

About Metryx, Ltd.

Metryx is a semiconductor equipment manufacturer specializing in unique nanotechnology mass measurement techniques. Based in Bristol, England, Metryx' non-destructive 200mm and 300mm metrology tools offer atomic layer accuracy making them ideal for material characterization and device manufacture process control. For more information on the company and its products please visit www.metryx.net

History

In 2000, Dr. Adrian Kiermasz and Rob Wilby came together to develop a technology that would improve the way processing is done in semiconductor manufacturing. With over 20 years' experience in semiconductor equipment and processing, both are industry veterans, each having published numerous papers and holding numerous patents. Later that year, Metryx was born as a company and development on an innovative mass metrology tool began.

Executive Team

Dr. Adrian Kiermasz - President and CEO
Rob Wilby - Chief Technology Officer

Employees

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Headquarters

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Products

Metryx Mentor – Technology Overview

A wafer has a different fingerprint after every process step, whether mass has been added or subtracted during the process. Metryx' technology utilizes advanced compensation algorithms that improve accuracy by an order of magnitude over previous techniques. This opens up exciting new applications in the field of advanced metrology solutions hitherto considered unachievable.

The system utilizes ambient sensors that continuously monitor temperature, pressure and relative humidity. Instantaneous correction to air density allows weight measurement correction for changes in atmospheric buoyancy of the substrate. The resulting unprecedented capability enables mass measurement with atomic layer accuracy.

Almost any process that results in a change in mass of the substrate can benefit from the insight the Mentor can bring. All measurements are non-contact and non-destructive. Product wafers can be measured directly or test wafers can be shared with other metrology tools. Analysis times are fast - throughput of 60 wafers per hour ensures in-line compatibility.

Metryx Mentor Applications

Within semiconductor manufacturing facilities typical applications include critical steps in device manufacturing process flows. Some examples include:

- Control of critical etch steps, both wet and dry
- Determination of dielectric constant for inter-level BEOl materials, using density
- Measurement of average thickness for very thin deposited films, including barrier metal or seed layers
- Both measurement and control of films deposited from new techniques such as atomic layer deposition
- Property determination of new materials including high dielectric constant materials, ultra low k materials and unique metals
- CMP
- Step coverage
- Stacked materials: Especially mixed metals & dielectrics
- Factory-wide SPC

Metryx Mentor OC23

The open cassette configuration features two 200mm open cassettes. After measurements have been completed on one cassette the tool can immediately start to measure the other one without waiting for operator intervention. The OC23 can also be configured for 300 mm.

Metryx Mentor SF3

The single FOUP configuration is designed for use in 300mm light production environments. The system uses a single 300mm FOUP with the robot contained within a mini-environment. The system is convertible for use in 200mm environments by using FOUP inserts.

Metryx Mentor DF3

This configuration is designed for high volume 300mm production or a mixed environment where 200mm and 300mm wafers are interchanged. A standard equipment front-end module (EFEM) houses an atmospheric robot within a mini-environment with two 300mm FOUPs. For use as a bridge tool, one of the load ports can be configured for 200mm (either open cassette or SMIF) operation while the other remains at 300mm.

More information can be found at <http://www.metryx.net>

Contacts:

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