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SAM 301 SiC

THE GAME CHANGER FOR YOUR SiC YIELD!

Reduce scrap. Save costs. Ensure quality.

Defects in SiC substrates increase costs and scrap rates in power electronics manufacturing. Downstream users often remain unaware of the full impact, as defective material is filtered out earlier in the process. However, these costs are embedded in every SiC device.

The new SAM 301 SiC Puck Scanner changes this.

It provides comprehensive, non-destructive inspection and automated quality grading of pucks—before expensive processing begins. No etching. No wafering. No guesswork.

Regain control with objective data—whether you're optimizing wire sawing, laser splitting, puck trading, or crystal growth.

YOUR BENEFITS AT A GLANCE

See more. Know more.
Full-volume 3D visualisation for precise defect analysis.

Eliminate guesswork in quality assessment
Replace etching and sacrifying wafers with objective, non-destructive grading.

Automatic quality grading
Make objective go/no-go decisions for both pucks and future wafers.

Save costs
Prevent defective pucks from entering costly processing.

Optimise SiC processing
Maximise downstream processing yield with data-driven decisions.

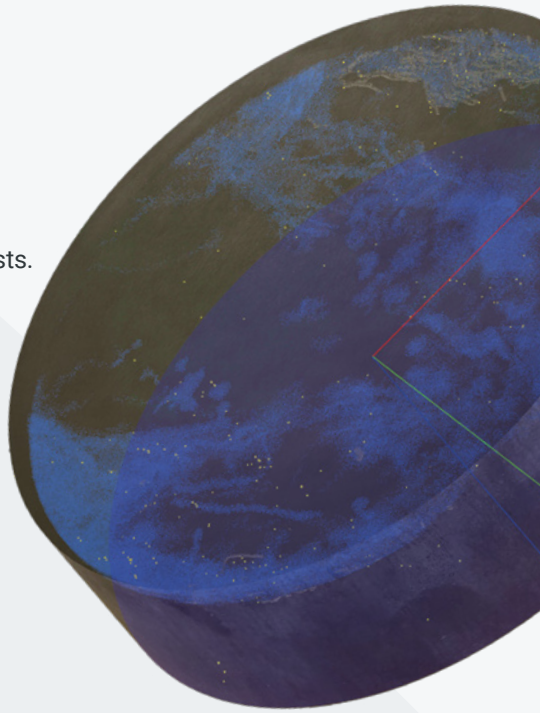
Predict yield and profitability
Evaluate the outcome by factoring wafer prices, slicing and polishing costs.

Lower your ecological footprint.
Do not waste energy, consumables, and time on defective material.

Track quality trends over time
Monitor production quality using objective metrics.

Gain extra downstream processing capacity
Free up tools and staff by removing defective material early in the chain.

Fine-tune crystal growth with analytics
Provide rapid, objective feedback to the crystal growth team.



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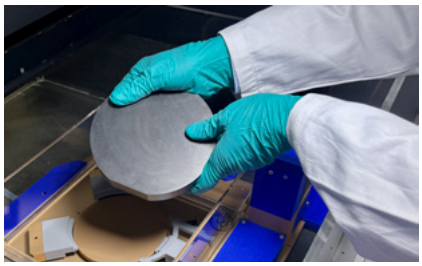
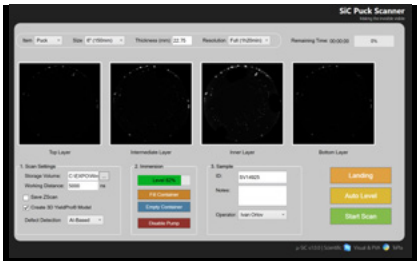
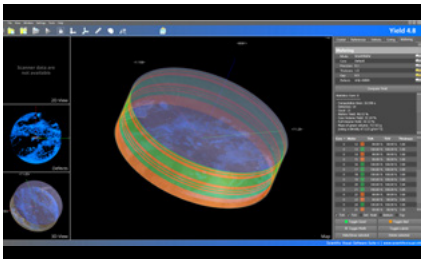
HOW DOES IT WORK



Loading the puck into the scanner.



Operator interface - Defects will appear in real time in the 3D view.



At the end of cycle, the full-volume 3D model is displaying all defects.

FACTS & FEATURES

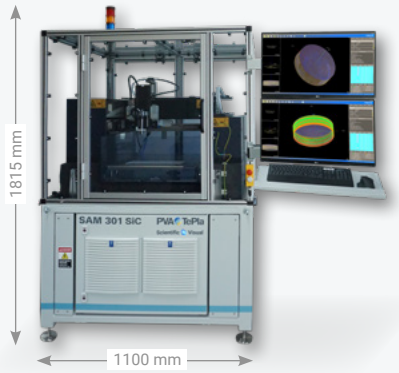
- **Scanned SiC pucks**
  Diameter: 6”, 8”, extendable to 12”, thickness: 5–45 mm, faces parallel/ground, Ra ≤ 0.8 µm,

  Recommended scan time: 1 h 20 min (6"), 2 h (8")
- **YieldPro™ 3D Software Suite**
  AI-based defect detection for SiC, with real-time 3D visualization—no expertise needed.

  Interactive defect analysis and cross-section views to investigate specific defect morphologies.
- **Automatic material grading**
  Assign objective quality grades to pucks and predicted wafers based on defect densities.
- **Optimised processing**
  Simulates slicing to maximize defect-free wafers; highlights skip/discard areas
- **Smarter, faster collaboration**
  Instantly share 3D models and PDF reports
- **Automation-ready quality control**
  Eliminate subjectivity in puck assessment and enable fully automated production.

TECHNICAL DATA

Z axis	patent protected auto focus system, z =100 mm, motorised
Maximum scanner acceleration	20 m/sec²
Encoder resolution	16 nm
Dynamic repeatability	+/- 0.05 µm
Minimum pixel size	0,5 µm/pixel
Sample tank	Auto-aligning SiC-Puck tank with x–y–z motorised adjustment and automatic liquid level control



READY TO TAKE YOUR PRODUCTION TO THE NEXT LEVEL? CONTACT US FOR A DEMO!

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Learn more

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