SIMIC AUTOMATION & SERVICES

Client: Egidio Galbani SpA   **Plant:** Corte Olona Plant

SCHEDULE AND CONTROL OF A FRESH FOODS PRODUCTION WITH TACKING MANAGEMENT
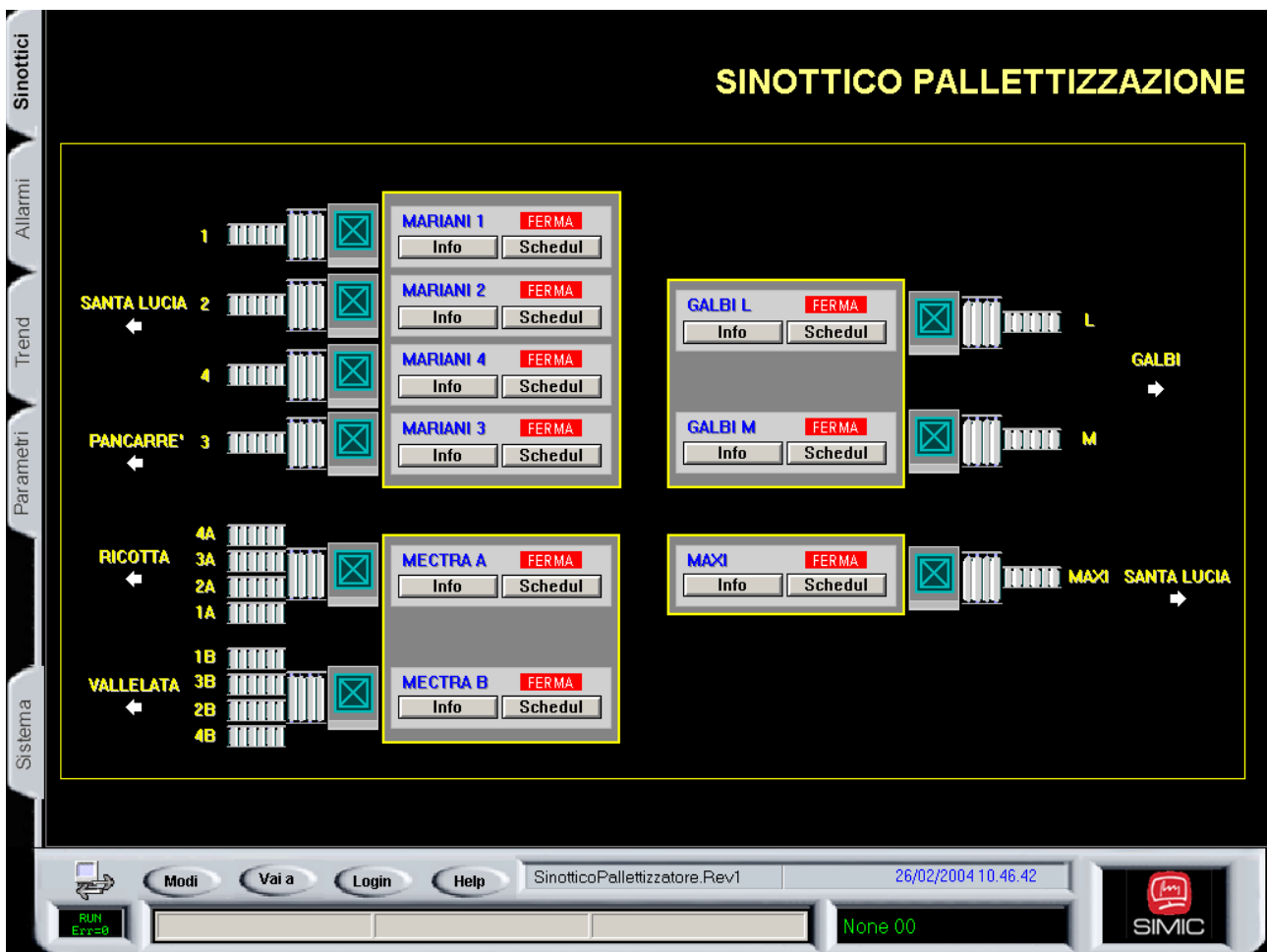

Figura 1: Overview Pallet stacking area

System Architecture and Configuration

PLC	Siemens - Simatic S7	
CPU	S7-400 – S7-300	
Network	Profibus:	PLC Network
	Ethernet:	Between HMI and SQL Server and PLC master

Supervisior	Intouch (Wonderware)
DataBase	Sql Server
DB Exchange	ODBC

One time use transponder thin as a paper sticker

Low cost product , can be reused, inserted in a PVC tablet allows all pallet data to be written besides which factory routing.

Every pallet which is completed is uniquely identified and carries a TAG as shown left.

Operator Panel TP170

All lines and pallet stackers come with Touch screen operator panels which can execute all pertinent operations as:
- Start/Stop Pallet stacking
- Start/Stop Production
- Message/Alarm management

Unit client

From the Unit Client it is possible to:

- See and start all production as established by Planning
- Modify the production sequence
- Query production status

Shipping Client

From the Shipping Client it is possible to :

- Lookup in transit product
- Manually print stickers in case of emergency and/or hand assembled pallets. All critical operations are stored by type, date and hour.

Industrial Server

The Industrial Server Database contains all data pertinent to ongoing, completed and/or planned production. Data entry is done in two ways:

- Directly from a Client for unit operator commands
- From the Unit master PLC for all data coming from the production lines and pallet stackers.

Functional specifications

The system, implemented in the Galbani factory in Corte Olona, carries out schedule and control of a fresh foods production plant with tracking management.
The system, based on daily data coming from Planning reorganizes and defines specific operational plans for single production, packaging and expediting units.

Data received and verified are passed on to the Unit Master PLC and with the Touch Panel, are managed by the pallet and production operators.

All data pertaining to a single production, as start time, what operator initiate it; production quantities etc are managed and stored by the system.

Further, for every single translation unit, the system, acquiring data from the carton scale, stores data with reference to carton weight, pallet weight, number of boxes etc.

Storage of information is relational database structured thus allowing subsequent tracking management in the factory and querying the system it is possible to know stock level information, product expiry date for any given product

So, as not to be tied to complex and not always reliable tracking systems, the specific data are written on a transponder positioned on the pallet.

Reading the transponder in any given fixed point of its journey pallet destination management is handled (warehouse Italia, abroad warehouse, Picking, Shipping, etc) with a complete reliable and automatic internal logistics process.

The system has another autonomous capability, that of allowing production and traceability even in the absence of a unit client since:

• The unit Master of area manages communications between the other dedicated systems i.e. Translation, pallet stacking, scales, scanners etc.

• The Industrial Server is in communication with all the master PLC's and with all the Clients in the factory.

Furthermore all Clients are interchangeable since identical and allow full operations from any one given the appropriate access level.

Figura 2: Overview Department Scheduling Outline

Plant figures

Production figures are:

- 30 production lines
- 5 production units
- 9 automatic Pallett
- 7 manual Pallett
- 1000 – 1500 Pallet processed daily