

## ST MICROELECTRONICS integrates remote supervision in its production control process

ST MICROELECTRONICS uses ALERT for the supervision of the facilities of its semiconductor production site located in Rousset. ALERT is interfaced with its control production system



ST MICROELECTRONICS conceives, develops and commercialises a wide range of integrated circuits and discrete components used in numerous consumer electronics, industrial, automotive, communication and chip cards applications.

With a turnover of more than 7 billions dollars in 2000 for a net profit of more than 1 450 millions dollars, ST MICROELECTRONICS is the world's sixth semi-conductor manufacturer (Gartner-Dataquest 2001 classification).

### The Rousset site

Founded in 1979, the Rousset site is specialized in the manufacturing of the following components:

- 6" Front End: programmable logical circuits (MCU 8 bits, Smartcard), non volatile memories (EEPROM, Smartcard)
- 8" Front End: logical circuits, telecom applications or 16 or 32 consumer equipment, memories embedded in logical functions (EEPROM, Smartcard, Flash).

This site also contains two test workshops for 6" and 8" wafers coming from other ST sites or foundries.

This site is ST's first production site where the mini-environment concept has been implemented. Thanks to this concept, operators can work in class 1000 room with wafers isolated in boxes under class 1 environment.

## Manufacturing constraints

The production of very high level integration semi-conductors imposes great constraints as far as environment conditions (dust, air-conditioning) and resources availability are concerned (electricity, ultra-pure water, various gas...). The conditions and availability of these resources (facilities) must be controlled on a permanent basis so as to react very rapidly in case of problem. Any defect in the quality environment or in the supplying of certain facilities can lead to serious problems in the quality of the produced circuits.

So as to optimise the quality of the semi-conductors production and so as to conform to its Total Quality Management, ST MICROELECTRONICS must ensure the permanent control of the facilities of its Rousset production site.

## Supervision of the facilities

The role of ALERT on the Rousset site is to supervise the facilities and to automatically call the operators in case of defect.

The supervision of the system is achieved via an Intouch supervisor connected in redundancy, interfaced with Applicom PCDDE communication cards.

So as to guarantee a maximum security, ALERT is also set up in redundancy and interacts with Intouch for alarm acquisition (equipment stop, critical levels, quality parameters, machines defects, ...).

When a defect or an alarm is detected, ALERT immediately transmits information to the concerned operators calling them on their DECT phones (vocal communication) or sending them a written notification on the screen of their phone, via the Alcatel 4400 Notification Server Interface.

## Interface with the production control system

MICROMEDIA INTERNATIONAL has also developed a new driver allowing ALERT to directly transmit alarms to the production control, in conformity with the VFEI (Virtual Factory Equipment Interface) interface.

This functionality enables to guarantee an optimal reaction time as far as production is concerned and to anticipate decisions in case of problems.



### Rousset site - key figures

- More than 2700 people
- More than 15 000 m<sup>2</sup> of clean room (1 to 1000 class)
- Production capacity of more than 9500 6" wafers and more than 7000 8" wafers per week.
- The more advanced production technologies for the 8" wafers: 0.25 and 0.18 micron.