




d y n a m i c s o l u t i o n s

25^c TWENTY-FIVE YEARS
OF INNOVATION



CHEMPROD
CHEMICAL
PROCESS
DESIGN

25 TWENTY-FIVE YEARS
OF INNOVATION

THE STORY.

Pioneering Vision.



Daniele Morandi,
Founder
President of the Board of Directors

"I founded Chemprod in January 1995 together with Luciano Brambilla, my first boss in Ingeco at the beginning of my working career in 1975. More than partners, we were friends, both curious and interested in anything new, from work to art, books, the cinema or, to put it simply, in living life to the full. Together we set out on our new path with an adventurous spirit but well aware that it was not going to be easy. Everything was happening at once: the moment was not favourable, there were the difficulties of creating a technical and administrative structure from scratch and the search for Customers. All this on top of our everyday jobs. Nothing seemed to be able to stop us. But with the sudden death of Luciano just one year later, I found myself with a company to keep going that was not yet consolidated. Without doubt, these were the most

difficult moments I have had to face. I was able to pull through thanks to the support and presence of my family and co-workers, their affection and the trust that they placed in me. In twenty-five years of activity, and also thanks to the constant growth of Chemprod in terms of human and technical resources, there have been many happy moments and numerous opportunities to develop the company further. A positive moment for example was when, in 2000, we created the highly-specialised Instrumentation Office. Customer loyalty is another achievement. Some of our Customers have been with us since the company's beginnings in 1995. Today, I am proud of the results obtained but I am still not completely satisfied. The story continues".

Now a multi-disciplinary engineering company, CHEMPROD started out in 1995 as process consultants to the petroleum, chemical and petrochemical sectors.

In order to respond to the demand for a single interlocutor for increasingly diversified projects, the company's range of action has broadened over time to take on other strategic sectors such as pharmaceuticals, manufacturing and green energy with the provision of detailed engineering services. This eclectic approach has been made possible by an entrepreneurial story unique in the industrial panorama of the time.

CHEMPROD was created on the intuition of two managers working in a small process consulting company operating in Oil&Gas. Like real pioneers, they decide to invest in a new company open to all chemical sectors, which was to be highly qualified and, at the same time, streamlined and flexible.

Until then, large Italian and international companies had always organised their activities using in-house resources and had only used external companies in the case of

specific, massive requirements.

CHEMPROD turned this concept on its head, guaranteeing high quality and reliability from the start of a project, a pool of experts prepared and open to any challenge and maximum flexibility in project execution. The quality of CHEMPROD's resources enables its structure to interface with a company's Process Department without being weighed down by the large quantities required by plant engineering activities necessary for the development of new plants or the revamping of existing ones.

For 25 years, CHEMPROD has a itself of the expertise of its technicians, the quality of its research and the effectiveness of its development method under the leadership of its founder Daniele Morandi, later joined by Mauro Moioli and Francesco Ghezzi.



Just after its start up, CHEMPROD acquired a Quality System certified by DNV (Det NorskeVeritas) in 1999, and updated it over the years, up to the most recent UNI EN ISO 9001:2015 standards for the following fields of application: Feasibility Studies, Process Engineering, Detailed Engineering for Petroleum, Petrochemical, Chemical and Technological Plants.

CHEMPROD accompanies the Customer from the outset, with accurate feasibility studies in the initial phase, to detailed engineering and specialist assistance in the construction phase. Process remains its most strategic and creative function.

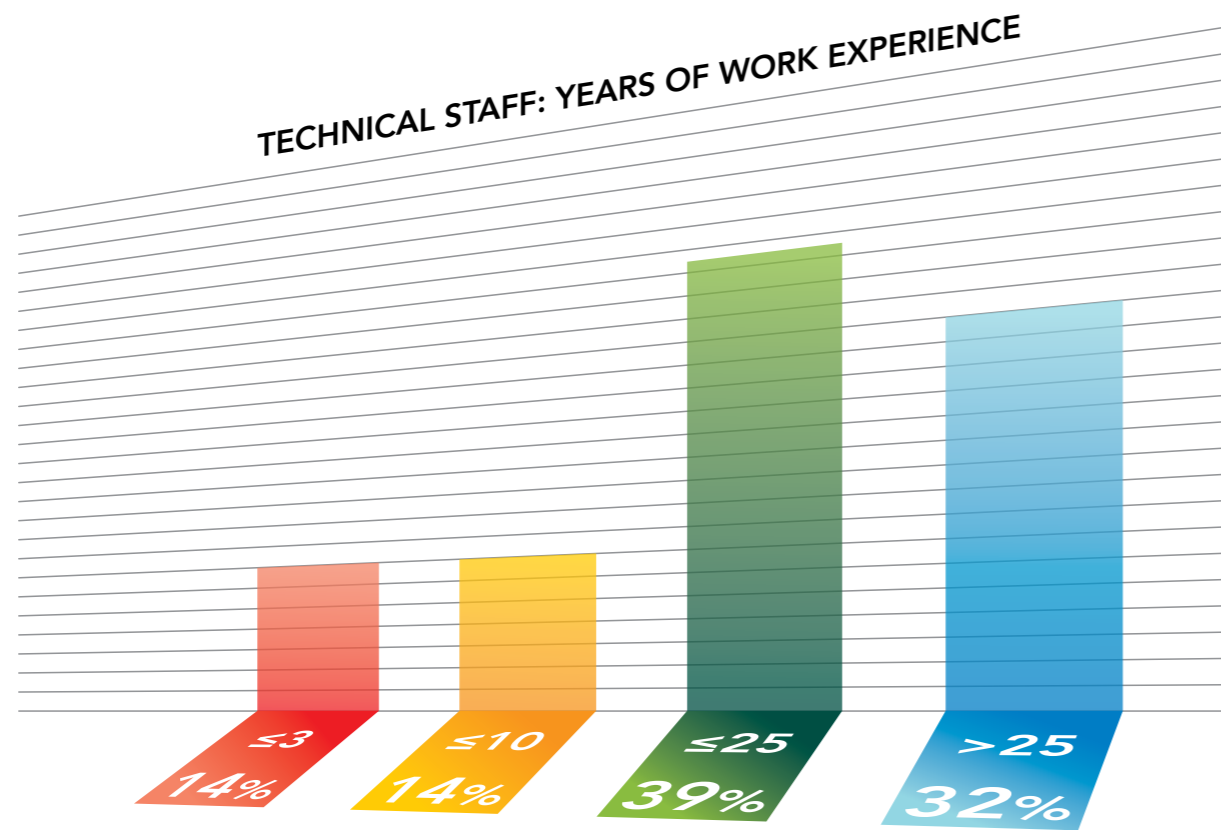
Today the Company is a consolidated point of reference with a production capacity of over 70,000 hours/year with a high technological content.



Thanks to a dynamic and open-minded approach, CHEMPROD collaborates in a wide variety of projects for small, medium and large companies who need to build entire plants, new production lines or just revamp small departments in order to save energy and be sustainable.

PEOPLE. Passion and expertise.

TECHNICAL STAFF: YEARS OF WORK EXPERIENCE



CHEMPROD's most precious resources are its people, their expertise and their team spirit.

Young people are drawn to CHEMPROD because of its capacity for research and experimentation, and its attractive project and customer variables. The company reciprocates by offering them an open, friendly environment. It fosters their development from the beginning on real projects alongside technical experts with over ten years' experience acquired in leading companies in the chemical engineering field.

Training has always been a key element. Professional development means that our Staff, at all levels of

experience, are always up-to-date and are prepared for the day-to-day problems of managing Customers, organising team work and developing technical documentation.

Ahead of its time, CHEMPROD has always invested in professional figures regardless of gender and has always believed in young people, so much so that since 1995 to the present day the average age of staff has always been under 40 years of age.



Chiara Bertocchi,
Process Department Manager

"Chemprod means People, not just a name registered with the Chamber of Commerce. People deserve respect and incentives and CHEMPROD expects commitment and integrity from People. I think that you must make everyone whatever their level feel, that they are not simply a resource but they are part of a Team involved firsthand in the challenges and achievements of the company".

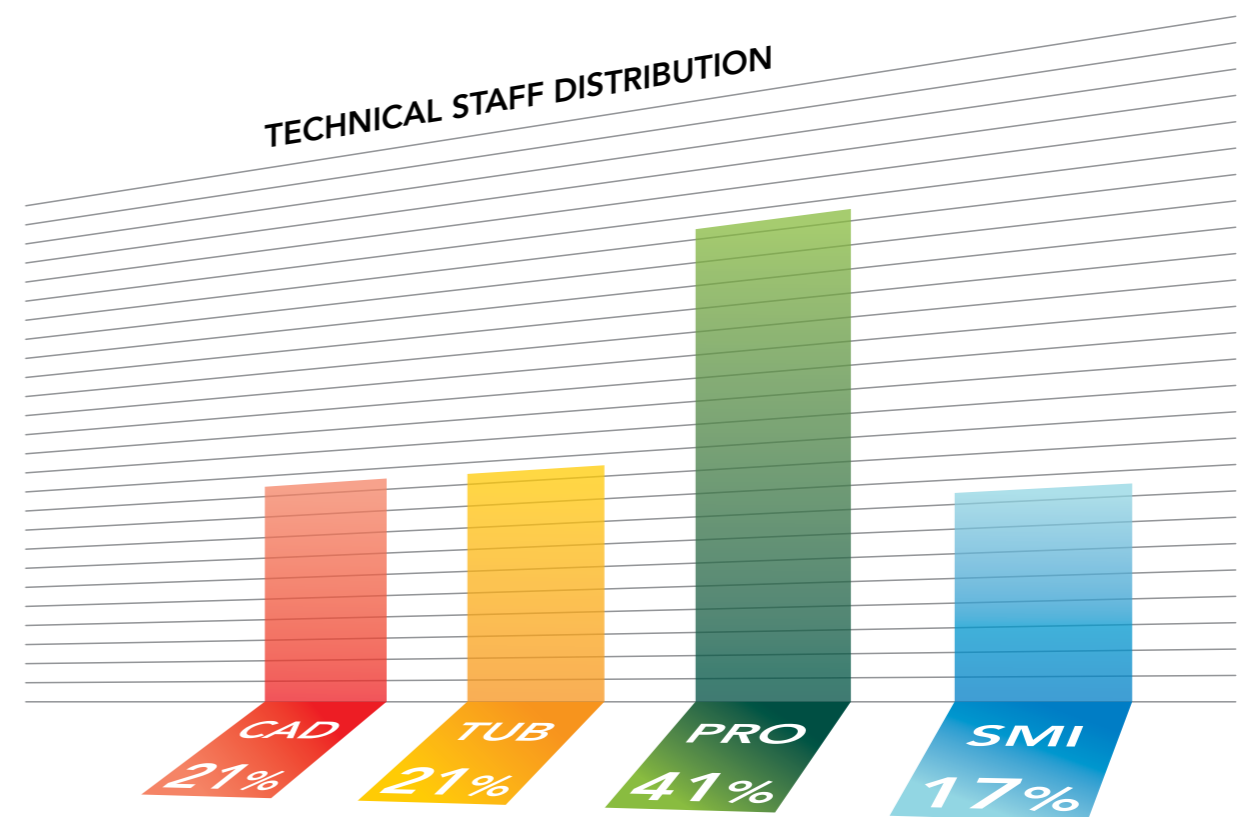
"The Process Department is populated by young colleagues. I believe they bring the necessary freshness and energy to deal with innovation, while the people in the department with greater experience are a reference and a guide for all of us".



Francesco Ghezzi,
Director of
Projects and Operations

"Our strong point is most certainly our complete openness in collaborating and sharing our knowledge with our colleagues. In this company there are no closed boxes. We create and sustain our team spirit".

TECHNICAL STAFF DISTRIBUTION



ACTIVITIES.

One global idea, connected responses.



Mauro Moioli,
CEO,
Director of New Initiatives Development

"With their background, the people who work in CHEMPROD are good at solving problems. This is more than a skill. It is an intrinsic quality. We are creative in our problem-solving, something

that CHEMPROD demonstrates in knowing how to tackle and solve even the most complex problems with innovative, often outside-the-box solutions".

Alongside the Process Department, which has always been the core business, CHEMPROD has fully developed internal departments for Piping and Mechanical, Electrical and Instrumentation, and Technical Drawing.

A wide range of skills are at hand to develop complete projects in every technical feature they may include, but also to provide to the customer the single expertise needed for specific support.

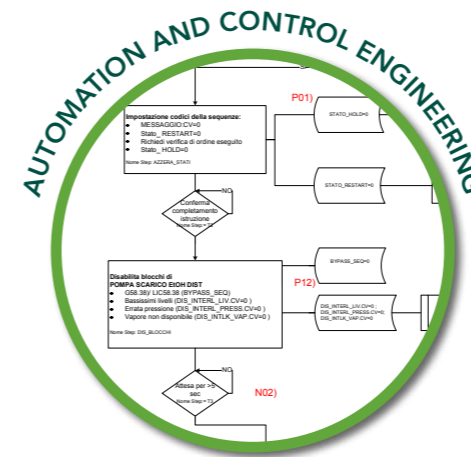
Many Companies have taken advantage of Chemprod's specific ability to analyze plant problems and inefficiencies in order to identify and study the best possible solutions.

Chemprod has proved multiple times its ability to cope with out-of-the-ordinary projects, for example with dynamic studies for filling cylinders on gas tankers or developing distillation batch simulations to recover solvents or optimise processing times.

All this, with no geographical limits, at all latitudes and at temperatures from -50°C to +50°C.

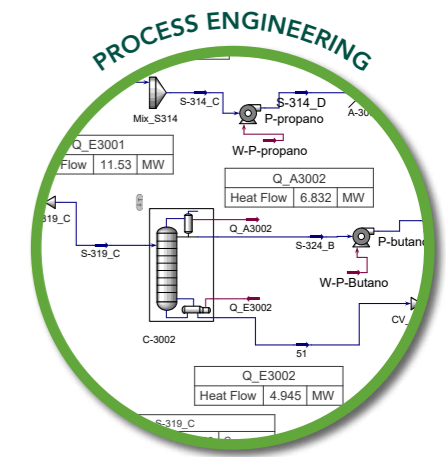


PIPING AND MECHANICAL ENGINEERING defines the mechanical engineering of the plant with equipment positioning layouts, piping assembly areas, isometric line drawings, stress analysis, supports, metal carpentry, lists of materials and particular tender specifications. Project design is carried out on specific 3D software such as CADworx 3D, EsaPro 3D, Orthogen and complemented by design review software such as Navisworks.

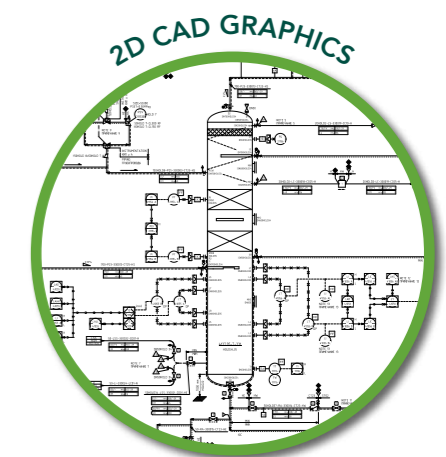
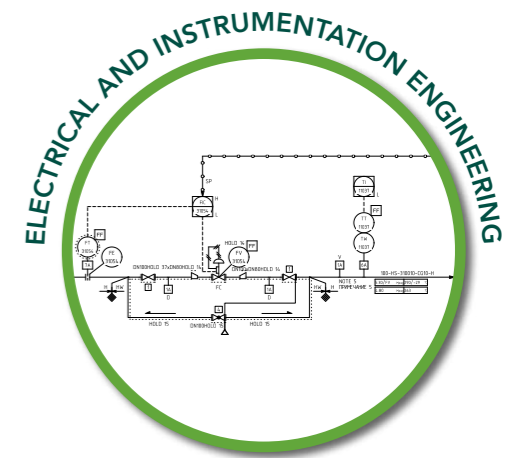


AUTOMATION AND CONTROL ENGINEERING defines the systems which regulate and control the plants from the point of view of operations (DCS) and safety (ESD).

2D CAD GRAPHICS produce the plans and technical drawings developed in draft-form by the various departments in CHEMPROD or as support for the customer's technical offices. Graphics can be basic in the case of simple layering using Autodesk Autocad, BricsCad PRO or intelligent when interconnected to a data base such as SmartPlant P&ID, EsaPro P&ID, CADworx P&ID.



PROCESS ENGINEERING defines flow diagrams, material balances, line diagrams, sizing of equipment and control of chemical processes, with the aid of appropriate static or dynamic simulation software such as AspenONE Hysys and PIPENET Transient. Each new or existing plant is analysed following customer requirements in order to identify best operating conditions.



SERVICES.

Flexibility and accuracy.



FEASIBILITY STUDIES:

are the initial phase in the development of a new project and consist in the essential studies to ascertain the scope of the study and budget costs. They normally include a descriptive part and a site plan.

DETAILED ENGINEERING:

represents the final stage of the project phase. All the elements that constitute the plant are defined in detail in order to procure them. Process follow up is included and guaranteed in detailed engineering design.

DEVELOPMENT OF NEW PROCESSES AND TECHNOLOGY PACKAGES:

on the basis of the Customer's "ideas" and research laboratory tests, new production processes are developed at pilot plant level and successively upscaled to industrial level. A Technology Package is the result of the sharing of information between the Process Department and the Customer's Research and Development team.

PERFORMANCE MONITORING:

normally carried out to reduce energy consumption and/or optimise production, it is essential to monitor the trend of critical variables in order to identify corrective actions (solutions to be put in place). These activities are carried out directly on site and the necessary information communicated to the plant management.

AUTOMATION OF INDUSTRIAL PROCESSES:

is the transformation from manual to automatic operations, by the identification of underlying logics and operational sequences, in order to control specific sections, or even an entire production, with an automated system.

EXPEDITING:

includes all the activities carried out at suppliers' workshops or offices, to verify if their products, or the results from tests and trial, are in full compliance with the specifications stated in the engineering documents or the Customer's requests. Special attention is granted to check if delivery times respect the terms indicated in the orders.

BASIC ENGINEERING:

is an intermediate design level in which basic, mainly process, information is defined in order to issue a Tender Document for the successive detailed engineering activities.

ENDORSEMENT OF THIRD-PARTY ENGINEERING:

is the verification or eventual completion of documentation developed by other companies.

SITE SURVEYS:

are plant inspections to gather the information necessary to start engineering activities or to verify the documentation being processed during work in progress. Most complex surveys are achieved through a latest generation 3D laser scanning system.

REVAMPING OF EXISTING PLANTS:

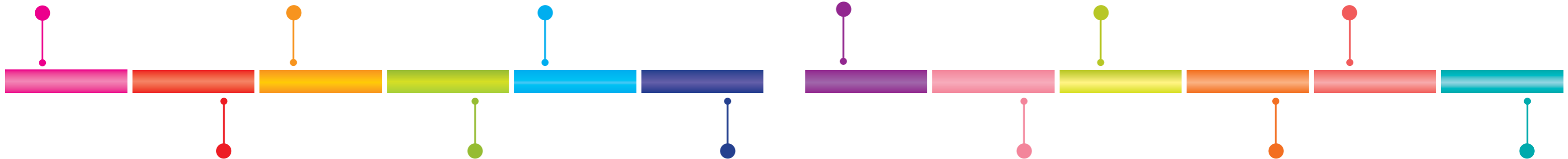
are engineering operations to save energy, increase production capacity or improve product quality and yield mainly through the use of machinery already installed. The operations proposed must also take into account the need to reduce downtime to a minimum while optimising the necessary operations.

ASSISTANCE IN PROCUREMENT:

is assistance provided to the Customer's Purchasing Department in order to issue suppliers with a Request for Quotation (RFQ) and the evaluation and technical alignment of quotations with a technical expert opinion. These activities are normally carried out by the same resources involved in the specialist technical part.

ASSISTANCE IN PLANT CONSTRUCTION AND START-UP:

the same work team that conducted detailed engineering design is also available to assist the Customer during plant construction and the start-up phase.



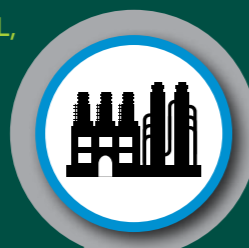
SECTORS.

Deep expertise.



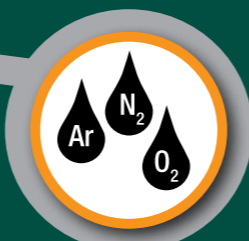
PETROLCHEMICAL, CHEMICAL REFINING

Open-art or licensed plants, polymerization, solvents recovery, Chlorine chemistry, Flourine chemistry.



TECNICAL AND CRYOGENIC GASES

Analysis of existing systems to improve production capacity and quality. Storage and transportation of cryogenic liquids.



LOGISTICS

Analysis of loading, unloading and storage systems for raw materials and finished products. Analysis of handling activities and distribution paths in areas of the plant.



ONSHORE

Onshore activities, downstream of sealines or flowlines. Central Process Facilities (CPF) are developed by evaluating the various process conditions and future field depletion.



UTILITIES

Design of utility and auxiliary systems that support main Process Units



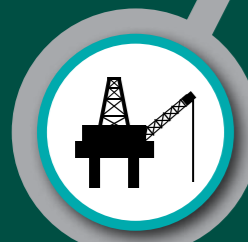
RENEWABLE RESOURCES

Circular economy model applications like: Biogas Treatment, Power to Gas, Hydrogen, Water treatment.



PHARMACEUTICAL PLANTS

Development of new plants on research laboratory indications. Compliance with GMP regulations and specific quality protocols.



OFFSHORE

Activities on sealines, downstream of well heads (flowlines) and subsea systems. Collection, separation, storage and transportation onshore of separate hydrocarbon phases. Auxiliary systems and treatment of production water for discharge overboard or transfer onshore.

CUSTOMERS.

Real relationships, reciprocal trust.

Building a collaborative relationship and reciprocal trust with all its Customers is fundamental for CHEMPROD

In fact, this is the basis on which customer loyalty is created and reinforced, even more so when the customer knows it can always refer to the same team they have known and worked with on the technical report.

Sector diversification has helped CHEMPROD to expand its customer base and become involved in new contexts, to take on new challenges and keep improving its expertise and quality.

Today its Customer portfolio mainly includes either Engineering companies or production facilities.

Large Oil&Gas or Chemical brands such as: Eni, KT-Kinetics Tecnology, Marie Tecnimont, Pietro Fiorentini, Rosetti Marino, Saipem, Siirtec Nigi, Techint, Wood Group.

Among the production companies there are chemical plants such as: Acs Dobfar, AOC Aliancys, Basf, Clariant, Coim, Gnosis By Lesaffre, Italmatch, Lanxess, Macdermid Enthone, Flint Group, Owens Corning, Sabo.

Moreover Chempod can be involved in project development based on customer's own proprietary technology, as with: Air Liquide, Casale Group, Desmet Ballestra, Linde, Nippon Gases, SIAD, SOL, Tecno Project Industriale.

Qualifications and Framework Agreements

- | | |
|------------------|---|
| SAIPEM: | <ul style="list-style-type: none"> • Process Systems for Plants refining, petrol-chemicals, gas, LNG, utilities • Instrumentation Systems Specialised valves • Instrumentation Systems and relative Plant Engineering • Advanced Control Systems • 2D Graphics |
| KT Roma: | <ul style="list-style-type: none"> • Basic Engineering for Plants Sulphur, Hydrogen and SWS |
| CASALE: | <ul style="list-style-type: none"> • Process Engineering Services • Process and Instrumentation Engineering Services |
| TECHINT: | <ul style="list-style-type: none"> • Process and Instrumentation Engineering Services |
| MARIE TECNIMONT: | <ul style="list-style-type: none"> • Process and Instrumentation Engineering Services |



Francesco Ghezzi,
Director of Projects
and Operations

"Listening skills and an understanding of the Customer's real needs are fundamental, as is the ability to use past experiences to tackle new situations and skill in coordinating team work. In Customer relations, satisfaction is greatest when you feel that your counterpart trusts you completely. In a reciprocal relationship of this kind, you give your best in your specific role"...



Alessandro Sarti,
Piping Department Manager

"There is the determination and ability to face new challenges, as well as the flexibility acquired over the years working with Italian and international Customers in industries belonging to different sectors and of various sizes, from refineries and pharmaceuticals to small chemical plants and technical cryogenic gases"...

THE FIGURES. Real and growing.



THE FUTURE. Responsible, international development.



Dario Morandi,
Account Manager

"The oil and gas market will continue to dominate for some years but it will be increasingly subject to limitations and environmental constrictions. That is why it is important to develop what for us are novel, emerging sectors only recently envisaged, such as the circular economy and logistics".



Andrea Moioli,
ITC Department Manager

"The future means progress, especially in the field of operational support, which will allow us to work even better and collaborate with the Customer in an increasingly dynamic and efficient way".

Today CHEMPROD is addressing new challenges for responsible development.

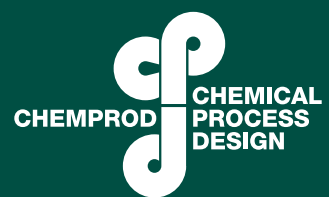
By reinforcing and enhancing its strong points, of which process engineering is its strongest, CHEMPROD plans to enter strategic sectors such as climate change prevention, the reduction of greenhouse gas emissions or, in the wider context, the circular economy. For some time now, CHEMPROD has provided a series of customized projects which have allowed its Customers to improve the energy efficiency of their plants with innovative technology, operational optimization and renewable energy sources.



FAI - National Trust for Italy

Currently, CHEMPROD is evaluating partnership options with important, well-established companies in order to create a synergy to strengthen its offer while maintaining the flexibility which has always distinguished it.





d y n a m i c s o l u t i o n s

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