Presentation

Abstract: FEI Company is a world-leading supplier of instrumentation for nanoscale imaging, measurement, analysis and modification of materials and devices. FEI Company’s products based on electron and focused ion beam microscopy have enabled R&D in nanoscience and nanotechnology for decades, but more recently these instrumentation technologies have begun to migrate into production ramp-up, production and production support applications. While this might seem inevitable as nano-enabled products are commercialized, successful deployment of these instrumentation technologies into the manufacturing environment hinges on meeting radically different requirements than traditional laboratory applications. Key among these changes are: 1) A shift in product specification and design from a focus on technical performance to a solution orientation, 2) Radical improvements in instrument reliability, automation, time-to-data and throughput, and 3) A shift in the customer’s value model from scientific contribution to pure econometrics.

Examples of FEI Company’s success in supporting this migration of instrumentation technology into nano-scale manufacturing environments in the semiconductor, data storage and mining industries will be used to illustrate these points. Similar migrations anticipated in other industries or application areas will also be discussed.