

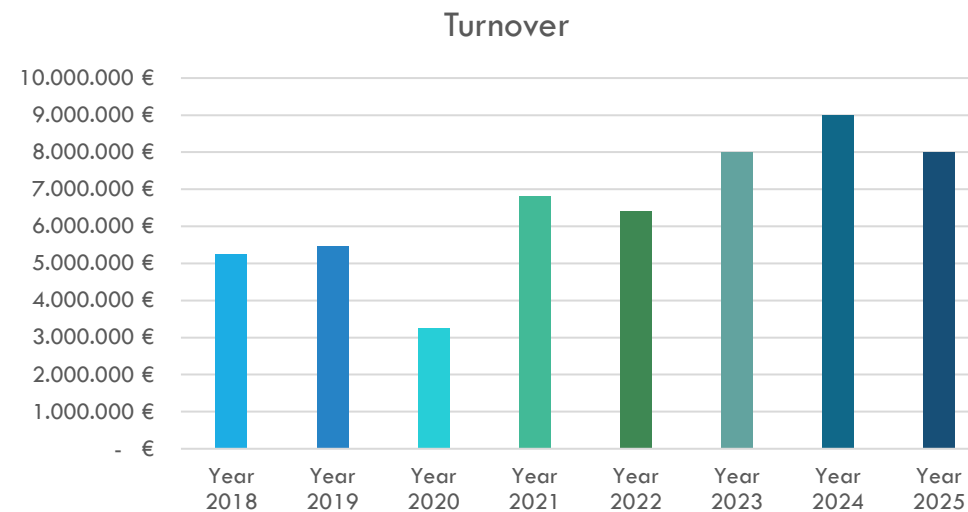
IVR FURNACES & AUTOMATIONS



TURNOVER



BUSINESS YEAR	TURNOVER
2018	5.260.000 €
2019	5.450.000 €
2020	3.250.000 €
2021	6.800.000 €
2022	6.400.000 €
2023	8.000.000 €
2024	9.000.000 €
2025	8.000.000 €





AUTOMOTIVE



AIRCRAFT



WIND-INDUSTRY



MEDICAL



HEATING



HEAT TREATMENT APPLICATION FIELDS



**ALUMINIUM
PARTS**



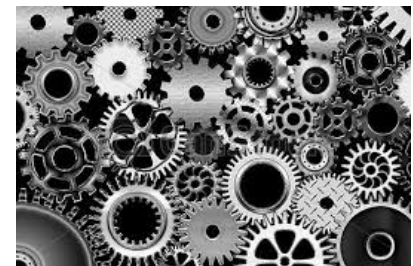
PHOTOVOLTAIC



FASTENERS



WIRE & TUBES



GEARS

MAIN PRODUCT & ACTIVITY PORTFOLIO



- SEAL QUENCH FURNACES;
- BELT FURNACES;
- BOOGIE HEARTH FURNACES;
- CONTINUOUS FURNACES;
- FURNACES FOR PHOTOVOLTAIC PARTS;
- FURNACES FOR METALLIC WIRES;
- FURNACES FOR METALLIC TUBES;
- FURNACES FOR ALUMINIUM PARTS (T4-75-76);
- NITRIDING FURNACES;
- PUSHER FURNACES;
- ENDOGAS-GENERATORS
- GAS MANAGEMENT SYSTEMS;
- TRANSPORT SYSTEMS;
- AUTOMATISATION AND SOFTWARE MANAGEMENT SYSTEM;
- AFTER-SALES: SERVICE, SPARES, TRAINING, ETC.



SOME OF OUR REFERENCES

STT Strambino – ITALY

Belt furnace line with salt quenching. Heat Treatment: carburizing, quenching, tempering

Tecnobrazing & INIBA – SPAIN

Belt furnace. Heat Treatment: quenching, brazing, annealing

VALEO GROUP – ITALY

Seal quench furnace line. Heat Treatment: carburizing, quenching, tempering

TEMPONI – ITALY

Seal quench furnace line. Heat Treatment: carburizing, quenching, tempering

HIRSCHVOGEL – GERMANY

Casted belt furnace line with oil quenching. Hourly production up to 2000 Kg./h

Heat treatment: quenching & tempering.

OMT – ITALY

Pit furnace. Heat treatment: nitriding, carbonitriding, tempering, oxidation with KN and KC

UNIVERSITA' DI PADOVA – ITALY

Heat treatment line for solar panels. ReSiELP project (recovery of silicon and other materials from old solar modules). It is a European project based on the valorization of Silicon PV at the end of its life. IVR has implemented a complete automatic line.



SOME OF OUR REFERENCES

VOESTALPINE AEROSPACE – AUSTRIA

Chamber furnace and continuous roller furnace. Heat treatment of aeronautic parts.

BULTEN – SWEDEN

Seal quench furnace. Heat Treatment: carburizing, quenching, tempering

VOESTALPINE AEROSPACE – AUSTRIA

Boogie hearth furnace 1100°C. Heat treatment of aeronautic parts in titan and steel

BRASS – ITALY

Boogie hearth furnace 600°C. Heat treatment: copper annealing

TRAMET – ITALY

Seal quench furnace and Endogas generator. Heat Treatment: carburizing, quenching, tempering

WILLIAMS – USA

Special furnace with separated chambers, integrated in a vacuum line. Heat treatment: tempering

EPIROC – SWEDEN

Chamber tempering furnaces with integration in a vacuum line.

ALFAGOMMA – ITALY

Continuous furnace for brazing heat treatment.



SOME OF OUR REFERENCES

PERUCCHINI – ITALY

Chamber furnace. Heat treatment: annealing.

VM MOTORI SPA di Cento – STELLANTIS – ITALY

Continuous roller furnace.

BUTANE – IRAN

Continuous furnace. Heat treatment: brazing and atmosphere quenching

BREMBO – ITALY

Special chain pusher furnace for heat treatment, type SPECIAL 600-600-6000-E

SOLIVERI – ITALY

Pusher furnace line with robot and automatization of the complete working area

MUSASHI GROUP – SPAIN

Casted belt furnace line with oil quenching. Hourly production up to 3000 Kg./h Heat treatment: isothermal annealing.

BONDIOLI & PAVESI – ITALY

Chamber tempering furnace with robot and automatization of the complete working area.

HIRSCHVOGEL – GERMANY

Casted belt line for forged parts



SOME OF OUR REFERENCES

GKN - ITALY

Endogas-Generator type IVR - Endo 32-G

CONCENTRIC - BRASIL

Endogas-Generator type IVR - Endo 32-G

TRAMET - ITALY

Pit furnace. Heat treatment: carburizing

BOSCH - GERMANY

Chamber tempering furnaces with integration in a vacuum line.

PENGG WIRE GROUP - AUSTRIA

Continuous furnace for metallic wires. Heat treatment: patenting

FORGIA ALLUMINIO - ITALY

Continuous furnace for aluminium parts. Heat treatment: T4-T5-T6

B.O.F. - BANGLADESCH

Pit furnace. Heat treatment: nitriding, carbonitriding, tempering, oxidation with KN and KC

CWI - UK

Continuous furnace for metallic wires. Heat treatment: patenting and annealing.



SOME OF OUR REFERENCES

ARCHITA - ITALY

Belt furnace line for fasteners, hourly production 1000kg. Heat treatment carburizing, quenching, tempering

HIRSCHVOGEL - GERMANY

Roller furnace line for aluminum T4-T5-T6

ZAPP - FINLAND

Continuous furnace for metallic wires

HIRSCHVOGEL - CHINA

Belt furnace line for heating of aluminum pieces

SEW - MERCURY MARINE - HUSKY (USA)

Special furnaceS with separated chambers, integrated in a vacuum line. Heat treatment: tempering.

HEICO

Belt furnace line with quenching in oil for heat treatment of fasteners.

RUBIG - GERMANY

Roller furnace line for aluminum T4-T5-T6

BONTEMPI VIBO - ITALY

Casted belt furnace line with oil quenching. Hourly production up to 2200 Kg./h Heat treatment: isothermal annealing.

SOME OF OUR REFERENCES



FENES – POLAND

Continuous furnace line for saw blades heat treatment

RÜBIG – SLOVAKIA

Seal quench furnace line. Heat Treatment: carburizing, quenching, tempering

LEAX – LATVIA

Horizontal single chamber furnace for nitriding and carbonitriding in vacuum

BERNHOFER Chamber furnace line for forged parts.

HEICO Chamber furnace line for fasteners.

BERTONI FORGIATI

Belt furnace line with quenching in water.

METALBA SPA ALUMINIUM – ITALY

Continuous furnace for aluminium parts. Heat treatment: T4-T5-T6

NEUMANN ALUMINIUM – SLOVAKIA

Roller furnace line for aluminum T4-T5-T6

MONARK – NORWAY

Pit furnace. Heat Treatment: carburizing

CONTINUOUS MESH BELT FURNACES

Continuous mesh belt furnaces

IVR realize continuous mesh belt furnaces, for the treatment of details such as bolts, screws, and big production batches of small metal parts. It is possible to process articles with a length up to max. 250 mm and unitary weight up to 1 kg. Possible heat treatments: hardening, gas carburizing, carbonitriding annealing, quenching in oil, polymers and salt, tempering, atmosphere cooling with or without natural channels or rapid cooling channels.



CONTINUOUS MESH BELT FURNACES



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CONTINUOUS BRAZING & ANNEALING FURNACES

Continuous brazing and annealing furnaces

IVR designs, builds and installs continuous mesh belt systems, with or without muffle, suitable for the heat treatment of various types of metal.

Type of heat treatment and applications:

- Brazing;
- Black and white annealing;
- Relaxation annealing after molding processes of small and large parts;
- Solution annealing.



ANNEALING IN ATMOSPHERE



ANNEALING IN ATMOSPHERE



annealing with nitrogen
of cups and bullets



CONTINUOUS CAST LINK BELT FURNACES

Continuous cast link belt furnaces

The heat treatment process guarantees the product structural uniformity and mechanical characteristics. The procedures at this stage are particularly accurate to ensure the best quality. IVR realizes solutions with continuous furnaces with casted belt, roller transport system or chamber furnaces. All our solutions are completed by loading and unloading systems, cooling systems (air, oil, water, polymer), etc.



CONTINUOUS CAST LINK BELT FURNACES



CONTINUOUS CAST LINK BELT FURNACES



CONTINUOUS CAST LINK BELT FURNACES



CONTINUOUS CAST LINK BELT FURNACES



FURNACES FOR WIRE BRIGHT ANNEALING

Furnaces for heat treatment of wires

IVR portfolio also includes furnaces for the heat treatment of metal wires and metal tubes.

Some world leaders have relied on IVR for systems suitable for the thermal processes of their products, such as furnaces for patenting, annealing, heating and tempering of wires and tubes.

The materials processed on our furnaces will become tire cords, elevator wires or offshore cables, nails, piano strings or even paper clips.



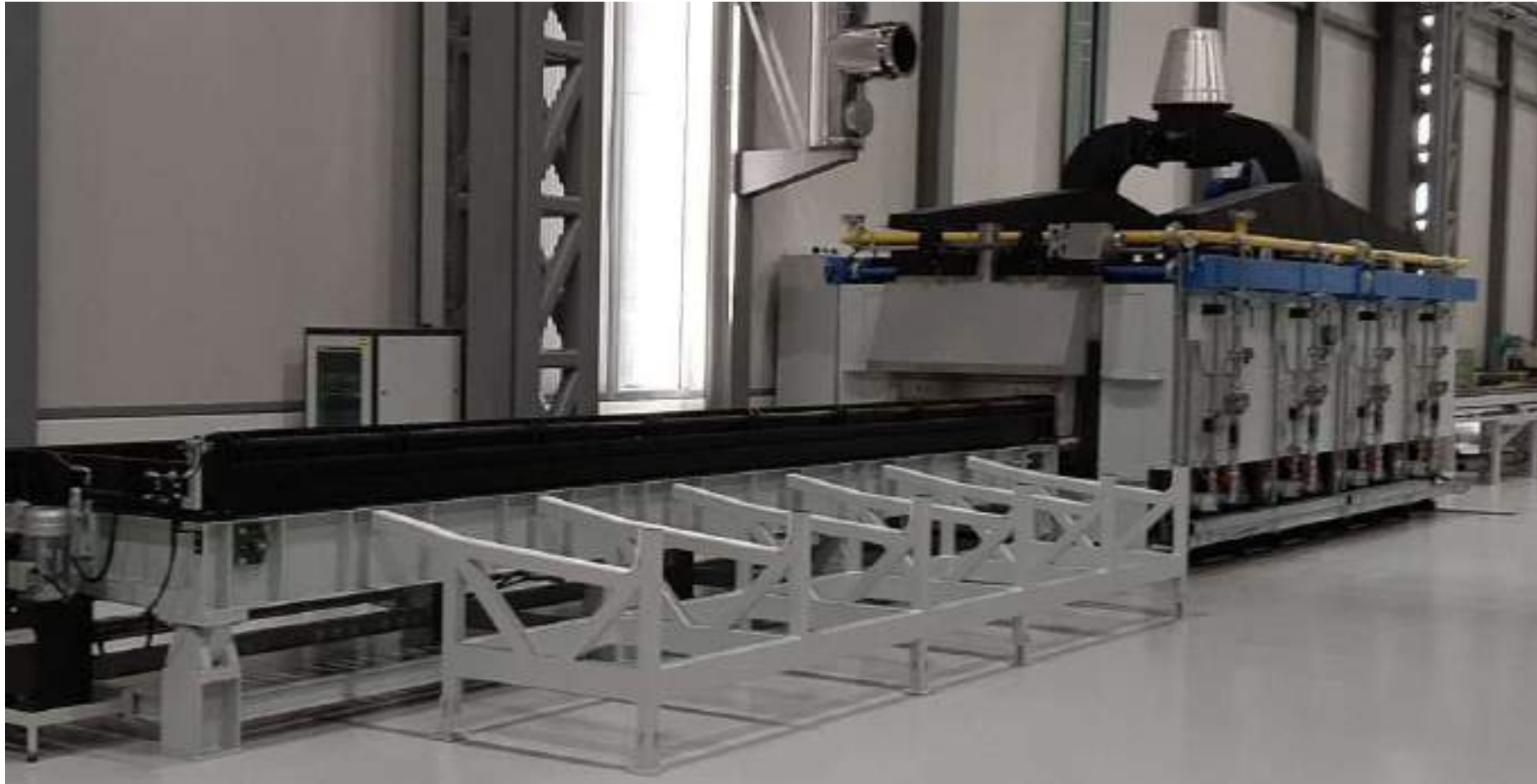
FURNACES FOR WIRE PATENTING



FURNACES FOR WIRE PATENTING



FURNACES FOR TUBES



FURNACES FOR ALUMINIUM

Furnaces for heat treatment of aluminium parts

Already in the analysis phase of the project, we took into consideration the fundamental importance of optimal internal ventilation, which allows ensure the desired temperature uniformity throughout the furnace chamber.

IVR has therefore developed, created and tested, obtaining very positive results, using new internal ventilation systems, which differ from the classic solutions currently in use and allow it to fully satisfy the needs of the market, among other things reducing the consumption costs of the plant.

In particular, our designs are suitable for T4, T5 and T6 aluminum heat treatment processes, heating processes, aging processes.



FURNACES FOR ALUMINIUM PARTS



FURNACES FOR ALUMINIUM BILLETES



FURNACES FOR ALUMINIUM PARTS



FURNACES FOR ALUMINIUM PARTS



ROLLER FURNACES

Roller furnaces

IVR realize roller furnaces and complete lines including quenching systems and automation of the working areas, in order to satisfy the needs of the final consumers. These plants are suitable for the treatment of big production loads even with big pieces.

The major application fields are in the heat treatment of: automotive parts, bearings, gears, cold formed parts.



ROLLER FURNACES

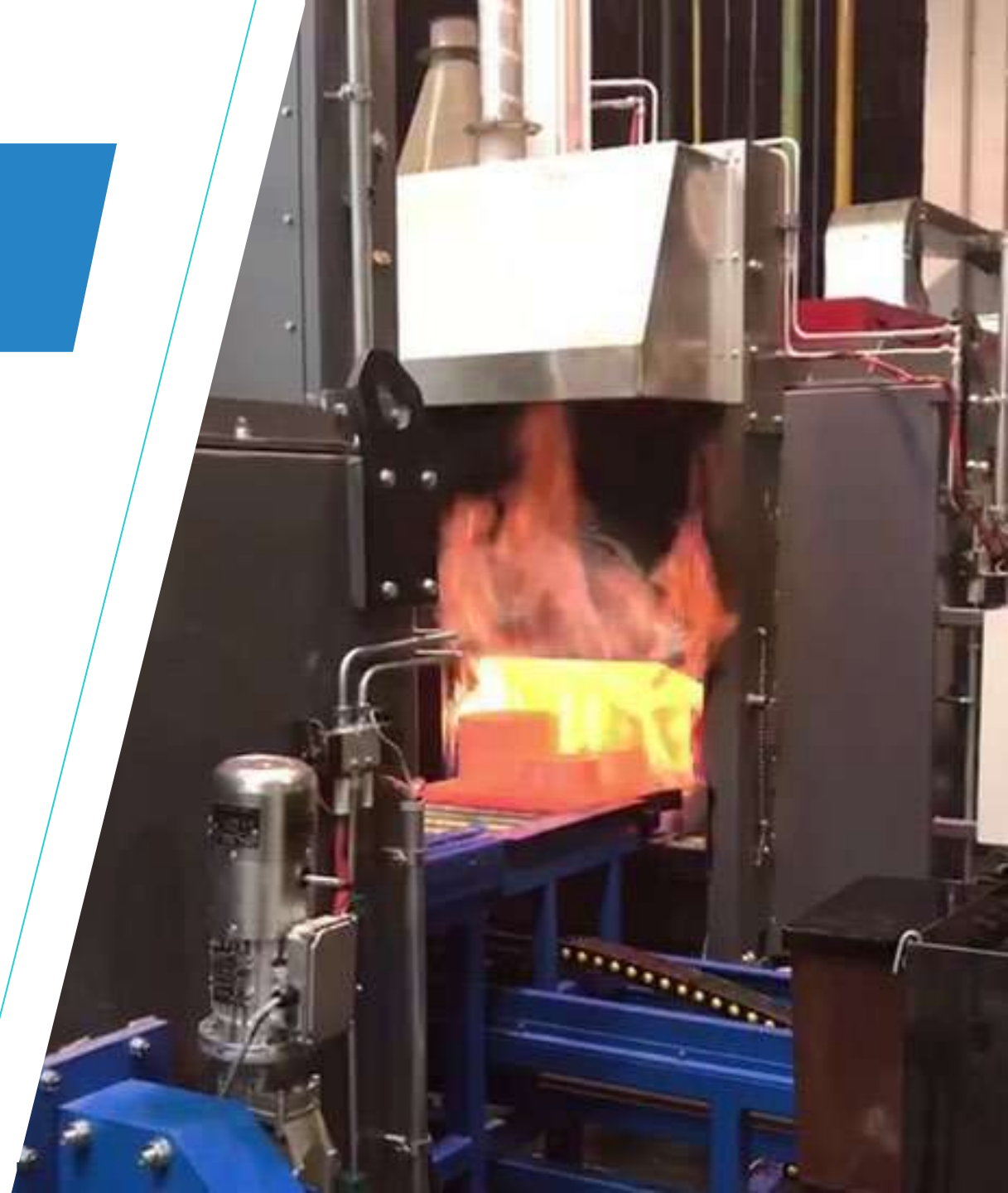


PUSHER FURNACES

Roller furnaces

IVR realize pusher furnaces and complete lines including quenching systems and automation of the working areas, in order to satisfy the needs of the final consumers. These plants are suitable for the treatment of big production loads even with big pieces.

The major application fields are in the heat treatment of: automotive parts, bearings, gears, cold formed parts.



PUSHER FURNACES



PUSHER FURNACES



SEAL QUENCH FURNACES

Seal quench furnaces

IVR's seal quench batch furnaces are machines that can work completely automatic (24 / 24h and 7/7 days), with the possibility of remote control, thanks also to the use of new supervision and control technologies and use of code detection systems, monitoring with cameras, etc.

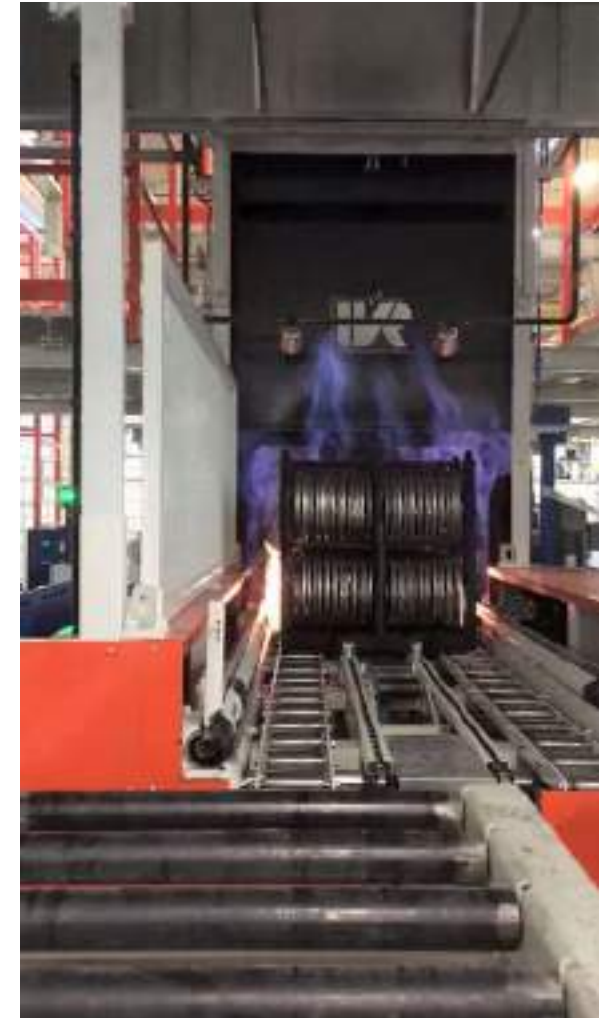
Inside the line it is possible to carry out the whole heat treatment cycle: case hardening / hardening, quenching in oil or salt or polymer, pre-post-washing, tempering, cryogenic, nitriding; moreover, the plants can be used with protective atmosphere as for example: nitrogen, nitrogen-methanol or endogas.



SEAL QUENCH FURNACES



SEAL QUENCH FURNACES



SEAL QUENCH FURNACES



SEAL QUENCH FURNACES



BELL & BOOGIE HEARTH FURNACES

Bell & boogie hearth furnaces

IVR has included in its production line carriage and bell furnaces, specifically designed for the treatment of bulky components or heavy and large charges. These systems can be integrated into a treatment line, combining them with water/oil quenching tanks and equipping them with suitable transport systems. Furthermore, it is possible to equip them with a rapid cooling system to reduce process times.

Treatments can be performed both in air and in the atmosphere and include:

heating; annealing; normalization; relaxation; tempering.



BELL & BOOGIE HEARTH FURNACES



BELL & BOOGIE HEARTH FURNACES



BELL & BOOGIE HEARTH FURNACES



MULTICHAMBER FURNACES

Multichamber furnaces

In addition to the classic chamber tempering furnaces, IVR designs and manufactures multi-chamber tempering furnaces, suitable both as stand-alone systems and as machines to be inserted into automatic heat treatment lines.

These furnaces can be made with a single chamber, dividing the charges simply with support trays, or with separate chambers, to allow working at the same time at different temperatures with different process times.

These are systems suitable for processes that require compliance with CQI9 and AMS2750.

The temperature uniformity is very precise throughout the chamber.

The furnaces can also be equipped with a rapid cooling system and the introduction of a nitrogen atmosphere.



MULTI CHAMBER FURNACES



MULTI CHAMBER FURNACES



NITRIDING FURNACES

Nitriding furnaces

IVR provides nitriding systems with several applications and nitriding process options: Gas nitriding, Nitro carburizing, Nitriding with pre-oxidation and post-oxidation processes.

These systems can be supplemented with options that reduce cycle times:

Vacuum pump

Rapid cooling systems with heat exchangers.

The systems can be realized both horizontally and vertically (especially for long components).



NITRIDING FURNACES



CARBURIZING PIT FURNACE



GAS MANAGEMENT SYSTEM

Gas management system

IVR design and realize directly in its factory also the gas management systems for the furnaces.

We use first class components, checked and certified from the constructor.

The system will than be connected to our plants in order to have the requested atmosphere in the furnaces.

As protective gas, there is also the possibility to have endogas.

IVR design and realize directly in its factory endogas generators.



GAS MANAGEMENT SYSTEM

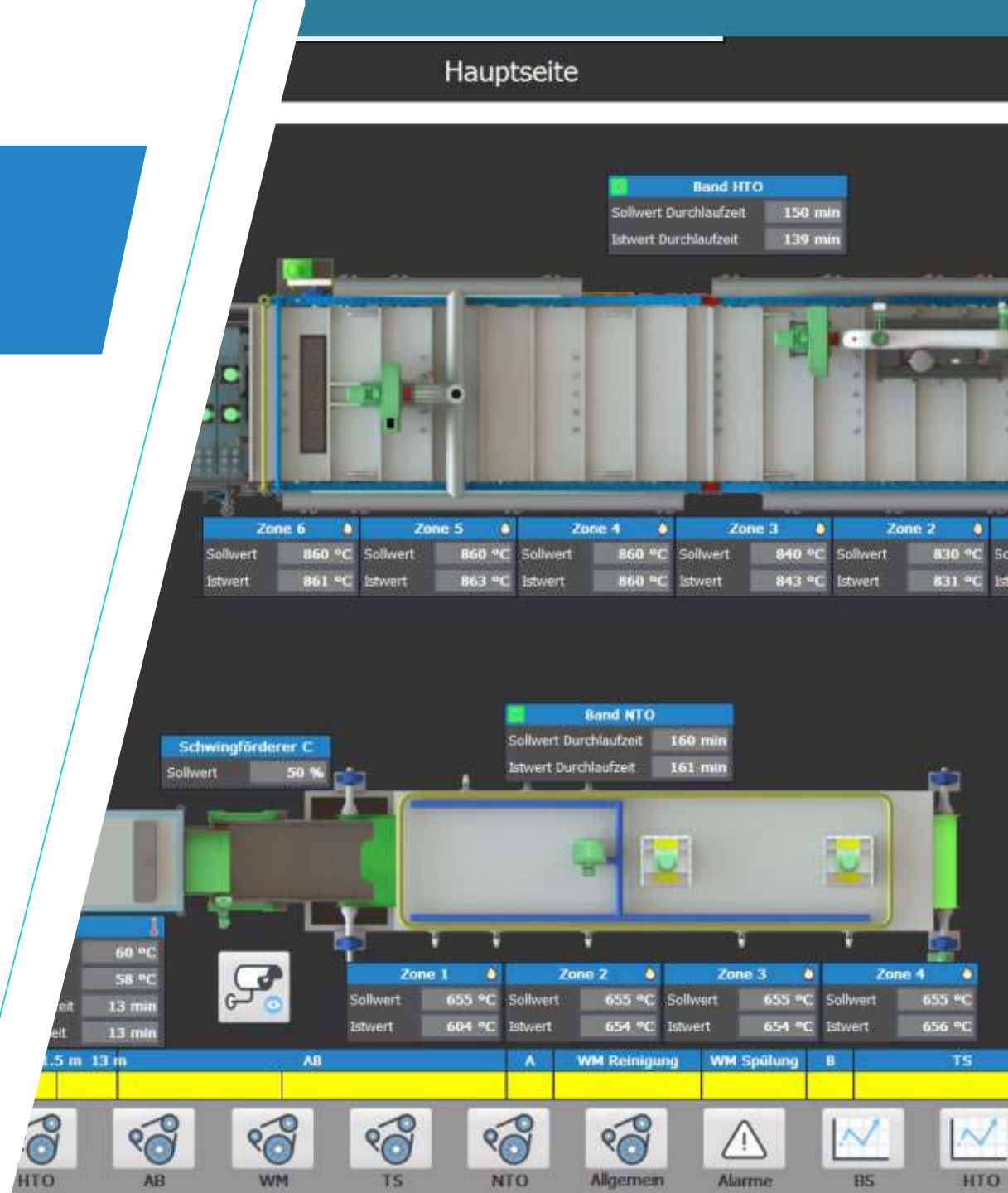


SCADA SYSTEMS

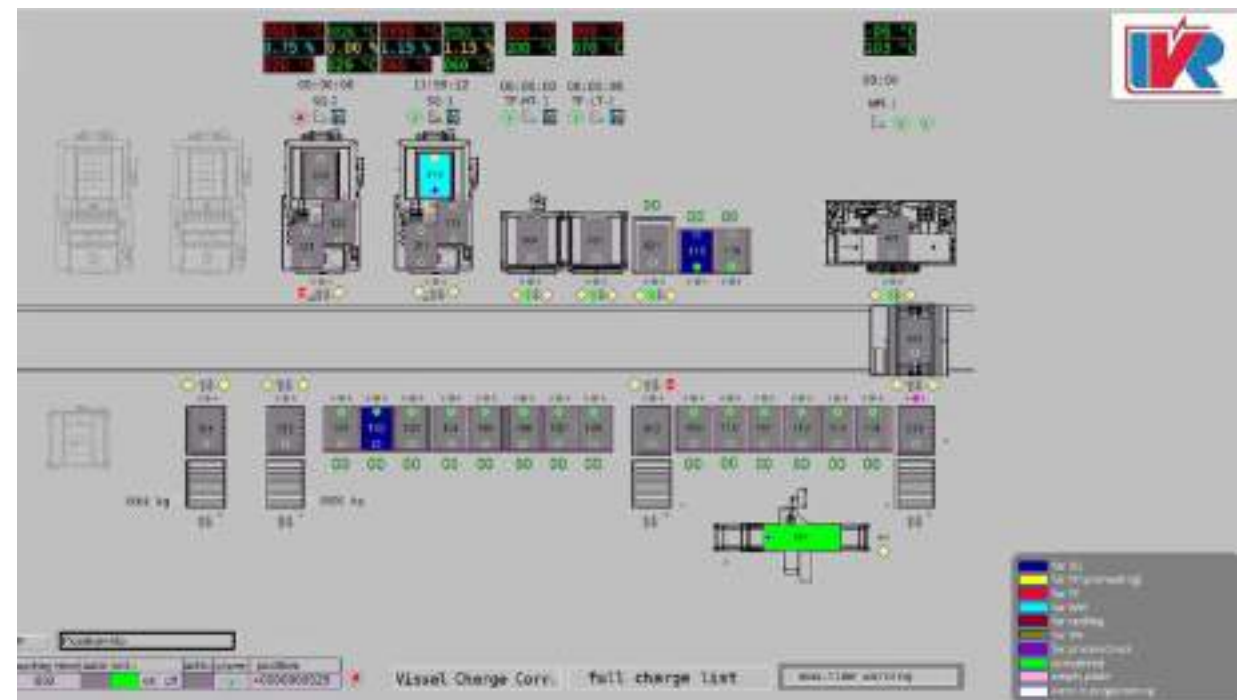
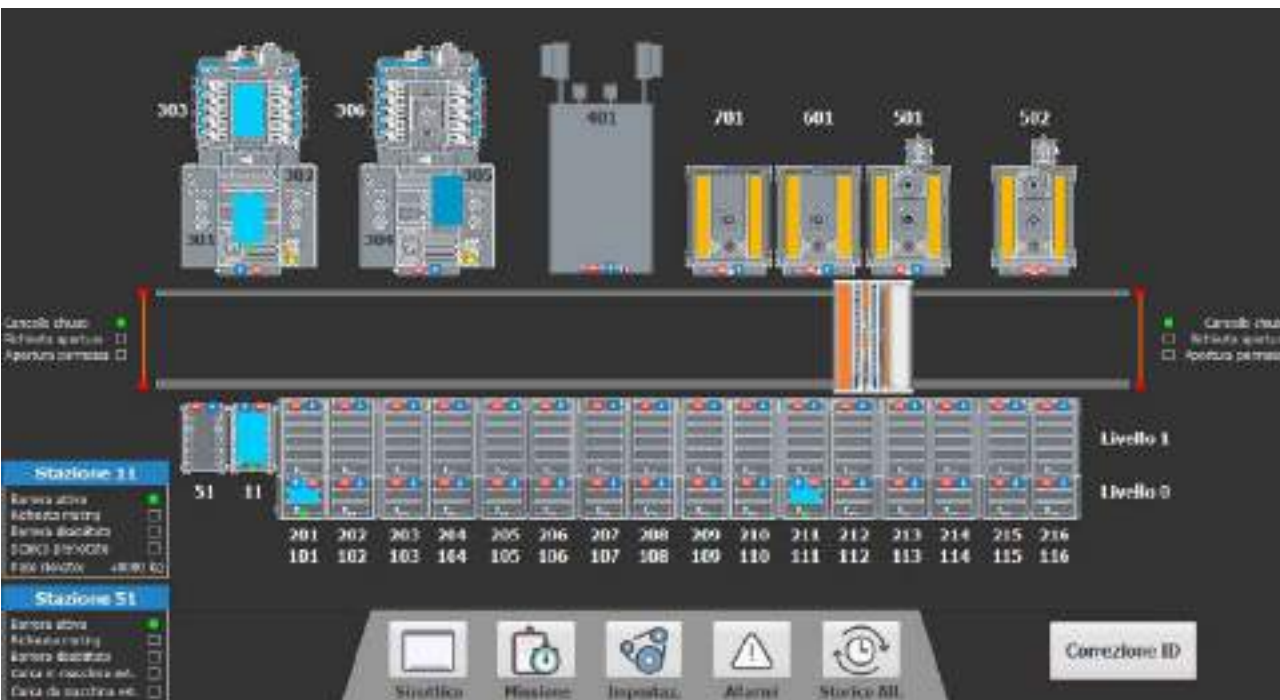
Software

Company IVR SRL is constantly looking for new systems in order to offer to the clients a fully integration of the automation, with only using one software system, to manage the complete plant.

We are able to offer innovative and original solutions also for the major programmable platforms (PLCs or industrial PCs), customizable for every customer's need.



SCADA SYSTEM



HMI SYSTEM



Setpoint zona 1: 100 °C	Temperatura attuale: 0 °C	PID: 0 %	Ventilazione: 0 rpm
Setpoint zona 2: 200 °C	Temperatura attuale: 0 °C	PID: 0 %	Ventilazione: 0 rpm
Setpoint zona 3: 0 °C	Temperatura attuale: 0 °C	PID: 0 %	Ventilazione: 0 rpm
Setpoint zona 4: 0 °C	Temperatura attuale: 0 °C	PID: 0 %	Ventilazione: 0 rpm

B.1 B.2 B.3 B.4 B.5 B.6 B.7 B.8

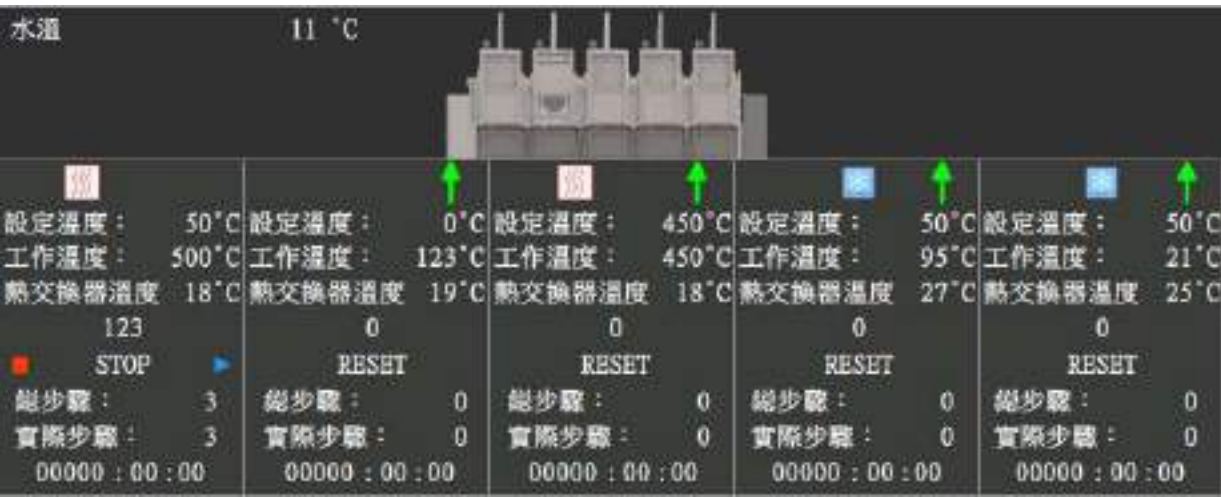
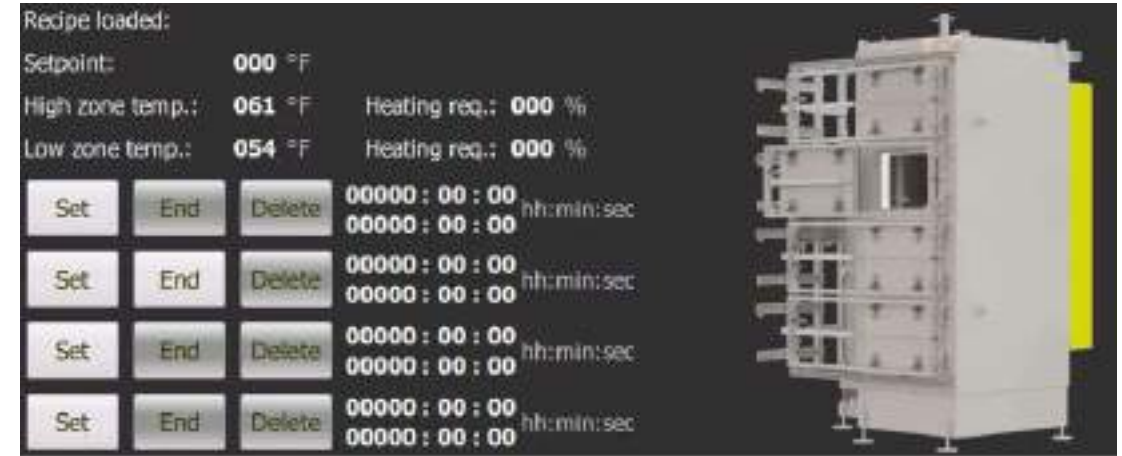
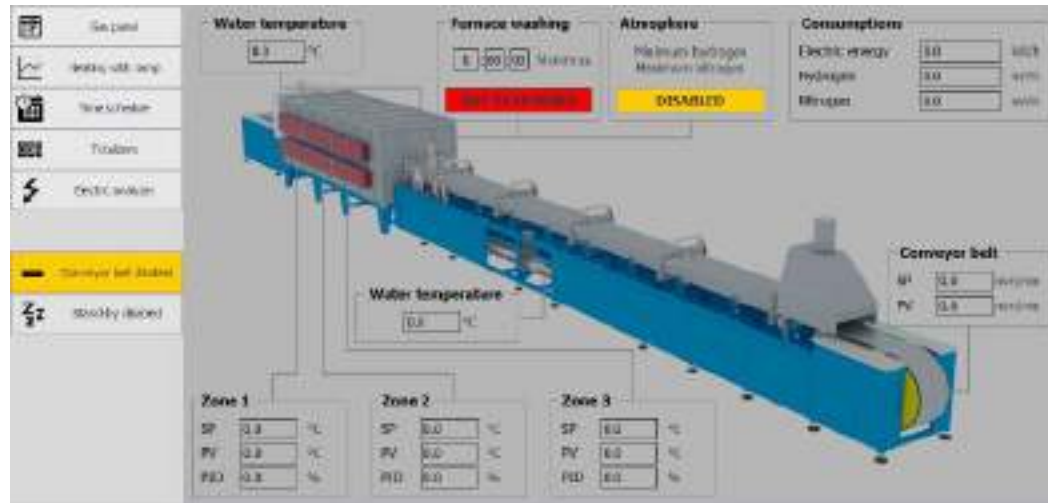
MODALITA' BASSA TEMPERATURA

Nessuna modalità di funzionamento selezionata

Setpoint velocità nastro: 0 mm/min	SISTEMA IN MODALITA' MANUALE
Velocità attuale nastro: 0 mm/min	PORTE SCARICO ALTE IN MODALITA' MANUALE
	PORTE SCARICO BASSE IN MODALITA' MANUALE
Lunghezza passo: 190.5 mm	NASTRO SCARICO IN MODALITA' MANUALE
Conteggio passo attuale: 0.0 mm	ATTENZIONE: PORTA CHIUSA

IMPOSTAZIONE TEMPERATURA ZONA 1 100 °C Temperatura di riferimento 200 °C Temperatura di sicurezza 0 °C Temperatura attuale	A - LETTURA T.C. SOTTO NASTRO ZONA 1 0.0 °C Lettura PLC 0.0 °C Compensazione 0.0 °C Lettura compensata	STATO RISCALDO 1.0 s Tempo Riscaldamento 0.1 s Riscaldamento richiesto Stato riscaldatore 1 Stato riscaldatore 2
IMPOSTAZIONE PID ZONA 1 1.0 % Banda proporzionale 549.0 s Tempo integratore 600 s Tempo derivatore 0.0 % Banda morsa	B - LETTURA T.C. SOTTO NASTRO ZONA 1 0.0 °C Lettura PLC 0.0 °C Compensazione 0.0 °C Lettura compensata	
SCOSTAMENTO SP - IV ZONA 1 NONABILITATO 0 °C Banda superiore 0 °C Banda inferiore 0 s Tempo ritardo attimo	C - LETTURA T.C. TRA TUBI ZONA 1 0.0 °C Lettura PLC 0.0 °C Compensazione 0.0 °C Lettura compensata	

HMI SYSTEM



ELECTRICAL CABINETS

Electrical cabinets

IVR makes electrical cabinets in its workshop, both with standard construction or special equipment or prototypes made on specific customer requirements.

We use different types of specific components according to customer needs and requirements. We handle the projects and coordinate the supply of ordered material using an internal management software, optimizing the realization times.

All electrical cabinets are tested with certified instrumentation and checked in all their parts with emergency loop tests, I / O tests incl. final test report.



ELECTRICAL CABINETS



ELECTRICAL CABINETS

