

Siemens fab automation at Inotera in Taiwan

The platform for control

Inotera will be Nanya's first 300 mm DRAM fab – the largest in the world. Infineon will provide Nanya with 0.11 μm technology for the initial ramp up. Later on, Nanya in collaboration with Infineon, will develop production technologies for 0.09 and 0.07 μm process structures. By the end of 2005, 50,000 wafers a month with 0.07 μm technology shall be manufactured – and Siemens WinCC will keep a close eye on their process.

Inotera is a joint venture between Infineon and Nanya Technology formed in November 2002. Nanya Technology is one of the largest DRAM manufacturers in Taiwan and part of Taiwan's largest industrial conglomerate – the Formosa Plastic Group.

A longstanding cooperation

Krantz TKT, meanwhile a member of the M+W Zander Group, had been awarded the

cleanroom contract for Inotera. Siemens Industrial Building Consultants (SIBC), representing Infineon interests, provided the fab design and the tender documents for all facility packages.

Nanya started its DRAM production in 1996. Since 2000 two fabs have been built using Siemens controllers. Subsystem controls are stand-alone systems rather than integrated into a central Facility Monitoring and Control System (FMCS).

Uniform system from fab to facilities

The joint venture with Infineon was the opportunity for Nanya to re-think the previous control system design. Local subsystem operation have proved successful and should be maintained for the new fab. On the other hand, integration of the subsystems including Power SCADA into the central Facility Monitoring and Control System had to be improved significantly.

The result was a re-design of the control system architecture based on Siemens WinCC, Siemens controllers and Micromaster drives. Redundant WinCC servers and clients for the subsystems provide close local operation of the process and the ensure highest reliability. WinCC multi-clients for the Facility Monitoring and Control System allow central access to all subsystems, equipped with Simatic control systems including Micromaster drives. Power SCADA with WinCC SICAM from Siemens could be integrated smoothly into FMCS.

Inotera plans to expand its production capacity in 2005. A second fab will be constructed beside Inotera Fab 1. Siemens is looking forward to continue its successful partnership with Inotera.

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On the road of success: Siemens in the flat panel display industry

Taiwanese and Korean FPD (Flat Panel Display) manufacturers are going to expand their output rapidly. This development is mainly driven by the strong demand for flat screen TV. To keep pace with the rapidly growing demand, market leaders like Samsung and AU Optronics will increase their capacity enormously.

AU Optronics will build a fab cluster in Taichung (Taiwan). Core of the new fab will be a cleanroom with 120,000 square meter.

AU Optronics has been evaluating various suppliers and solutions for its new fab in Taichung and decided to go with Siemens PCS 7 for the fourth time.

Samsung SDI is going to invest into a new fab in Tangjung (Korea).

Since 1999, Siemens has been supplying Samsung Electronics with Simatic technology for their DRAM production lines. In November 2003, Samsung SDI decided to use Simatic for its new fab, one of the most advanced that is being built today.



Picture: Siemens