

Siemens equipment control system helps reduce engineering time

Only speed counts

The success of a new prototype tool project depends on reaching the market first with the latest cutting-edge technology. FHR Anlagenbau, a Dresden based tool OEM, realized that it was no longer cost-effective to develop in-house control applications from the ground up and decided to leverage off-the-shelf control products and automation solutions from vendors with a global presence. Siemens Equipment Control System (ECS) is a powerful family of hardware and software automation tools optimized for semiconductor applications selected by FHR Anlagenbau to reduce tool development, configuration, testing and commissioning time with generic reusable code libraries and object-oriented software.



Siemens through their global support capabilities adds value

Picture: FHR

Founded in 1991, FHR is a leading supplier of thin film equipment technologies for deposition and etching. FHR tools are designed with a modular cluster architecture as well as in-line for a wide array of applications serving the R&D and production sector. FHR is known globally for its innovative equipment solutions combining state-of-the-art thin film technologies capabilities with customized equipment fitting to meet any customers needs.

Flexibility is in demand

FHR cluster tools can handle 100 mm to 300 mm substrates and can be equipped with manifold modules for PVD (Physical Vapor Deposition), RF (Radio Frequency) and MF (Medium Frequency) sputtering or electron beam evaporation or for plasma

etching with standard RIE (Reactive Ion Etching) or ICP (Inductive Coupled Plasma) modules. Different type of substrate handling concepts, chucks, and heaters to optimize deposition and etching processes can be designed and delivered to meet customer specifications.

“Each component in a FHR cluster tool is an independent module with autonomous mechanical and electronic components including its own application program. Systems with the design architecture are simpler to maintain than centralized configurations. Siemens has helped us realize lower production and service costs with the reduction of wiring via Profibus and increase in diagnostics capabilities with their distributed controller architecture,” says Wolfgang Hentsch, CEO for technology at FHR. “This new control architecture gives

us better expandability for our plasma process and other delicate processes for reactive sputtering.”

A new era of economics

The Totally Integrated Automation concept includes the leading SCADA system WinCC. This SEMI compliant GUI centralizes and simplifies tool operation while maintaining a consistent view of the process. WinCC provides a complete engineering platform for tool control and fab host interfaces (SECS/GEM, EDA).

“The Siemens Cluster Tool Controller approach is exactly what we were looking for,” explains Wolfgang Hentsch, “because medium size tool OEMs like ourselves are not capable to support proprietary languages and development environments in an efficient manner. Providing support from our past proprietary software control solution was extremely costly and Siemens through their global support capabilities add value to our customers worldwide,” Mr. Hentsch adds. “With Siemens powerful engineering tools and the generic object-oriented code reuse along with their leading fab host interface we are more competitive than larger companies.”

Wolfgang Hentsch, FHR Dresden

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