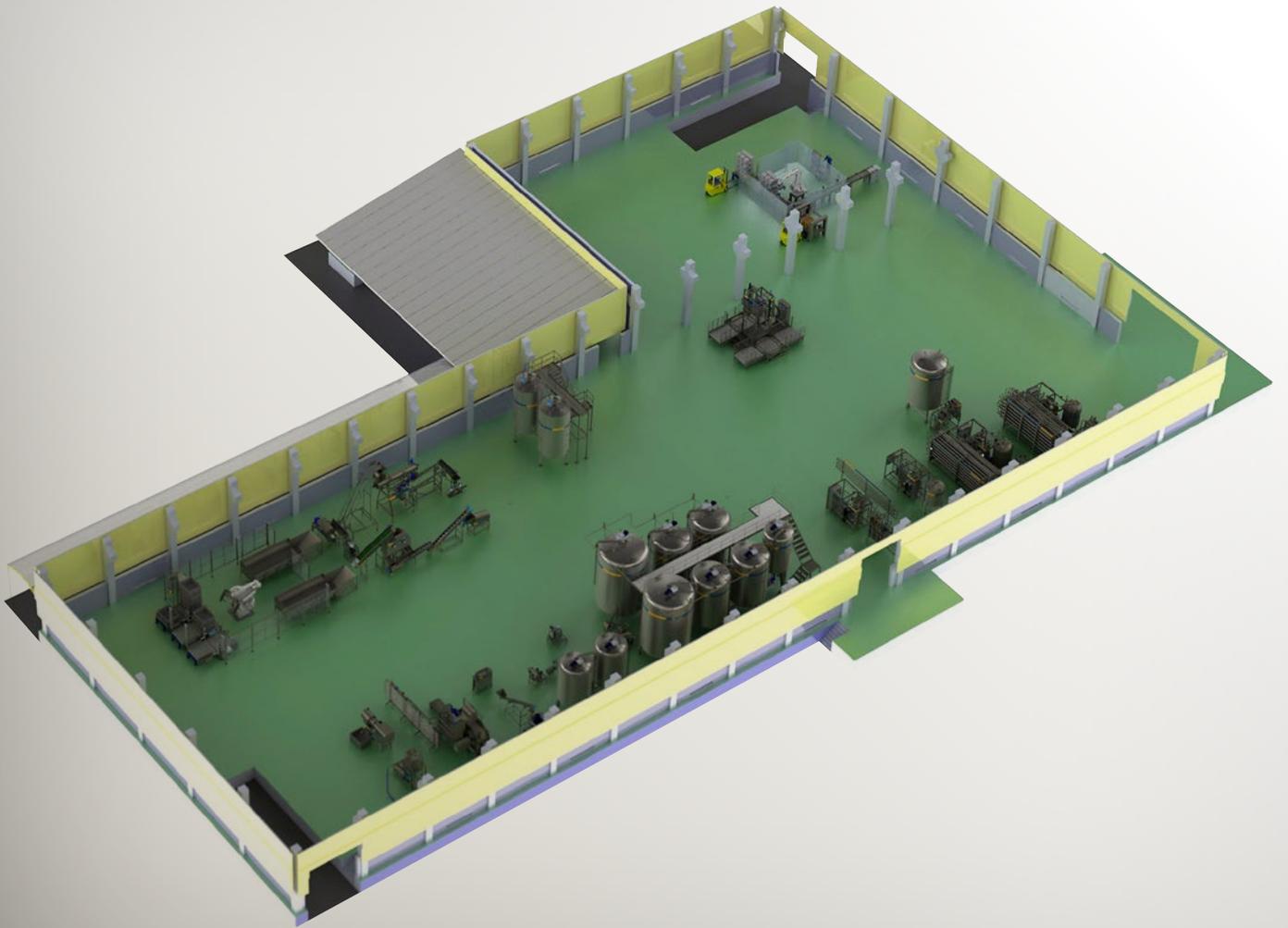


Géminis[®]

FOOD INDUSTRIAL PROCESSES DESIGN



Géminis[®]
Procesos Alimentarios, S.L.

Engineering: Food Industrial Processes Design

(Design of Processes– GÉMINA Procesos Alimentarios)

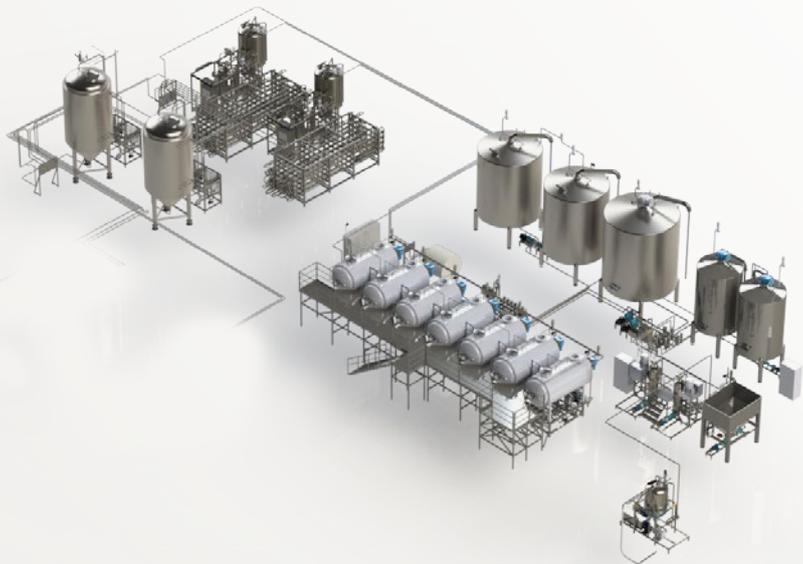
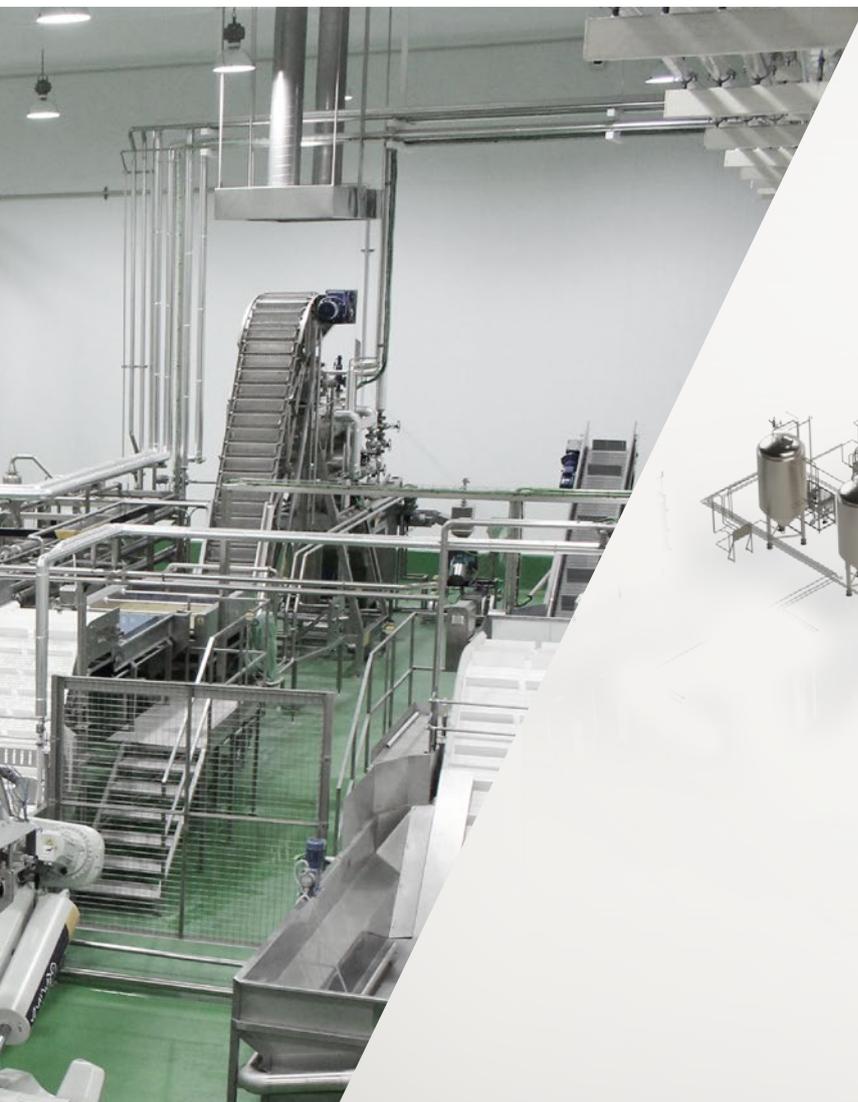


More than 25 years of experience in the food sector giving services of engineering, projects, designing and implementation of factories and industrial processes, turnkey projects and technical advice.

Machinery manufacturers and project integrators for food industry solutions adapted to your needs.

Gémina offers effective solutions to complex processes.

We deal with new projects, expansion of existing projects, or the integration of new equipment in a process. Our technical department offers engineering services for the projection and development of industrial companies in the food sector.



We offer a complete solution for your project, planifying and managing the whole project:

Industrial Project: Turnkey project

- Technical advice.
- Design of processes: We study your situation in detail helping you to improve
- Food products development
- Civil work project: installation adapted to your process.
- Analysis, calculation and selection of process equipment and auxiliary service equipment.
- 3D simulation: Distribution of equipment and pipes
- Installation of process equipment and ancillary equipment: chilling equipment, boilers, compressors, water treatment equipment, etc.
- Execution of complete installation: pipe systems, ancillary services...
- Automation and robotics: complete integration of equipment and services.
- Start-up and validations.
- Certificate of installation and start-up.
- Complete documentation.
- Implementation of food security protocols: BRC, IFS...
- Maintenance plans: online and in situ service.



Successful Cases



AMC Vlissingen

Juices Industry

Process developed for AMC in its facilities for the production of drinks and juices in Vlissingen (Holland) in its industrial sea port.

The project included from the design and the manufacture of equipments in our facilities to the installation in situ of all of them: the complete pipes system of the factory, installation of ancillary services, and the start-up of the whole process, all of that integrated in a global automation system.

**Annual production of
120 Millions of
packaging/year**



From the design to the manufacture



Reception of raw material

Crusher system with tubular heater in line for defrosting of raw material with a drum feeder robot.



Vacuum aspiration system

Automated storage room for the reception of raw material in lorries and cold storage of food. System of recipes and raw material codes which offers a complete control of the stored raw material.



“ Automatic multiple system for the reception of raw material: Unloading of lorries by pump system, suction of liquid product in aseptic bag and pouring and grinding of frozen product”



“ Six processing lines compounded by pasteurizer and aseptic tank. All the equipments are combined thanks to a completely automatic mixing room which has included recipes management and recipes control.

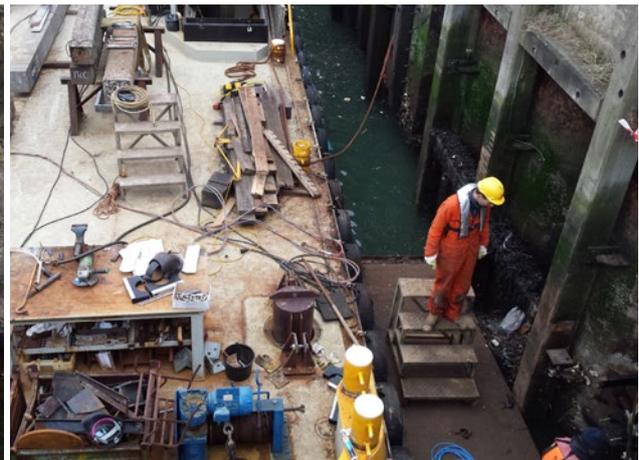


Aseptic filling in drums for storage and preservation of prepared product.

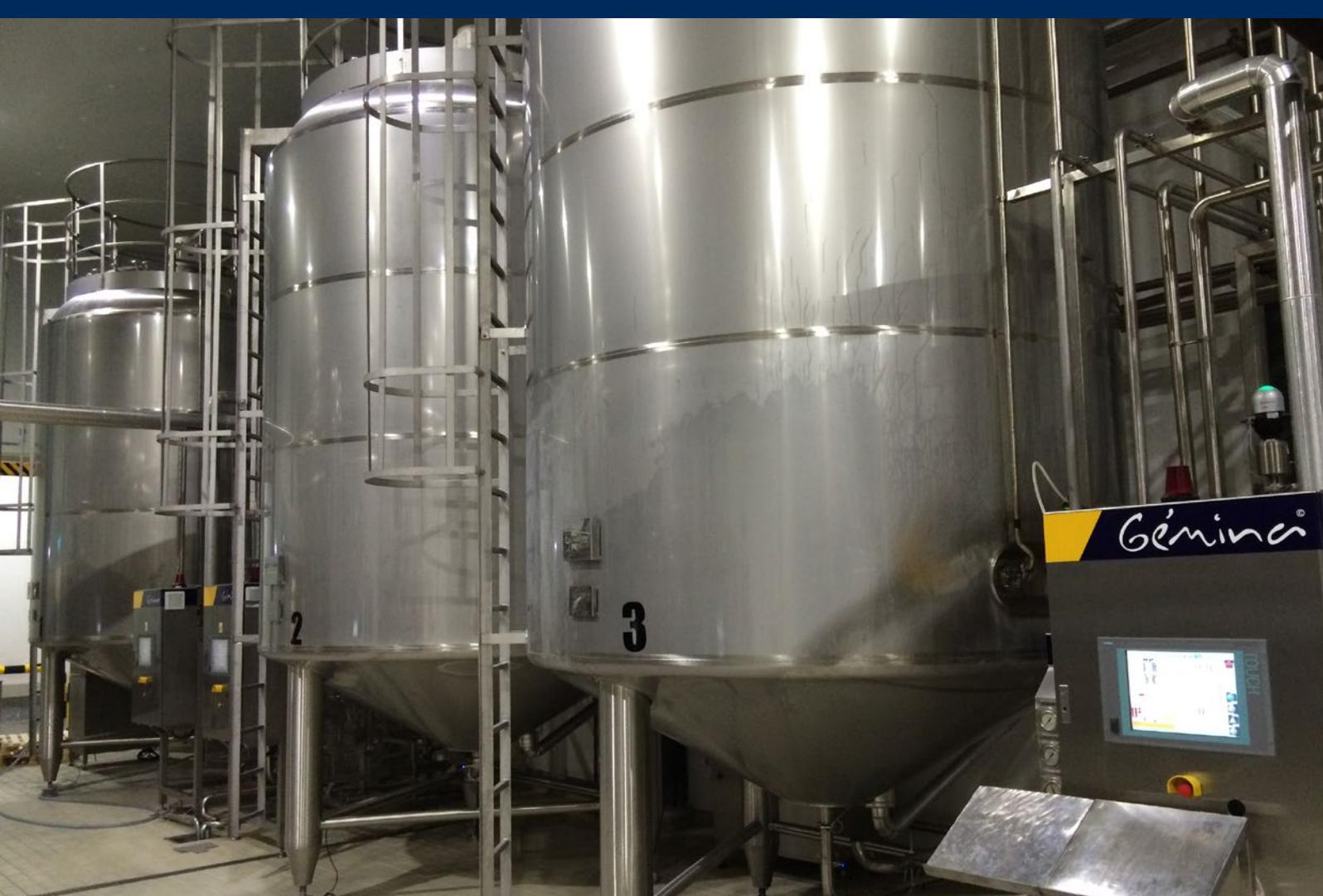
Ancillary services: Industrial chilling equipment for cold store rooms and refrigeration of equipments.



Exclusive system of refrigeration by sea water which was executed in the port and allowed to do without cooling towers and to reduce the energetic consumption of cooling equipments. A set of pumps installed in the seabed pump the water through a subterranean pipes system towards the services room where the water is returned to the seabed in a controlled temperature.

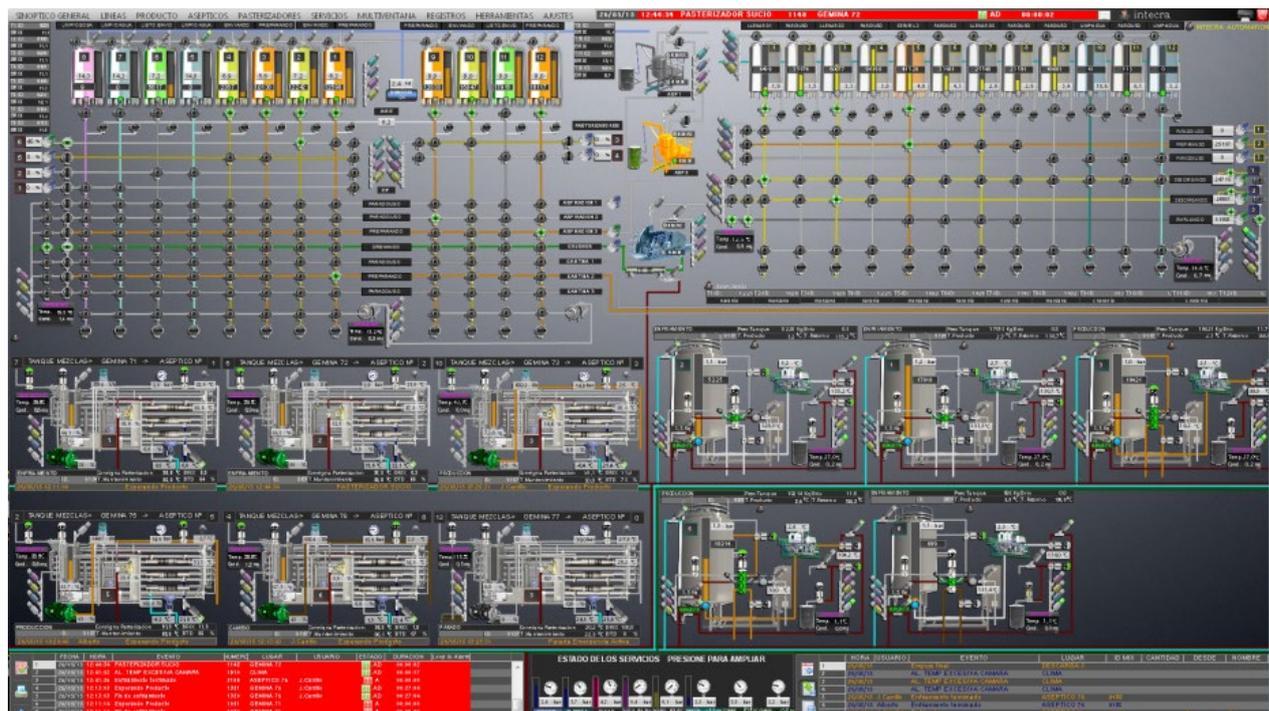


System patented by Gémina, which offers a competitive advantage to AMC over its competitors in the juices sector, for the production of sets of 5.000 to 10.000 l/h. Thanks to the sterile air or nitrogen thrust system, which reduces significantly the volume of loss in the production. It is the ideal system for producing a lot of diary low volume lots, considering that loss of only 20 liters are resulted between start-production-stop processes in comparison with the average loss of 500 liters in the juices sector. This system is even applied to sterile areas of the plant, allowing to restart another production without re-sterilize. We advice you to consult the catalogue "Reduction of loss in production" to get more information.



Cleaning CIP system which is completely automatic of simultaneous lines. It can carry out simultaneously different cycles in different lines and equipments, without waiting periods of time.

Integral automation of the whole process adding data register, users control, print of reports, energetic consumption control, etc.





Exotic food

Sauces and byproducts industry

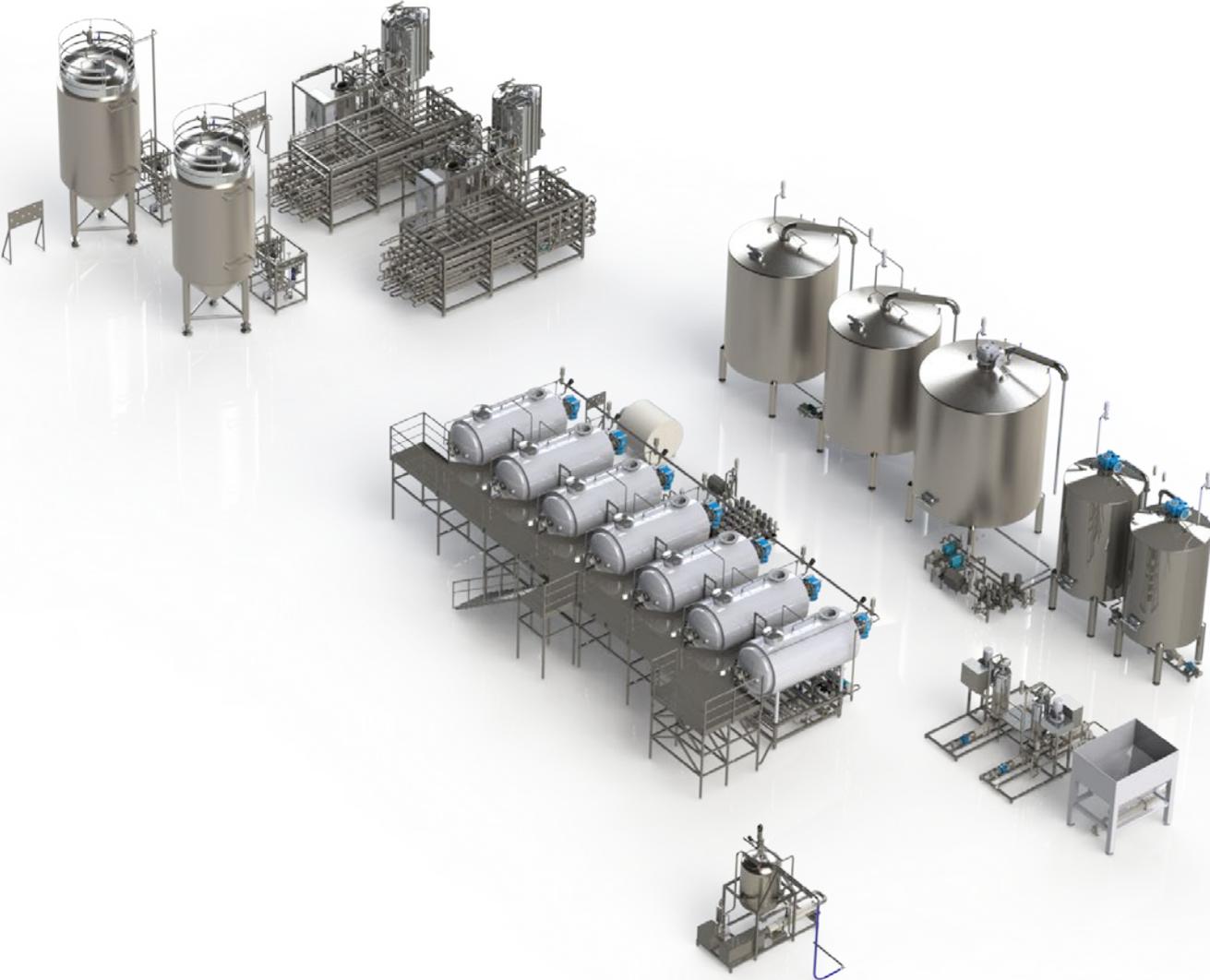
Project developed for Exotic Food for the production of chili sauces and byproducts in their Amata City installations (Thailand).

Production capacity
60 Millions of
packaging/year



A unique process, conceived and designed for satisfying the special needs of the treated product.

From the design to the manufacture:





Until the installation and the start-up



The process is completely automatic and integrated for controlling the production and registering the process data.

Reception of raw materials through suction and discharge systems with different communication ways with other equipments, these are combined by recipes edition through an automatic valves system.



Automatic raw material room with preparation and recipe record for dosage of different ingredients such as chili, sugar, pieces of vegetables, garlic sauce... and combining a kitchen of 7 heated tanks with mixing for recipes preparation.

Two pasteurization lines both including aseptic tank.





Coolvega

Creams, Juices and Drinks Industry

Project developed for Cool Vega for the production of vegetable drinks, juices and natural creams.

**Annual production of
80 Millions of
packaging/year**



An exclusive and versatile process designed for satisfying the needs of a huge variety of products and connected to the production of small lots.

From the design to the manufacture:



Reception of raw material: A robot feeds two different processing lines with pallets of fruits and vegetables weighing 400 kg each one. One line processes all kind of fruits and vegetables, and the other line is conceived for processing melons and watermelons.



New development for the production of melons and watermelons: extraction of the pulp without mashing and mixing the outer rind, which produces an exquisite quality pure melon or watermelon cream ready to be refined and clean of seeds before the heat treatment previous to the aseptic packaging.



Line including thermophysics peeler for tomato peeling and its following grinding for packaging in tubs.



Grinder of hammers, extractors, sieves and finisher for different extraction treatments depending on the product.



Automatic mixing room for recipes preparation.



System which combines multitrack equipment for combining different stages of the process according to the specific procedure in each product.



Pasteurization line with deaerator and storage in an aseptic tank prior to packaging.



Aseptic filling of AST 2ª drums



Automatic CIP cleaning line



Osmotic water system and water treatment.



“Installation and regularization of ancillary services: boiler, cooling equipment, cooling towers and compressors”

Boiler



Cooling equipment



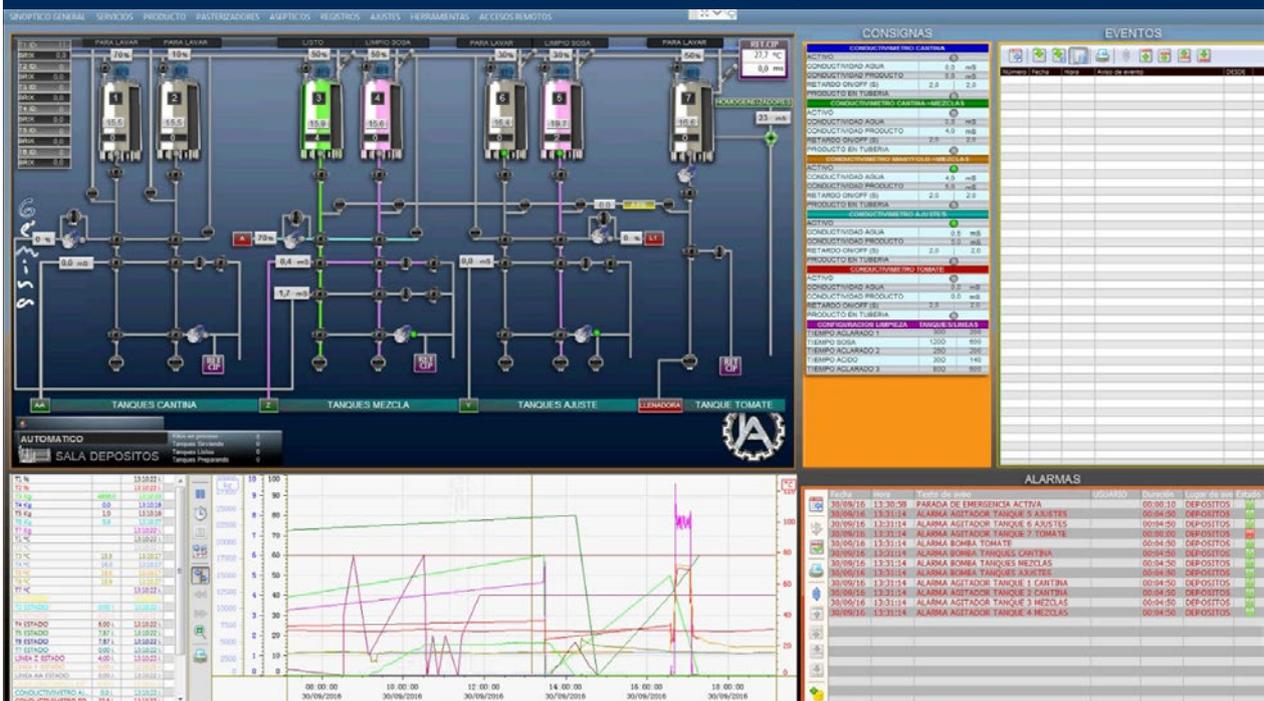
Cooling towers and compressors



End of line and palletizing of boxes



Automatic and centralized process for controlling and registering the process data.



Our Company



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

Gémína 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 135-150°C 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 processing and packing lines.



Gémina® at your service

Gémina®

Procesos Alimentarios, S.L.

GÉMINA Procesos Alimentarios S.L.

Polígono Industrial Los Romerales

Parcelas 3 y 4 - 30520 Jumilla

Murcia - España

Apartado de Correos 231

T/ + 34 968 716 018

E/ gemina@gemina.es

www.gemina.es



Follow us on:

