

## **Redeveloping Control Software for a Metal Organic Chemical Vapor Deposition System**

### **The Client**

Our customer is a frontrunner in nano scale metrology and process equipment tools for data storage, semiconductor and wireless industries. Metal Organic Chemical Vapor Deposition (MOCVD) systems figure prominently in the customer's product portfolio.

### **The Challenge**

The existing MOCVD control software needed to be redeveloped for two reasons: one, to keep abreast of MOCVD equipment enhancements; two, to usher in a common high level architecture and implementation platform traversing product-lines and achieving admirable scale-economies. A further goal was to create a reusable software resource pool crunching turnaround times and mitigating development risks. The project's ambit included designing and developing front-end graphic interface for the control software; developing low-level communication with the hardware components via DeviceNet; developing standalone, offline data analyzer applications; implementing communication layer over a proprietary protocol; and incorporating the business logic layer including the state machine.

### **The Solution**

We developed the front-end application in MSVB v6.0. The business logic was implemented in its entirety using MSVC++ v6.0. Windows 2000 constituted the development and target platform. The MSVB v6.0 front end resided on a separate desktop PC. This application, in turn, communicated with other host PCs serving business logic components for operation on hardware. The business logic underpinning configuration, operation and monitoring was implemented as COM object colonies. Each colony was identified dependent on the functional cohesion between objects. Local data was stored within serialized flat files or MS Access 2000 DB.

### **The Benefits**

Apart from cost arbitrage, the customer benefited from:

- MOCVD control software redeveloped for MOCVD equipment enhancements, and common high level architecture
- Mindteck's core embedded services expertise

### **The Technology**

MSVC++ v6.0