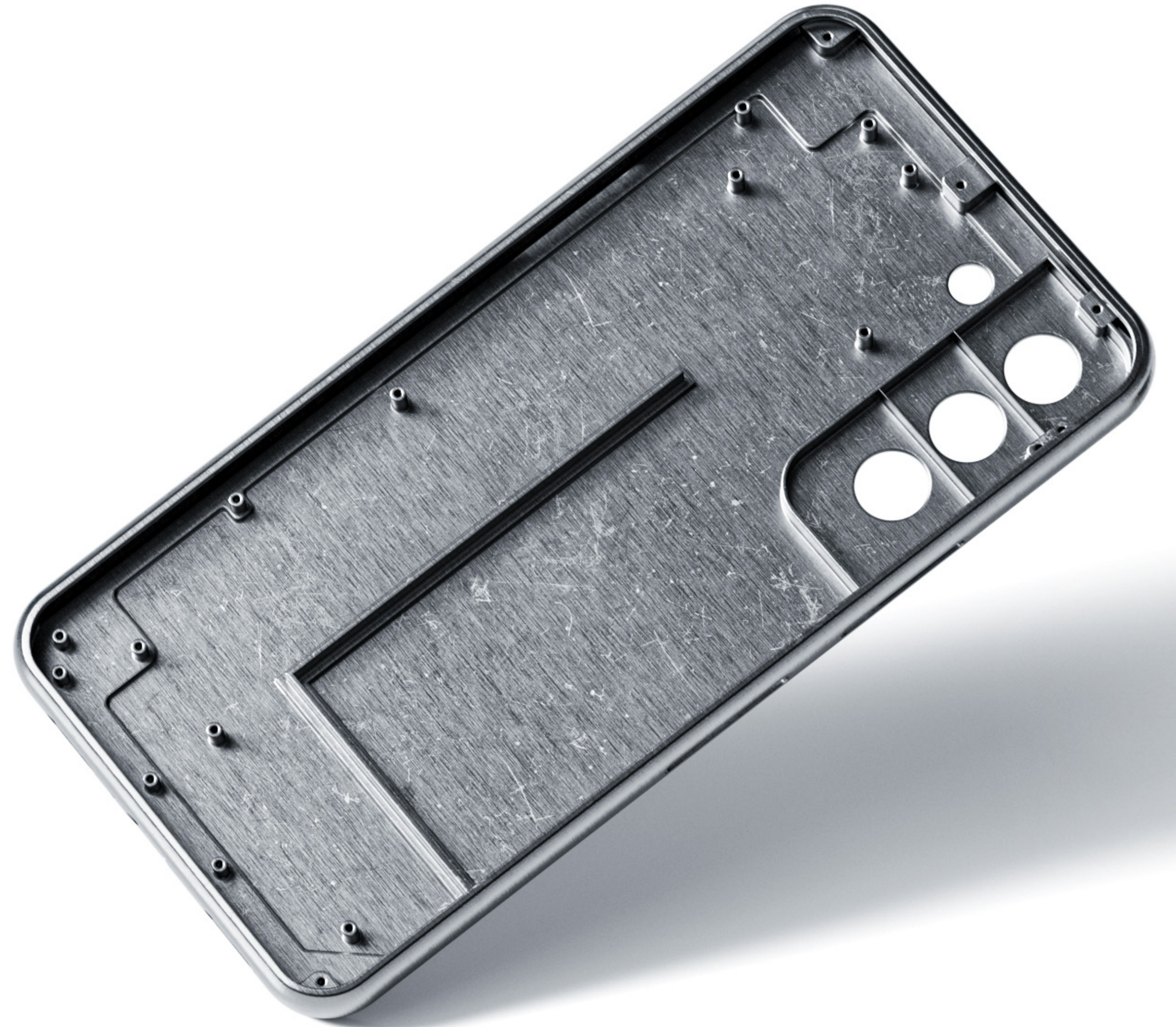
ZEISS solutions for structural components

Structural components used in the electronics industry, such as the housing of a smartphone or laptop, form the frame of the entire device. Not only do they bring together almost all of the small parts featured in these products, they can even serve as antennas for communication.

Given how crucial structural components are to the correct functioning of modern electronics, it is essential for them to undergo detailed quality assurance using the dedicated ZEISS portfolio. Proper detection of faults at an early stage is key to reducing rejects and waste while safeguarding the high quality of the overall device.

- **Cost-saving high-efficiency dimension measurement with ZEISS SPECTRUM RDS**
- **ZEISS METROTOM CT performs multi-material internal dimension measurement**
- **ZEISS Xradia Versa ultra-high resolution CT for failure analysis of final assembly parts**
- **Swift 3D scanning of housing deformations and deviations with ZEISS ATOS Q**

[Discover details →](#)



Identifying Challenges, Providing Solutions

Manufacturing processes and quality requirements

The manufacturing of structural components for modern high-end electronics poses many challenges, such as the need to ensure swift design verification, repeatable dimension measurement, detailed failure analysis, and more.

In the design stage, the focus is on quick, flexible, and comprehensive inspection of the prototype devices. Mass production then requires high efficiency and outstanding precision to enable a short time to market. And during failure analysis, ultra-high resolution imaging helps with observing issues and further enhancing the manufacturing process.

ZEISS understands the specific manufacturing requirements and provides superlative quality assurance solutions. This ensures innovative and efficient operations at every stage of the process. Click the blue buttons in the graphic to find out more.



→ Research & Development

→ Mass Production (offline)

→ Mass Production (atline/inline)

→ Failure Analysis

Research and Development

Quality Challenges

- GD&T and internal dimension measurement for assembly process control
- Quick deformation inspection in order to adjust production process and shorten development cycle
- Cosmetic and coating thickness inspection to improve product performance

ZEISS Solutions

- Highly efficient, accurate, and repeatable dimension measurement with multisensor CMM ZEISS O-INSPECT
- Non-destructive analysis and internal dimension measurement using CT system ZEISS METROTOM
- Quick product scan for CAD comparison with 3D scanning solution ZEISS ATOS Q
- Cosmetic inspection with light microscopy
- Failure and material analysis with scanning electron microscope ZEISS EVO

ZEISS Systems



→ Research & Development

→ Mass Production (offline)

→ Mass Production (atline/inline)

→ Failure Analysis

Mass Production (Offline)

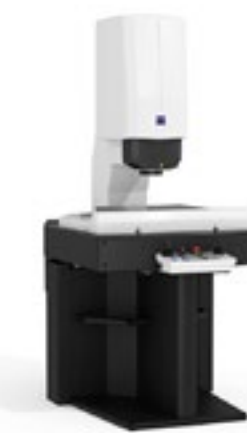
Quality Challenges

- Highly efficient dimension measurement for process control to ensure stability of production line
- Perform sample inspection before shipment so that products meet customer design requirements

ZEISS Solutions

- Highly efficient, accurate, and repeatable tactile dimension measurement with CMM ZEISS SPECTRUM
- Highly efficient, accurate, and repeatable dimension measurement with OMM ZEISS O-DETECT

ZEISS Systems



ZEISS O-DETECT



ZEISS SPECTRUM



→ Research & Development

→ Mass Production (offline)

→ Mass Production (atline/inline)

→ Failure Analysis

Mass Production (Atline/Inline)

Quality Challenges

- Perform full inspection of key dimensions
- Track the quality status of the entire production line
- Prevent waste to cut costs and improve efficiency

ZEISS Solutions

- Non-destructive 100% dimension measurement with inline CT system ZEISS VoluMax

ZEISS Systems



ZEISS VoluMax



→ Research & Development

→ Mass Production (offline)

→ Mass Production (atline/inline)

→ Failure Analysis

Failure Analysis

Quality Challenges

- Identify location of failure to improve manufacturing process
- Perform qualitative and quantitative analysis of failure in order to boost product quality

ZEISS Solutions

- Non-destructive defect analysis and assembly status inspection with ultra-high resolution CT ZEISS Xradia Versa

ZEISS Systems



ZEISS Xradia Versa



→ Research & Development

→ Mass Production (offline)

→ Mass Production (atline/inline)

→ Failure Analysis

Portfolio



ZEISS O-DETECT

The new generation of optical metrology

High-quality camera and flexible lighting for fast, intuitive, and precise measurement. Ideal for components that are best left untouched.

[Explore online](#)



ZEISS O-INSPECT

Expert in every discipline

For components requiring tactile precision plus an optical solution for surface-sensitive sections. Optimally measures each characteristic every time.

[Explore online](#)



ZEISS SPECTRUM

Upgrade to trusted measuring results

Enables greater certainty, higher productivity, a new level of precision, and trusted results – all with an unmatched price-performance ratio.

[Explore online](#)



ZEISS METROTOM

Future-proof quality control – today

Features an extended measuring volume for larger parts. Compact system with easy user access for simple, safe, and accurate CT measurement.

[Explore online](#)



ZEISS VoluMax

Make the invisible visible – inline

For applications in which many components must be checked quickly. Inline CT for 100% inspection. Supports both manual and automated loading.

[Explore online](#)



ZEISS EVO

SEM for industrial quality and failure analysis

Provides high-quality data, especially for challenging samples. Particle classification based on elemental composition reveals contamination source.

[Explore online](#)



ZEISS Xradia Versa

Top resolution and contrast

Extends the boundaries of non-destructive 3D X-ray imaging with industry-leading resolution and contrast, extensive filtering, and in-situ analysis.

[Explore online](#)



ZEISS ATOS Q

Quality starts with a Q

Reliable, versatile, and perfect for complex measurement and inspection. A compact system that meets high metrological demands.

[Explore online](#)

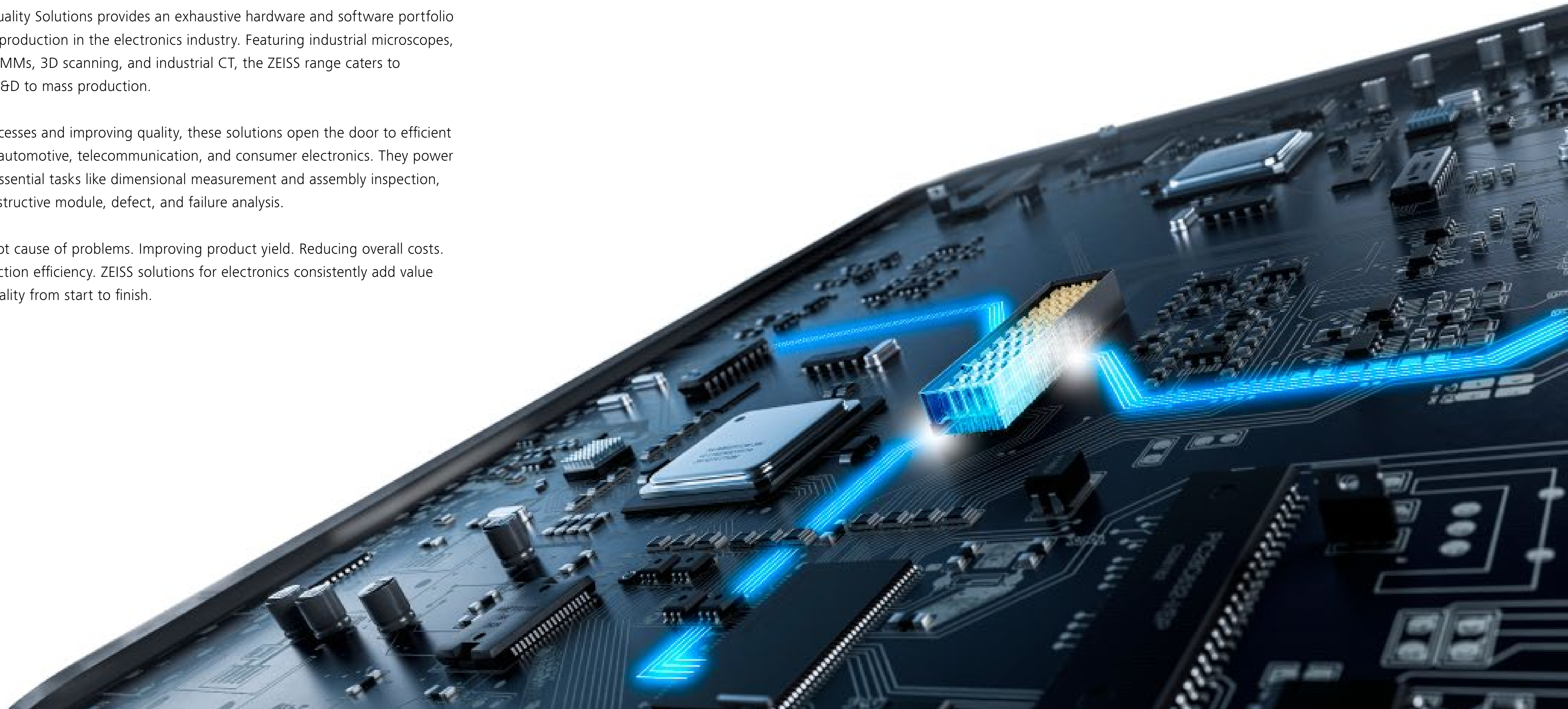
Consistent Quality in an Evolving Industry

Lasting success in electronics with ZEISS

ZEISS Industrial Quality Solutions provides an exhaustive hardware and software portfolio for each stage of production in the electronics industry. Featuring industrial microscopes, optical systems, CMMs, 3D scanning, and industrial CT, the ZEISS range caters to everything from R&D to mass production.

By optimizing processes and improving quality, these solutions open the door to efficient quality control in automotive, telecommunication, and consumer electronics. They power a wide range of essential tasks like dimensional measurement and assembly inspection, as well as non-destructive module, defect, and failure analysis.

Identifying the root cause of problems. Improving product yield. Reducing overall costs. Optimizing production efficiency. ZEISS solutions for electronics consistently add value while ensuring quality from start to finish.



Your global partner –
present in all regions

32

Sales & Service
Organizations

As electrical connector module parts are rarely produced in a single location, measurement and inspection issues can occur in any country and at any supplier. Our global network of application engineers and service technicians provide quality assurance solutions to help you keep traceability and quality at a consistently high level. Boasting a comprehensive knowledge base and the world's most accurate measuring machines, ZEISS strives to exceeds expectations around the globe.

10

Production Sites

100

Business Partners

63

ZEISS Quality
Excellence Centers

Find your perfect solution today.
Get in contact with our global experts.



info.metrology.us@zeiss.com

