Semiconductor
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SEVENTH FRAMEWORK PROGRAMME

SEAL PROJECT – BULLETIN

SEAL SP13 – MCEB HIGH RESOLUTION MULTI COLUMN E-BEAM WAFER INSPECTION – PROTOTYPE ASSESSMENT AT WAFER FAB PRODUCTION FLOOR

AT A GLANCE

- Assessment of E-Beam inspection technology meeting resolution and throughput requirements of 22nm node
- Tool improvements based on fab feedback

SEAL SP13 – PARTNERS
Applied Materials
Global Foundries
IC Testing

Advances in PLASMA-TRANS

- A high resolution E-Beam defect inspection tool for the 22nm node and below
- Production worthy throughput will be reached with a Multi Column E-Beam inspection tool.
- High resolution is targeted having the required sensitivity for high capture rate defect detection and will be evaluated for defect monitoring in critical layers

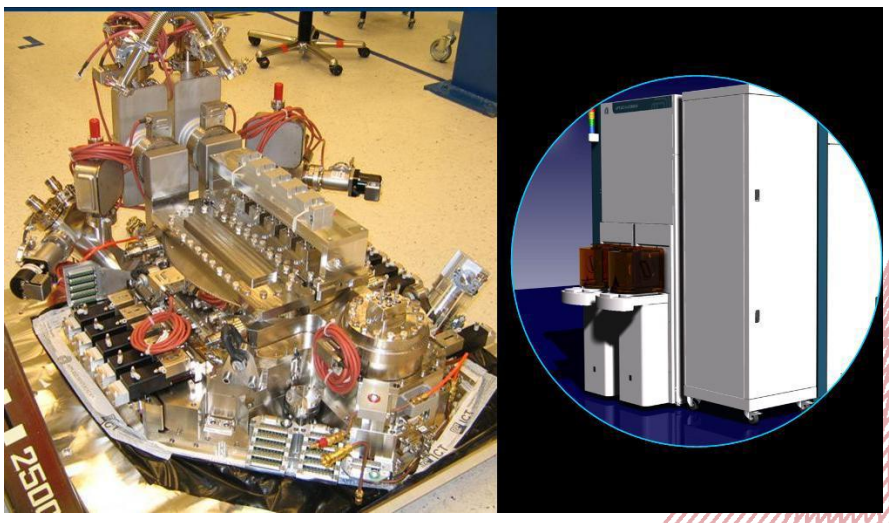

FIGURE 1: THE ELITE MULTI COLUMN E-BEAM INSPECTION TOOL (RIGHT) AND THE MULTI COLUMN MODULE (LEFT)

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Project Results

AMIL and ICT developed a Multi-Column E-Beam inspection technology that will meet resolution and throughput requirements of 22nm technology. A prototype tool is installed in production environment at Global Foundries Production Fab and full assessment has been done by a team of the sub project in two phases. In between the phases, an upgrade was done to the tool according to GF feedback. The goal of the sub project were a report and publication on the readiness of the technology for HVM.

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