ProSEM

Advancing the Standard

Automated Feature Measurements from SEM Images

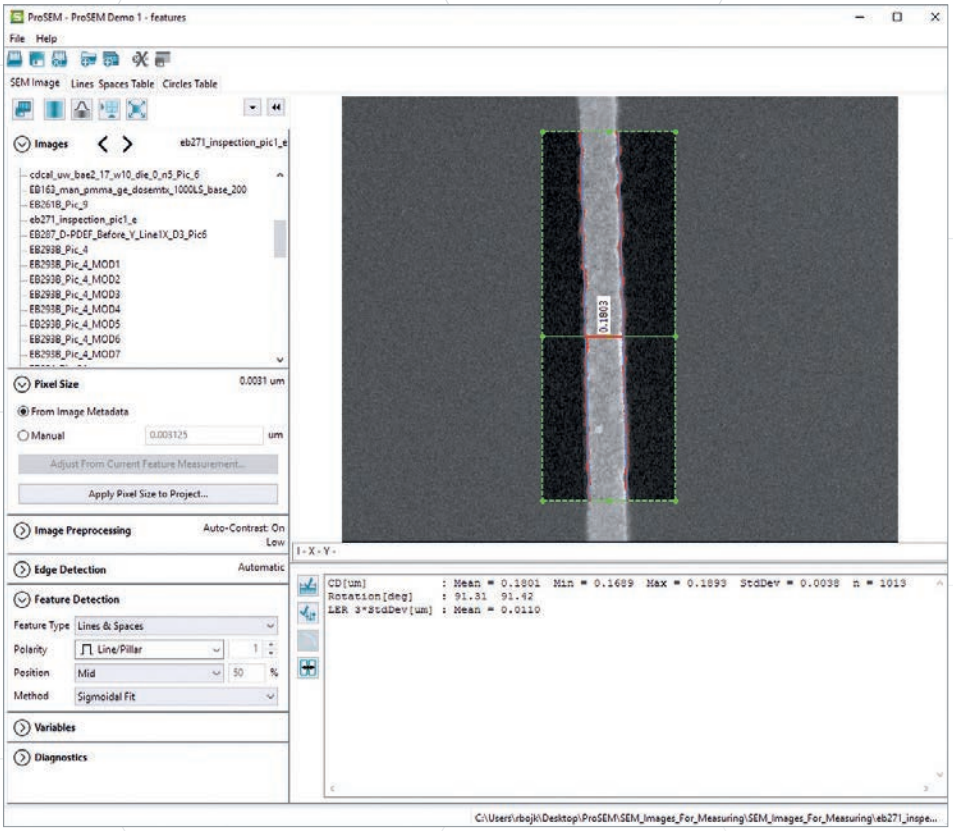
Pro**SEM** analyzes your SEM image files, giving you fast, consistent feature measurements for your process calibration and monitoring tasks.

GenISys

www.genisys-gmbh.com

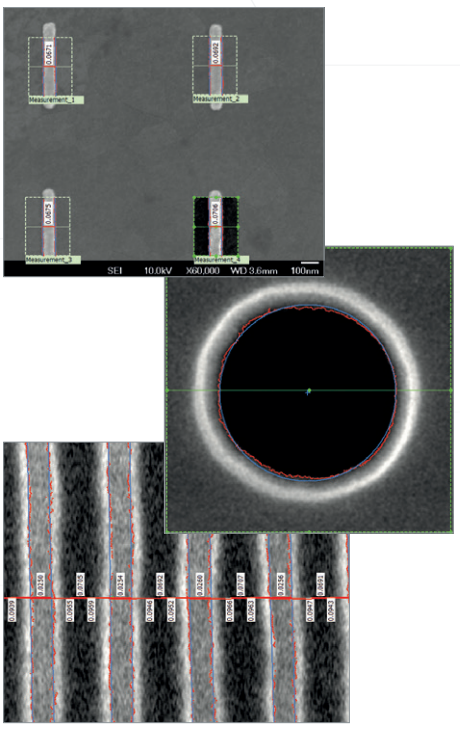
Fast, Consistent,
Easy Measurements
from your SEM Images

Process Calibration
and Monitoring Tasks,
Quickly and Reliably



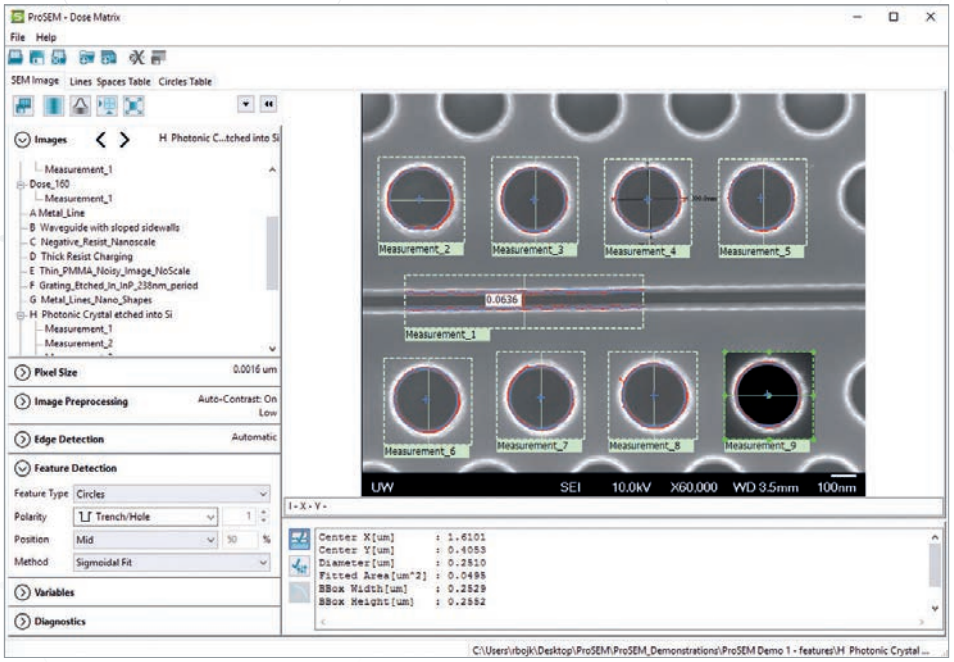
Nano-patterning requires accurate and reproducible metrology. Meaningful process calibration and process monitoring tasks need many measurements from numerous SEM images. Automated CD-SEM equipment used in IC manufacturing is expensive and not flexible. Many organizations perform wafer inspection and measurement with analytic SEM tools which offer measurement only by manual placement of measurement cursors on the SEM image, which is time-consuming, subjective, and has poor repeatability.

Pro**SEM** makes automated feature size (CD) measurements from your saved SEM images, with a user interface designed for simplicity and productivity. Powered by efficient measurement algorithms, Pro**SEM** provides you with fast, reliable, repeatable measurements, for improved process calibration, monitoring, and day-to-day tasks.



Pro**SEM Usage:**

Pro**SEM** provides a simple, organized user interface to speed-up your measurement tasks. Open one or more SEM images or an entire folder, then define your first measurement by simply drawing a box around the feature to be measured. Choose from a variety of feature types such as Line, Circle, Rectangle, or Grating, select the feature polarity, then the measurement results are shown directly on the image. Pro**SEM** displays the mean feature size plus basic statistics. Pro**SEM**'s standard settings work well, but for more challenging examples such as high noise or low contrast images, adjust the processing to improve edge detection performance. Store completed measurements with one click. Perform additional measurements in the same image, or me asure multiple images using the same settings. Save your measurement data as a project or easily export to Excel, Matlab, etc. Pro**SEM** makes quick work of repetitive measurements; a full set of images is analyzed faster and more consistently than manual methods. Pro**SEM** provides reliable results and enhances your metrology productivity.



Pro**SEM Features:**

Automated Edge Finding Algorithms

- Sigmoidal Fit
- Maximum Derivative
- Signal Peak
- Baseline Regression

Visualization

- SEM Image
- 1-D Cross section plots
- Measurement details overlaid
- Power Spectral Density (PSD)

Pixel Size Calibration (Image Scaling) by

- SEM meta-data when available
- SEM scale bar
- Grating Period Measurement
- Manual

Feature Types

- Lines / Trenches
- Circular Pillars / Holes
- Rectangle
- Gratings

Line Edge Roughness

- 3-sigma LER
- Power Spectral Density (PSD) Plot
- Correlation Length
- Roughness Exponent

Data Handling

- Results in table format, with all input settings
- User Variables
- Export to CSV

Platform Support

- Windows 7 / 8 / 10 64-bit
- Linux 64: Redhat 5.4+, Ubuntu 14.04+

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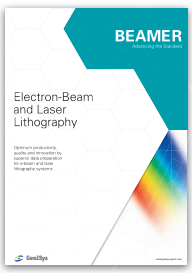

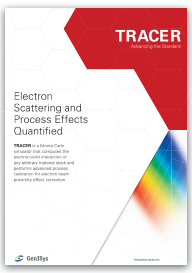

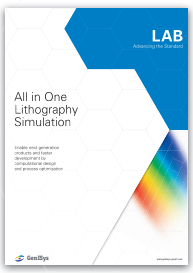

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Based in Munich (Germany), with offices in Tokyo (Japan), and California (USA), **GenISys** develops, markets and supports flexible, high-performance software solutions for the optimization of micro- and nano-fabrication processes. Addressing the market for lithography and inspection, **GenISys** combines deep technical expertise in layout data processing, process modeling, correction and optimization with high caliber software engineering and a focus on ease of use.

GenISys products give researchers, manufacturers, and system suppliers unparalleled efficiency, ease of use and optimal value in research, development, and production of future nano-patterning technologies.

As a company focused on customer service, **GenISys** delivers fast, highly dedicated support for the application and development of the functionality needed to meet demanding customer requirements.