



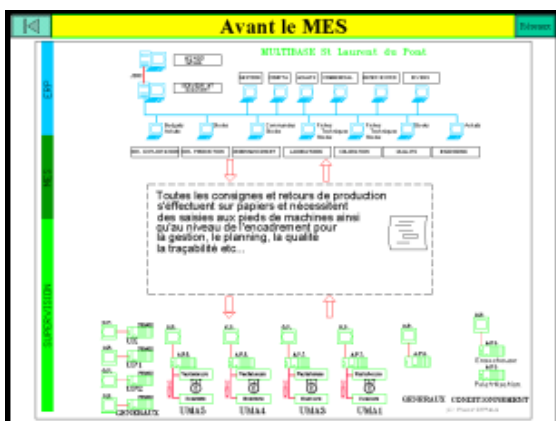
## The MULTIBASE company

Formed in 1980 as a joint enterprise of PATURLE S.A. and OMYA (a leading supplier of calcium carbonate) at Saint Laurent du Pont (38), MULTIBASE business consists of converting various plastic materials for supply to manufacturers of garden, building, car, household electric appliance, packing, sport and leisure goods. The conversion is carried out on extrusion lines that take the raw materials - powders, dyes and additives - and produce "plastic" pellets.

## Project context

The MULTIBASE factory has several departments for planning, manufacture, control and management of products (R&D, Scheduling, Production, Design and Maintenance, Quality and a lab to verify compliance with ISO9001 and QS9000 standards).

MULTIBASE runs complex, overall manufacturing processes to support its entire range of services in both continuous and cyclical modes. All information was transferred by means of **paper files** for each production line. These files moved around from department to department and shift to shift.



A file was started on receipt of order and finished up with service quality, where it was stored for reference in the event of customer complaint.

Each paper-based file contained:

- The weekly manufacturing plan: (batch work schedule, cleaning, ...)
- The batch works order card, consisting of the batch size, formula, machine settings, type of packaging and type of monitoring during manufacture
- The weekly follow-up (machine stoppages, cleaning, breakdowns, ...)
- The batch manufacture assessment
- The raw material sheet
- A list of completed batches
- A report of the quantity produced, the production times, starts and stops
- A scrolling list of defects.

## Installation of MES ( Manufacturing Execution System)

At the same time as it was introducing new production lines, MULTIBASE wished to apply an information processing approach to the entire manufacturing process.

MULTIBASE established several firm guidelines:

- To retain the existing production file, but in information processing form
- To develop control processes and knowledge of tools installed by MULTIBASE
- To set up a flexible solution, adapted to the opening of new production lines
- To achieve a measurable and predictably rapid return on investment.

That led to the choice of a MES installation to computerize all of the production data, with the help of Arc data processing solutions (**PcVue32** and **SQL Process**).



## The Schneider Electric-Euro System participants

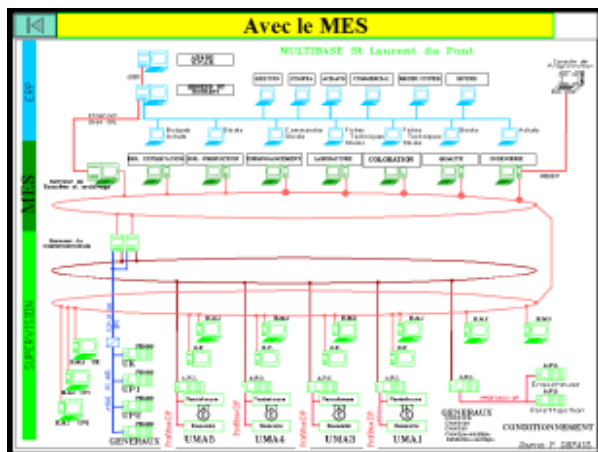
To guarantee the project's success, a partnership was set up with Schneider Electric and EuroSystem (as integrator).

Schneider Electric took on the overall management of the project, while expertise for the PcVue32 and SQL Process developments was provided by the EuroSystem teams.

## Retained architecture

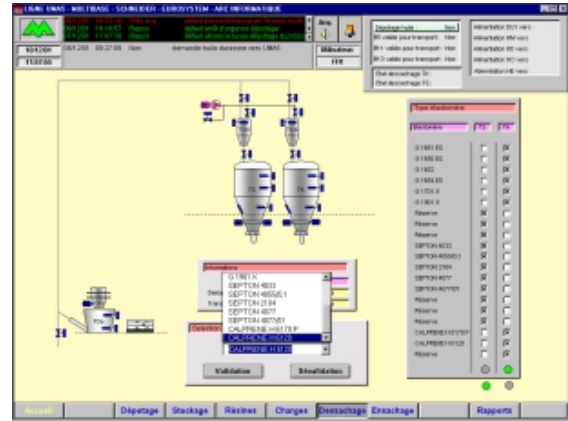
The overall process is based on a redundant architecture of two **PcVue 32** and SQL Process stations connected through OpenModbus TCP/IP to Schneider devices on the various lines. SQL Process feeds a SQL Server database that stores all of the information required for the MES.

Another Ethernet TCP/IP network is installed in the same area to connect the local operator's desk (a **PcVue 32** client station located at the base of the machine) and the supervisor's station (another **PcVue 32** client station). These stations manage around 3500 control points on each line.

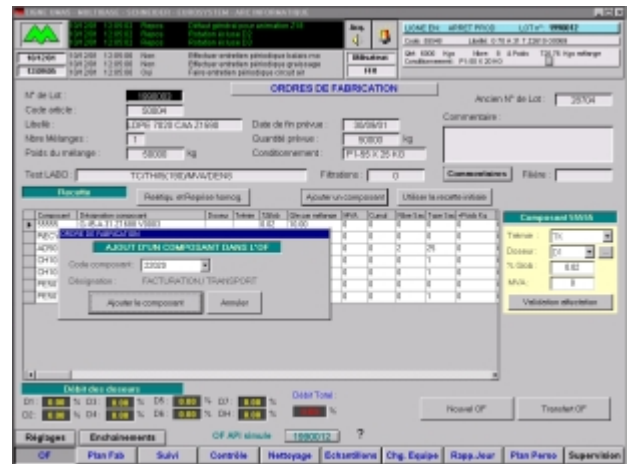


Through a Profibus DP field bus, each device performs sequential and event operation, faults and safety measures. It also handles:

- supply batch processing (with data acquisition from 4 batch hoppers out of 25 concurrent products)
- temperature control
- input from bar codes readers



An Ethernet TCP/IP network is installed in the same area to connect the local operator's desk (located at the base of machine), the supervisor's station and the devices.



## Summary

This solution affords many direct advantages:

- Improvements to productivity and repeatability of production (a yield of around 2%)
- Reduction of downgrading and complaints, due to better traceability
- A resourceful, reliable and secure data storage system that enables reporting and analysis of production data
- Better responsiveness, thanks to real time information on production status
- Improvement to equipment availability, through analysis of stoppage causes (by at least 10% of stoppage rates).

In all, the installation of MES provides a reduction in manufacturing costs and improvement of customer service in terms of time, costs and quality.