

# Image Processing Software Assisted Quantitative Analysis of Various Digital Images in Process Monitoring, Process Control and Material Characterization



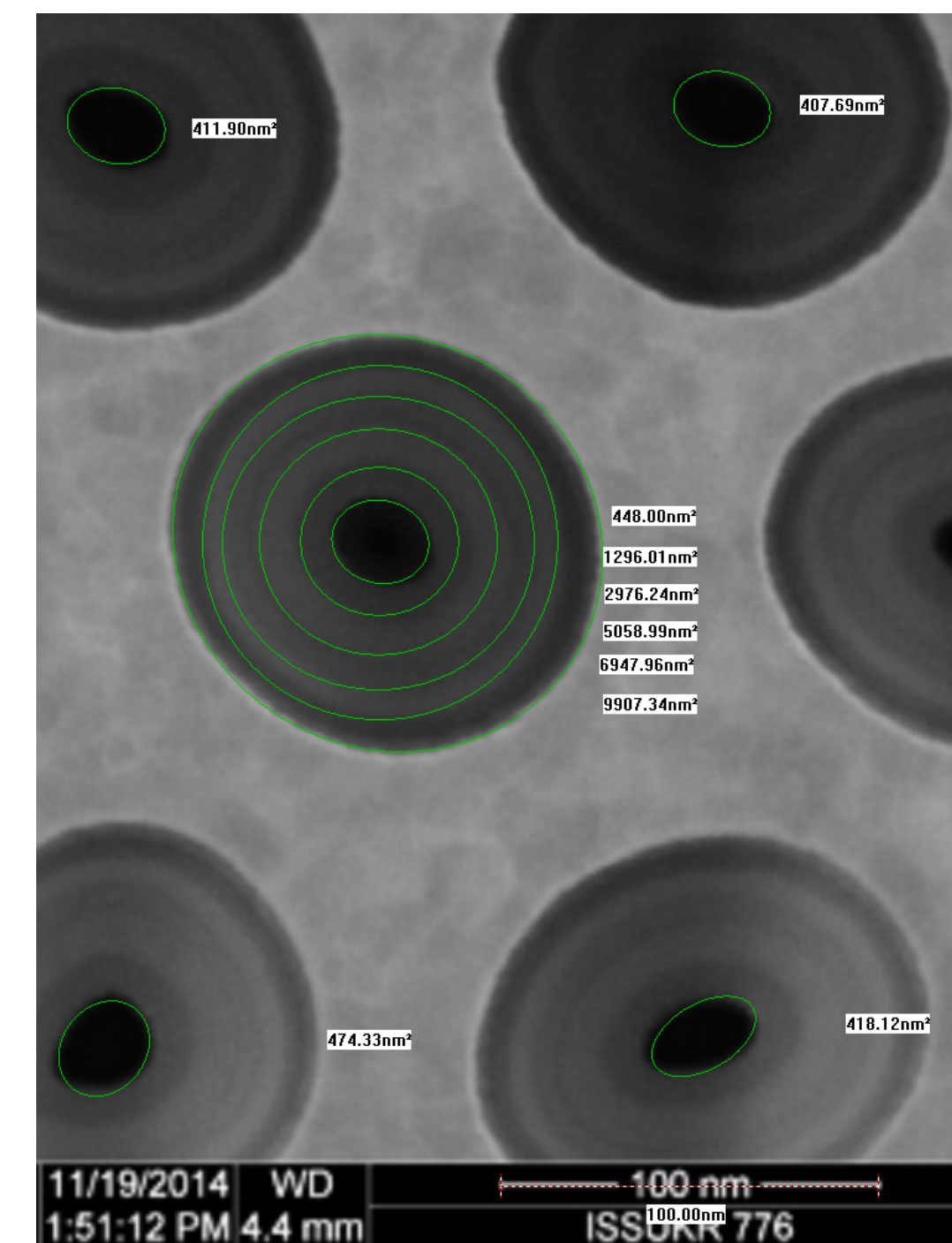
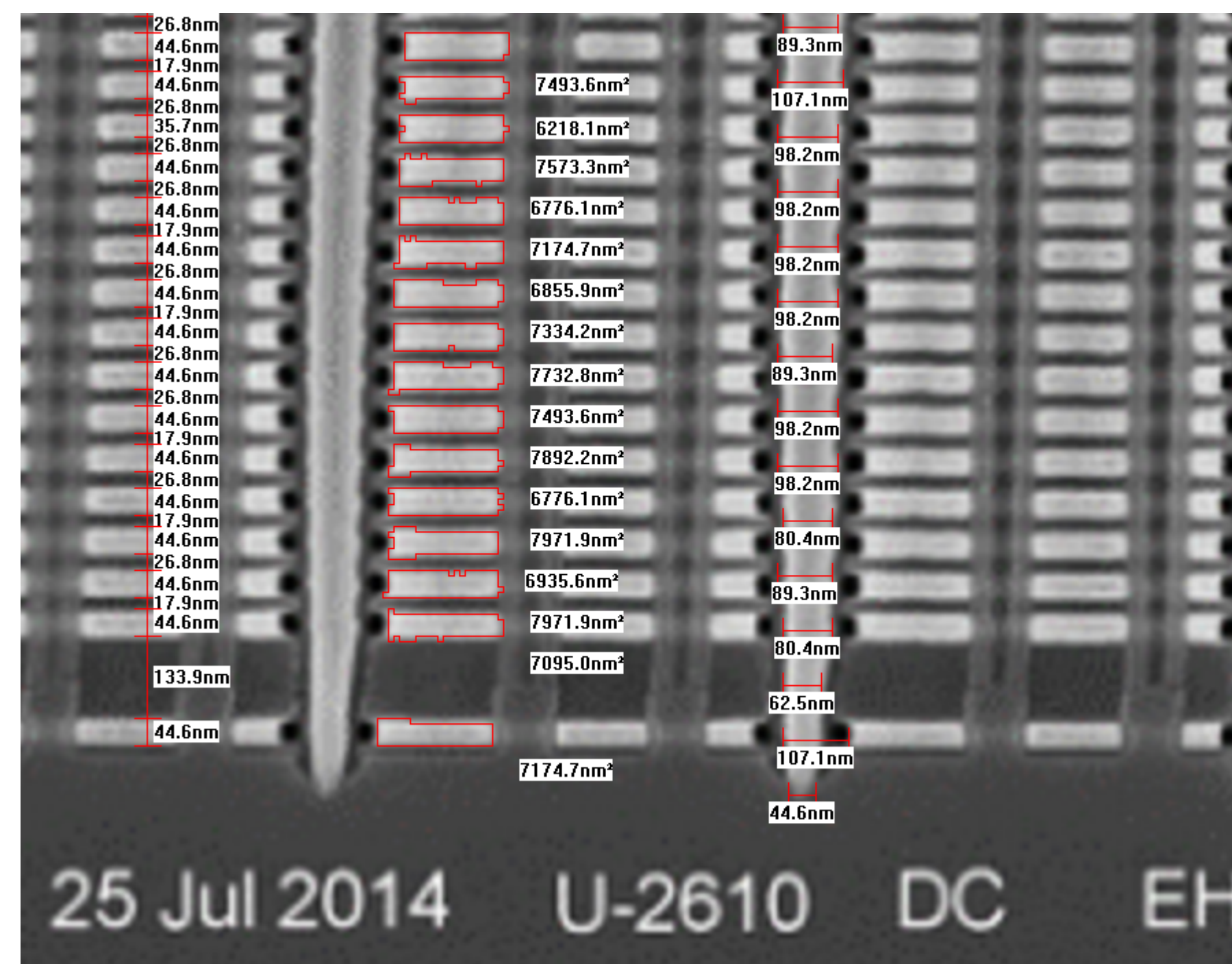
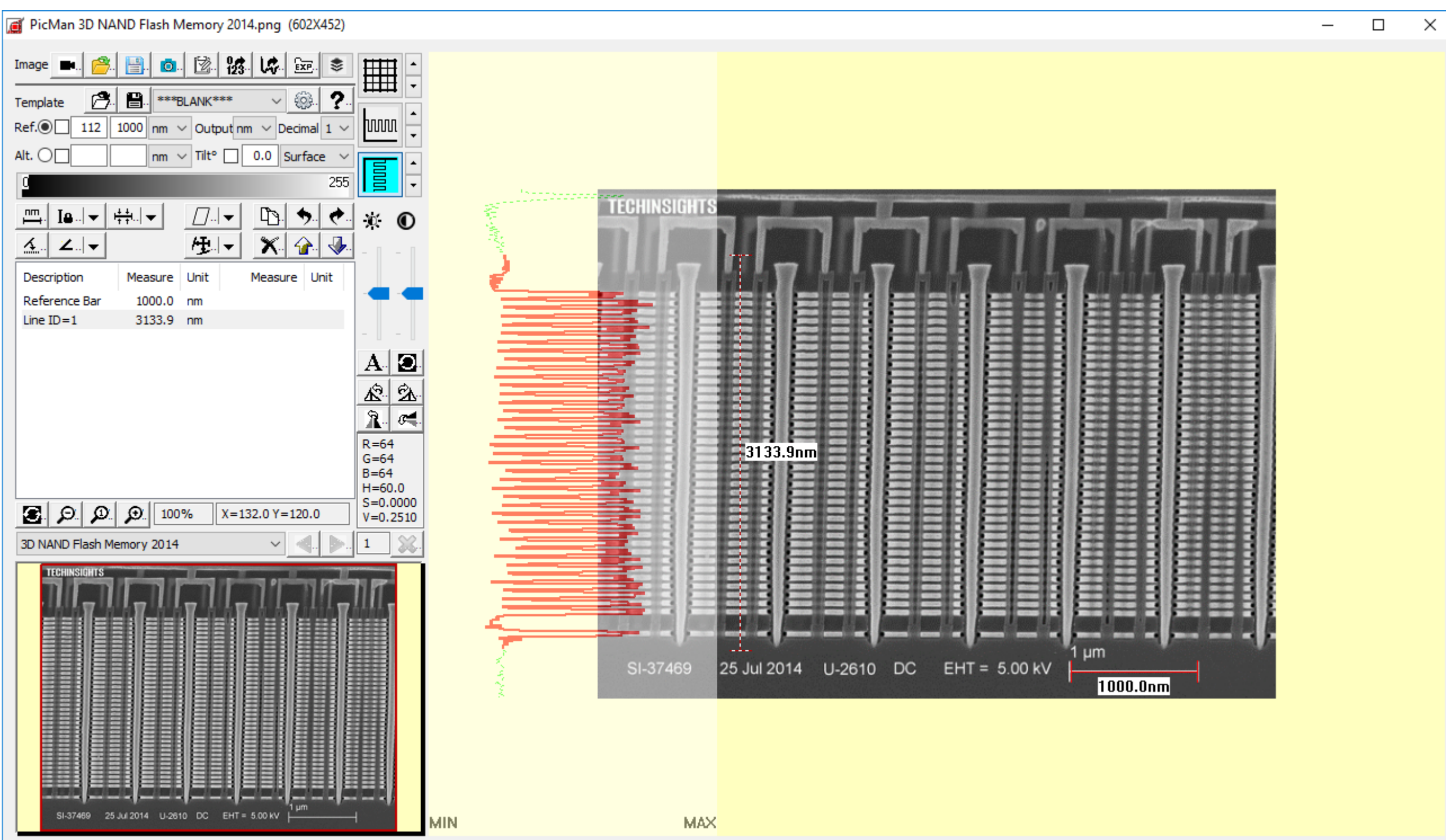
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A large quantity of digital images is generated daily for process monitoring, process control and material characterization. Each tool provides its own image export and analysis functions. A very small fraction of digital image data is utilized due to the lack of end user friendly image processing software.

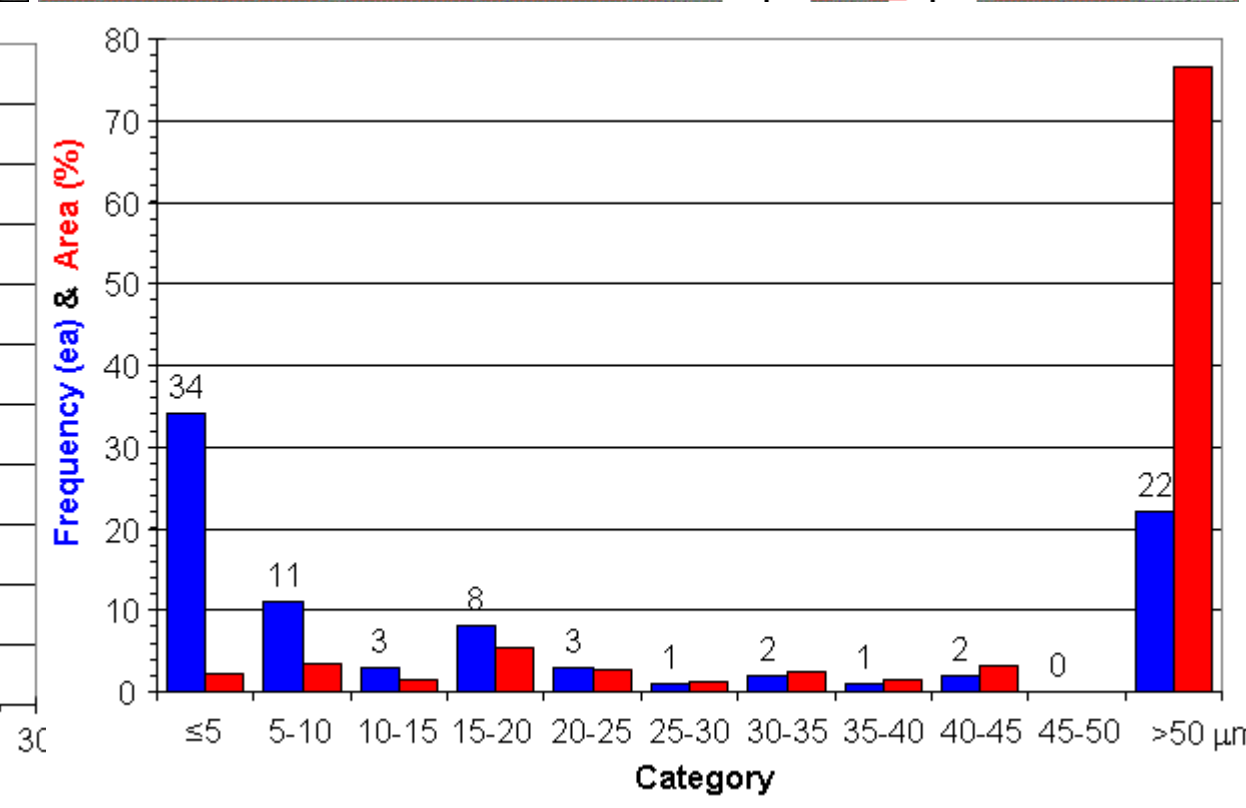
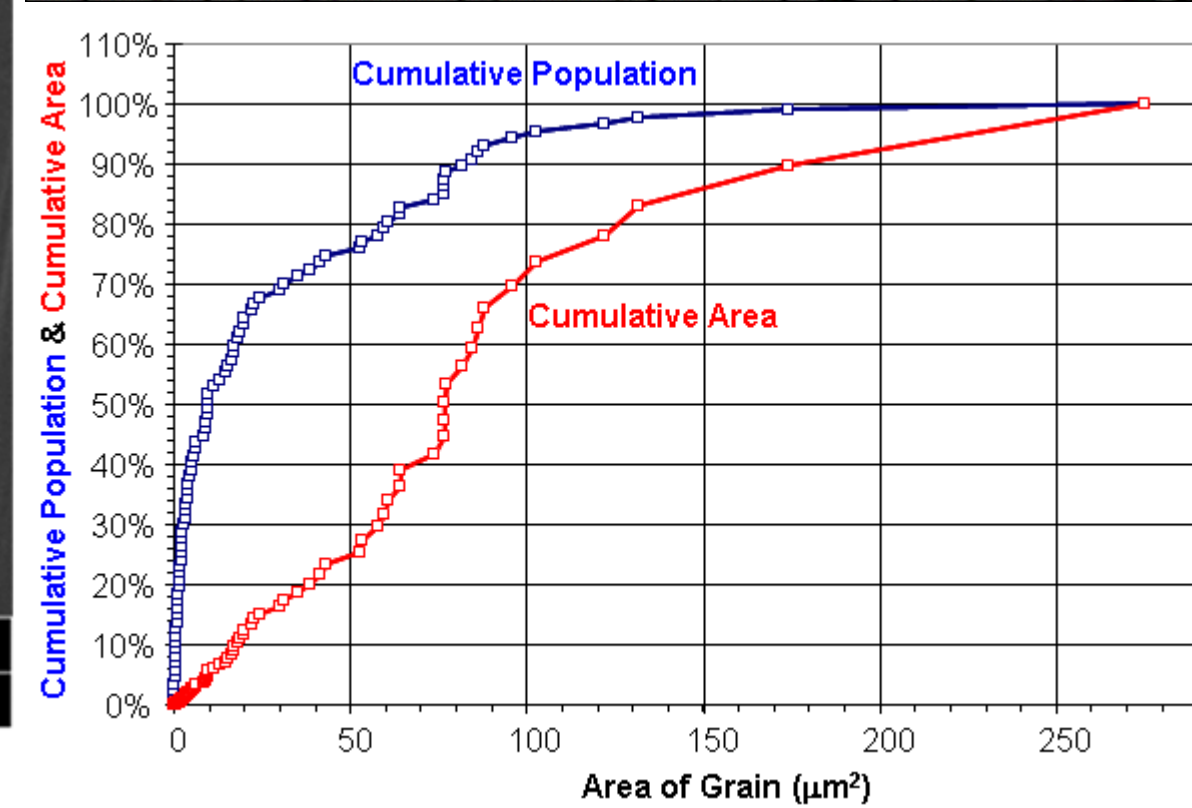
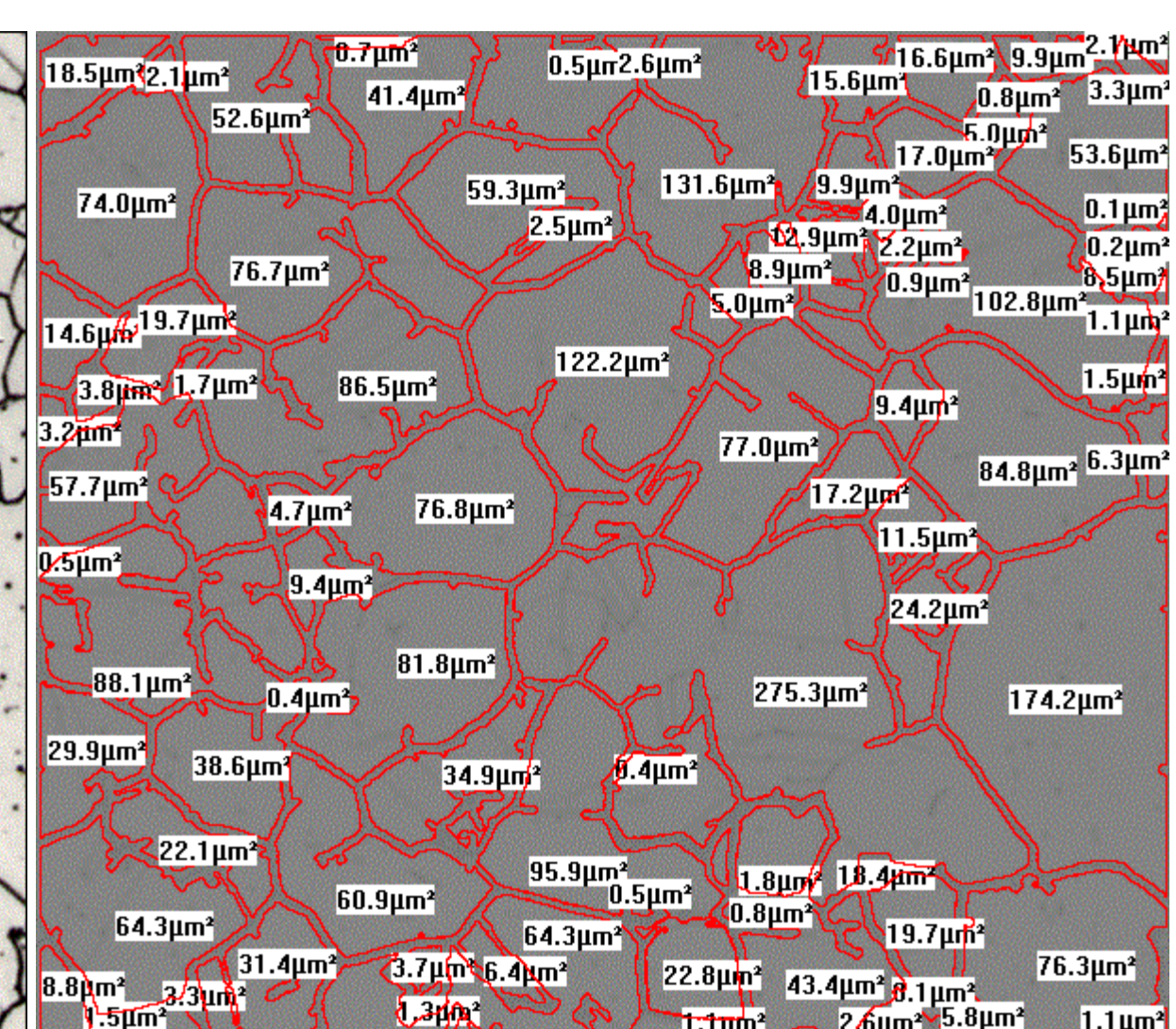
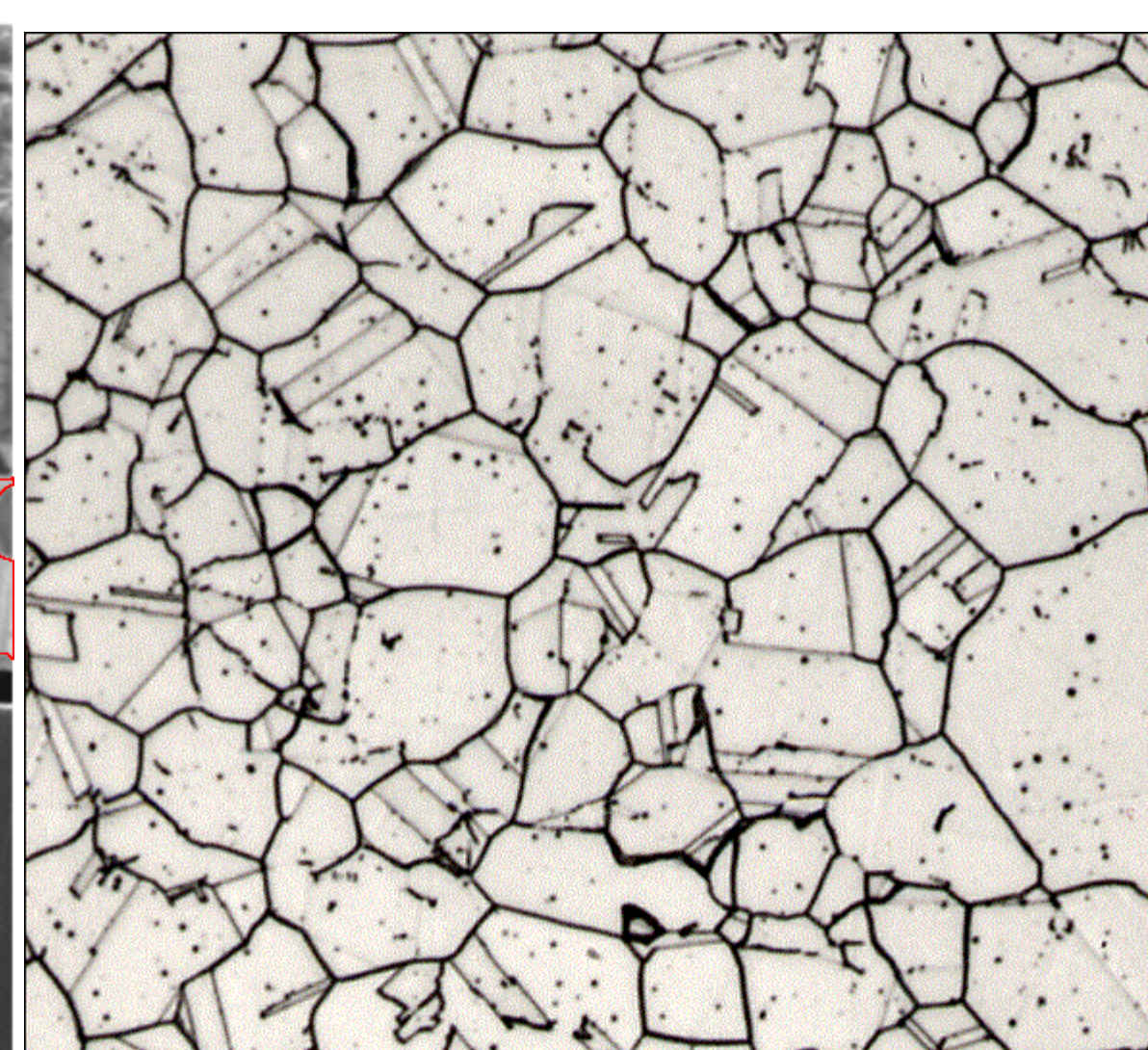
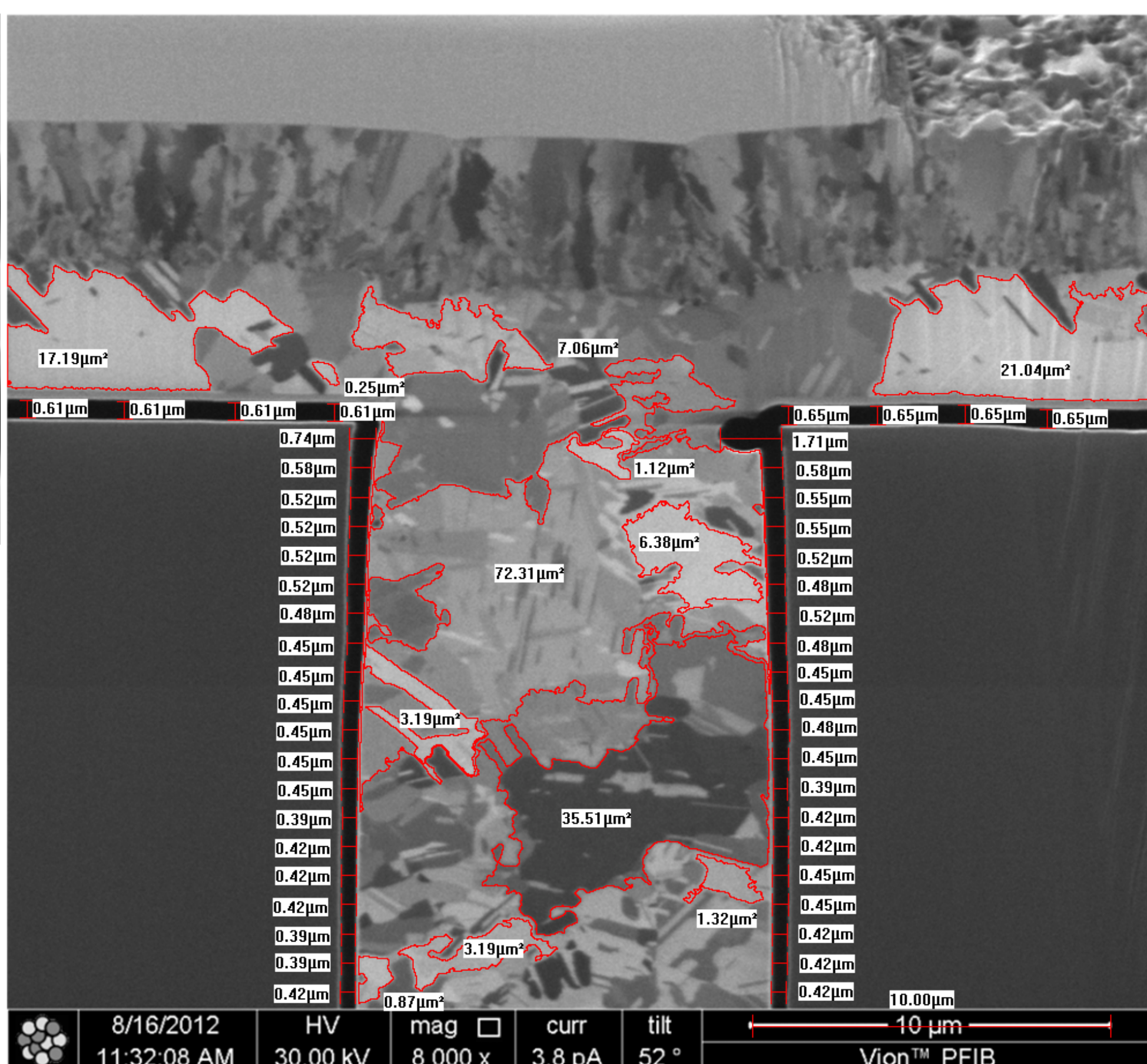
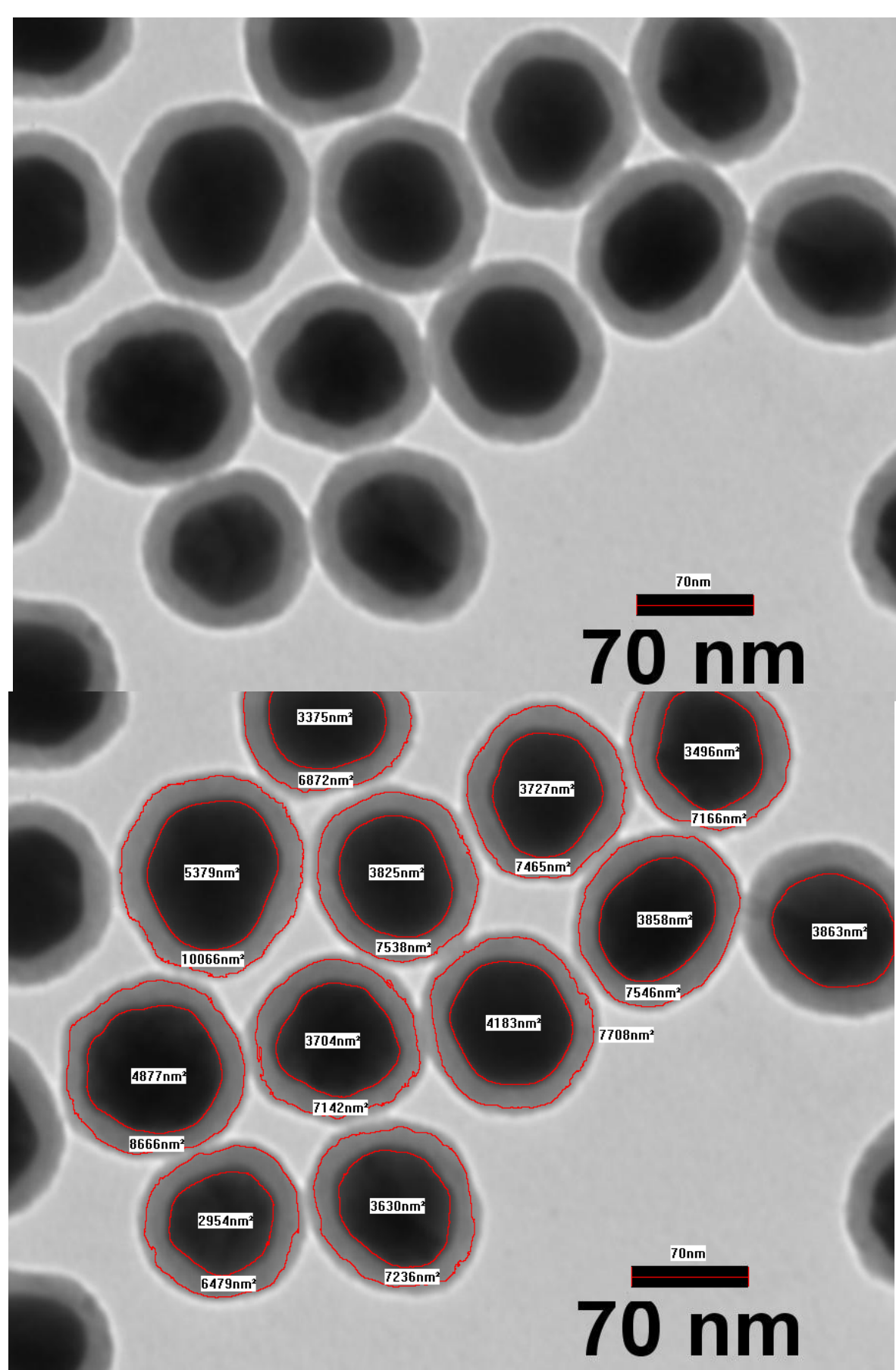
It would be beneficial to develop end user friendly, unified image processing software which can support various digital image formats (such as BMP, JPG, GIF, PNG, TIF, DM3 etc.) from various tools. In this paper, a newly developed end user friendly, unified image processing software (PicMan from WaferMasters, Inc.) is introduced, along with a few examples.

## Application Examples

### 3D NAND Flash Memory Devices: Automatic Profile, Thickness and Area Measurements and Data Export



### Nano Wires, Nano Particles, Grains: Automatic Thickness and Area Measurements and Data Export



### Reverse Engineering: Claim Verification, Screening, Literature Search etc. (All images)

