



ENTRERRIOS

AUTOMATION

COMPANY PRESENTATION

ENTRERRIOS AUTOMATION S.A.

Industrial Automation



TALLERES RÁPIDOS TERUEL S.L.

Installation and Maintenance



Entrerrios Group is a leading business group in the industrial installations sector, both nationally and internationally. Since 1986, we have consolidated our position as leaders thanks to our experience, commitment and excellence in each project.



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WHO ARE WE?

Entrerrios Group is a leading business group in the industrial installations sector, both nationally and internationally. Since 1986, we have consolidated our position as leaders thanks to our experience, commitment and excellence in each project.

The group is composed of Entrerrios **Automation SA**. (industrial automation and low and high voltage electrical installations), **Entrerrios Facility Services SA**, **Geyselmain SL** and **Rapid Workshops Teruel SL** (maintenance, fluid installations, communication networks, civil works, machinery movement and cleaning).

Our track record is backed by large-scale projects carried out for top-level clients, such as Opel, **Stellantis**, **Volkswagen**, **SEAT**, **CAF**, **Inditex**, **CLH (EXOLUM)**, **Valeo**, **Renault-Nissan Group**, **Ford**, **Hitachi**, **Amazon**, **Hanley Energy** and **United Petfood**, among others. We have a highly trained team of approximately 400 professionals, who guarantee the delivery of efficient and quality solutions.

At Entrerrios Group, our companies are strategically aligned to offer comprehensive solutions in projects, installations and maintenance, standing out for their quality, guarantee and speed. We provide our clients with state-of-the-art resources, personnel and infrastructure, always with an unwavering priority: safety and ethics at work.

Our mission is to generate trust through personalized attention, adapted to the specific needs of each client. Thanks to a global and flexible organization, we optimize the comprehensive management of small and large projects, transforming the potential of our experience into concrete and high-impact results.



ACTIVITIES

AUTOMATION	ELECTRICAL ASSEMBLY	FLUID MECHANICS	<u>EPC</u>
Total Engineering: design, manufacturing, assembly and commissioning. Supply and programming of automata from leading brands: Siemens, Bosch, Schneider Electric, Moeller, Omron, Rockwell (Allen Bradley), General Electric Robot management, programming and simulation. SCADA systems(WinCC from Siemens / Intouch from Wonderware / Monitor Pro from Schneider / Proficy Cimplicity from General Electric...) Integration of automatic guided vehicles.(AGV / AGM / AGT / ALV / AMR) maintenance and after-sales service.	Yolighting indoor and outdoor. Supply and assembly of electrical control and power cabinets. Wiring and connection of electrical, control and power installations. Overhead and floor conveyors.Stacker cranes. High Voltage Installations. Safety adaptation of machinery and equipment according to Royal Decree 1215/97 ATEX Installations in areas with high risk of explosion and Instrumentation Photovoltaic installations	Heating, ventilation and air conditioning. Sewerage systems. Water collection systems and water pumps Fire fighting system Fluid networks and installations(water, gas, steam, compressed air and cooling water).	Turnkey projects: Engineering Civil works Mechanics Facilities Etc...



ACTIVITIES

COMMUNICATIONATION	AI, ARTIFICIAL VISION AND TRACEABILITY	MAINTENANCE AND CLEANING	MECHANICS
CPD´S turnkey data center. Fiber optic installation, connection and certification. Robot management, programming and simulation. Industrial communication networks(Ethernet, Profibus, Profinet / etc...).	Development and integration of solutions of artificial intelligence to improve decision making and automation of complex tasks. Industrial marking and identification. Reading codes. Optical controls with artificial vision. Software for comprehensive traceability management.	Continuous productive maintenance service. Continuous maintenance service for electrical, software, SCADA, networks, PLCs, etc. Continuous mechanical maintenance service. Continuous civil works service. Continuous cleaning service, both ordinary and technical.	Engineering and design in 3D CAD, CAM and CAE. Machining Special machinery Metal structures Tools Boilermaking Movement of machinery Dismantling of production lines



SECTORS

Enterrerrios Group develops work in the main productive sectors of society and in important companies, inside and outside the industry, spread across sectors as diverse as:

SECTORS

- AUTOMOTIVE
- CONSTRUCTION
- LOGISTICS
- COMMUNICATIONS
- MACHINERY MANUFACTURERS
 - PHOTOVOLTAIC INSTALLATIONS
- PUMPING STATIONS
 - PETROCHEMICAL

INDUSTRIES

- GLASS
- TEXTILE
- MINING
- BIN
- METALLURGICAL
- LINEWHITE
- CHEMISTRY
- FOOD
- BODYWORKS
- PHARMACEUTICAL
- OIL & GAS



CUSTOMERS BY SECTOR

AUTOMOTIVE

- OPEL, PSA, Stellantis.
- SEAT
- Volkswagen Group
- Valeo
- FORD
- RENAULT
- ENLOG
- BOSAL
- Gestamp
- ADIENT Automotive (Johnson Controls)
- TMS (Turnkey Manufacturing Solutions GmbH)
- KONGSBERG Actuation Systems
- Faurecia

AUTOMOTIVE

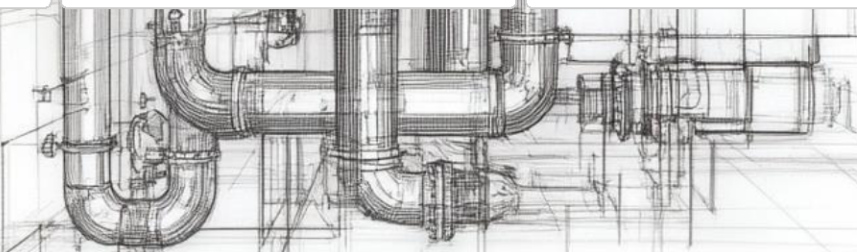
- ArcelorMittal Tailored Blank
- KIRCHHOFF Spain
- LEAR Corporation Seats
- Mcsyncro France
- Android Industries Zaragoza
- Proma Hispania
- TI Group
- CIEMADA
- Cooper Standard
- Nothelfer GmbH
- Plastic OMNIUM Automotive
- Automotive Interiors Zippex (MAGNA)
- Motherson

CONSTRUCTION

- Acciona
- Dredging
- San Jose Constructions
- Mariano Lopez Navarro
- FCC
- DHO
- GTM
- Inobare
- Sorigué
- SICE

LOGISTICS

- MARCOTRAN International Transport
 - EUROPEAN GROUPAGE
- LOGISTICS GROUP CAREERS
- SESÉ GROUP
- TRANSFESA
- BERSHKA LOGISTICS
- LOGITERS LOGISTICS
- C. OPER. INTEGRAL LOGISTICS NORTH
- SPAIN CAR
- TRADISA
- VIA AUGUSTA





CUSTOMERS BY SECTOR

COMMUNICATIONS

- AMAZON
- MOVISTAR (TELEPHONE OF SPAIN)
- HANLEY ENERGY
- VODAFONE
- TELNET Smart Grids
- Torrescamara and Co. Construction

MACHINERY MANUFACTURERS

- ABB
- Hitachi
- CAF
- BOSCH REXROTH
- DÜRR SYSTEM SPAIN
- SIEMENS
- Schneider Electric Spain
- Indu-Equip
- Eclipse Combustion
- TAIM WESSER
- THYSSENKRUPP GmbH
- Wittur Elevator
- CARRIER SPAIN
- Actemium Handling Systems
- ELTHERM
- EXIDE

MACHINERY MANUFACTURERS

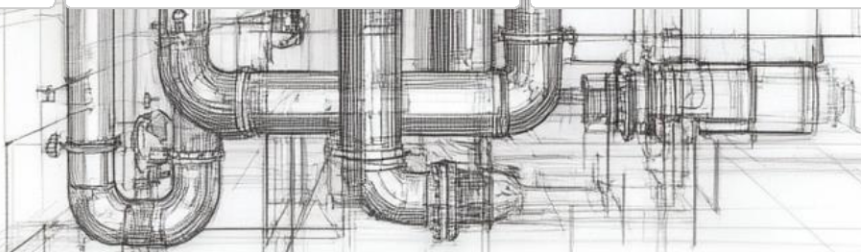
- MRI
- FAGOR Arrasate Service
- FFT (Automotive Technology)
- FIVES Conveying
- GAYPASA
- INGEMETAL
- ISTOBAL (Iberia Division)
- CERNEY
- EM GMSA
- NATUS GmbH-CO.KG
- Hydraulic Industries
- Nervión Machinery
- Mercier Workshops
- SCHAKO
- HANLEY ENERGY

PHOTOVOLTAIC INSTALLATION

- VEOLIA
- DEERS Green Power Development

PUMPING UNITS

- Segre Towers
- The Garrigues
- SASTESA





CUSTOMERS BY INDUSTRY

VIDEO

- Vicasa (Saint - Gobain Vicasa) - VERALLIA

TEXTILE

Inditex Group

- Zara
- Bershka
- BRILEN
- Stradivarius
- Massimo Dutti
- Pull and Bear
- Zara Home

MINING

- SAMiningand Clay Technology (MYTA)

BIN

- APA
- SAICA
- Torraspapel
- MONDI

METALLURGICAL

- Inalsa
- CELSA
- Casting Ros
- Miguel Ros Foundries

WHITE LABEL

- BSH
- TEKA Industrial

FURNITURE

- HMY YUDIGAR

CHEMISTRY

- NUREL
- Adiego Brothers.
- FMC Forest
- Budenheim Iberica
- Perorsa
- NOVAPET
- IQE (Chemical Industries of the Ebro)
- Cinca carbide

FOOD

- PROFAND
- UNITED PETFOOD
- MOWI
- NESTLÉ
- ROOSTER PASTA
- NUTRIAD
- PANISHOP

BODYWORKS

- LECIÑENA
- SCHMITZ CARGOBULL

PHARMACEUTICAL

- Advanced Accelerator Applications Ibérica (AAA)
- Cases Remembered

OIL & GAS

- CLH, EXOLUM
- VOPAK TERQUIMSA
- WÄRTSILÄ
- LAPESA

PLASTIC

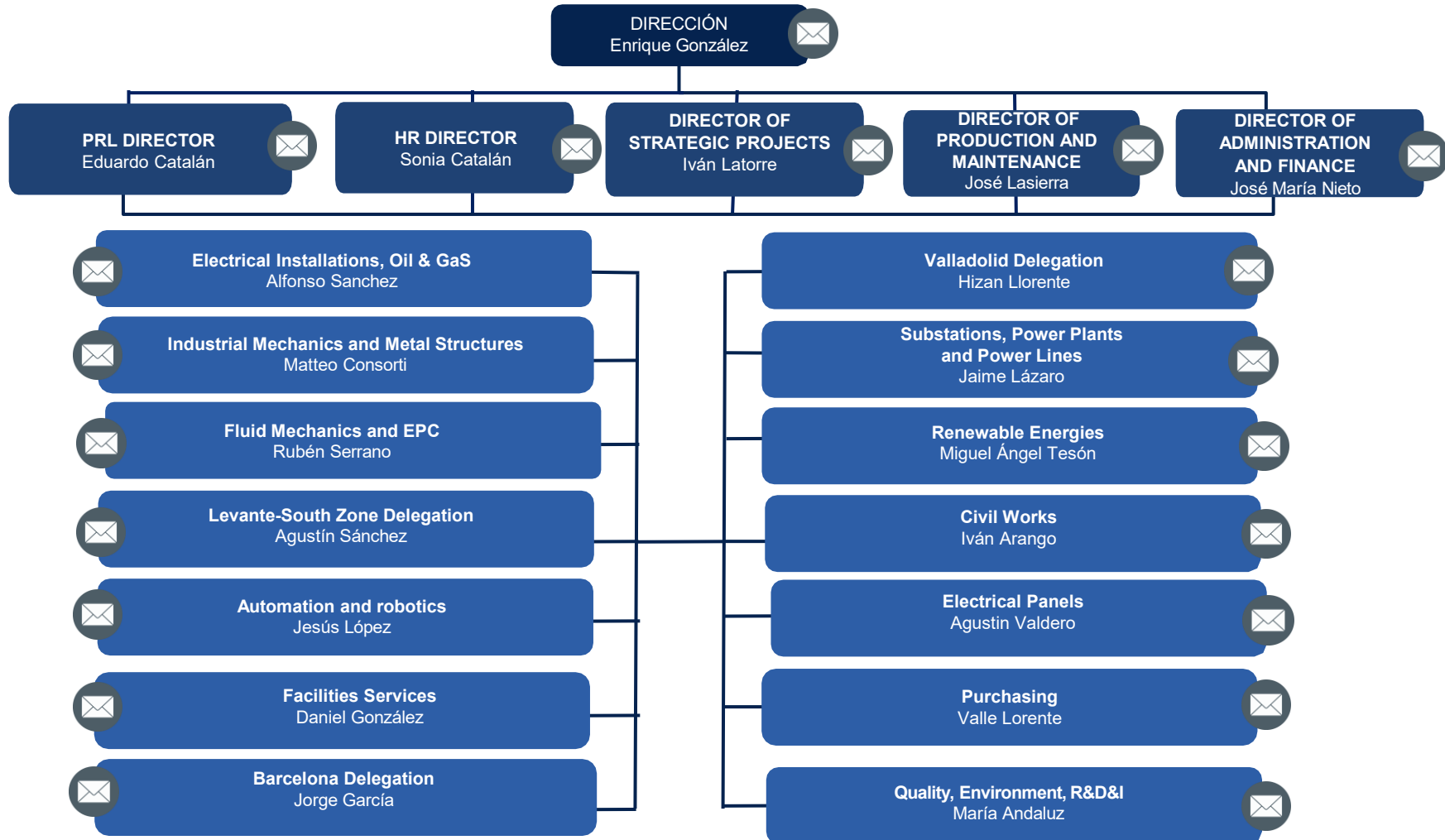
- Araven Group



ENTRERRIOS

AUTOMATIZACIÓN

ORGANIGRAMA





DELEGATIONS

LOCATIONS

- **Headquarters:** Pedrola, Zaragoza
- **Teruel Delegation:** Quick Workshops
- **Barcelona Delegation:** Asparagus Fern
- **Navarre Delegation:** Pamplona
- **Valladolid Delegation:** Valladolid
- **Portugal Delegation:** Coimbra
- **Work Centers:**

STELLANTIS - SEAT - CAF -
ABB - VALEO - VW Navarra
RENAULT-ALICANTE-MURCIA





CERTIFICATIONS

CERTIFICATES

Management Systems Certificates:

- Quality management system
- Environmental management system
- Energy management system
- Health and Safety System
- Information security management system

EN 1090-1:2009+A1:2011

Factory production control Method 3a, 3b.

Execution Class: EXC3

REPRO-ID Achilles: 00079485

3.1.21Electrical assembly

3.1.23Installation of air conditioning, heating,
climate control and ventilation

3.1.33Assembly of instrumentation

**MRA 10000:2018 CSR Corporate Social
Responsibility**



INNOVATIVE SME

Valid until Oct 16th 2026





ELECTRICAL ASSEMBLIES: LOW VOLTAGE

OUTDOOR AND INDOOR LIGHTING

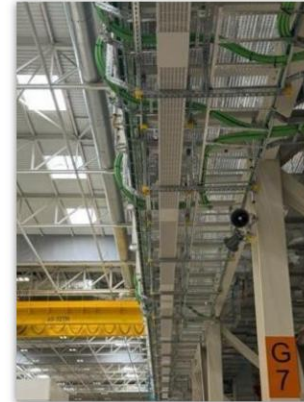
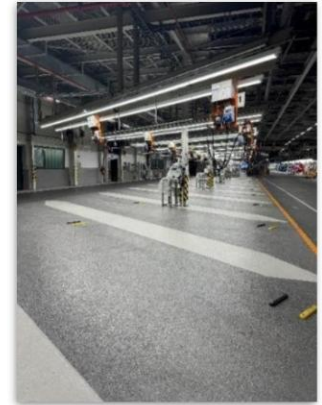
- Large Surface Lighting
- Interior lighting in industrial buildings
- Artistic and ornamental lighting
- Office lighting
- Public lighting

AIR AND GROUND CONVEYORS

- Air transporters
- Floor conveyors
- Stacker cranes (automated warehouses).

ELECTRICAL CHANNELS

- Power and lighting distributions
- Attacks
- Power supply for high-power machines
- Blindosbarra





ELECTRICAL ASSEMBLIES: HIGH VOLTAGE

HIGH VOLTAGE

- Substations and transformation centers
- Laying of overhead and underground lines
- Rural electrification
- Pole mounted transformers for small power.
- Measuring equipment, capacitors and protections in HV
- Projects, assembly and maintenance





ELECTRICAL ASSEMBLIES: ELECTRICAL PANELS

ELECTRICAL PANELS

- Protection and distribution panels
- Motor Control Panels (MCP)
- Lighting panels
- Dashboards and signaling
- Automation panels
- Panels for measuring equipment





ELECTRICAL ASSEMBLIES: PHOTOVOLTAIC INSTALLATIONS

PHOTOVOLTAIC

- 84,848 solar panels
- 20 inverters of 500 kW
- 20 transformers of 500 kW
- 120 MW transformer
- 539 km cable
- 340 km VELCRO



OPEL: LARGEST ROOFTOP PHOTOVOLTAIC INSTALLATION IN THE WORLD

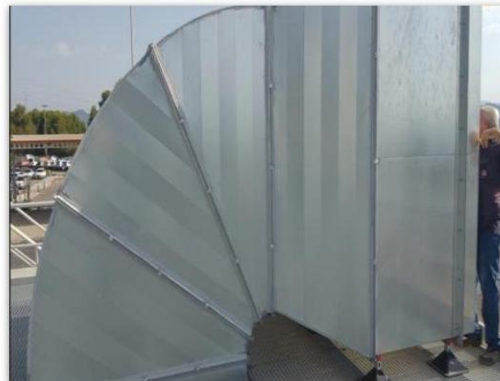
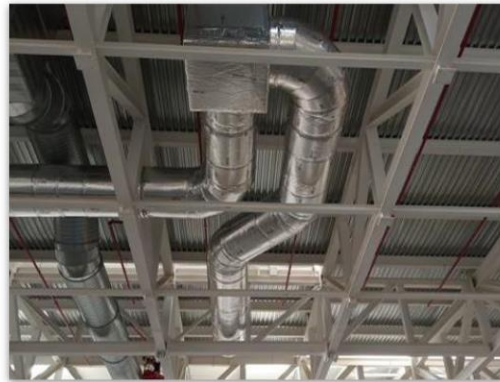




FLUID MECHANICS: AIR CONDITIONING

AIR CONDITIONING

- Industrial Air Conditioning
- Refrigeration and Production of Cold
- Ventilation and Smoke Aspiration.
- Fluid Networks and Installations.
- Heating and DHW production
- Fire Extinguishing Systems

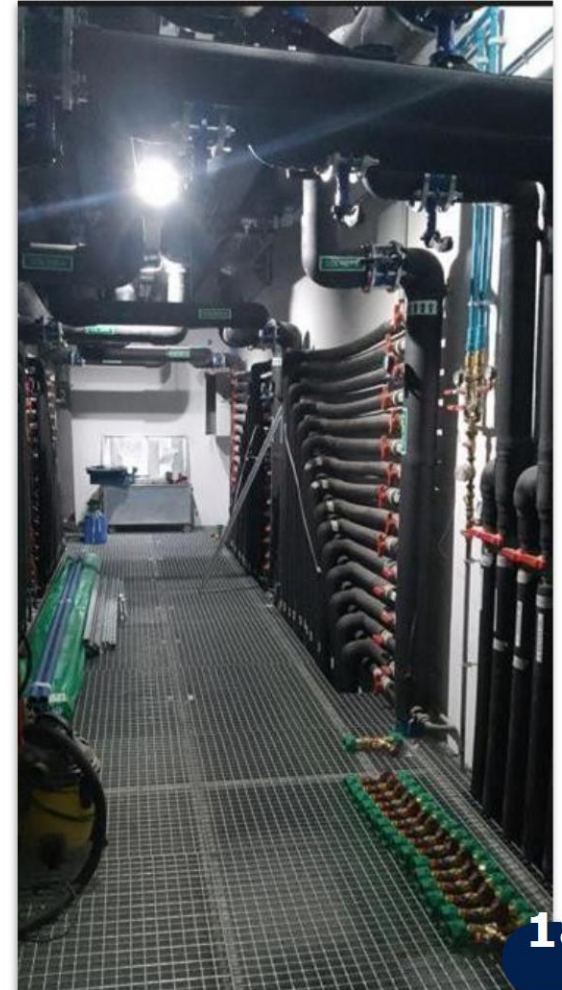




FLUID MECHANICS: AIR CONDITIONING

AIR CONDITIONING

- Fluid Networks and Installations (Water, gas, steam, compressed air, etc.)
- PPR pipes, copper pipes and large steel pipes.





FLUID MECHANICS: DRINKING WATER INSTALLATIONS

DRINKING WATER FACILITIES

Installation of complete drinking water pumping groups located in building 61 of **Stellantis Zaragoza**, including all the pipes that exist from the cistern outlet to the distribution pipes to the different buildings.

PUMPING GROUP EQUIPMENT

Composed of 4 AISI 316L stainless steel pumps with the following performance characteristics (flow rate: 80.2 m³/h and manometric height: 70.3 m), and with all the necessary accessories for its control and subsequent maintenance.

Four 750-litre tanks have been installed for the pumping of drinking water. The tanks are made of replaceable, completely impermeable membrane made of flexible synthetic rubber, suitable for water, which keeps the water permanently isolated from the air, excluding any contamination or dilution of the air in the water.



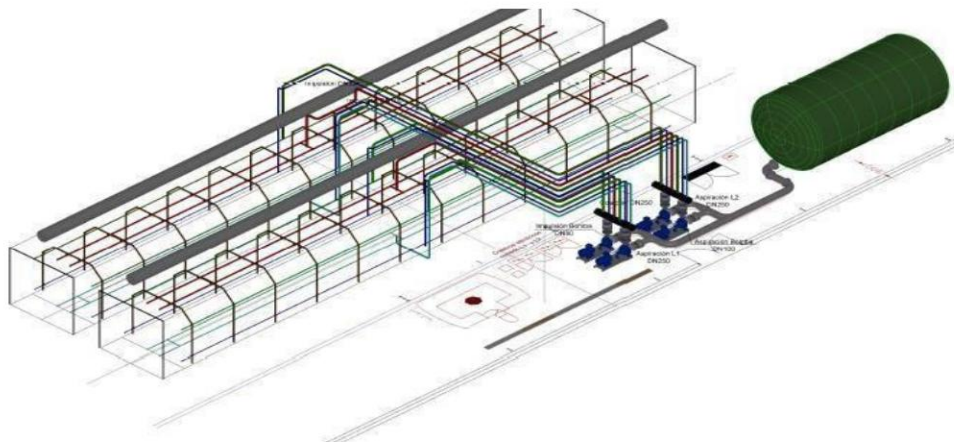


FLUID MECHANICS: RAIN TEST

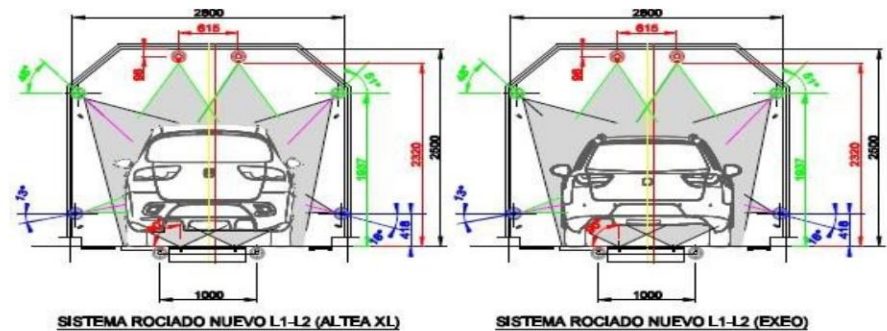
RAIN TEST INSTALLATION

Spray tunnel, rain-proof, which now has independent control operation from the main cabinet.

The pumps are regulated by frequency variations to achieve pressure stabilization in the sprayers and energy savings.



TUNNEL RAIN TEST FOR SEAT





FLUID MECHANICS: ABSORPTION MACHINES

MACHINES ABSORPTION 2500 KW

Installation of two CARRIERSANYO chillers model TSA - 16TJ of 2.445 KW's cold, including:

- 1Kg/cm² steam pipes from the main collector of the power plant to the chiller plant entrance..
- Condensate pipes from the absorption equipment to the current condensate tank.
- Cold water conditions from the distribution manifold to the inlet and outlet of the chiller.
- Installation of the regulating elements.





FLUID MECHANICS: COMPRESSED AIR INSTALLATIONS

COMPRESSED AIR INSTALLATIONS

The air compressed is one of the critical supplies that require several specific production processes of the plant **Stellantis Zaragoza**.

Before reaching their useful life, the old 6 bar compressors generated many problems from the point of view of availability and energy efficiency.

Entrerrios Automatización was the company commissioned by Stellantis Zaragoza to supply, assemble and start up two 9,000 Nm³ oil-free, three-stage, water-cooled centrifugal compressors driven by a 6.3 Kv electric motor.

These compressors are responsible for supplying 6 bar compressed air to the bodywork and press production halls.





FLUID MECHANICS: REPLACEMENT WATER-WATER CHILLERS

REPLACEMENT WATER-WATER CHILLERS

Since 1999 **Stellantis Zaragoza** Has the certification **ISO 14001-EMAS**, currently with the highest compliance, EMAS III. Also, since 2012 it has the **ISO 5001 Certification** that validates your system of Management Energy. In this line and taking into account the ban on fluorinated gases HCFC,S from 2015, the decision was made to replace its chillers generating cold water at 7°C.

Entrerrios Automation carried out the replacement of these chillers, the scope of which involved the removal of 9 water-water chiller units with 3,870 kW of cooling power and R-22 and the study, supply, assembly and start-up of 9 new water-water chillers of 4,200 Kw and R-134. The new chillers installed by Entrerrios Automatización represent an energy saving of 35% compared to the old machines, and avoid the emission of 770 MT/year of Co₂.





FLUID MECHANICS: THERMO-VENTILATION

THERMO-VENTILATION

Within the framework of the needs of **VW Navarra** For the manufacture of a new model of electric car, the expansion of the bodywork production facilities is required. In order to compensate for the occupation by processes, the installation of a 5,250 m² tent is planned.

The conditions of the logistics tent are 18°C in winter, with no refrigeration available. For this purpose, the air conditioning was provided by two air conditioners and 7 air curtains.

THERMO-VENTILATION VOLKSWAGEN NAVARRA TENT





FLUID MECHANICS: AIR CONDITIONING

DATA CENTER

Entrerrios Automation performed the works of the facilities necessary to modernize and expand the Seat Martorell Data Center, complying with current regulations and the requirements of **Seat and VW**

- Medium Voltage Electrical Infrastructure
- Low Voltage Electrical Infrastructure
- Communications Facilities
- Air conditioning and ventilation installations
- Fire fighting installations
- Security and Access Control Installations

SEAT MARTORELL DATA CENTER RENOVATION





FLUID MECHANICS: VACUUM CIRCUITS

VACUUM CIRCUITS

Installation of two centralized vacuum circuits to supply 4 press lines located in the **Stellantis Spain building 61**, including:

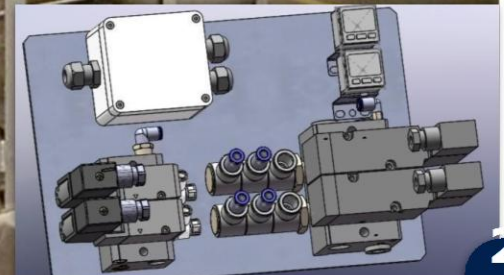
2 groups of 2 BUSCH brand vacuum pumps, which work alternately each time the vacuum generation system stops and starts.

2 boilers with a capacity of 1,000 liters, designed to withstand negative pressures of up to -1.0bar.

All distribution pipes from the outlet of the boilers to the different points of use: 7 robots for each line, for a total of 28 robots on the 4 lines. These pipes have been made of carbon steel, welded in sizes between 4" and 1"inch.

All pipes at the points of use: for each robot two independent vacuum channels have been installed, with flexible tubing from axis 0 to axis 6. Each channel is controlled by SMC brand pneumatic plates designed to control and analyse both the vacuum and the blowing in each channel.

INSTALLATION OF CIRCUITS OF EMPTY CENTRALIZED INLINE PRESS RELEASES 13-14-15-16





AUTOMATION: DRIVE CONTROL

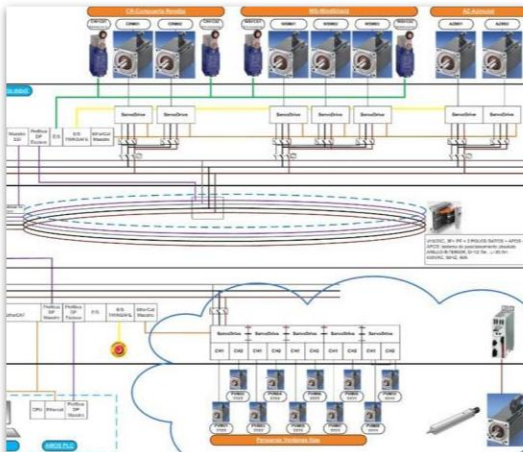
T-250 JAVALAMBRE DOME

Drive control of the T-250 Dome project of the Javalambre Astrophysical Observatory (OAJ).

Drives:

- Azimuthal rotation by means of 2 servo motors in synchronism with the movement of the telescope itself.
- Heating resistors for the azimuth ring.
- Telescopic gates, operated by two independent servomotors.
- Windshield, with 2 opening servo motors and 1 closing servomotor, all synchronized.
- Windows.

JAVALAMBRE ASTROPHYSICAL OBSERVATORY





AUTOMATION: INTEGRAL SOLUTION

T-250 JAVALAMBRE DOME

Beckhoff comprehensive solution.

CPU:

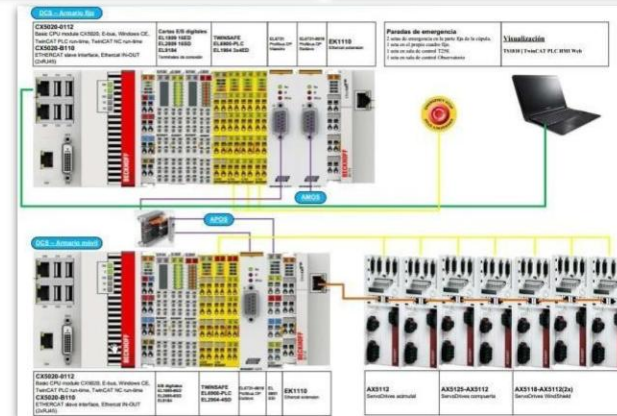
- CX5020 with communications
- EtherCat, with servo drives and main Scada
- Profibus DP with AMOS PLC

Servos:

- AM80xx series with AX51xx drives
- Sercos library for motion control

HMI: TwinCAT PLC HMI Web

BECKHOFF INTEGRAL SOLUTION





AUTOMATION: SOLAR TRACKER

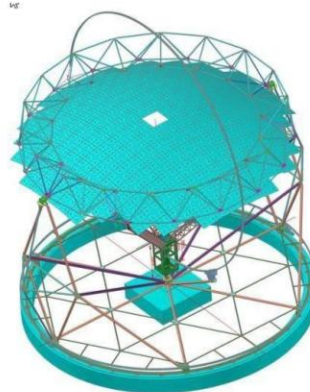
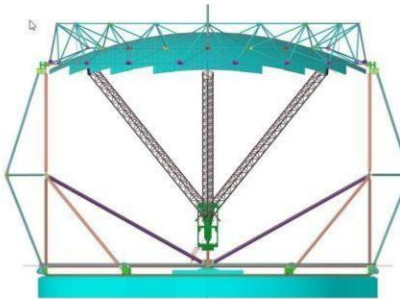
SOLAR TRACKER

Control of a solar tracker with Stirling engine:

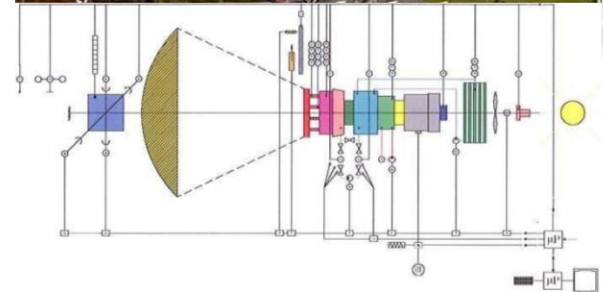
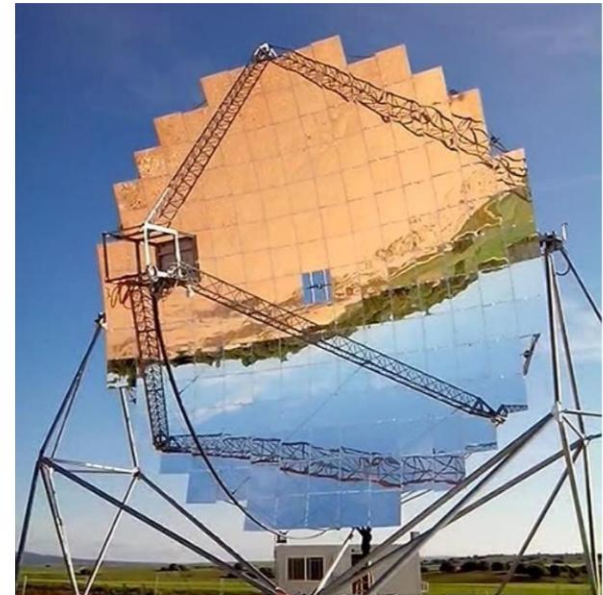
- 2 axis solar tracker
- Power generator motor.
- Thermal engine with lubrication system and regenerative regulation system
- Cooling systems, defocusing, instrumentation, etc...

External tracking algorithms, developed in C++, sending coordinates to the PLC:

- Lunar tracking for testing pre and post checks
- Solar tracking for operating regime.



GESTA PROJECT (ICARO SOLAR TRACKER)





AUTOMATION: ASSEMBLY LINES

ASSEMBLY LINES

Mechanical project development. Design of transport systems with definition and calculation of drives.

Development of the electrical project. Design of the main switchboard, decentralized stations and field equipment

Configuration of control equipment and communication networks.

Manufacturing, assembly, testing and commissioning for optimal automation.

Documentation. Mechanical and electrical plans in Eplan, program listings, screen design, device parameterization and spare parts listing to ensure maximum availability of the installation.

Certifications and markings applicable





AUTOMATION: MECHANICAL EQUIPMENT

MECHANICAL EQUIPMENT

Electric lifting with gear motor asynchronous.

- Elevator with approximate travel of 5,000 mm
- Lifting cradle equipped with:
 - Transfer unique 3 positions for collecting empty pallets from the 3 lanes.
 - Pneumatic system for handling ovens from the outside, with motorized transversal movement.
- Three transport circuits, each with two heights: upper for oven accumulation and lower for pallet return. Simple accumulation chain conveyors with pneumatic retainer at the end.
- Oven descender (same design as elevator)
- Auxiliary metal support structure.
- Elevator and descender fences, with maintenance accesses equipped with safety devices.

OVENS AUTOMATIC BUFFER





AUTOMATION: ELECTRICAL EQUIPMENT

ELECTRICAL EQUIPMENT

Central control panel and peripheral panel equipped with Simatic S7-300 control PLC with:

- CPU 317F-2 PN/DP with integrated Profinet and Profibus, both with Profisafe MMC profile
- Decentralized boxes for power distribution and control, each box equipped with:
- ET-200S actuator pickup module station with Profibus interface, digital sensors for input/output activations
- Safety for safety equipment and emergency areas
- Two control desks equipped with HMI TP900 and push buttons
- Access door push buttons and barrier reset. General sensors.





AUTOMATION: ASSEMBLY LINE

TYRE ASSEMBLY LINE

Design, manufacturing, assembly and start-up of a tire ASSEMBLY LINE whose general data are:

- Cycle time: 12seconds.
- 1000 mm clear width wheel-tyre conveyors. Conveyor speed 0.6 m/s except for a last section of 1750 mm which will have a variable speed of 0.6-1m/s.
- Pallet conveyors for the supply area and the robot-wrapping area prepared for 2 pallet models, 1200x1200 mm. with a weight of 24 kg/unit and 1900x1200 mm. with a weight of 38 kg/unit.
- The speed of all pallet conveyors will be 130mm/sec.
- The heaviest set of wheels that will pass through the facility has a maximum weight of 35kg.





AUTOMATION: MECHANICAL EQUIPMENT

MECHANICAL EQUIPMENT

Supply zone

- Roller conveyor for receiving loaded pallets. Approximate pallet weight 800 kg.
- Scissor table for depalletizing tires.
- Roller conveyor installed on the table for loaded pallet of 1500x1500 mm
- Transport speed: 130mm/sec.
- Approximate transport height: 530 mm
- Metal pallet output hoist up to 250 kg.
- Fenced area provided with gate.
- 22 meters of roller conveyors.

Robot-Baller Zone

- ABB IRB6700 155/2.85 robot with bench
- Claw for picking up 2 wheel assemblies per cycle, cover and pallet.
- Fenced with access gate for forklift.





AUTOMATION: BALING MACHINE

FILM COVER WRAPPING MACHINE

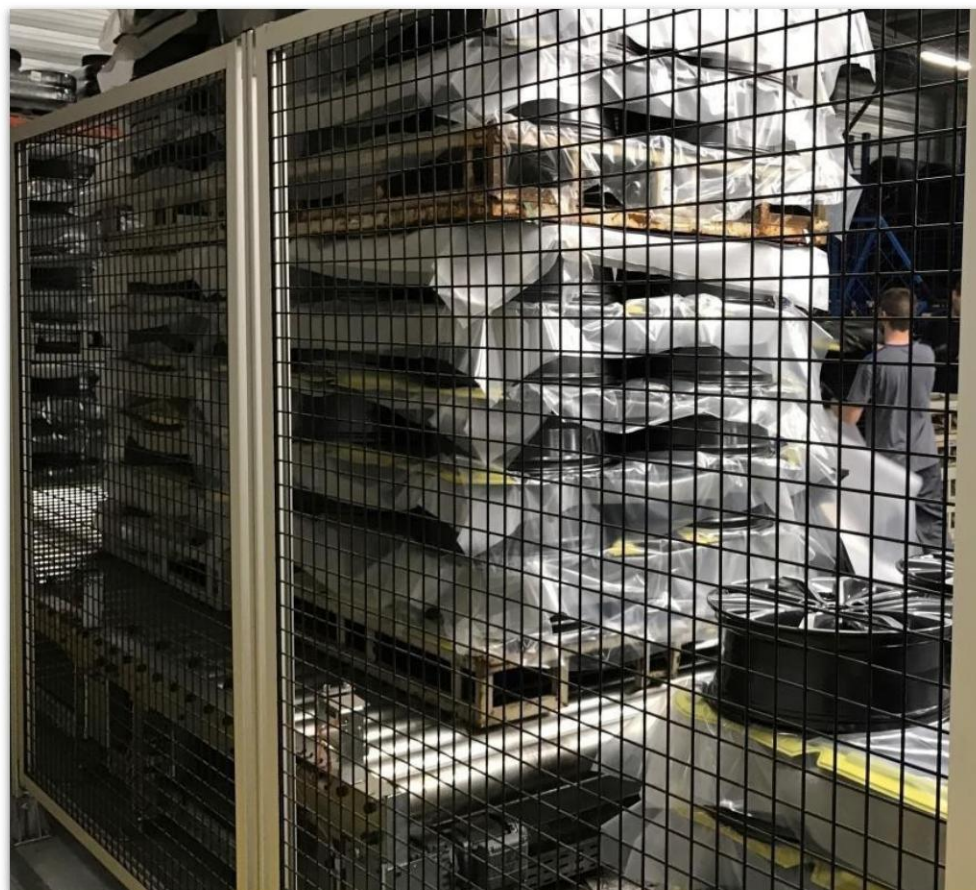
Transport of rollers for loaded pallets at the entrance to the wrapping machine.
Approximate weight of the pallet 1,000 kg.

Line type baler:

- Roller turntable.
- Useful wrapping height 2400 mm.
- Pallet wrapping.
- Automatic detection of loading height.
- Maximum weight to support: 1800Kg.
- Siemens programmable controller and LCD display.
- Vacuum suction cup installation clamp.
- Vacuum with suction cups for removing lids.

Film Cover:

- Hot wire film cutter.
- Siemens electrical panel.
- Labeling machine with automatic.

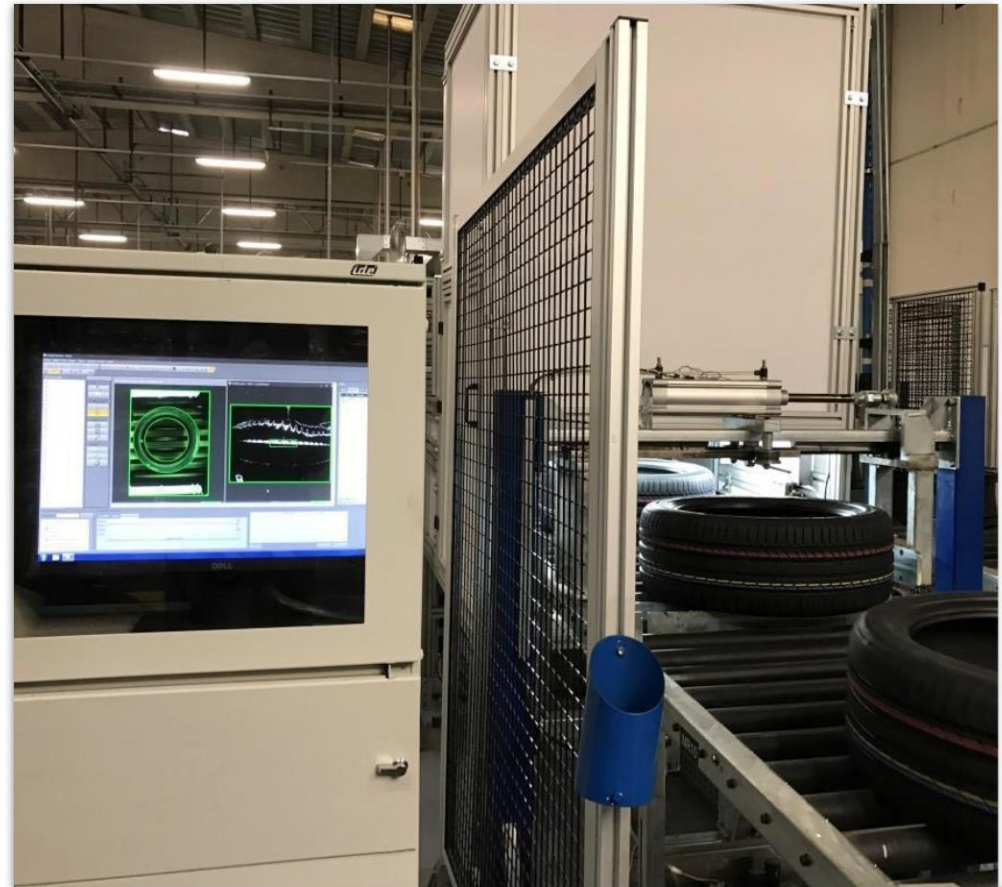




AUTOMATION: ELECTRICAL EQUIPMENT

ELECTRICAL EQUIPMENT

- Control PLC: Simatic S7-300
- CPU 319F-2 PN/DP with Profinet and Profibus
- TP1200 Comfort touch operation panel.
- HMI stations, 2 pcs, each equipped with:
 - Metal enclosure. Supports
 - TP1200 Comfort touch operation panel
- Safety Equipment
 - Safety gate finals in gate race
 - Optical barriers for safety access to palletizing and wrapping as well as to the exit
 - Emergency mushrooms.
- Machine Vision System for verifying the correct positioning of covers on the conveyor belt.



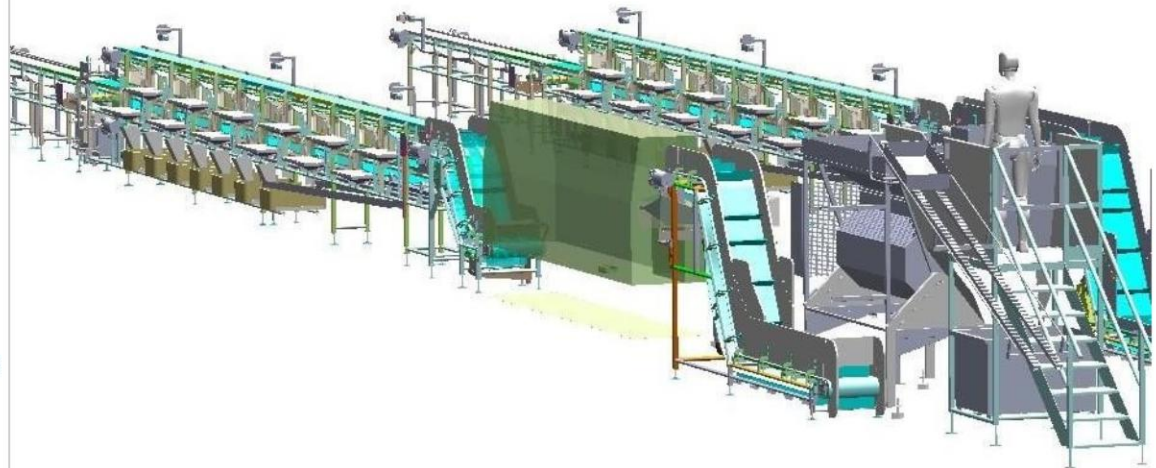


AUTOMATION: MANUAL FISH CUTTING LINE

CUTTING LINES

Design, manufacture, assembly and commissioning of two MANUAL CUTTING LINES to produce different finishes of medium-sized fish (gilthead seabream and sea bass). These lines are designed to allow the processing of fish through several stages:

- Depalletizing and dumping of raw materials in line.
- Automatic descaling and evisceration.
- Manual cleaning and finishing of raw materials.
- Automatic treatment of the finished product.
- Automatic packaging, quality testing and palletizing of finished product.





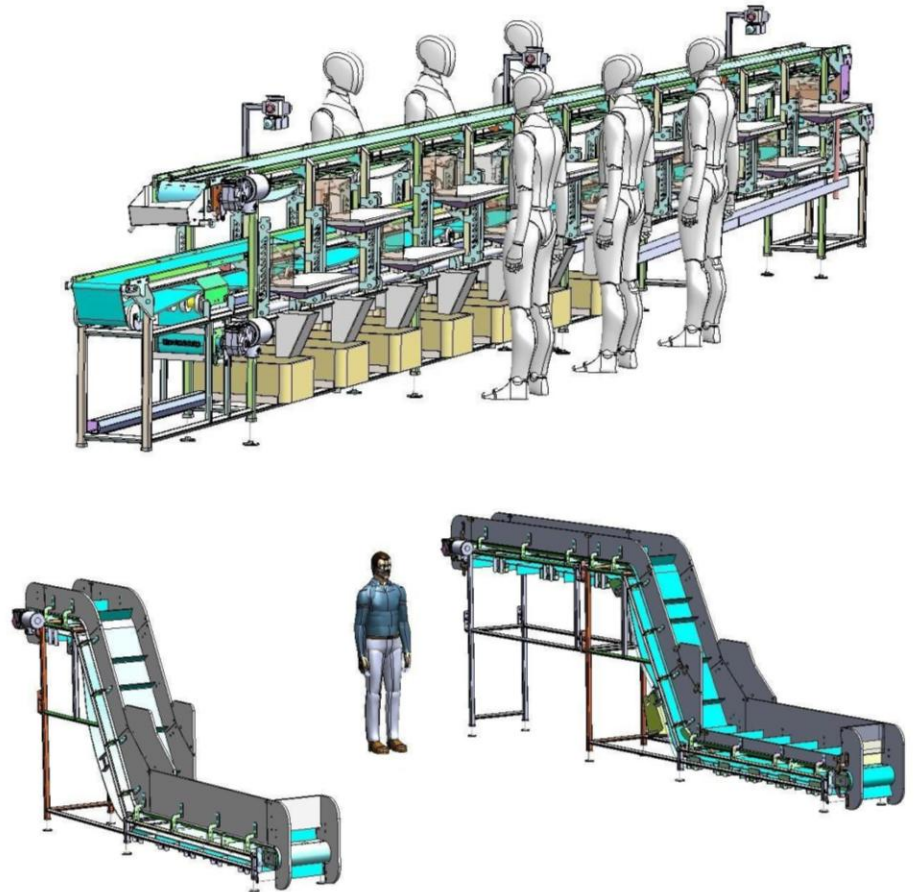
AUTOMATION: MECHANICAL EQUIPMENT

MECHANICAL EQUIPMENT

All elements of the line have been developed according to hygienic design concepts, with materials suitable and certified for the food sector, in addition to prioritising ease of cleaning and minimising areas that are difficult to access or where dirt accumulates.

In general, AISI 304 stainless steel has been used in all areas where the raw material did not come into contact with the equipment, while in areas of direct contact or, for example, throughout the treatment circuit, AISI 316 stainless steel has been used.

The conveyors have been manufactured according to hygienic design criteria, installing modular or thermo-welded belts, gear motors with IP69K protection grade and stainless steel bearings lubricated with food grease.





AUTOMATION: ELECTRICAL EQUIPMENT

ELECTRICAL EQUIPMENT

- Control PLC: Simatic S7-1500
- CPU 1513F-1 with integrated Profinet with ProfiSafe profile
- KTP700 Basic PN touch operation panel.
- HMI stations, 2 pcs, each equipped with:
 - Stainless steel metal casing with IP69K protection grade.
 - KTP700 Basic PN Touch Operation Panel
- Safety equipment:
 - Safety limit switches for doors
 - Emergency mushrooms





AUTOMATION

AUTOMATION

Our Automation department offers its clients a complete study, choosing the appropriate components and providing specialized technical knowledge to make their automation projects a reality.

The Automation department is made up of a total of twenty-five programmers, who coordinate the work with the electrical department. All of this with the necessary infrastructure to develop the different types of programming, both for PLCs and for robots and SCADA systems.

Automation programming is the fundamental basis of our work, with the following main firms standing out:

SIEMENS
MODICON
TELEMECHANIC
S BOSCH
SCHNEIDER

OMRON MOELLER
GENERAL ELECTRIC
ROCKWELL (ALLEN
BRADLEY)



SIEMENS



Allen-Bradley
by ROCKWELL AUTOMATION



**Schneider
Electric**



AUTOMATION: PROGRAMMING DISPLAY AND OPERATIONAL ELEMENTS

AUTOMATION

SCADA MONITORING AND INDUSTRIAL PROCESS MANAGEMENT:

- WinCC / TIA Portal (Siemens)
- FactoryTalk® View (Rockwell)
- InTouch (AvevaTM)
- Proficy HMI/SCADA Cimplicity (General Electric)
- Monitor Pro, Vijeo Citect (Schneider)
- Zenon

HMI OPERATOR PANELS:

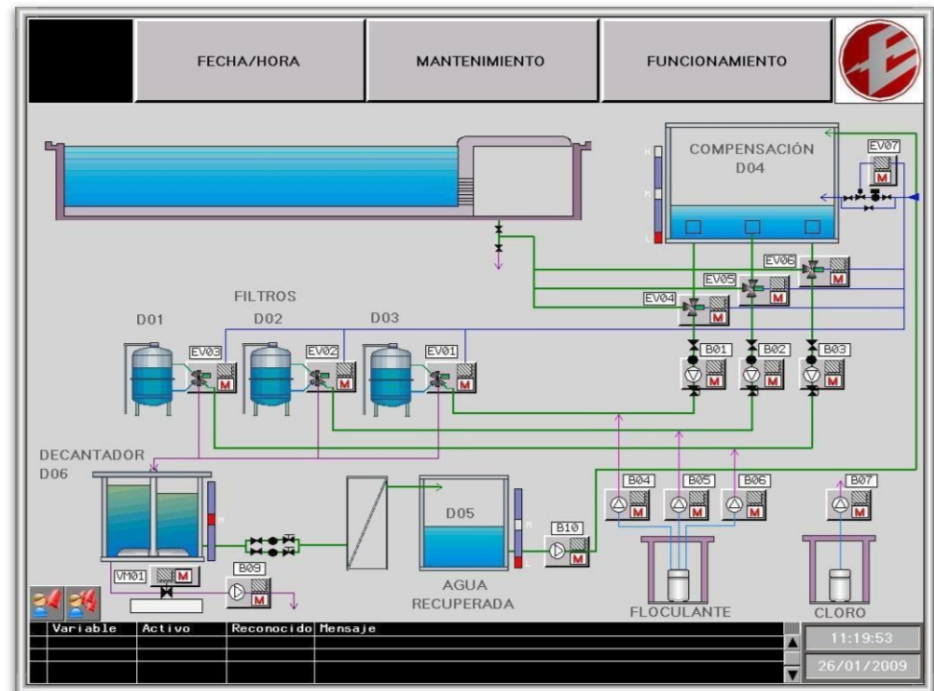
- TPs, KTPs (Siemens)
- PanelView, VersaView (Rockwell)
- Others

PERIPHERAL PROGRAMMING:

- RFID Identification Systems
- Machine vision cameras
- Positioning controllers
- Robots / Cobots

COMMUNICATION NETWORKS:

- Profinet
- Ethernet/IP
- Profibus
- SO
- Modbus



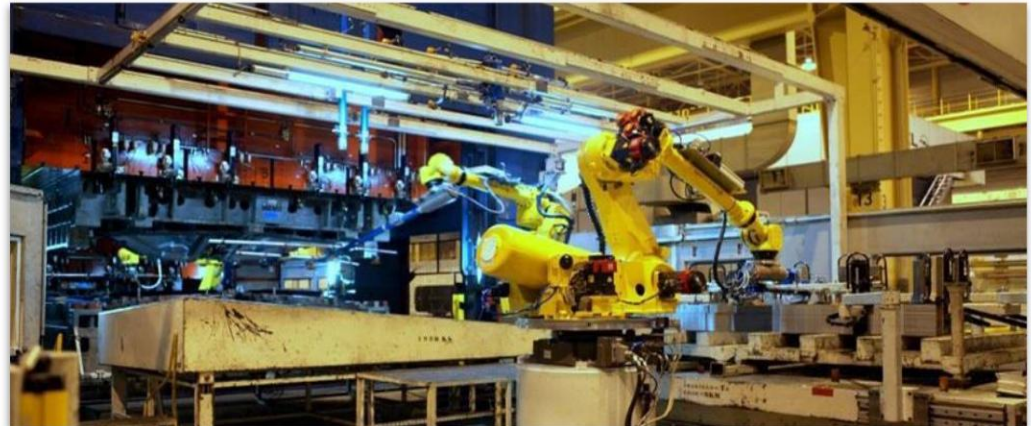


AUTOMATION: PRESS LINE 18

PRESSES

11 Fanuc robots were installed. Previously, there were ABB robots and a line achieved an average of 7 strokes per minute. With the current change, the line was able to be extended to an average of 10.5 strokes per minute.

All of this led to a complicated development, since in order to achieve the increase in strokes, detailed engineering had to be carried out in both positioning and precision, making the line more effective, faster and with fewer quality deficiencies.

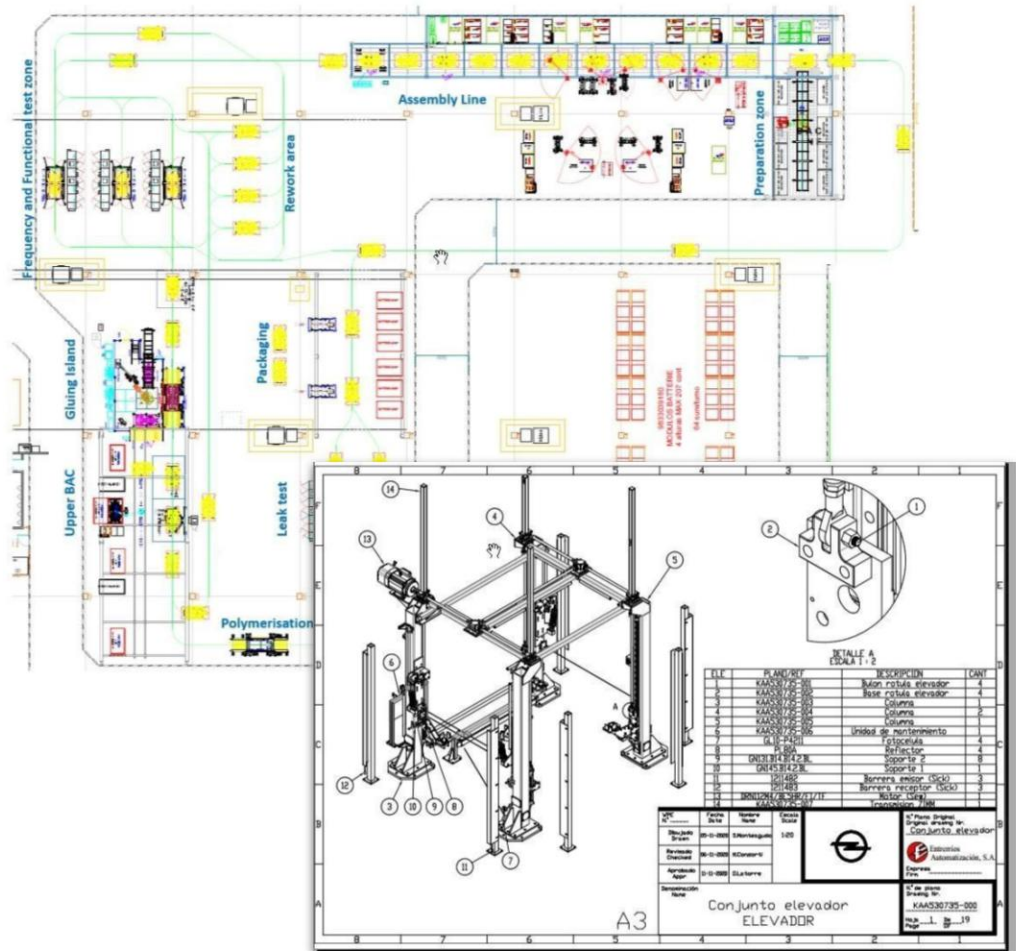




AUTOMATION: LINES ASSEMBLY WITH AUTONOMOUS VEHICLES

ASSEMBLY LINES

- Circuits for component assembly: HV batteries, rear axles, etc...
- Systems that make up the circuits:
 - FM: Vehicle Fleet Manager
 - CT: Process Manager
 - EPS: Error Proofing System
- Circuit design, in collaboration with the AGV/AGM/AGT/ALV/AMR section
- Setting up WiFi infrastructure
- Controllers/Communications/Interfases
- Basic station equipment: HMI, LCB, Andon, tightening tools, etc.
- Special stations: manipulators, elevators, automatic processes.



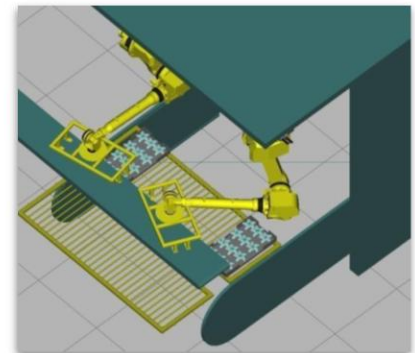
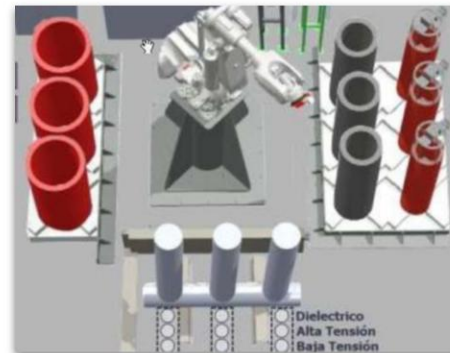


AUTOMATION: AUTOMATED CELLS OF HANDLING

AUTOMATED CELLS

Pre-simulations and robot selection based on calculated loads and required ranges

- Design of handling claws and their equipment: vacuum systems, clamps, 2D and 3D artificial vision
- Handling cell design, conveyors and special manipulators
- Programming of all devices and commissioning.

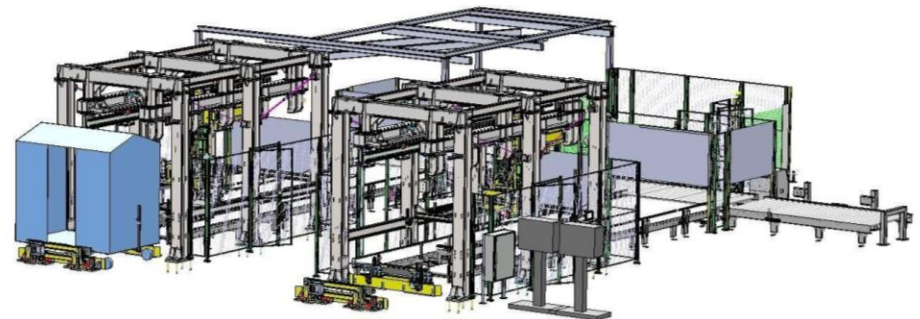
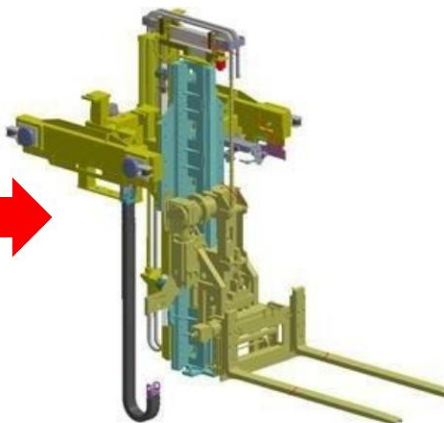
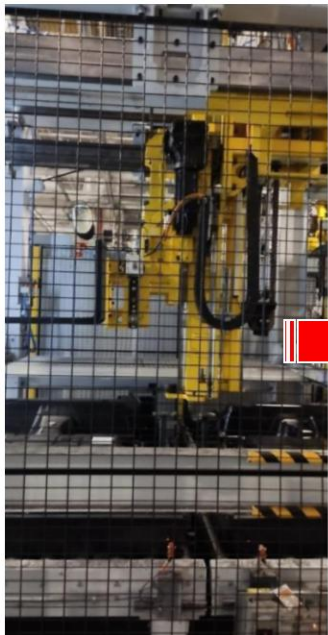
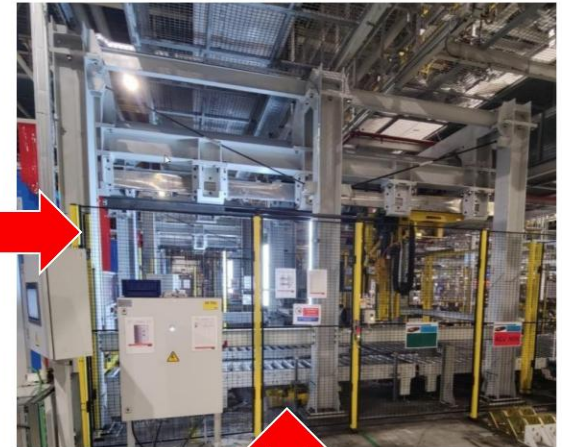
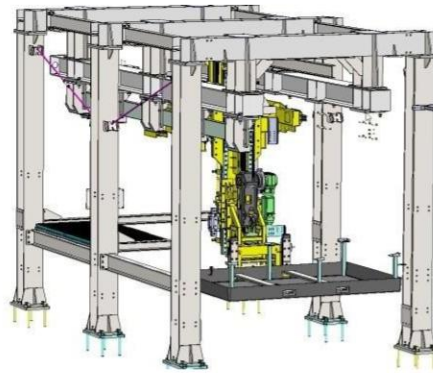




AUTOMATION: SPECIAL MANIPULATORS

SPECIAL HANDLERS

Special mechanical developments. Designs, structural and special calculations, selection of drives, 3D drawings...



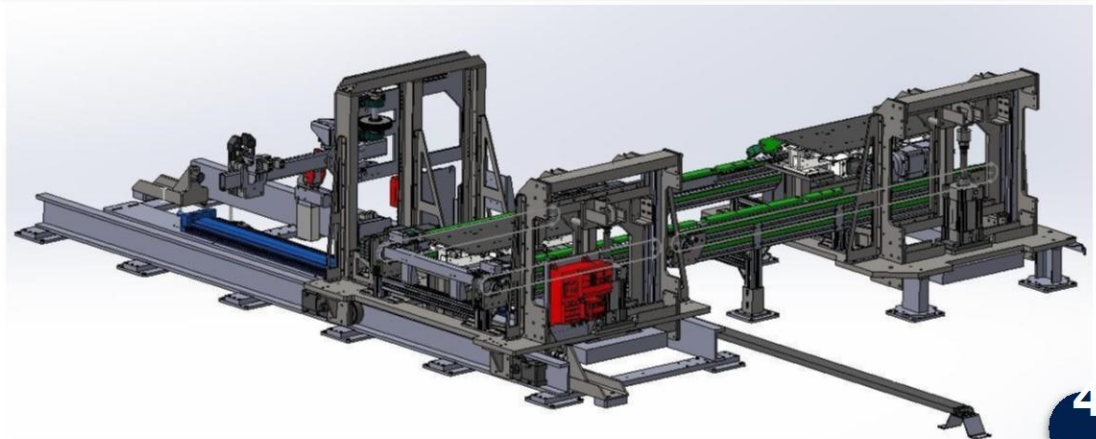
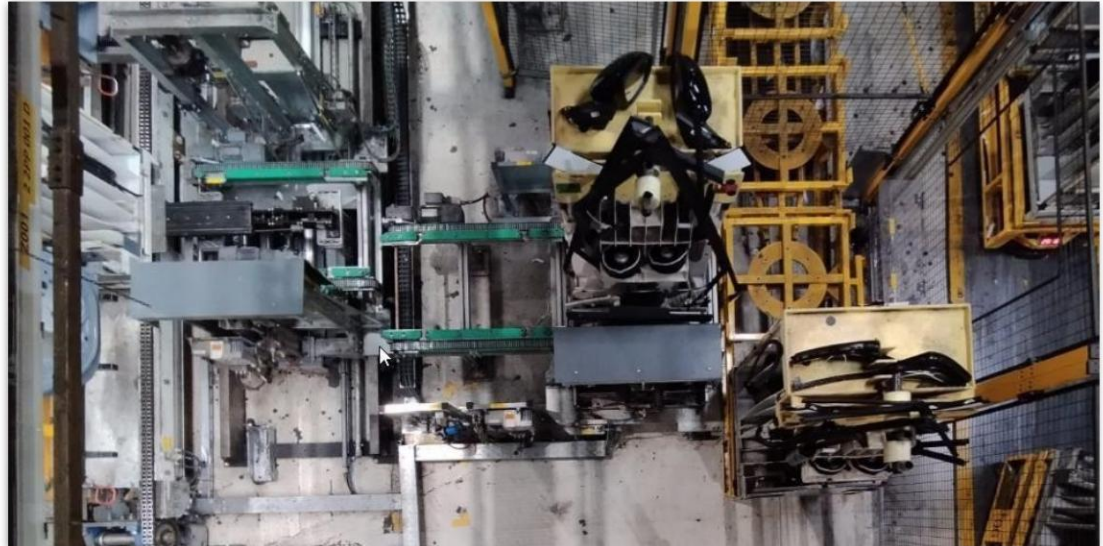


AUTOMATION: AUXILIARY CONVEYORS

AUXILIARY CONVEYORS

Purpose:

- Delivery of kits to existing sub-assembly line, electric rail type line.
- Kit insertion behind each rocker arm with the components required for the assembly of the subassembly.
- Deposit on new chain-type floor conveyor, synchronized with the traction of the rocker drag chain.
- Collection of empty kits at the end of the line.





AUTOMATION: RETROFIT PRESS LINES

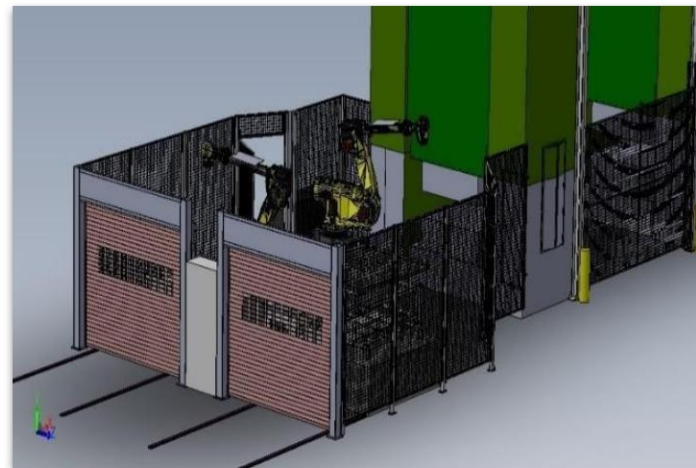
PRESS LINES

Competencies:

- Planning
- Construction
- Mechanical and electrical manufacturing
- Mounting
- Programming and simulation (WinMod)
- Start-up
- Measurements
- Others: Production monitoring, training, documentation

Scope:

- Replacement of the electrical control and automation system.
- Replacement of pneumatic systems and hydraulics.
- Replacing robots.
- Replacement of doors, gates, and format tables.
- Adaptation of die tables.
- Press check.



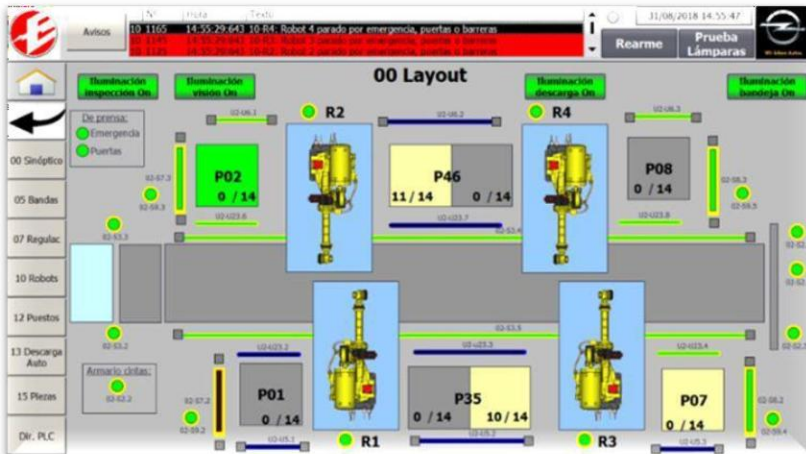
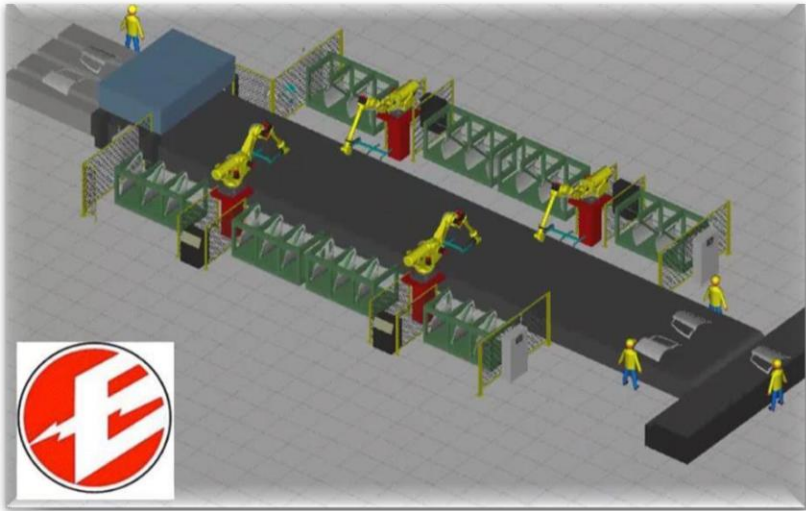


AUTOMATION: AUTOMATIC PARTS STACKING

AUTOMATIC CONTAINERIZATION

Main features:

- Fanuc robots with integrated IRPickTool and IRVision systems
- PLC S7-300F or S7-1500F with ET200SP periphery and
- ET200Eco
- Simatic Panel PC HMI
- DP/DP or PN/PN coupler for communication with press, including safety devices
- Security equipment: optical barriers, scanners, door locks, security wire along the belt



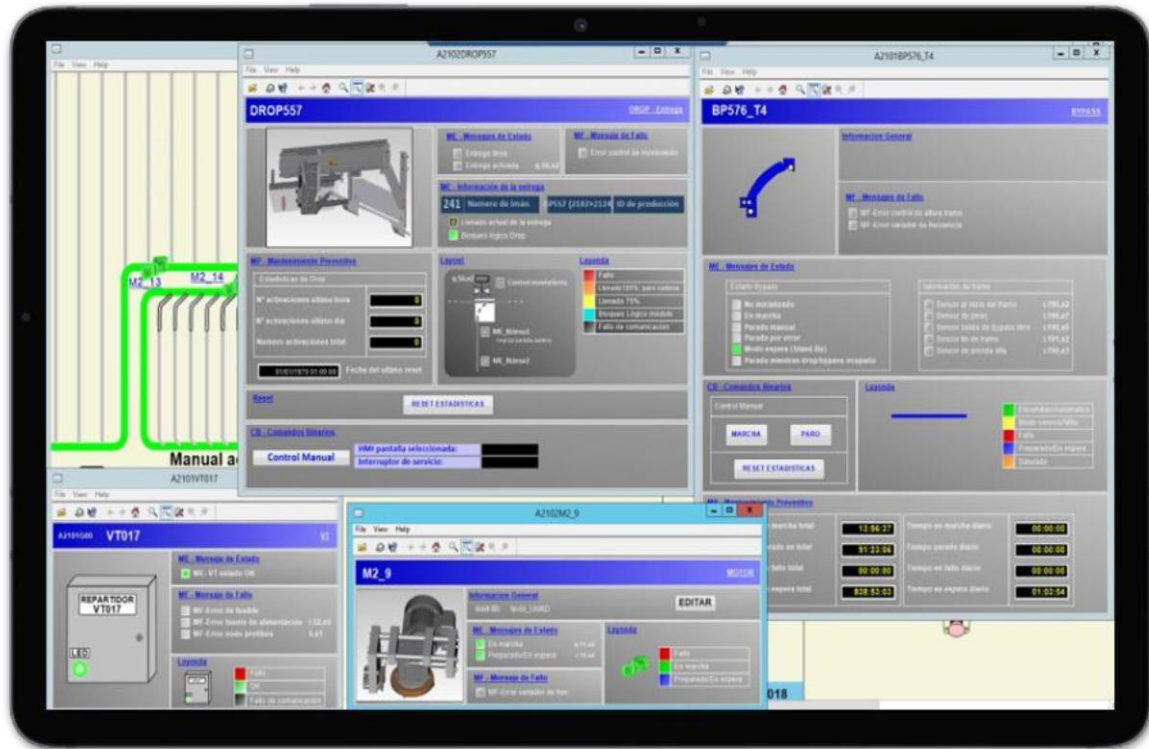


AUTOMATION: LOGISTICS

LOGISTICS

SCADA INDITEX Logistics Platform Europe (Bershka, Stradivarius and ZARA)

The general alarm viewer developed by our team allows the expansion of 10 extra points of information to be customized by the user, improving the capabilities of the standard Cimplicity product from General Electric, helping both maintenance and production.



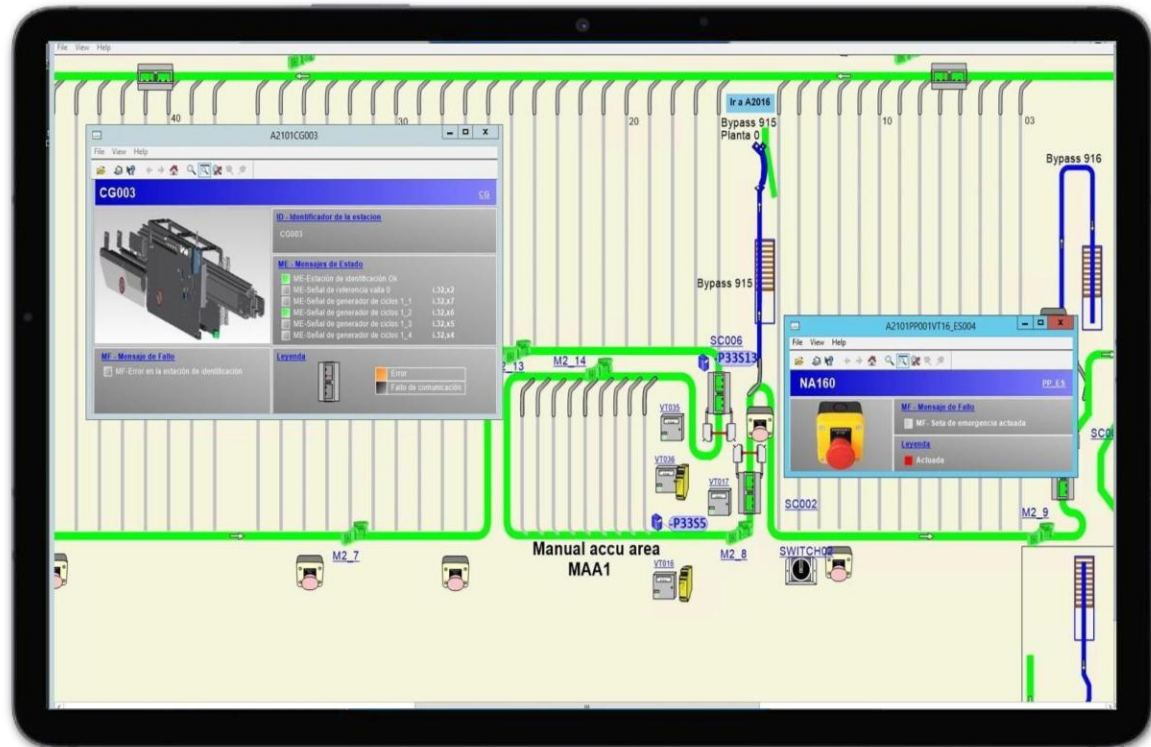


AUTOMATION: LOGISTICS

LOGISTICS

SCADA INDITEX Logistics Platform Europe (Bershka, Stradivarius and ZARA))

Developed by General Electric's Cimplicity (OOP), the project monitors 92 PLCs in four plants with one of the largest storage capacities in the world. The conveyor is displayed in green for correct operation, in yellow for 75% saturation, in orange for 100% saturation, in blue for pause, in red for emergency stop, in black for no connection to the system.





AGV / AGM / AGT / ALV / AMR: INTEGRATION

INTEGRATION

We have vast experience in the integration of automated guided vehicles, supported by excellent fleet control and fluid communication with superior industrial process management and organization systems.

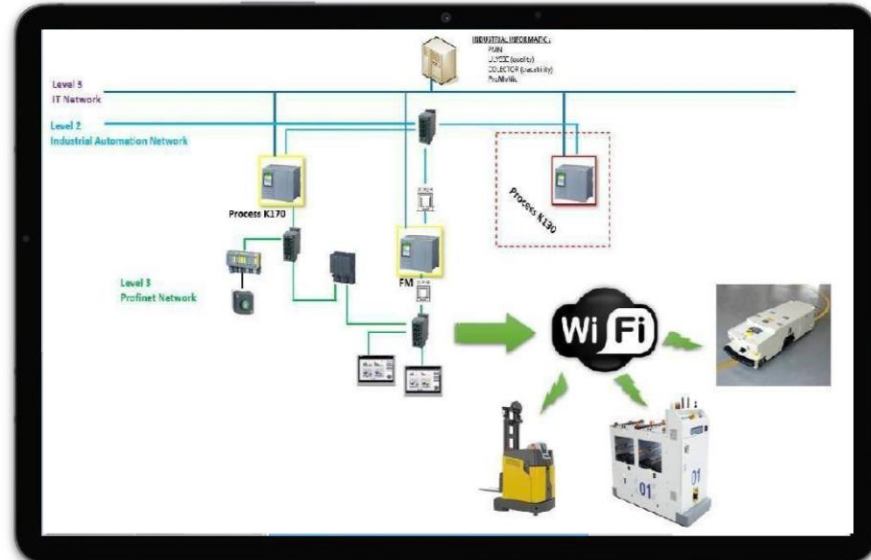
Our highly committed and dedicated team constantly strives for excellence in every project, ensuring that design and functionality are always of the highest quality.

We focus on delivering solutions that not only optimize operational efficiency, but also provide a sense of calm, security and organization in every work environment.

We offer a comprehensive advisory service for selecting the AGV that best suits our clients' needs.

In addition, we take care of the precise calculation of the necessary devices and the optimal design of the routes, ensuring that the client's operational and efficiency objectives are met.

We work with:
SICK, ANT LAB, LIDAR, OMRON, VSLAM, SIEMENS, ETC...





AGV / AGM / AGT / ALV / AMR: INTEGRATION

SERVICES

We offer a comprehensive service covering all stages of the AGV integration and optimisation process, ensuring that each project is perfectly tailored to our clients' specific needs. Our services include:

Customer Needs Study:

We analyze in detail the client's requirements and expectations to define the most suitable type of AGV and auxiliary systems.

Advice on Machine Selection, Maintenance and Rolling Bases:

We provide specialized advice on the selection of AGVs, their maintenance, and the most efficient rolling bases, adjusting to the client's operating conditions.

Manufacturing of Necessary Elements and Periphery: We are responsible for the manufacturing of all the necessary components, including the periphery that will complement the operation of the AGV, ensuring that all elements are of the highest quality.

SERVICES

Calculation and Selection of Machines Adjusted to Needs:

We perform precise calculations to determine the capacities and technical specifications of the machines, selecting the optimal model that meets the demands of the work environment.

Setup Assistance

WiFi and Superior Control Systems:

We offer technical support in the configuration of WiFi networks and their integration with superior control systems, guaranteeing efficient and secure communication between all components.



AGV / AGM / AGT / ALV / AMR: INTEGRATION

SERVICES

Clean Finish and Presentation of the Work Done:

We take care of every detail of the final finish, delivering a clean and well-presented job, meeting the highest quality standards.

Coordination with Companies and Clients during the Execution of Works:

We coordinate all phases of the project with the collaborating companies and the client, ensuring a smooth implementation.

Hand Delivery of the Project:

We deliver the project with all systems and components fully operational, ensuring that everything is ready for operation.

SERVICES

Blank Tests and Simulations of Maneuvers and Processes:

We run preliminary tests and process simulations to ensure the system operates correctly before final implementation.

Complete Documentation of All Project Elements:

We provide comprehensive documentation of all elements and processes involved in the project, facilitating future references and system maintenance.



AGV / AGM / AGT / ALV / AMR: MAINTENANCE

MAINTENANCE

We offer a comprehensive service that includes the care of both newly integrated equipment and those that have been in operation for years.

Our emergency technical support service (SAT), together with secure maintenance contracts, guarantees that all equipment is always in optimal working condition.

Our team, which is constantly trained and educated, maintains continuous communication with clients, providing up-to-date information on the status of their facilities and processes.

We take care of the maintenance of the facilities, circuits, cabinets and equipment, ensuring a work environment that promotes efficiency and operational safety at all times.

WE COLLABORATE WITH BRANDS SUCH AS:





AGV / AGM / AGT / ALV / AMR: MAINTENANCE MODES AND COMPLEMENTARY SERVICES

BASIC MAINTENANCE

Content:

- Number of visits: 2 visits every six months.
- Complete maintenance of the machine at each visit.
- Delivery of documentation of the review and repair carried out.

Exclusions:

Spare parts not included; any necessary replacement will be billed separately.

Spare parts repairs will be carried out on the same visit or at another time agreed with the client, subject to availability.

Corrective repair labor billed separately.

ADVANCED MAINTENANCE

Content:

- Number of visits: 2 visits every six months.
- Complete maintenance of the machine at each visit.
- Free replacement of common wear items such as plots, belts and wheels.
- Delivery of documentation of the review and repair carried out.

Exclusions:

Any spare part not listed as a wear item will be billed separately.

Corrective repair labor billed separately.

ARMORED MAINTENANCE

Content:

- Number of visits: 4 visits per year.
- Complete maintenance of the machine at each visit.
- Free replacement of common wear items such as plots, belts and wheels.
- Priority response from the Technical Assistance Service (SAT) with a response time of 24 hours.
- Guarantee of supply of spare parts for the elements included in the contract.
- Delivery of documentation of the review and repair carried out.

Exclusions:

Any spare part not listed as a wear item will be billed separately. Repair labor corrective measures billed separately.



AGV / AGM / AGT / ALV / AMR: MAINTENANCE MODES AND COMPLEMENTARY SERVICES

MAINTENANCE OF FACILITIES AND PERIPHERY

We offer a comprehensive **maintenance services** which not only focuses on core equipment such as AGVs and other automatic motion systems, but also covers all the periphery and auxiliary components required for their optimal operation.

This includes the facility **maintenance**, control panels, charging systems, circuits, and other essential elements that support the correct performance of the equipment.

Our goal is to ensure that all systems and their infrastructure operate efficiently and safely, minimizing any possibility of unexpected failures that may disrupt productivity.



MAINTENANCE AND CLEANING

We understand that regular cleaning and maintenance are essential to prolong the life of your equipment and prevent unforeseen failures.

During these checks, we ensure that all critical components are free of dirt and debris that may affect their performance.

In addition, we offer an extended cleaning and maintenance service for the periphery, such as chargers, control panels, circuits, labels, reflectors, etc.

- **Cleaning Included in AGV and Automatic Systems Inspection:** Every time we carry out a complete review of the AGV or automatic movement systems, the cleaning of this equipment is included.
- **Additional Cleaning Service for Periphery:** In addition, we provide a specialized cleaning and maintenance service for the periphery surrounding the AGV equipment, such as chargers, control panels, circuits and identification labels.



VISION AND MARKING

ARTIFICIAL VISION, MARKING AND TRACEABILITY

Entrerríos Automation also offers global solutions for Machine **vision and industrial traceability**.

We provide components and know-how for the fast and professional identification of tasks industrial, **traceability and optical inspection**.

With software we link the different components of the product range for a customized solution in control and traceability projects.

We have a specialized team with great experience in the areas that play a role in the traceability **cycle and** the quality **control**.

- Industrial marking and identification.
- Reading codes.
- Optical controls with artificial vision.
- Comprehensive traceability management.

Our main suppliers are:

SIC MARKING
MICROSCAN
LABEL VISION SYSTEMS

VISION CONTROL
VISION
COMPONENTS ETC...



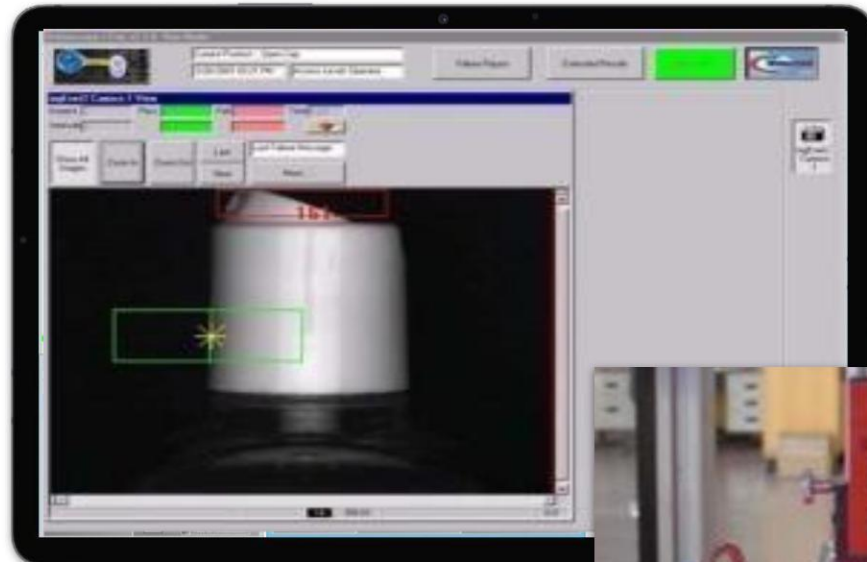


VISION AND MARKING

ARTIFICIAL VISION

With our experience in Machine Vision systems in the industrial world, we provide solutions for OCR character recognition, dimension measurements, colour identification, surface analysis and studies, etc., using elements such as measurement lasers, high-resolution cameras (intelligent or with PC connection), lighting and optics:

- Full range of cameras (smart or PC-based)
- Lighting equipment: special lighting, telecentric optics, lasers
- User interface





VISION AND MARKING

IDENTIFICATION METHODS

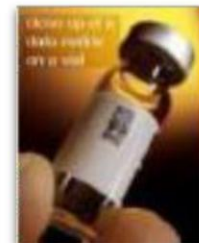
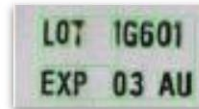
We have different methods of identifying our codes:

- Bar-code
- PDF Code 417
- Alphanumeric marking
- DATA MATRIX code
- RFID (Radio Frequency Identification)

MARKING EQUIPMENT AND SYSTEMS

For marking product units we offer different methods:

- Laser systems (diode, lamp, CO2)
- Ink-Jet inkjet systems
- HI-Jet ink printing systems
- Micropuncture / Scratch Marking
- Recording RFID tags





AUTOMATION

MAINTENANCE: PRODUCTIVE, ELECTRICAL, MECHANICAL, ORDINARY CLEANING, TECHNICAL CLEANING AND CIVIL WORKS

Experience in corrective, preventive, predictive and 0-hour maintenance, in different factories such as:

FACTORIES

- OPEL – PSA – STELLANTIS
- CAF
- CLH-EXOLUM
- FMC FORET
- LECIÑENA
- BOSAL
- VICASA
- SAICA
- TORRASPAPER
- KEIPER IBERICA
- PROMA HISPANIA
- PANISHOP
- VIA AUGUSTA
- MERCIER
- LAPESA
- SCHAKO

FACTORIES

- LEAR
- ADIENT-JOHNSON CONTROLS
- TEAK
- PLASTIC OMNIUM
- FAURECIA
- VALEO
- SEAT-VW
- B/S/H/
- AAA IBERICA
- ARCELOR MITTAL
- MONDI
- EXIDE
- ARAVEN
- RACING
- HMY YUDIGAR
- MOWI



MAINTENANCE: PROJECTS COMPLETED

MAINTENANCE INSTELLANTIS (OPEL ZARAGOZA)

We take care of all the factory infrastructures (PCI, air conditioning, heating, industrial water, drinking water, BT, MT, etc.) and the water plant. The team is around 70 people.

TECHNICAL CLEANING OF THE PAINT SHOP INSTELLANTIS

Technical cleaning of all production areas, the dirty area and the clean area, the equipment this around 55 people.

MAINTENANCE AT SEAT BARCELONA

Low-voltage electrical maintenance in all SEAT factories and centres. (Seat Martorell, Seat Zona Franca, Technical Center, Seat Components, etc...), the team this around 15 people.
Mechanical maintenance of all transport lines in workshop 9 and workshop 10, the team this around 35 people.

MAINTENANCE AT VALEO ZARAGOZA

We take care of all the infrastructures of the factory and all the production areas, we also do the tolling of the molds and dies, the equipment this around 15 people.

MAINTENANCE AT CAF ZARAGOZA

Electrical and mechanical maintenance of all infrastructures, equipment this about 8 people.

MAINTENANCE AT HITACHI-ABB ZARAGOZA

We take care of all the factory infrastructures and all the production areas, the team this around 10 people.



OIL & GAS: INSTALLATIONS IN AREAS WITH HIGH EXPLOSION RISK (ATEX)

HIGH RISK FACILITIES

- Experience in electrical and instrumentation installations for the petrochemical sector, transportation and distribution of OIL&GAS.
- Our clients are industries with very strict safety and operating protocols required in this sector.
- Strategic works and even "turnkey" works for all the electrical and instrumentation work of a new plant.
- Leading companies in the sector such as CLH, Vopak Terquimsa, WÄRTSILÄ, Eltherm trust us.





OIL & GAS: INSTALLATIONS IN AREAS WITH HIGH EXPLOSION RISK (ATEX)

HIGH RISK FACILITIES

- High voltage, low voltage, instrumentation, industrial electronics and lighting of large industrial areas
- Fuel and chemical storage
- High-power pumping and transport, such as oil and gas pipelines, and low-power pumping, such as truck loading, additives, etc.
- Design, engineering and administrative procedures associated with this type of installation





MAINTENANCE: SAFETY ADEQUACY IN MACHINERY AND EQUIPMENT RD 1215/97

SECURITY ADEQUACY

- Movement of industrial and heavy machinery
- Dismantling of production lines
- Manufacturing of metal structures and custom machinery



SECURITY ADEQUACY

- Corrective and predictive maintenance
- Repair of electrical faults
- Sanitation of pneumatic and hydraulic systems





STRUCTURES: MANUFACTURING AND ASSEMBLY OF METAL STRUCTURES

METAL STRUCTURES

- Technical and economic studies and project development for industry and civil engineering.
- Design and calculation using advanced software: Autodesk MEP, Advanced Steel, Robot, 3D Solidworks - Dassault.
- Experience in manufacturing both heavy and light metal structures according to the European standard EN-1090-2.
- Experience in assembly and disassembly of metal structures, roofs and facades.
- Assembly of equipment in industry by our own and other manufacturers.

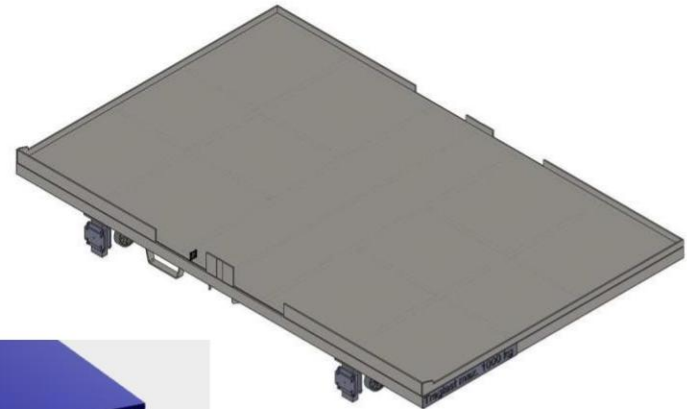




STRUCTURES: MANUFACTURE OF DOLLIES AND TRAILERS FOR AGV APPLICATIONS

STRUCTURES

- Design and calculation using advanced software: 3D Solidworks - Dassault
- Experience in manufacturing trailers, carts and dollies for load movement applications with AGVs
- Manufacturing of trailers for loads of up to 1,800 kg
- Assembly of equipment in industry by our own and other manufacturers





ENTRERRIOS

AUTOMATION

ENTRERRIOS GROUP, MAKING TECHNOLOGY EASY SINCE 1986

ENTRERRIOS AUTOMATION S.A.

Industrial Automation



FAST WORKSHOPS TERUEL S.L.

Installation and Maintenance



CENTRAL DELEGATION

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