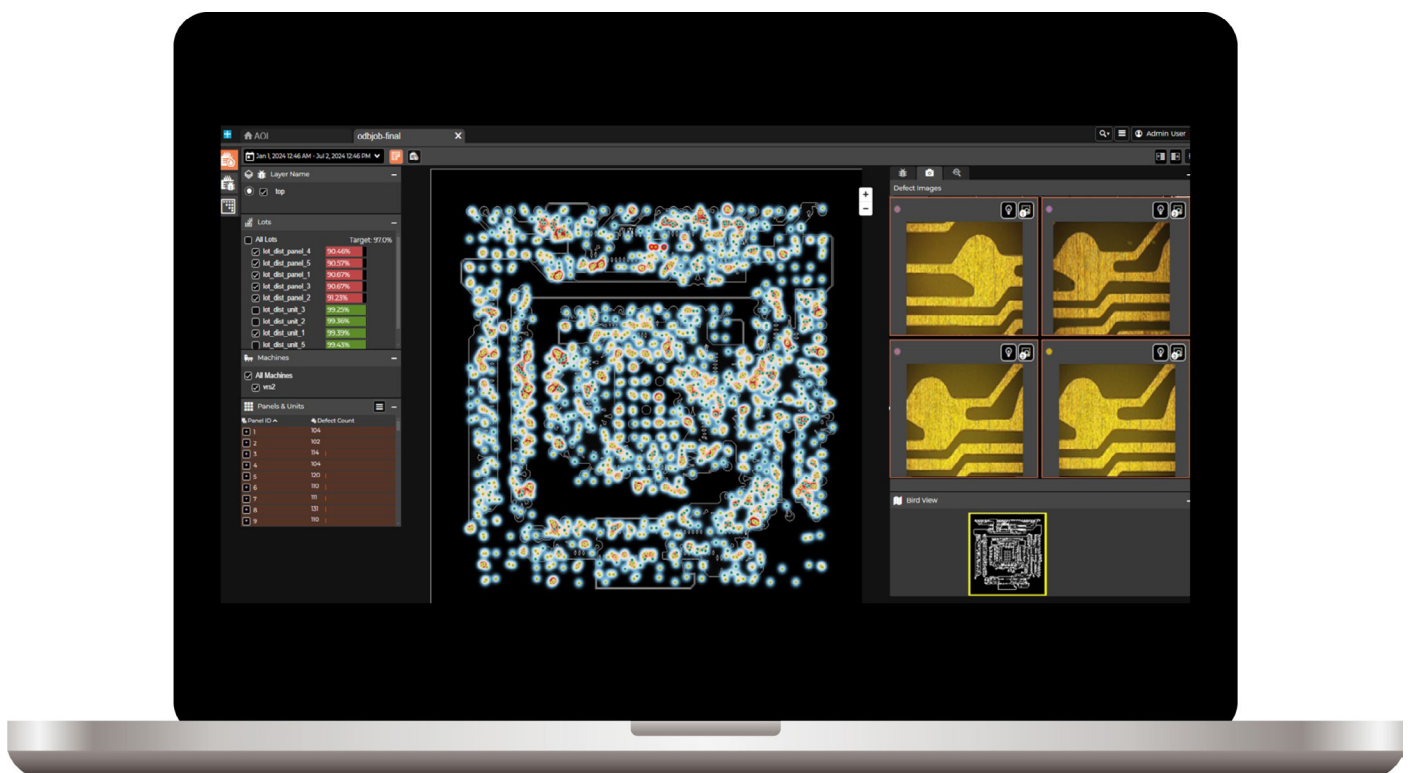# Frontline InShop®

CAM-Based Cross-Domain Data Analytics for Advanced Manufacturing

Frontline InShop®

Frontline InShop is a game-changing, CAM-based, data analytics software solution that empowers ICS and PCB manufacturers to transform untapped production line and inspection equipment data into actionable insights,improving quality and accelerating time to market.

Cross-Domain CAM-Based Data Analytics Using Machine Learning

Building on KLA Frontline's vast experience in CAM technology and in advanced manufacturing processes, Frontline InShop puts visual analytics at your fingertips – enabling high-impact corrective action that shortens new product introduction, increases yield and reduces your total cost of ownership.

Shorten NPI TTM

Maximize Yield in Mass Production
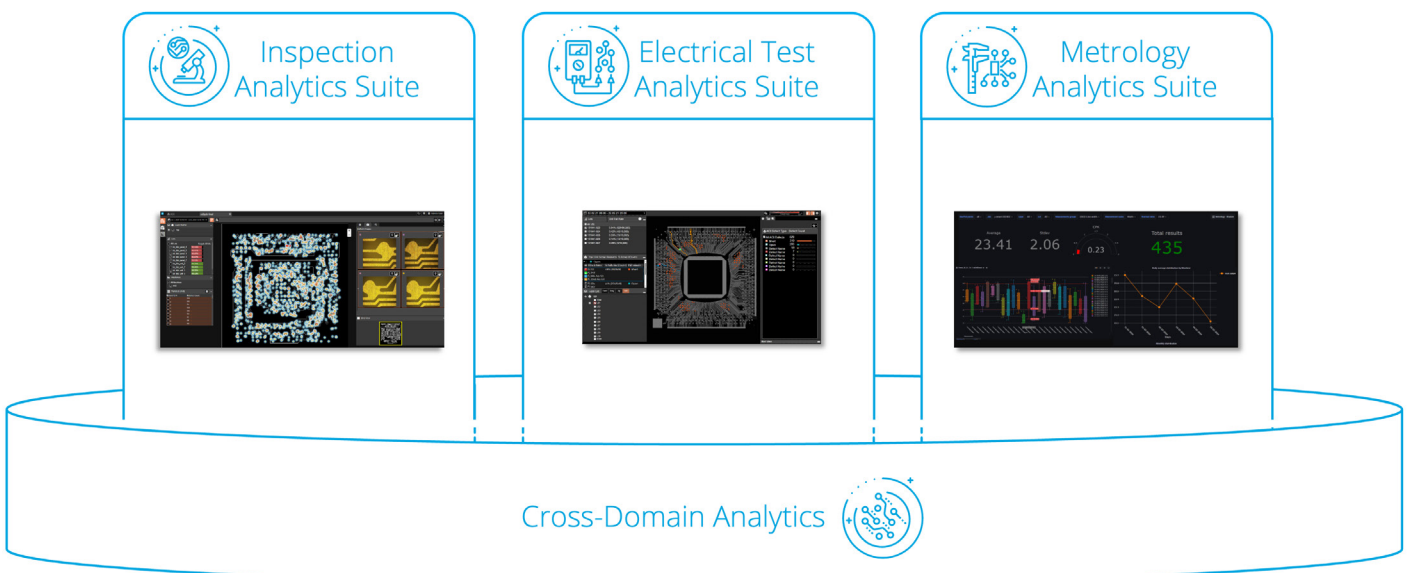
Reduce TCO

Data Analytics Within the Context of Your Product

As the only inline CAM-based analytics solution, Frontline InShop flags the data that impacts your business most and correlates production data to the end product, delivering a unique contextual awareness for driving effective problem-solving.

- Inline, contextual advanced CAM-based data analytics
- AI and machine learning-based actionable insights to proactively address quality issues
- End-to-end process coverage with an end-of-line focus
- Yield-based prioritization of corrective actions

Cross-Departmental and CAM Data Analytics

Inspection Analytics Suite

Electrical Test Analytics Suite

Metrology Analytics Suite

Cross-Domain Analytics

Why Frontline InShop®?

Data Analytics with End-Product Context CAM Reference

The only solution that performs data analytics with end-product context CAM reference to help solve yield problems.

Powerful Cross-Production Analytics

Merges cross-production data and CAM-based analytics, offering insights that are accurate and actionable.

Best Practices of Advanced Manufacturing

Enabled by our vast experience in semiconductors, ICS front-end manufacturing processes and CAM reference technology.

Machine Learning Algorithms

Our CAM-based Electrical Testing and AOI data analytics is based on machine learning algorithms, enabling advanced data exploration capabilities.

Seamless Connectivity to Multiple Vendor Tools

Seamless connectivity to multiple tools and vendors, with multiple sites and hundreds of connected tools.

Scalable Big Data Infrastructure

Big data infrastructure stores massive, versatile data over time.

A One-Stop Shop Solution for Electrical Testing, AOI and Metrology

Electrical Testing

Electrical Testing Homepage

Quickly identify the most problematic lots (defects and nets), the relative success of the current lot in comparison to previous ones, and electrical testing performance in general.

Electrical Testing Job Inspection

View Electrical Testing failures on panel, array and jig level.

Zoom in on failures and nets and highlight the required net pattern and pins on related layers.

Job Inspection shows defective nets from Electrical testing and AOI defects on the same unit design view.

AOI

AOI Job Inspection

CAM-Based Data Analytics

View comparative data to identify potential root causes.

Interactive Defect Gallery

Review defect distribution on high-resolution CAM images: large-sized album of video and gray-level images.

Defect Heat Map and Distribution View

Visualize the distribution of repeated defects and the number of repetitions; view repeating defects on multiple panels.

Catch Process & Design-Related Issues

Identify defectivity of specific areas on the panel and design features on the unit.

Metrology with InCAM Pro and KLA Zeta

A Full Measurement Analysis

CAM-based statistical analysis of process stability. Review measurement results by specific features and trends per machine and date.

Additional Applications

Yield Center

- Keep track of yield and identify quality reduction.
- See yield status for internal and external customers (OEMs).
- Get aggregated yield calculation to save engineering time.
- Automate data collection and analysis processes as part of OEM line certification.

Data Sharing

- Transfer data by schedule or request; transfer AOI defect data and images.
- Generate predefined reports.
- Enable data exchange to third-party software.

Dashboards

Intuitive defects pareto charts help locate the defects to prioritize. Trend analysis charts show defect trends over time.

Frontline InShop® Workflow

Optimize Yield
Improve root-cause analysis.
Produce actionable insights.

Instantly focus on the most problematic lot/job.

Detect sensitive units along multiple lots.

AOI Defect visualization.

Unit stack view.

Catch process & design-related issues.

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Rev 11.0_03-20-2025