Gémina©

INTEGRATED AUTOMATION SERVICES

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Procesos Alimentarios, S.L.

Integrated automation Services

(GÉMINA Procesos Alimentarios)

Gémina Automatización y Robótica Integradas, is the Gémina Procesos Alimentarios automation and robotics department. We have 25 years of experience in the food sector; providing services such as programming of processes and equipments, monitoring , adquisition, recording and analysis of data, besides development of custom-made process applications.

#1 Integrated automation

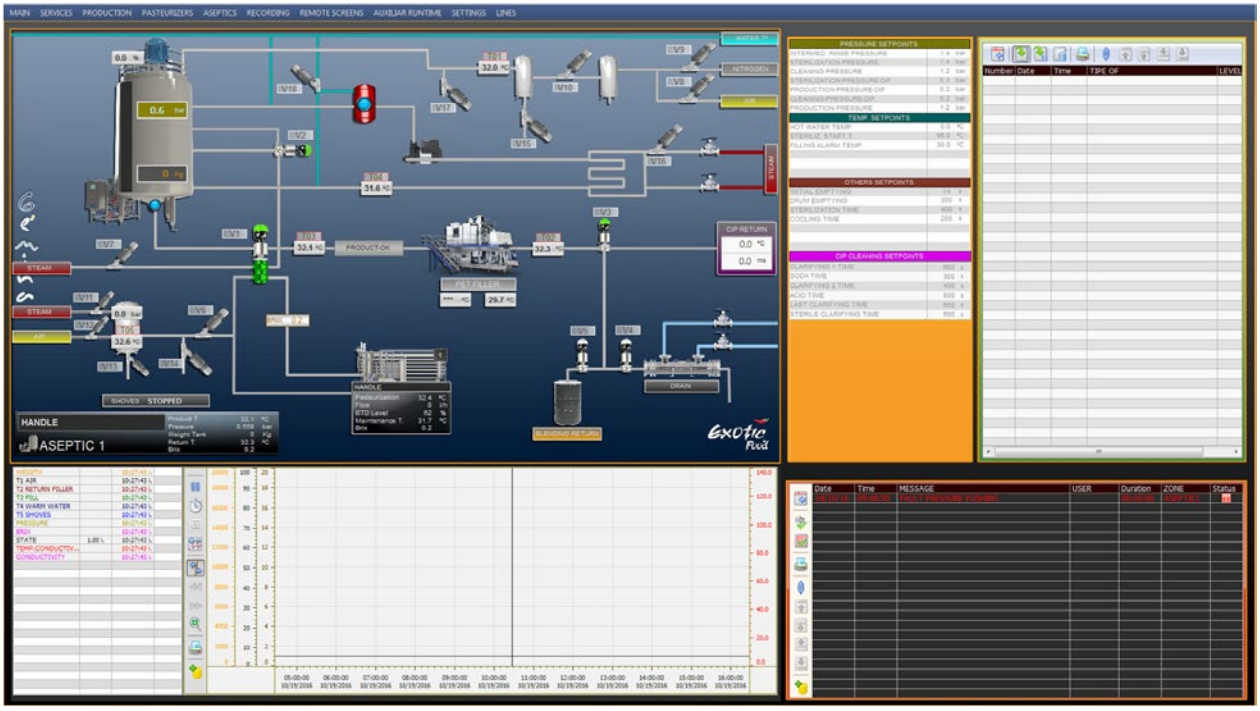
The automation of Industrial food processing is a reliable investment in the food industry. It consists on controlling, verifying, showing and registering the procesing data provided by the equipment during its working, improving its performance.

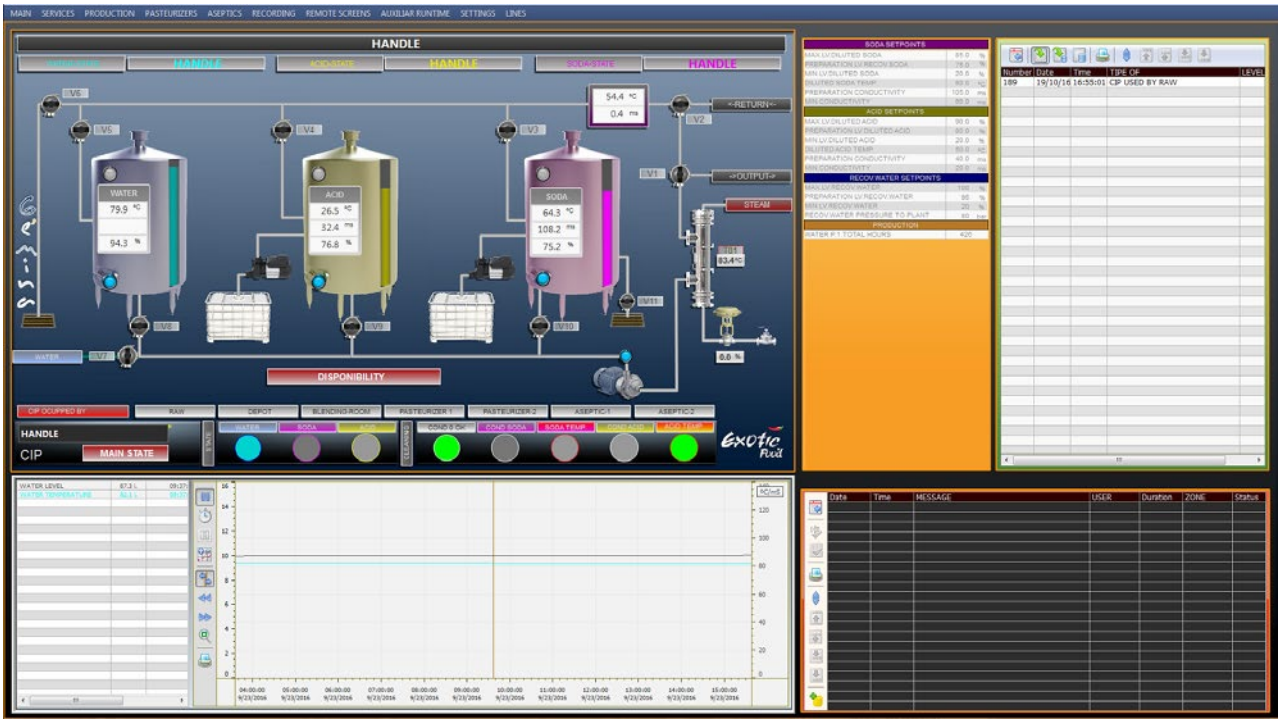
With this data recordings can be carried out analysis to study different production process parameters such as the sterilization factor, the efficacy of CIP cleaning process, energy consumption of process equipment and ancillary equipment, thermal processes control, quality of production, material control, traceable system, etc.

The products which have best quality and safety at the best prices dominate the market. Automation gives an optimization of production processes which revert to an adjustment of costs and a bigger control of quality parameters and food safety.

Exotic Food Thailand **Process Automation**

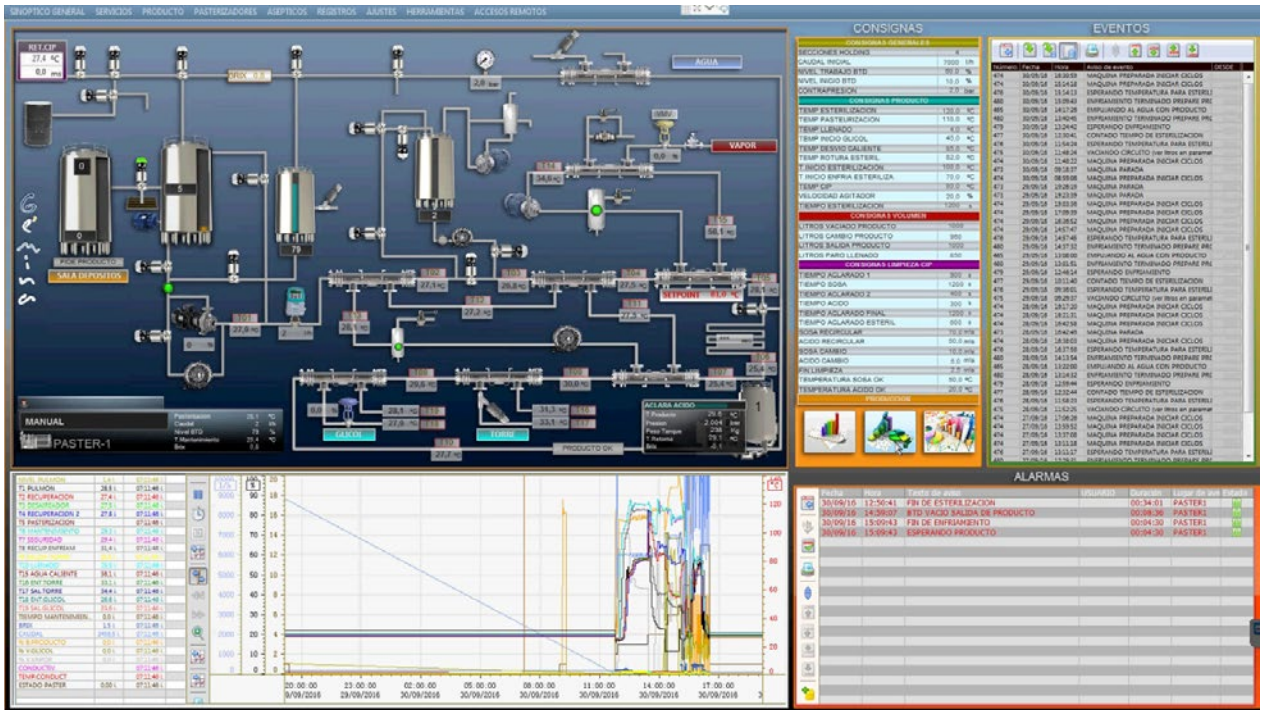
Automating integral system which includes process data and records of a two lines system for processing sauces. Custom-made software which controls online sterilization factors, the efficacy of CIP cleaning process, user management, productivity and consumption.

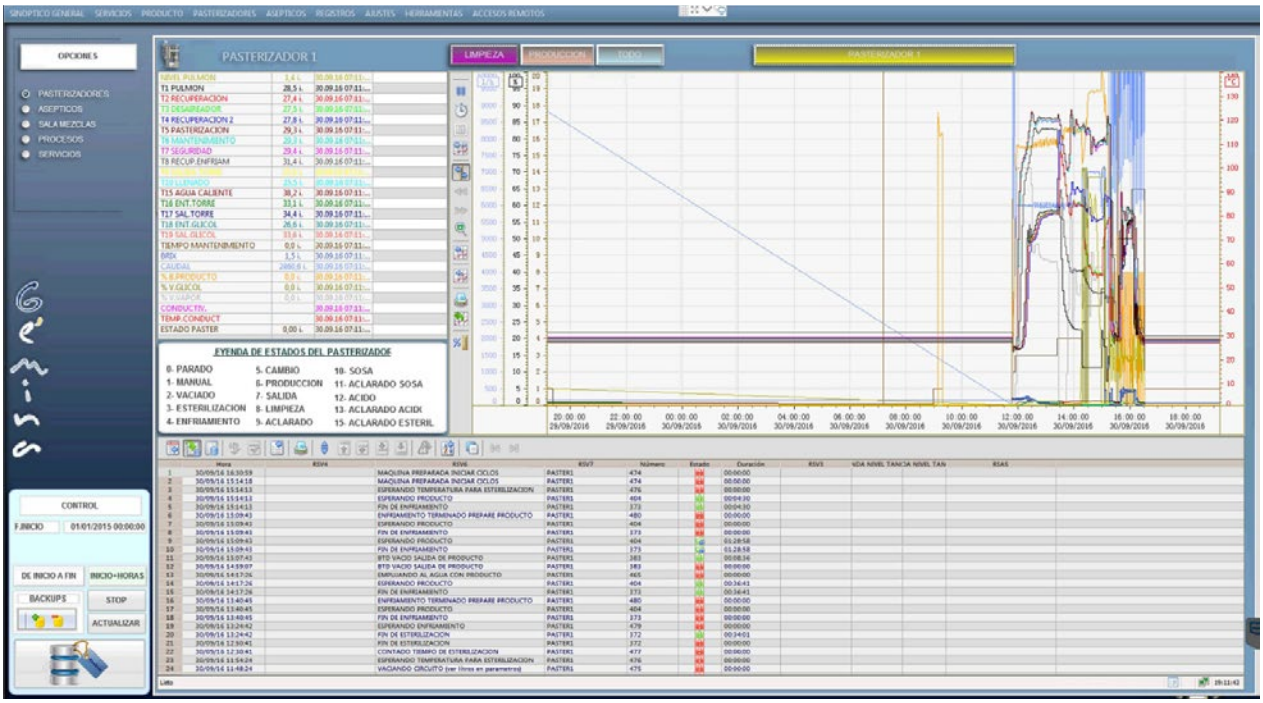




Coolvega Process Automation

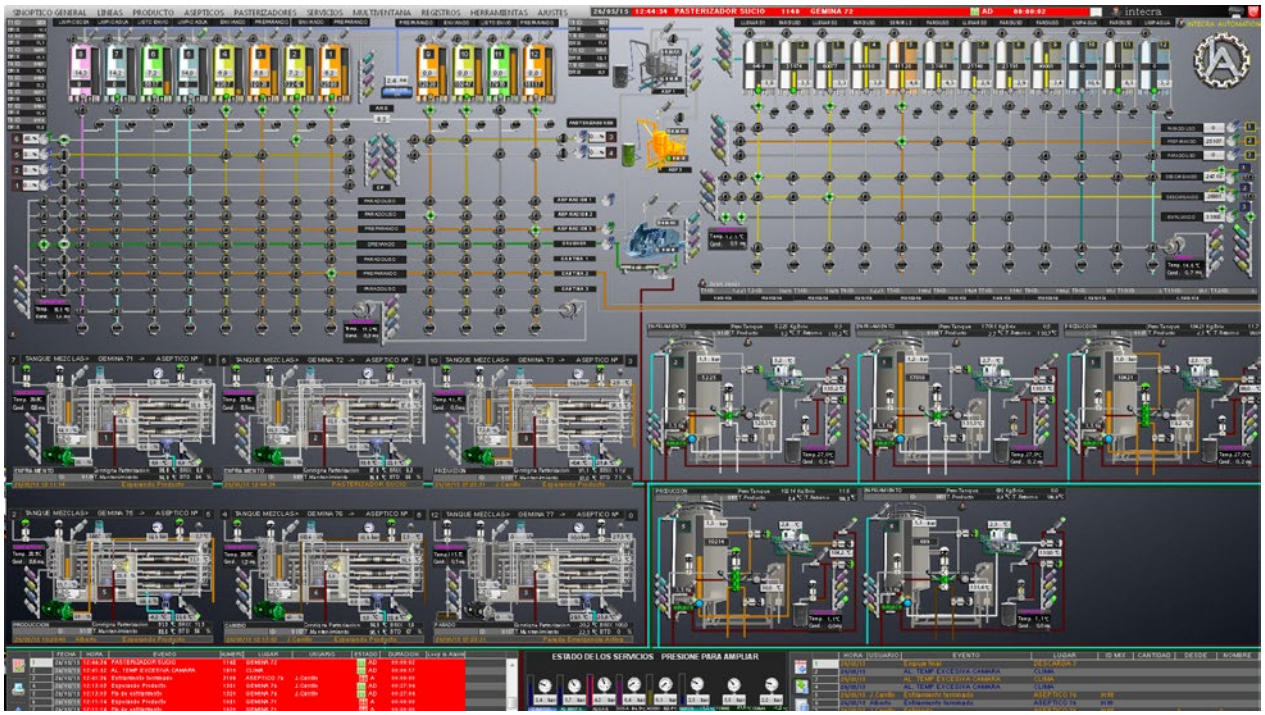
Automating global system which includes data and records of process of a multicomponent system which processes vegetable creams. It allows different process configurations according to controlled position of the multitrack.Sending of alarms and process events by SMS and email, custom-made software to validate the CIP cleaning process.

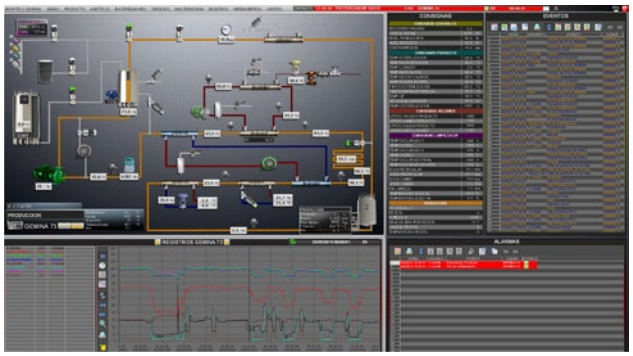


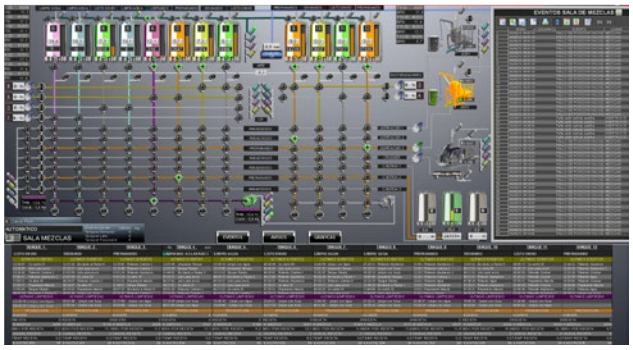


AMC Vlissingen Process Automation

Automating global system including the data and records of process of six processing lines for juices and drinks. It has integrated control of recipes, unique code control of raw material, CIP process data, users management by RFID system and registry of equipment efficiency and energy consumption.



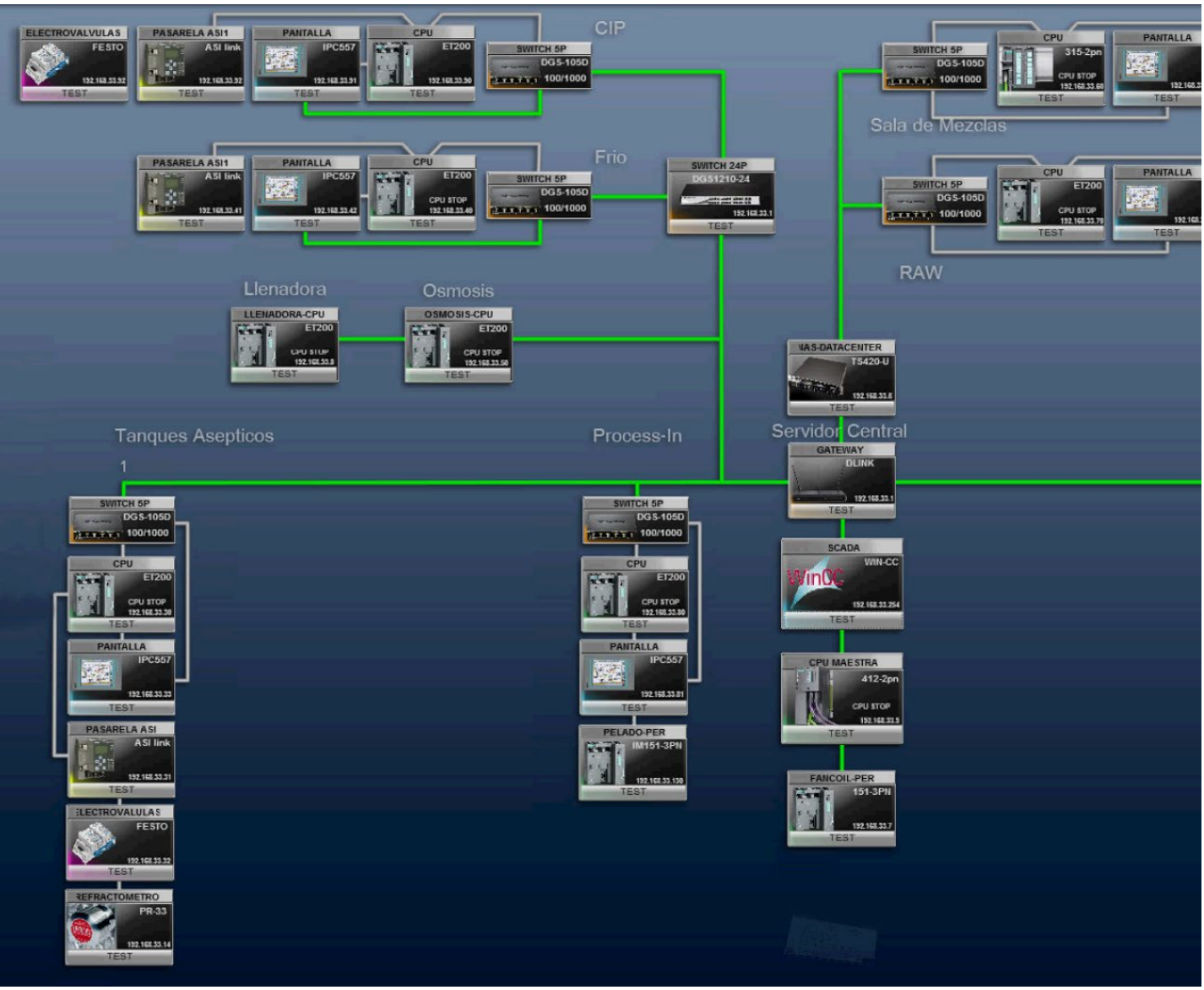




Features

Industrial communications: Interconnection of plant elements and centralization of process.

- PROFINET technology. Different fieldbus interfaces
- Trustworthiness and toughness
- Immediate response.
- Real-time control.



Central server: Tough computer systems adapted to customers for data recording and protection.

- It is equipped with breakdowns security systems and protection of data recorded.
- Installation of display screens
- "Cloud" information replication

- Unauthorized access protection
- Gémina online assistance

SCADA System (Supervisory Control And Data Acquisition): Real-time control of production process and process data recording for later analysis.

- Studies of Production times
- Processes sequencing.
- Resource optimization
- Time programing for saving energy or starts-up.
- Statistics of the factory users.
- Energy control and calculations of individualized performances in every installation component.

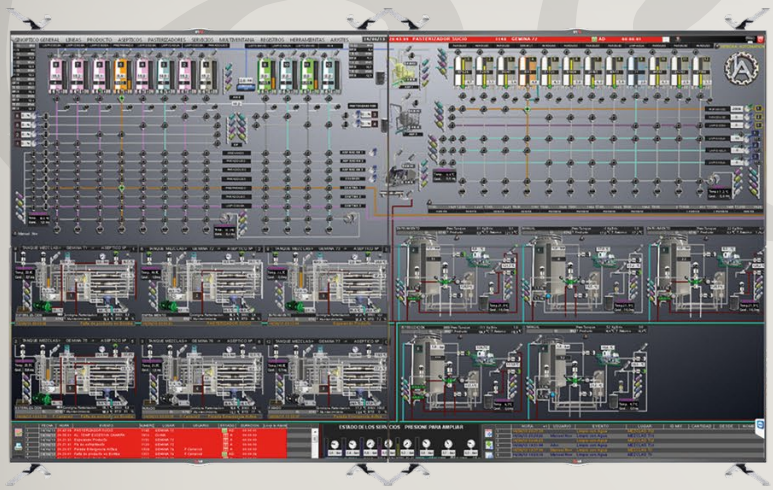
Data analysis: sending of personalized reports, which are also available through mobile phone, tablet, PC's, etc.

- Generation of production tables which allow to study all the quality control parameters needed, getting in this way reports which comply with the most exigent food quality protocols such as BRC o IFS.
- Statistics of process data for carrying out preventive maintenance and avoiding production stoppages.
- Notifications of Critical fails or programmed events by SMS, speeding up breakdowns reparations.
- Control and management of stock, raw materials and finished product.
- MES concept

Advantages

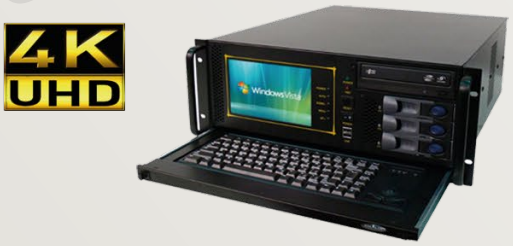
- The productivity and the control of process increase.
- Less staff is required.
- The global and integral quality of the company improves.
- The quality of products improves.
- Getting certifications such as BRC, IFS, etc. is easier.

Designing the industrial net



SCADA (Supervisory Control And Data Acquisition)

16K resolution in a 100 inches led monitors wall. (7680x 4320px). The monitors can work together or separately showing data recorded or specific functions as tables, alarms, energetic consumption statistics, process information, equipment performance, user actions or even controlling others factories by remote control at the same time.



INDUSTRIAL SERVER PC

Redundant hard drives.
Redundant power.
Redundant network.
Four 4k monitors.
Factory control and viewing.
Hard drives of high speed read.

EQUIPMENT FOR REPORTS

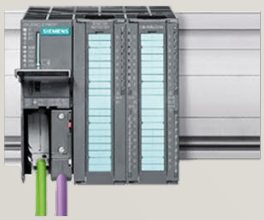
Daily, weekly or monthly printing of tables, statistics, output data and energy consumptions.

SWITCH NETWORK

Access control rules.
2Gbps individual broadband.
Latency inferior to a 1ms between components.
VPN remote assistance.

COORDINATOR COMMS PLC

Operational time cycles lower than a 1 micros



REMOTE ASSISTANCE

0 km's between advertisement and diagnosis.
Minimal stop times.

NAS

Data security through mirror hard disks.
8000 GB of data.
Easy integration in the network.

AP'S FACTORY

Data transportation to mobile customers for diagnosing immediate fails.
It is equipped with the last technology AC + N.

MOBILE CUSTOMERS

Diagnosis tools, barcode reader, SCADA remote control and automated HMI equipment.

LOCAL SWITCH OF EQUIPMENT

It connects the local equipment to the main network at high speed of data transmission.

HMI (HUMAN MAN INTERFACE)

Ease of use, local records, intuitive operability.

PLC MACHINE

SECURITY SYSTEM: LOCAL USER ACCESS

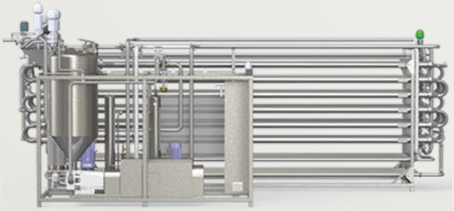
- 125khz
- nfc
- HID

ASI GATEWAYS

Fieldbus: ease of components substitution.
Easy installation.

INDIVIDUAL USER TAGS

A card for each employee.
Register of user events.



Specifications

Industrial communications

- Guaranteed and optimized communication cycles.
- Unlimited nodes and number of stations.
- Scalable factory (future extensions)
- Easy integration thanks to standardized Ethernet media.

Central server

- High speed for managing big databases.
- Possibility of interconnection servers (Data comparision between factories of the same customer)
- Virtual connections with customers without using VPN

Scada

- Data exchange with ERP systems.
- Design of recipes or downloading sets to the machinery.
- Automated selection of production lines.

Data analysis

- Calculation of Production performance (KPI)
- It assures the compliment of current regulations such as the 50001 legislation.
- Sending by email and SMS.

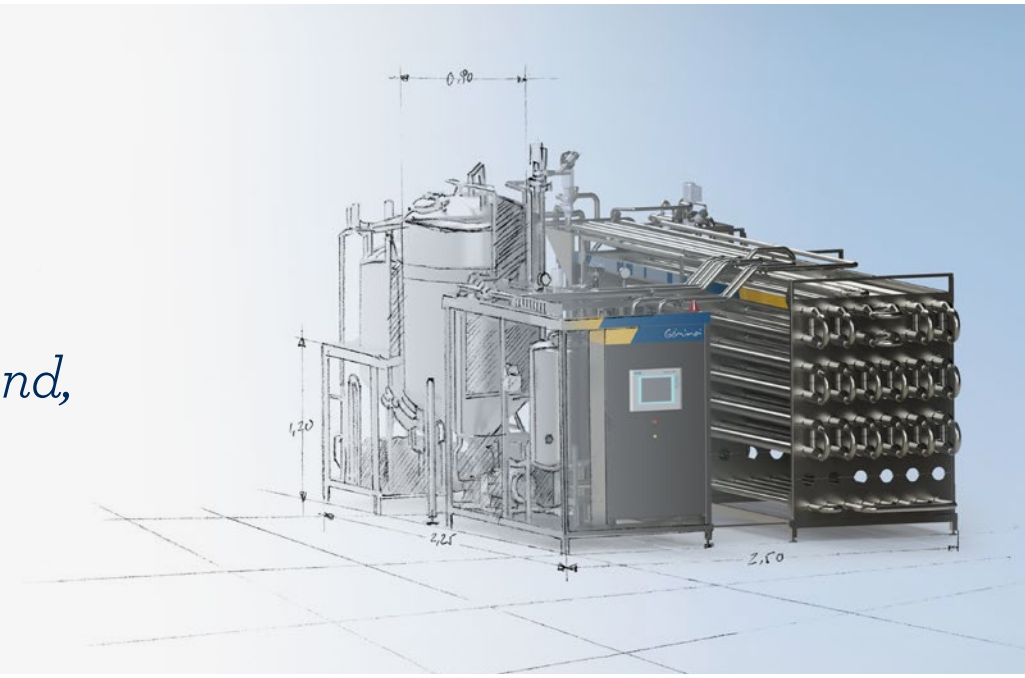
Our Company

Gémina© Procesos Alimentarios, S.L.

GÉMINA Procesos Alimentarios, S.L. is located in Jumilla, Murcia, a spanish autonomous region which is a model in food production.

GÉMINA has 25 years of experience in designing, making and integration of systems which offer innovative solutions for the food sector industry.

You imagine and,
we do it.



Business lines

Design and manufacture of machinery

- Design, manufacturing and integration of process equipment and food aseptic packing.
- The Manufacture is completely carried out in our installations.
- All our machinery has CE safety certificate and complies with the most exigent standards.
- I+D+i: We bet on technology innovation.

Engineering and design of processes: Projects management

In Gémina, we love our work and, therefore, our engineering department includes from the design, the calculation, the manufacture, the assembly, the automation and the start up of machines and installations. Therefore, we include a global and integral management of all our projects.

We care of every detail of the process and we advise our clients to optimize their product elaboration procedure. Gémina designs every process adapting it to the customers' requirements and standing out our customers' products among their competitors.

- Versatility and flexibility: we can plan from a plant, a simple line expansion to the installation of an equipment in a process.
- Ability of adaptation to different places and circumstances.
- Our engineering department has a big technical capacity and a long experience in this area.
- Gémina guarantees your success because we manage the whole project, reducing risks, costs and deadlines

Services Provided

1 - Technical assistance service: Alfa-Laval official technical and distributor service

- Maintenance service.
- Installation service.
- Calibrations.
- Replacement parts services.
- "Training" service.
- Online monitoring of production process and breakdown resolution.

2 - Automation and Robotics

- Automation of custom-made processes: integral solutions.
- Total Control of the process: SCADA systems, record and control of data.
- Custom-made robotics applications: different solutions for different necessities.

3 - Food Quality

- Optimization, development and validation of processing and packing equipment, besides of food elaboration processes.
- Consultancy for implantation of standards such as: BRC, IFS: ISO 22.000, FSSC...
- Product development [process + formula].

Customer Service

Gémina is characterized by its exclusive and permanent customer service. Our vocation is to become part in an operational way of the companies which we work.

Our closeness, technical competence, wide experience and self-confident are some of the main features why our costumers place their trust into our equipments and services.

Industries

Industrial sectors where GEMINA develops its projects:

- **Dairy industry**
- **Tomato industry**
- **Juice and drink industry**
- **Vegetables and fruits industry**
- **Citrus fruits industry**

Products catalogue

Aseptic fillings
Aseptic machine which fills metal drums with pre-sterilised bags which have pressurised cap. Besides, it also fills carton containers

Bag in box
Aseptic filling automatic feeding of pre-sterilized bags which have pressurized cap and a low volume (1-20 liters)

Extractors
Processing of a wide variety of products to get a puree free of seeds and peels.
Different methods of using: extractor or refiner

Heat exchanger
We offer all kind of models and designs, from single-tube to partial ones or rough surface exchangers.

Forced circulation evaporators
Concentrators which have great capacity and performance for products having great viscosity and a high content in solid matter.
Multiple stages which are adapted to the process and needs.

Hot/cold break units
These units process tomato puree and tomato paste guaranteeing the total or partial deactivation of the pectolitic enzymes and allowing the preservation of the pectine.

Laboratory pilot plants
Pasteurization and aseptic packing in the laboratory of small product samples , such as juices, soda drinks, vegetable creams, soups, etc.

Tubular pasteurizer
Project and constructive development of pasteurization plants adapted to different needs.

UHT
Low- acid liquid products (pH>4.5 for milk pH>6.5) are treated at 135-150ºC for a few seconds with indirect heating or direct steam injection.

Heaters and coolers
Heating of products before getting through treatments such as refining or mixing. Cooling previous pasteurization treatments.

Cream extraction plants
Cream extractions of all types of fruits and vegetables, in both cold and hot extraction processes.

Aseptic Monoblock
Integration of an aseptic filling in a pasteurization plant, creating a compact, functional and versatile machine which is adaptable to a wide range of products.

Crusher
Defrosting of stored products such as fruit juices, fruit and vegetables pastes, creams, sauces and so on.

Piston Pump
It is conceived to pump viscous products, big particles of products (fruit in cubes or in pieces) or product which are sensible to shear stress.

Inverse osmosis equipment
Reduction of salinity of salty waters and sea waters.

Blending room / blending
Blending by recipes from database and transference of process parameters to pasteurizers.

Emptying of cans by aspiration
Unloading of metal cans and aseptic bags in blending rooms through emptying techniques in very few seconds.

Cip systems
Cip systems are used to carry out the chemical cleaning of food installations in a completely automatic way.

Processing tanks
Storage in aseptic packing tanks for high and low ph products, in liquid or viscous products.

Blending tanks
We have a wide range of vertical and horizontal tanks with different types of shaking and volumes. They are adapted to process needs.

Storage tanks
Storage rooms in stainless steel tanks having standard volumes or custom-made volumes.

Finisher or pulping machine
It refines crushed product to remove peels, stems and seeds.

Hammer mill
It is a grinder of pitted food (vegetables among others) for processing raw material.

Robotics
Robotic applications in proportion to palletized/ depalletized for the start and the end of proccesing and packing lines.

Gémina®
Procesos Alimentarios, S.L.

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