WOOPTIX

Phemet®

High-Precision Wafer Shape Metrology

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Automated shape metrology tool

Wooptix has developed a system for wafer metrology, Phemet®, that uses WFPI, a proprietary wavefront sensing technique.

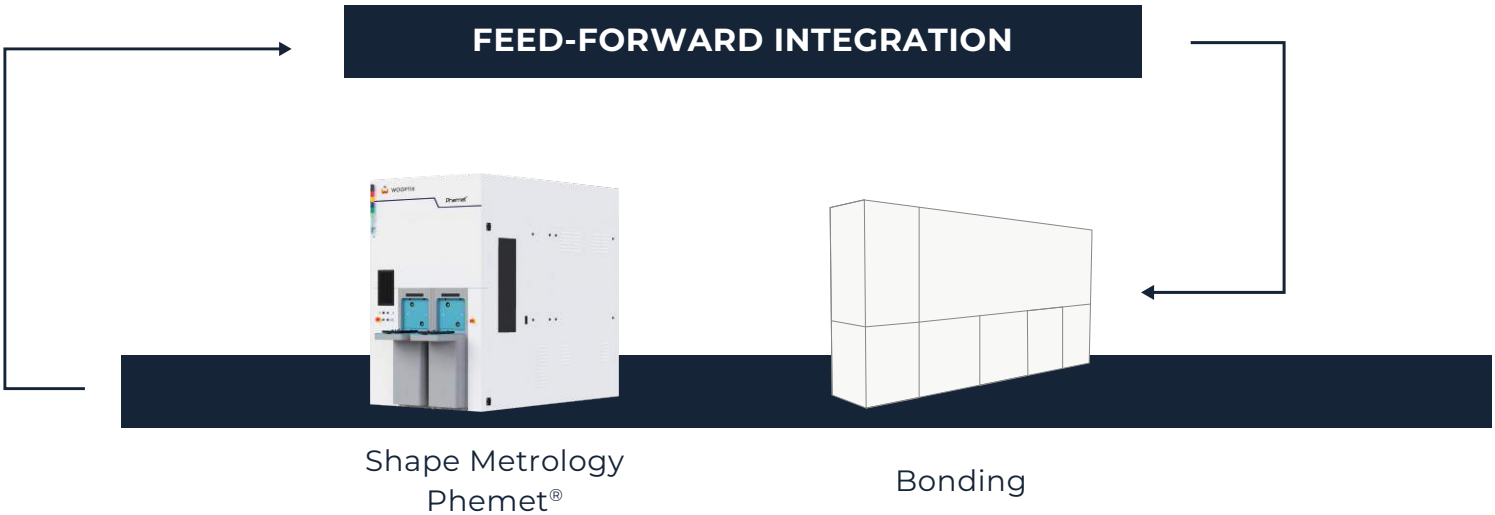
Phemet® introduces a new semiconductor wafer metrology technique that measures: shape, nanotopography, and roughness of the entire silicon wafer from a single shot. By collecting more than 16 million data points with subnanometer height resolution, Phemet® is the industry leader in speed and resolution.

Wooptix´s systems for wafer inspection and metrology in advanced wafer-level packaging offers the essential data needed by chip manufacturers to enhance yield through comprehensive traceability in their progressively intricate manufacturing procedures.

Phemet® provides the automation capabilities for in-line metrology of 300mm wafers, having a high-throughput and a small footprint, ideal for fabs. It allows the use of its data in feed-forward algorithms or other customized control methods.

Benefits

- High resistance to vibrations.
- Compact and agile system for the best possible footprint with high-troughput.
- High tolerance to wafer placement in XYZ allowing for high volume manufacturing.



Wooptix's metrology systems revolutionize process control

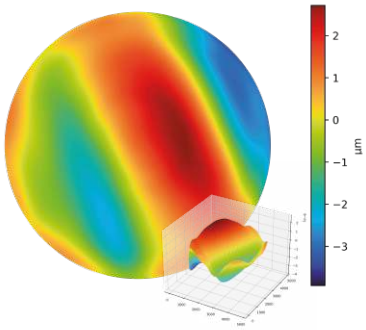
The demand for higher process control has intensified due to smaller feature sizes, novel integration approaches, and the diverse integration of multiple components into unified packages.

Wooptix's system empowers corporations to swiftly identify, address, and track deviations, ensuring heightened quality control for enhanced device performance.

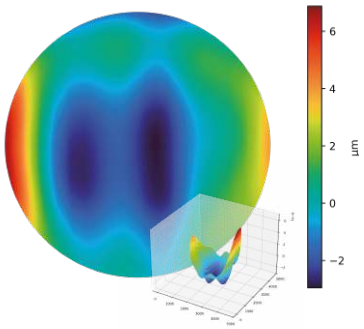
Measurements

Phemet® provides the entire dataset for each measurement.

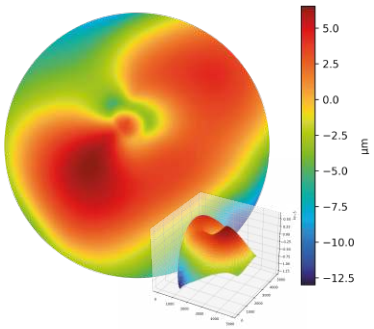
Blank wafer



Patterned wafer

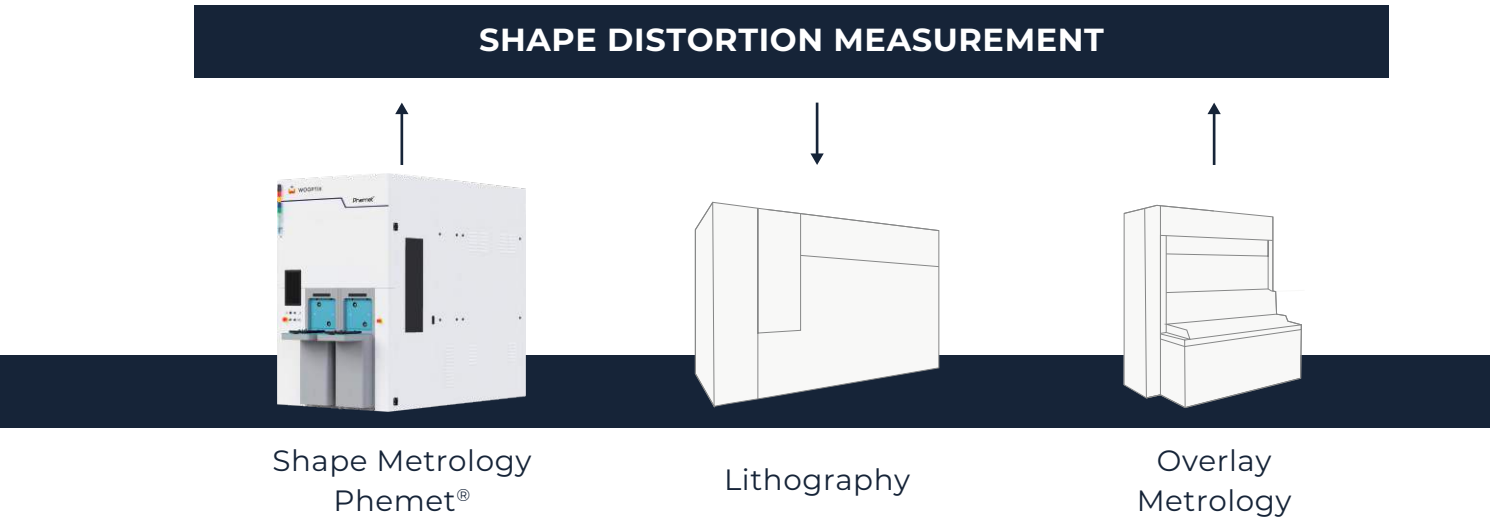


Bonded wafer



Features

- Global shape measurements of wafers.
- Vertically held wafers (Front/back measurement).
- Free Form Wafer Warpage (FFWW).
- +16 million data points with subnanometric resolution.
- Fully automated operation.
- Provides shape data and other parameters, suited to customers needs.



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Wooptix is a semiconductor wafer metrology innovator that provides the fastest, most accurate in-line measurements with the highest lateral resolution. Through its use of wavefront phase imaging (WFPI), a proprietary technique derived from research in adaptive optics, its systems measure the shape, nanotopography and roughness of the entire silicon wafer in a single shot. It is actively deploying solutions at various customer sites across Asia, Europe and North America.

Together with their resistance to vibrations and ease of adapting to the user's needs, they are valuable systems for measuring the wafer shape and nanotopography in a single shot.