

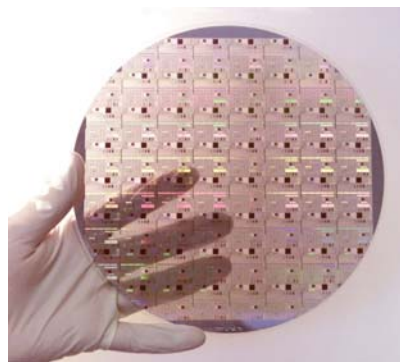


**SEMICONDUCTOR INDUSTRY**

**WAFER BONDING SYSTEM**

**The Situation**

A leading OEM of wafer bonding equipment needed to rapidly implement their next generation bonding process technology into a 300 mm wafer platform to enable their customer's "head to head" evaluation. Winning the evaluation would result in a significant revenue opportunity.



exceed cleanliness requirements. Owens integrated the bonder sub-systems, developed the software, and managed overall system test. The bonder OEM delivered the new system to their customer where it successfully won the "head to head" evaluation.

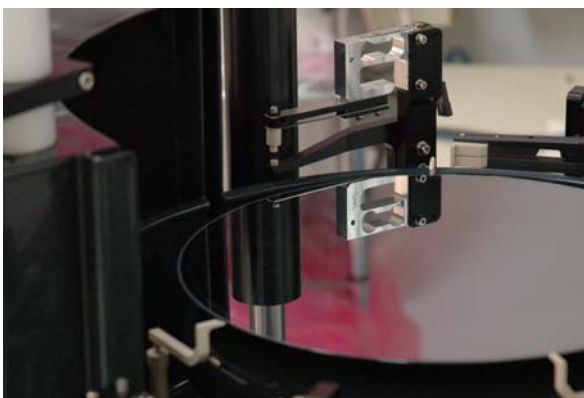
**The Challenge**

Implementing the next generation bonding process required integrating multiple technologies in a wet, clean, small footprint. Wafer cleaning, drying, alignment, and joining mechanisms needed to be

robust, non-particle generating, and compatible with the wet environment.

**The Solution**

Owens Design worked collaboratively with the bonder OEM to productize the best processes identified in the lab. Owens developed the chamber architecture, alignment, cleaning and joining mechanisms, and drying methods. Careful attention to particulates, airflow, and fluid management allowed the bonder to



*Airflow and Fluid Management was Critical to Meeting Cleanliness Targets*



*Multiple Process Technologies Integrated in a Small, Wet Environment*