



SEMICONDUCTOR INDUSTRY

SEMICONDUCTOR CLEANING AUTOMATION

■ The Situation

Wet cleaning is one of the few remaining batch processes in the modern fab. Nearly all other process steps have transitioned to single wafer processes. The challenges in developing a single wafer cleaning process are substantial as new low-K materials and small, delicate structures at the 65 nm technology node are very sensitive to damage induced by cleaning

■ The Challenge

Our client had spent years perfecting their single wafer cleaning process. Their cleaning chamber was the heart of their new technology. They needed a system and wafer handling architecture that would make the most of this chamber and deliver outstanding throughput in as small a footprint as possible.

■ The Solution

Owens Design's first task was to examine multiple architectures to determine which would provide the best performance / cost ratio. Working closely with several automation suppliers, Owens Design simulated actual performance to determine the best architecture and automation component combination. Owens Design then developed the overall system



*Innovative Wafer Transfer Mechanism
into 300 mm cleaning chambers*

layout in conjunction with our client's process engineers. Owens Design developed the custom wafer handling mechanism that handed off to the cleaning chamber along with the system frame, incoming power and facilities, and integration of the wafer handling components.

The product was successfully introduced to the market and was awarded a prestigious "Top Ten" product of the year by the semiconductor industry's leading trade group.