

Volume Inspection AI

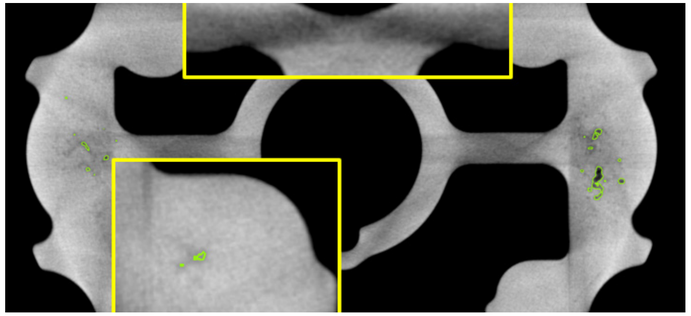
AI-based inspection of 3D X-ray data

Seeing **beyond**

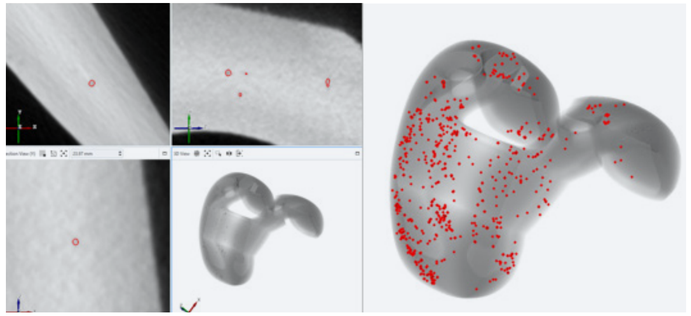
Your Benefits at a Glance

Accuracy. Speed. Reliability.

Volume Inspection AI



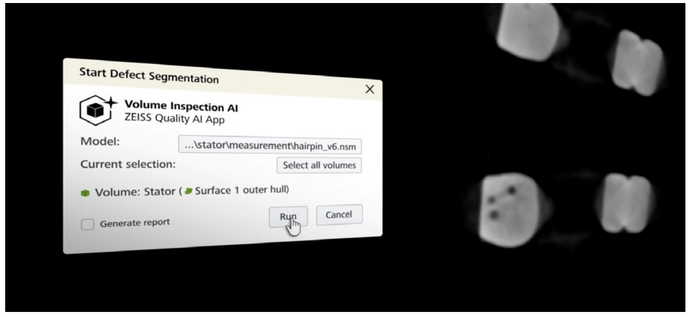
Maximum accuracy with more throughput
Lower costs per component



Automated inspection
Saves time and labor costs



Reliable stable processes
Less scrap



Seamless integration
End-to-end process from a single provider



Start quickly and easily
Flexible subscription model, low investment risk

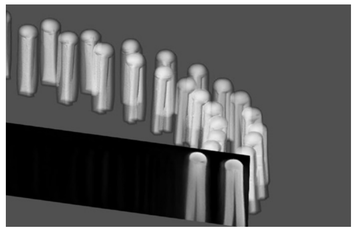


Easy global collaboration
Cloud-based workflow

Just get started: Use AI models or train yourself

Watch video

Fully integrated into your workflow with ZEISS INSPECT



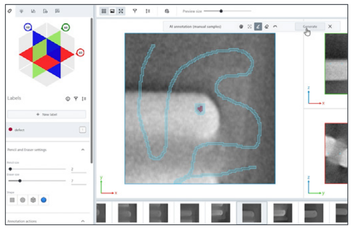
Capture and visualize data

After data acquisition, the data is visualized and ready for analysis in **ZEISS INSPECT**.



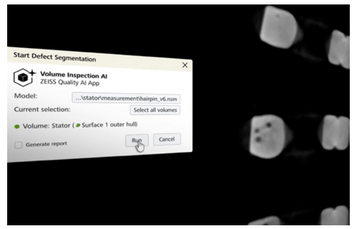
Define training data

Identify and mark the relevant areas using the **Volume Inspection AI app**.



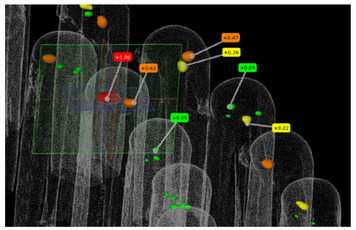
Model training and optimization

Train your AI model in an optimized workflow on the **Quality AI platform**. Repeat the training process by checking and correcting annotations until the model achieves the desired accuracy and performance. Download the model.



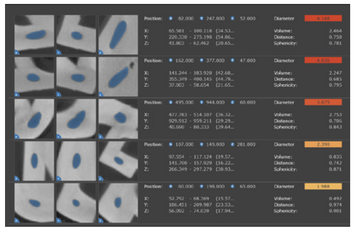
Execution of the AI model

Execute the AI model in ZEISS INSPECT using the **Volume Inspection AI** app. With this model, the app performs defect detection with high precision and speed.



Inspection and analysis

The results are visualized in **ZEISS INSPECT**– this provides insights and results that improve your quality assurance process.

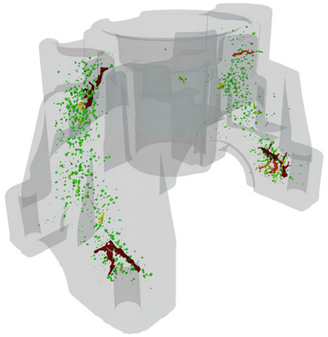


Reporting

Use **ZEISS PiWeb** to create dynamic reports of the results and ensure optimal process control.

Quick and easy start with pre-trained AI models

For a wide range of applications in various industries



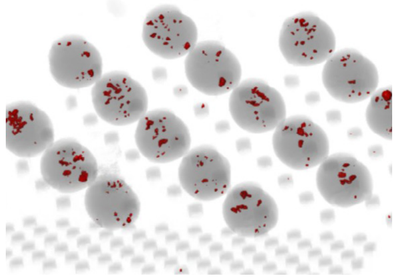
Casting inspection

- Automatically detects porosities and reliably finds internal defects caused, for example, by cavities
- Ensures high quality of the results
- Adaptable to similar materials



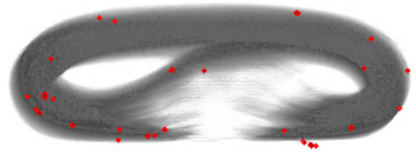
Hairpin inspection in stators

- Detects trapped porosities in welding heads of electric motor stators
- Applicable for different stator sizes and without precise modeling of the number of hairpins or geometry



Solder joint inspection

- Improves the detection of
- soldering defects
- Identifies gas inclusions in ball grid arrays or soldered joints for electronic components
- Offers exceptional precision



Battery particles

- Detects dense particles in battery cells between electrode sheets with high precision



Other applications

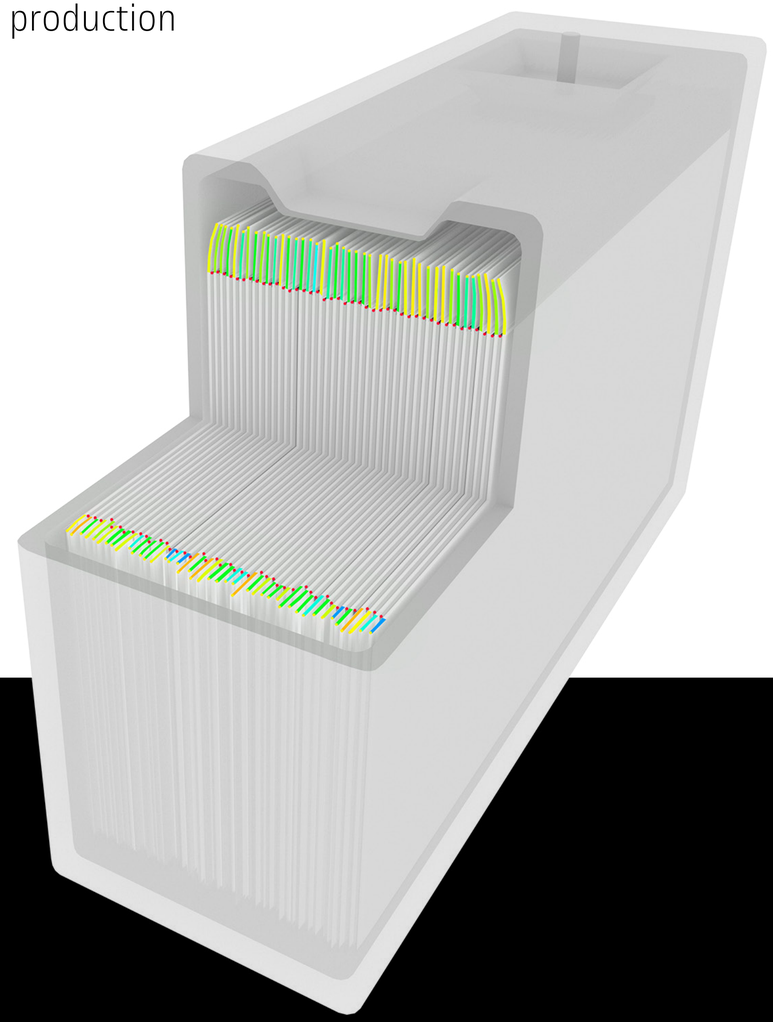
- Further pre-trained models in development
- Train your own model quickly and easily on the ZEISS Quality AI platform

Battery inspection with Volume Inspection AI

Intelligent CT analysis for transparent, repeatable battery cell quality decisions – from R&D to production

Volume Inspection AI automatically evaluates key cell-quality indicators such as anode overhang, electrode count and exit angles of bent electrodes enabling fast, repeatable and scalable quality decisions.

- Automatically measures **anode overhang** for every electrode and identifies local and global deviations
- **Counts** anodes, cathodes and electrode pairs
- Measures **electrode and exit angles**
- Detects **bending, curvature and local deformation**
- Delivers **objective, AI-driven analysis from CT data within seconds** for consistent quality evaluation **in-line, at-line and in R&D**

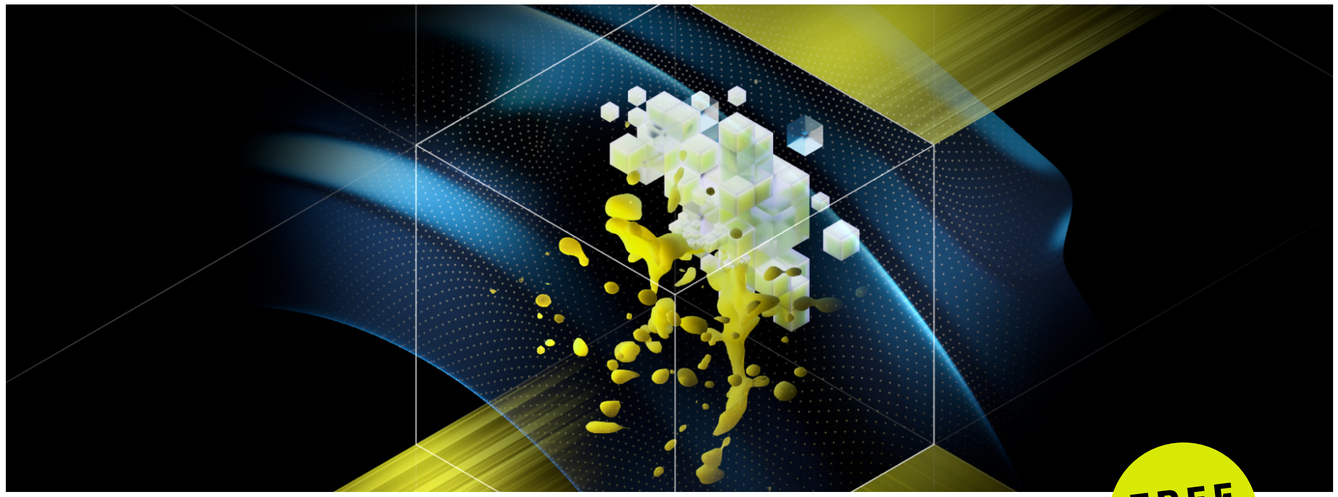


Key Benefits

- **Non-destructive visibility** of critical internal battery-cell characteristics
- **Repeatable and objective measurements** independent of operator expertise
- Supports **R&D, quality-room inspection and production** with one scalable solution
- **In-line-ready process feedback** for early deviation detection, process control and 24/7 operation

Interested? Start now!

Get started quickly with pre-trained models or simply train yourself



FREE TRIAL

Volume Inspection AI

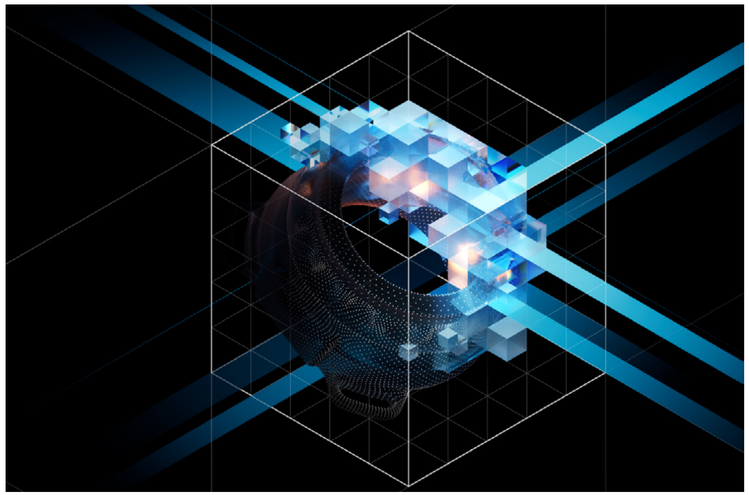
Starter package

- Annual subscription
- Easy and fast start
- Access to the **ZEISS Quality AI** platform included
- Get started with all pre-trained models
- Train your own models

Book a demo or try it out for free!

Start Now

+



ZEISS Quality AI

CREATION Service

- Our experts will develop AI models tailored to your application
- Daily rate

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