



SECTOR  
**OIL & GAS**



**GORIZIANE**

ENGINEERING &  
CONSTRUCTION

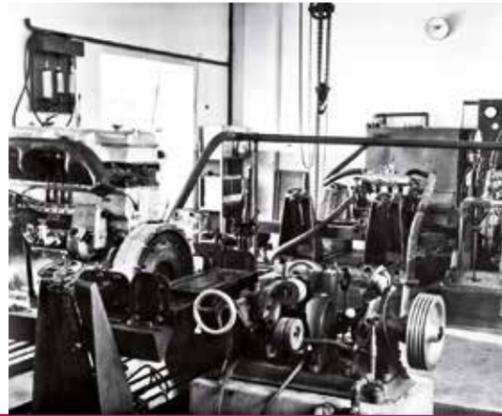


## MESSAGE FROM THE PRESIDENT

As Pope Francis says: “we are not living in an era of change, but a **change of eras**”. The world continues to accelerate constantly, the current speed is incredible and continues to grow. All the consequent changes around us (whether they are social, political, technological, scientific, economic, etc.) require each of us a deeper and more accurate introspection in order to maintain, in this change of Era, a deep reflection with the most authentic part of ourselves: **only in this way we will be able to give the best of ourselves to us and to the people around us** (family, work, friends, groups, etc.). Only in this way, if our goal is to leave a positive imprint on our life, we will be able to think of succeeding. Even in this period of pandemic!

As a second generation entrepreneur of the company founded by my parents over 70 years ago, I therefore tried to build together with my siblings, and with the Family that GORIZIANE with its collaborators has established, an efficient team with the desire to leave a positive imprint, synergistic in working **together** to give a certain future to the Company and the aforementioned Family by placing ourselves in the market with proven Competence, Quality, Reliability, Efficiency and Effectiveness, building with the Customer that win-win relationship of Collaboration and mutual esteem to be able to face and win with mutual satisfaction the challenging adventures that the market itself places on us every day.

**Pierluigi Zanin**  
President & CEO  
Goriziane E&C S.p.A.



Goriziane is a family business which was established by Mr. Antonio Zanin and Mrs. Maria Zanin in 1948, and now being managed by their descendants, it is a world leader in the Maintenance, Repair, and Overhaul (MRO) of wheeled and tracked military vehicles. In the '80s, thanks to the experience gained in the defence sector, the company has also started providing maintenance and overhaul services for equipment used in pipeline construction. By the early '90s, the company has delivered its first equipment for the Oil & Gas industry and started supplying a wide range of pipeline equipment and plants. Since then, Goriziane's technological expertise has grown through the years and it is applied to a wide range of sectors, i.e., Defence, Railways, Industrial, Oil&Gas, Naval&Maritime, and Offshore Wind Farm.

GORIZIANE E&C S.P.A. IS A RELIABLE PARTNER IN SUPPLYING **HIGH-QUALITY PIPELINE EQUIPMENT AND PLANTS FOR ONSHORE AND OFFSHORE ENVIRONMENT**, COMPLEX TURNKEY SOLUTIONS FOR NAVAL AND MARITIME, WIND-FARM SPECIAL EQUIPMENT & INNOVATIVE AUTOMATED FABRICATION CONCEPTS, INTEGRATED HANDLING PLANTS FOR INDUSTRIAL FACTORIES.



**GORIZIANE**  
HOLDING



**GORIZIANE**  
ENGINEERING &  
CONSTRUCTION



ENGINEERING & CONSTRUCTION



**GORIZIANE**  
Innovating Together

MAINTENANCE, REPAIR, OVERHAUL

Goriziane E&C S.p.A. has become one of the most important suppliers in the world of pipelines, naval and maritime equipment.

Our team is composed of professional and highly-skilled engineers who are able to face the most competitive challenges on the current market. A team which mainly deals with designing, constructing, and commissioning of equipment and plants, as well as fulfilling the milestones of the projects.



## VISION

To provide our developing world the innovative solutions it deserves and to supply world-class equipment, plants, and services aiming Customer satisfaction.

## MISSION

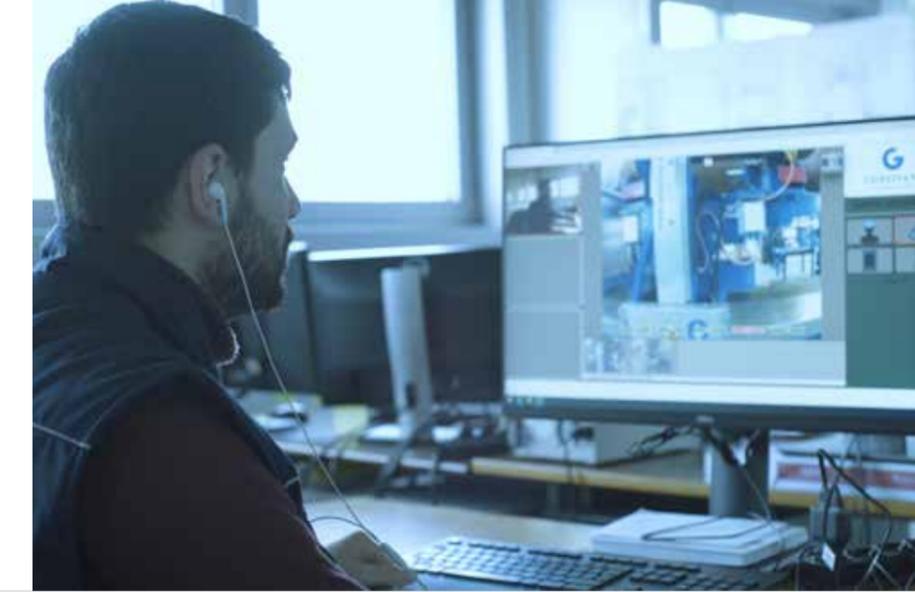
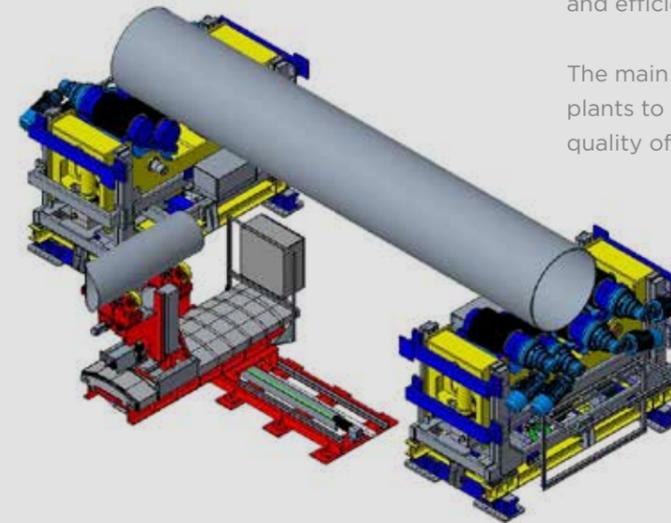
Gorziane designs and transforms moving systems with an innovative approach, relying on advanced engineering, and strong attitude towards problem solving. Our expertise in technology can be applied to a broad spectrum of market sectors. We aim at bringing innovation to the market prioritizing Customers' needs. Innovation is the core of what we do.

## RESEARCH & DEVELOPMENT

Gorziane constantly invests in Research & Development aiming at satisfying Customers needs with innovative products. Research is the core of Gorziane, as it creates the fundamental basis for the supply of high-tech and new-generation products and services.

The results of researches, tests, and inspections are proof that the carefully and accurately designed equipment is made to be long-lasting, reliable, and efficient.

The main goal of our R&D is to provide full automation of equipment and plants to increase safety, reduce time, and manpower without affecting the quality of the products.



One of the innovative technology of Gorziane E&C is the G-ARTS (Gorziane's Augmented Reality Tool for Service). It is an IoT equipment of Gorziane which increases productivity and easily connects our valued Customers to Gorziane's team on providing the same high-quality service through Augmented Reality (AR).

Gorziane adapted a new system consists of a helmet kit and tablet which aim to improve the onsite activities, after-sales services, optimizing time and costs, and to ensure continuity of business even on unforeseen circumstances.



# PIPELINE EQUIPMENT

Regarding Pipeline Equipment, Goriziane E&C is specialized in the design and manufacture of **Pipe Facing Machine (PFM)** with Hydraulic Power Unit (HPU), **Internal Line-Up Clamp (ILC)**, **Pipe Bending Machine (PBM)**, and **Hydraulic Mandrel (MIC)**



## PIPE FACING MACHINE (PFM)

Our **Pipe Facing Machine** ranges from 6" up to more than 88", makes precise bevels (+/- 0,1mm), has an adjustable rotation speed with a safety system and low maintenance. If required, it can also bevel up to 2° without using a Pipe Bending Machine.

In addition to standard PFM, Goriziane also manufactures:

- > **New Pipe Facing Machine (PF1)**, equipped with only one expansion group for wide pipe range, free maintenance up to 5 years, high-force clamping and re-rounding pipes.
- > **Pipe In Pipe Facing Machine (PIP)**, which is able to bevel pipe-in-pipe configuration by bevelling twice consecutively. Just one machine does the work of two, reducing the process time.
- > **Vertical Pipe Facing Machine (JF1)**, used for J-Lay tower for deepwater pipeline installation. It bevels both sides of the pipe string on both inclined and vertical position.



## HYDRAULIC POWER UNIT (HPU)

Goriziane's Hydraulic Power Units with electric or diesel drive. They can be close or open skid designs. They also match with PFMs of other brands.



## PIPE BENDING MACHINE (PBM)



## INTERNAL LINE-UP CLAMP (ILC)

Our Internal **Line-Up Clamps** are built to accurately align pipe diameter ranging from 6" to 60" and even bigger, depending on Customers' requirements.

Goriziani's ILC has a modular design, thus it can be adapted for various applications (onshore or offshore) by adding:

- > Copper shoes system;
- > High-force rerounder
- > Purging system;
- > Wind protection;
- > Corrosion-resistant alloy (CRA) kit;
- > Stationary braking system;
- > Motorized system (pipe OD > 16);
- > Emergency braking system.
- > J-Lay- Anchor module
- > Winch- Wireless remote-control;
- > Visual laser and 3D camera system.

Goriziani's **Pipe Bending Machines** ranging from 6" to 60" have been delivered worldwide since the '90s. In addition to our standard PBM, we also have the Big Bend design, which presents a special cylinder configuration which allows to bend pipes with higher thickness and grade. Years of experience has brought Goriziani to design and manufacture an innovative machine giving utmost attention to detail.

Our high performance **PBM** are made of high-resistant steel with advanced technologies such as Datalogger with integrated Pipe Bender, Automatic cycle for Bending operations, and can be monitored remotely.

They can operate with pneumatic or hydraulic mandrels.



For double-joint operations, a swivel joint with connection for umbilical interface and power supply is installed. In addition, Goriziani also offers a fully electric ILC with compact design where space is limited.

## HYDRAULIC MANDREL (MIC)

Our high-performance **Hydraulic Mandrels** are made up of high-sliding materials and four-wheel drive with umbilical hoses. As an optional, it can be operated by electric over hydraulic movement, self propelled with auto positioning, and remote control.



## SPECIAL PIPELINE EQUIPMENT

Among our range of products, Goriziane is able to design and manufacture Custom-made pipeline equipment for any offshore and onshore operations. We call them Special Pipeline Equipment and some samples are shown on the next page.

## BEAR CAGE

Is a special equipment used for external alignment of two pipes with the same outside diameter to perform Tie-In operations. It is designed to provide the largest possible space for welding activities during these operations. As an optional, the control system can be improved with a digital panel to monitor the load during the operations.



## ABOVE-WATER TIE IN CLAMP

It is required to lift pre-laid pipe strings from the seabed with the help of Bear Cage so that it can be welded and lowered back to the seabed.

## ANODE CLAMP

It is used for anodes installation on the pipe with a variable clamping load depending on pipe diameter. The clamp is designed to apply clamping force equally distributed along the anode's length.





# PLANTS

In regard to plants, Goriziane E&C has a deep expertise in the design and construction of Pipe Handling Equipment (PHE) such as double and quadruple-joint plants manufactured for onshore field, as well as for offshore. Our wide range of equipment offers innovative solutions in reliable and efficient plant layout. In addition, for easy transportation, the plants can be even placed in containers or supplied in modular systems.

Moreover, Goriziane E&C has been providing Offshore Customers with complete plants including firing lines and rollers, stinger and stinger rollers. The equipment and plants manufactured by Goriziane stand out for their precision, reliability, and longevity.

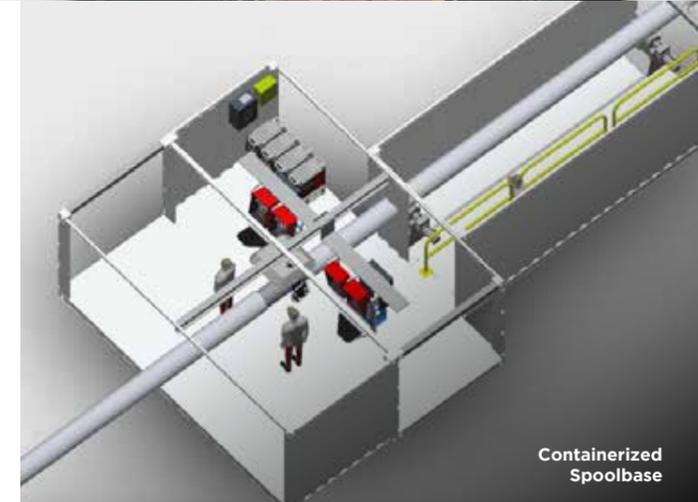
Our team also accomplishes **turnkey projects**, starting from design and procurement of material and components, going through manufacturing and project management to supervise the scope of work, up to installation and commissioning of manufactured products.



Pipe Handling Equipment Plant



Stinger Rollers



Containerized Spoolbase



## MAINTENANCE, REPAIR, AND OVERHAUL

Goriziane E&C does not exclusively mean engineering and construction. This company is indeed linked to its sister company, Goriziane Group which focuses on Maintenance, Repair, and Overhaul.

Goriziane carries out Maintenance, Repair, Overhaul and upgrade of equipment and plants of the Oil&Gas, Naval and Maritime, and Offshore Wind sectors either at customer's site or in-house. Technical assistance is provided in the shortest time to restore machines and/or plants, avoiding prolonged downtime.

## GSE MANUTENZIONI

**GSE Manutenzioni** is part of Goriziane. Thanks to its more than 20 years of activity, GSE is specialized in technical maintenance on board of vessels and offshore platforms. In addition, it is able to repair a wide range of products which includes draw-works, pumps, winches, cranes, compressors, and generating sets. It is also able to operate in other Sectors such as Naval and Industrial.

## COMPANY CERTIFICATIONS AND MEMBERSHIP

Goriziane takes care of its Customers even after material shipment, providing them with constant and valuable after-sales support. All activities are carried out with special attention to quality as well as to health, safety, and environment protection. Goriziane is certified by RINA with the internationally recognized ISO 9001, ISO 29001, ISO 14001 and ISO 45001 standards.

"Customer's satisfaction first". Goriziane first of all aims at Customer's satisfaction, which is gained by building long-lasting relationships with its Customers. With the new company structure, Goriziane offers world-class products and services worldwide.

Goriziane E&C S.p.A. has been a proud member of International Pipeline and Offshore Contractors Association (IPLOCA) since '90s.

Moreover, Goriziane has also been a proud member of the Italian association Assorisorse - Natural Resources and Sustainable Energy for more than 20 years.



# CASE HISTORY

## G-FIT Fully-Automated Pipe Positioning System



**PROLINE**

### Pipe Bending Machines and Mandrels. Customer: Proline

Goriziane supplied a fleet of Pipe Bending Machines 36-48" for an international pipeline gas project. The machines are equipped with advanced technology upgrades, such as a datalogger with integrated pipe bender, which will record all the data concerning the PBM, as well as the bending process and Automatic cycle, for bending operations. The machines are equipped with Industry 4.0 technologies, which can be connected and monitored remotely. Moreover, Goriziane also provided 4 Electric over Hydraulic Mandrels for the same client. These mandrels are self-propelled with automatic positioning and equipped with a battery pack, which is designed for an efficient installation/removal and guarantees a long duration performance.

All machines are wireless-remote controlled and arctic models which can stand up to -35°C.



A special equipment for jacket construction, platforms, and multipurpose alignment operations. The system is used to make the alignment of two pipes (i.e. stub and leg) in a very precise and rapid process with an automated system which improves productivity, increases safety, and reduces manpower. It is also equipped with a 3D laser to scan and analyze pipe data in the software's built-in system in order to allow repetitive and precise pipe positioning.

G-FIT is a reliable solution for the pipe processing industry and it can be optimized for any specific production process.



China

### Complete Stinger and Pipe Handling System Customer: ZPMC

Gorziane has entirely equipped the first pipelaying vessel of Yantai Salvage Bureau, built at ZPMC shipyards in China, with equipment and systems such as Pipe Handling System - Firing Line and Rollers, 105-meter Stinger and Stinger Handling System, variable length linkage, "ASPO" - firing line umbilical management system, and welding equipment for double joint including the pipe induction heating coils.



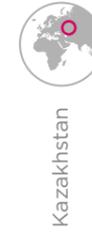
### Portable Double-Joint Facility Customer: Subsea7

Gorziane's engineering team accomplished a real innovative offshore solution for Subsea7. A portable double-joint system stored in a container was manufactured for pipelay vessel Seven Borealis including automation and commissioning at yard with a team consists of 110 workers.

The plant is made up of 2 modules of rollers with welding and joint coating system as per the following dimensions  
**module 1:**  
28m length, 6m height, 10m width and 250 tons.  
**module 2:**  
28m length, 6m height, 7.5m width and 200 tons.



Europe



Kazakhstan

### Ersai-Onshore Double Joint Facility Customer: Er Sai, Kazakhstan

Gorziane was responsible for design and constructing a complete pipe handling equipment which allow double-joint production for pipes with a diameter range from 6" to 36".



Azerbaijan

### Saipem Pipe Handling System Customer: PLBH Vessel, Azerbaijan



Thanks also to the local presence through its Azeri branch in Baku, Gorziane has been awarded the project for the design and supply of firing line mobile rollers and stinger rollers for the pipelay vessel Israfil Huseinov.





Europe

## Saipem Telescopic Linkage Customer: Castorone

Goriziane engineering team also has expertise in designing subsea equipment. It accomplished the manufacture of a telescopic linkage for Castorone pipelay vessel, which was installed between the second and third stinger ramps, allowing a smooth stinger movement.



## Equipment for Pipeline Vessel

Goriziane has supplied Stinger Rollers and its relevant Automation, 6 PFMs and 4 ILCs for a Client in the Middle East. The scope of the work related to stinger rollers included also the upgrade of existing automation, made by adding new equipment and updating the hardware and software configuration. PFMs are equipped with dedicated pads for internal coating while ILCs are High-Force designs, equipped with remote control to avoid umbilical connection.



## GORIZIANE INDUSTRIAL

From the extensive experience and technological expertise of Goriziane E&C, its new division has arrived - Goriziane Industrial - Integrated Solutions.

Automated-Handling and Logistics Solution for Industrial factories suitable for steel industry and mass production facilities.



Increase production



Cost efficient  
Time saving



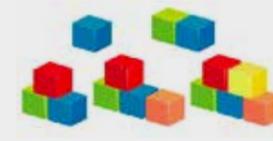
High precision  
Process reliability



Increase safety  
Reduction of personnel  
required on working area  
Reduction of cranes  
and lifting operation



Automated and  
integrated process  
Low CO<sub>2</sub> emissions  
process



Modular systems  
Portable solutions

## Goriziane's overall Main Customers





**GORIZIANE**

**ENGINEERING &  
CONSTRUCTION**

**INNOVATING TOGETHER**

**GORIZIANE E&C S.P.A.**

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