

**INDUSTRIAL TECHNOLOGY  
WORLD CATALOGUE 2018**

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# INDUSTRY 4.0

## What is the industry 4.0 value in Italy?

By Armando Zecchi

Many articles and reports are providing forecast and study about the benefit of the Industry 4.0 and its future potential efficiency. Nowadays in 2018 how far we can evaluate in economic terms the business around the forth industrial revolution 4.0 in Italy? The purpose of the article is to provide an answer to this basic question. Towards the end of 2016 the Italian market has started its recovery, back to being the engine of the Italian industry of capital goods manufacturing, with an overall consolidated sales volume amounting over 42 billion euros (+ 3.5% compared to the previous year). In 2017, the analyze of the first available data has confirmed a further turnover growth amounting over 45 billion euros. This analysis is based on several data, including those provided by Federmacchine, an Italian organization gathering 13 Italian machine tools manufacturers, 5.100 companies with 185 thousand employees. After years of strong rising, export growth is slowed (even with a positive trend of 1.2%) while the Italian industries demand for machinery has strongly increased. This trend, driven by the incentives of the national program 'Piano Industria 4.0' already confirmed for 2018, is expected to increase along the current year. According to a Federmacchine survey the incentive program records a preference for hyper-depreciation over the super-depreciation. Among the indications referring to first semester of 2017 in the domestic market, orders growth for industrial machine was more than 13%.



## Why to opt for hyper-depreciation 4.0

In 2017, the hyper-depreciation was the main investment form opted by Italian companies. According to Intesa San Paolo Bank, they have dispensed investments over 700 million euro, and they have received more than 6,000 applications overall, in the first quarter of 2017. Hyper-depreciation is a choice defined by the Government's program 'Piano Industria 4.0' and its excellent results. It is fair to clearly state this fact, as a technical fact. The economic indications are reassuring because they refer to the first semester: it should be noted that the "Agenzia delle Entrate" clarifications on the norms' application was published at the end of March 2017. The framework agreement between Intesa San Paolo and Confindustria according to the analyze of available data is stimulating and facilitating investment in innovation, always in the context of Industry 4.0 (thanks to the availability of a ceiling of 90 billion euros in three years).

## ISTAT Data

The Istat data on Italian industry turnover and orders in May 2017 provide a clear and very positive

picture, also based on the most recent forecast of the GDP by Bank of Italy's (+1.4 %), followed closely by the IMF forecast (+1.3%). In terms of turnover from March to May 2017, the domestic manufacturing industry has increased by 6.4%. It should be noted that Germany, in the same period, has increased the turnover of the manufacturing industry by 5%. Between the 2009 crisis and the 2012-13 austerity Italy has lost about a quarter of its manufacturing potential and a long time is required to recover it. Companies which overtake now continue to produce, invest and export, with a greater quality in products increasing innovation and using available new technologies. The ISTAT data also prove the significant increase of technical investments with Industry 4.0 plan.

## The role of organizations

Industry associations are playing a fundamental role. The unification of the industrial associations of Bologna, Modena and Ferrara (BoMoFe) into Confindustria Emilia, has created an important territorial aggregate for the sectors of packaging machines for ceramics, automotive, food and electro-

medical. A reality has thus emerged is second in Italy in terms of industrial added value only behind the province of Milan.

### The role of automotive

According to some authoritative opinions published in various magazines and newspapers, the Italian recovery is linked to the transport industry and specially to automotive. In my opinion it is a realistic thesis, which must also consider that the car market alone is not enough to explain what Industry 4.0 is achieving. In the March-May 2017 trimester, the growth of transport sector's revenues was 5.8% compared to the same period last year. According to Istat, transport sector is the 8.3% of overall Italian industry sectors. Machines and mechanical equipment (11.1% of the Istat Turnover Index) have a role to play in relation to the 'Piano Industria

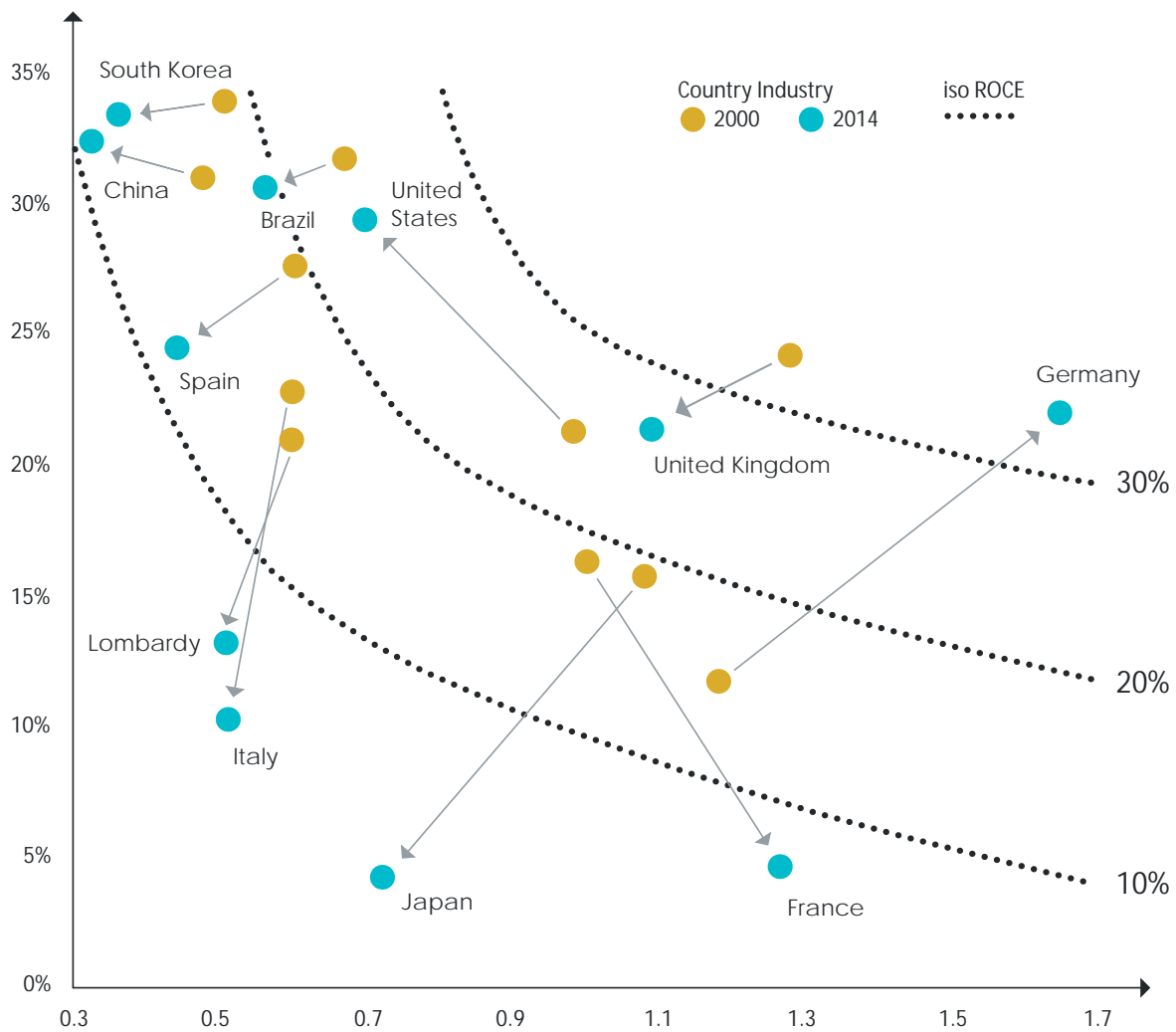
4.0'. The metallurgical and metal products sector (15% of the Istat Turnover Index), has increased its turnover by more than 10%. At last, the turnover of the chemical industry (more than 7.6%) and the pharmaceutical industry has increased (more 3.3%).

### Non-EU exports

Now, it's up to economists to translate this data into an important one such as that of GDP 2017 (effective). In addition, data for exports to non-EU countries are growing at 9.1% in the first six months and is estimated to reach +12% in the second semester. The most sustained increases in Italian exports were to China (+32.9%), Russia (+26.8%), the United States (+12.4%), the Mercosur countries (+18.9%), the ASEAN countries (+8.6%) and Japan (+4.2%).

### PROFITABILITY

(EBIT/added value)



Source: Roland Berger analysis based on HIS and Eurostat remodelling of country industry capital employed since 1980

**ASSET TURNOVER**  
(added value/capital employed)



## The position of Assolombarda

Returning to our basic theme, Assolombarda has long provided its own document on Industry 4.0, which is worth revisiting in view of the 2017 data. Considering that Industry 4.0 refers to the concept of Cyber Physical System (CPS), i.e. IT systems able to interact with the physical systems in which they operate; these systems are equipped with computational capacity, communication and control. The potential of modern information and production technologies, together with their greater accessibility, have meant that Industry 4.0 proposed itself as a real industrial revolution, the fourth. Industry 4.0 is a concept that has been widespread in different countries and environments. There is no

human resources in factories; high efficiency production systems; evolutionary and adaptive production systems; strategies and management for next-generation production systems. All above is at least the view expressed by Assolombarda in its Documentation paper.

Industry 4.0 can represent a great opportunity for the Italian manufacture. As shown in figure 1, under certain conditions Industry 4.0 can increase the total number of jobs in the manufacturing sector about 10% (from 25 to about 27 million). However, the key point is that these 2.5 million more net jobs will be the result of a major process of job destruction and recreation. Around 8 million jobs will be lost in Digital Manufacturing, divided into equal parts

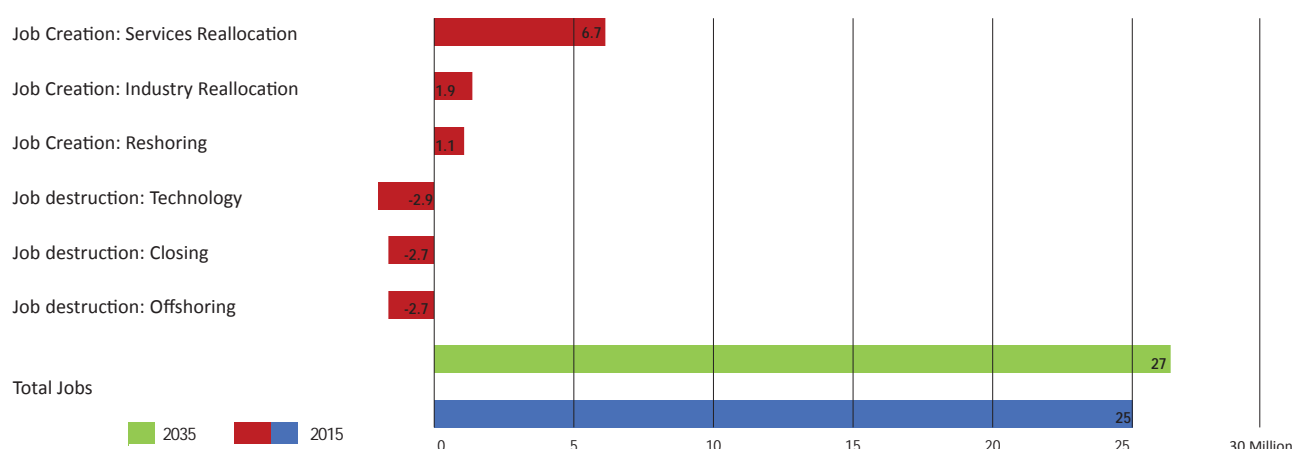



Fig. 1

univocal definition. Besides, various technologies have been offered on the market able to realize each of the various “definitions”. Through these enabling technologies, companies can still radically innovate their business model. In the context of Italian manufacturing innovation, it can be stated Industry 4.0 embraces an important part of the research and innovation themes indicated above priorities for the future of national manufacturing. And it addresses a significant number of strategies, methods and tools for industrial sustainability; systems to enhance

between jobs destroyed by companies that close because they are no longer competitive, companies that restructure their strategy, and companies that replace workforce with capital thanks to new technologies. At the same time, around 10 million jobs could be created by the same technological revolution: 1 million for the new functions necessary for production in CPS; 2 million from companies that reallocate production in the manufacturing sector, and about 7 million from companies that will provide services to Industry 4.0 companies.



## Eni boots up HPC4 and makes its computing system the world's most powerful in the industry

*Commenting on the event, CEO Claudio Descalzi said: "HPC4 is an important achievement in Eni's digitalisation process". Installed at the Eni's Green Data Center, the new HPC4 supercomputer will ensure a very high level of data processing and storage capacity. The system is able to host the entire ecosystem of algorithms developed internally by Eni.*

San Donato Milanese (MI), 18 January 2018 – Eni has launched its new HPC4 supercomputer, at its Green Data Center in Ferrera Erbognone, 60 km away from Milan. HPC4 quadruples the Company's computing power and makes it the world's most powerful industrial system. HPC4 has a peak performance of 18.6 Petaflops which, combined with the supercomputing system already in operation (HPC3), increases Eni's computational peak capacity to 22.4 Petaflops. According to the latest official Top 500 supercomputers list published last November (the next list is due to be published in June 2018), Eni's HPC4 is the only non-governmental and non-institutional system ranking among the top ten most powerful systems in the world. Eni's Green Data Center has been designed as a single IT Infrastructure to host all of HPC's architecture and all the other Business applications. Eni's Green Data Center's supercomputers (the HPC3 and the new HPC4) provide strategic support to the company's process of digital transformation across the entire value chain, from the exploration and development phase of oil and gas reservoirs, to the management of the big data generated in the operational phase by all our productive assets (upstream, refining and petrochemicals). Eni's supercomputing infrastructure operates on the basis of an extremely advanced and complex proprietary ecosystem of algorithms, created and developed by Eni, and based on the company's own experience and know-how. In particular, HPC4 will support the execution and evolution of Eni's leading edge suite of 3D Seismic Imaging packages, as well as advanced Petroleum System Modelling together with state of the art Reservoir Simulation algorithms and optimization of production plants. Eni chief executive officer, Claudio Descalzi, commented: "The investments devoted to reinforcing the supercomputing infrastructure and the development of algorithms are a significant part of Eni's digital transformation process. We can store and process enormous quantities of data for geophysical imaging, the modelling of oil systems and reservoirs, in addition to using predictive and cognitive computing algorithms for all our business activities. These technologies will enable us, on the one hand, to accelerate and make the entire upstream process more efficient and accurate, reducing risks in the exploration phase and, at the same time, giving us a significant technological advantage, but also to increase the level of reliability, technical integrity and operability of all our productive plants, while minimising operational risks, with benefits both in terms of safety and environmental impact. In our industry it is increasingly important to be able to process ever-increasing amounts of data, ensuring more accurate and faster results. With HPC4 we are tracing the path for the use of exascale supercomputers in the energy sector that could revolutionise the way in which oil&gas activities are managed. In line with Eni's sustainability policy, Eni's Green Data Center as well as the new HPC4 have been engineered to ensure the maximum level of energy efficiency in order to minimize CO2 emissions and operating costs". HPC4 system architecture has been designed with the same philosophy of the Eni's previous HPC solutions, all based on a hybrid clusters technology. The new hybrid HPC cluster provided by Hewlett Packard Enterprise (HPE) is built on 1600 HPE ProLiant DL380 nodes, each equipped with two Intel 24-core Skylake processors (totalling more than 76,000 cores) and two NVIDIA Tesla P100 GPU accelerators, all connected through a high-speed EDR InfiniBand. The new system will be working alongside a high performance 15 Petabytes storage subsystem.

# INDUSTRY 4.0

## Industry 4.0 technologies in patents

By Leonello Trivelli | Researcher at Università di Pisa (UNIFI)

There is a lot of hype surrounding the fourth industrial revolution, in both the academy and industrial environment; concepts like Smart Manufacturing Systems, Big Data Analytics, Product Smartification are central in the debate and the research tends to focus on them. Therefore, the filing activity of patents concerning the Industry 4.0 concepts reveals a growth in the last years, alongside the increasing publicity of the new industrial revolution. According to publications that describe the characteristics of this new paradigm, the European Patent Office (EPO) traced in a recent report a history of the growth of such revolution, studying the development of the technologies connected with the I4.0. The EPO's report identifies as the building blocks of the 4IR the following three core concepts:

- Connected smart objects
- Data-driven value creation
- Software-driven innovation

Starting from this point, the last decade witnessed the rise of seven technology fields, which are the main enablers of the 4IR:

- Analytics – enabling the interpretation of information
- User interfaces – enabling the display and input of information
- 3D support systems – enabling the realisation of 3D systems
- Artificial intelligence – enabling machine understanding
- Position determination – enabling the determination of the position of objects
- Power supply – enabling intelligent power handling
- Security – enabling the security of data or physical objects



Figure 1 shows the growth of the number of the patent applications regarding the above-mentioned technologies: it is noticeable that in the period between 2008 and 2012 there was an important increase in each field, in particular for Artificial Intelligence and Security.

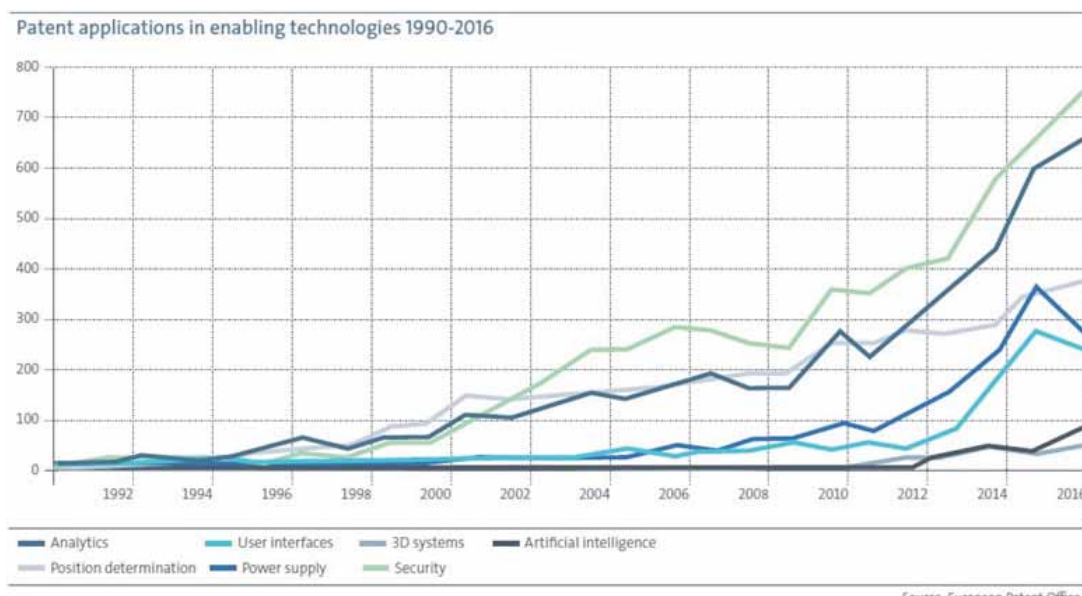


Figure 1. Trend of the number of the patent applications in enabling technologies

## Gas Turbines - Patent Applications 1996-2016

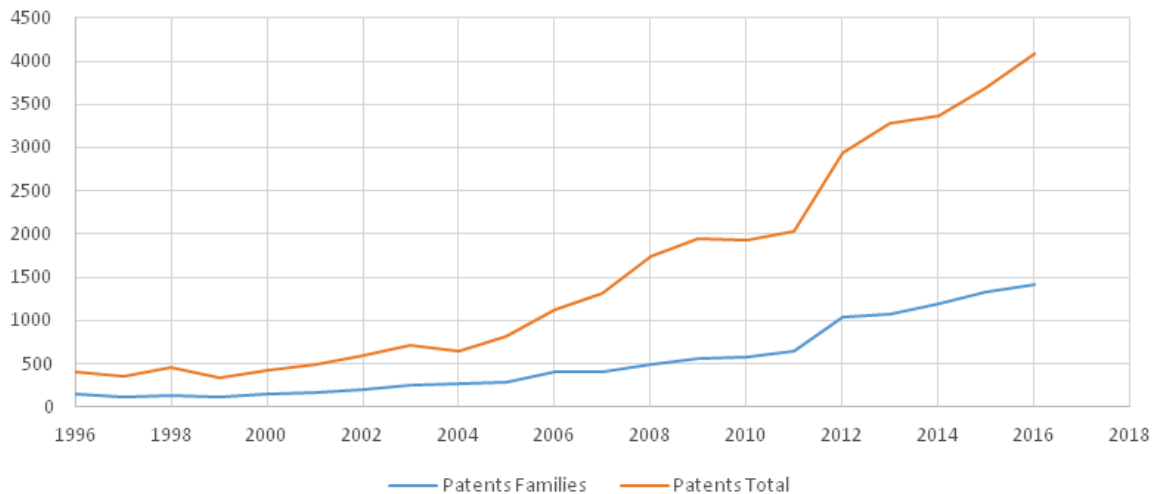


Figure 2. Trend of the patent applications on Gas Turbine technologies.

### 2.4 I4.0 technologies in the Oil & Gas environment

As for each of the most important industrial segments, the Oil & Gas sector was involved in this change of paradigm. To better understand the main innovations achieved in the environment, we investigated, as an example, the gas turbines subsector, searching for patents using a custom-made query on our proprietary IP analysis platform. Figure 2 shows the patent filings trend for gas turbines in the 1996-2016 period. The growth of applications during the period 2010-2012 confirms a trend comparable to the one referring to the enabling technologies of Figure 1. Starting from the extracted patent set, we performed a more detailed analysis, to have an insight of the contribution of I4.0 technologies in the Oil & Gas sector. Due to this aim, the patent set was investigated using the Technimetro© a proprietary tool based on a structured knowledge database relating to the I4.0 environment. The concepts are classified in 25 categories regarding the most influential I4.0 topics such as Additive

Manufacturing, technologies for Augmented Reality or Automation. The Technimetro© allows therefore to analyse technical documents, in order to evaluate how much a product or a project is I4.0 based. Thanks to such tool, we evaluate the patents of the Gas Turbines dataset, measuring for each of them a "I4.0 score". In this way, we were able to find evidences about the technologies that are strictly involved in the new Industrial Revolution for the sector, confirming an exponential trend in the last years (Figure 3). Looking at the companies that own the highest number of patents on I4.0 technologies for the Gas Turbines we found General Electric, United Technologies Corporation, Rolls Royce and Honeywell International. We focused then on a more detailed analysis on the Technimetro© categories with the highest scores: patents related to Additive Manufacturing are worthy of a detailed study. Indeed, there is a significant growth in the number of patents describing methods and technologies to manufacture gas turbine components through 3D

## Gas Turbines - Patents Applications Related to I4.0

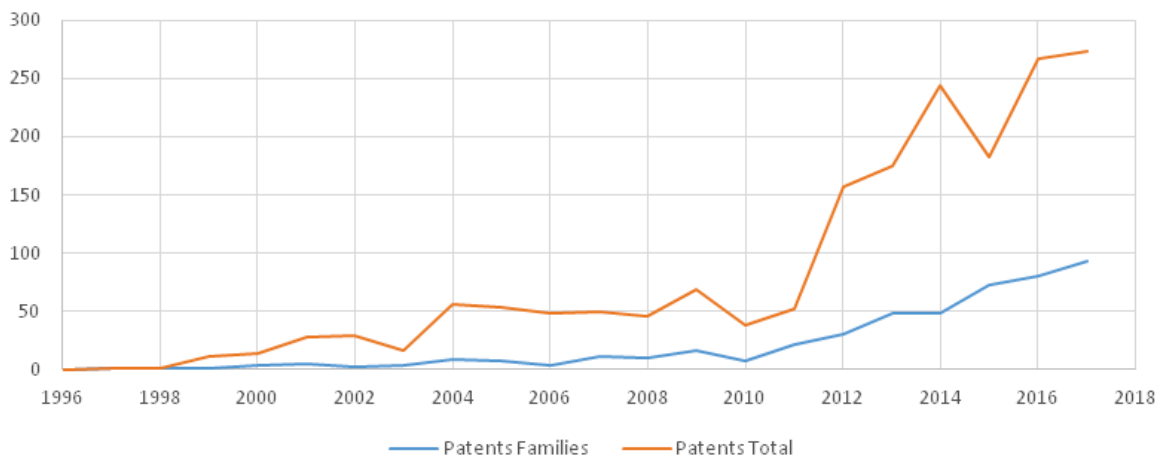


Figure 3. Trend of the patent applications related to I4.0 on Gas Turbine technologies

#### Additive Manufacturing in Gas Turbines - Patent Applications 1996-2016

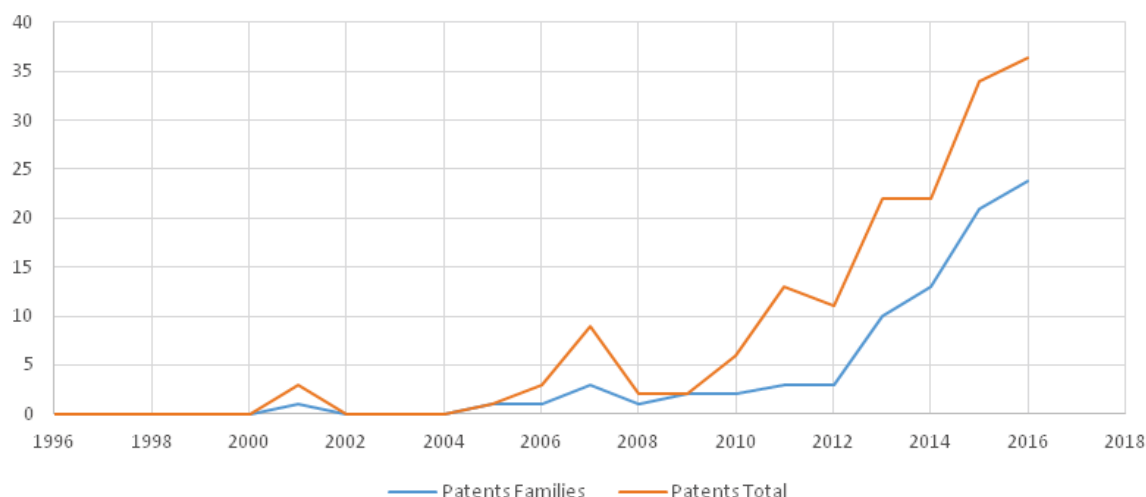


Figure 4. Trend of the patent applications related to additive manufacturing on Gas Turbine technologies

Printing, as Figure 4 shows. EPO describes Additive Manufacturing as “a manufacturing method in which material is added layer-by-layer to create products. (...) That way any object, whatever its form, can be “printed”. Complex moulds or tools are no longer required – only the digital data set”. The necessity of just a digital model data as a starting point for the manufacture of a great variety of components made Additive Manufacturing one of the most

cue derives from the Prediction category. The total number of patents on such topic corresponds to the patents families and it is still small, but the growth rate seems to be promising. The use of predictive analysis to regulate turbine plant could be an interesting example of these technologies, as we can see from patent no. US2016123238\_A1, “System and method for turbomachinery vane”. It describes, indeed, an automatic configuration system for the

#### Prediction Techniques in Gas Turbines Patents

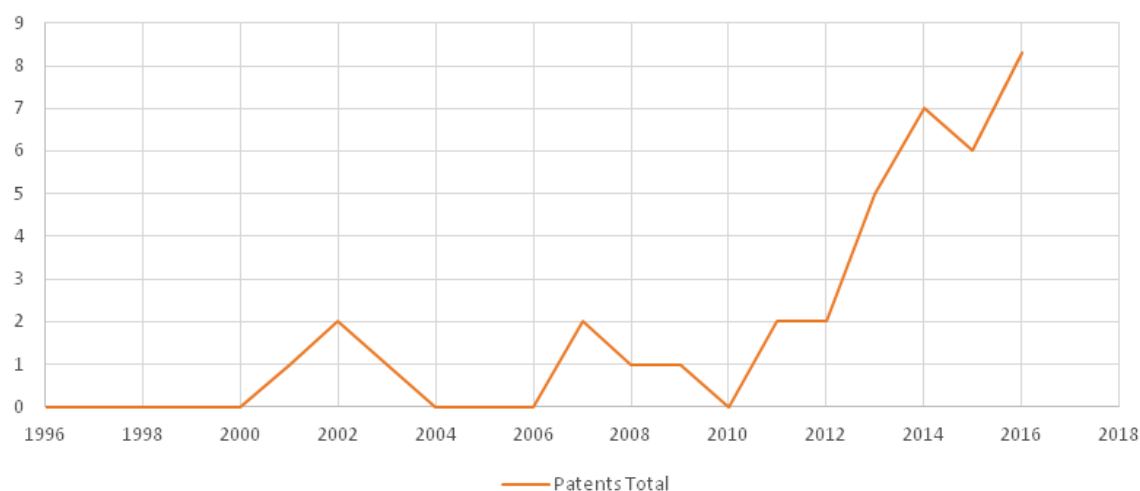



Figure 5. Trend of the patent applications related to Prediction techniques on Gas Turbine technologies

representative technology of the I4.0. The definitive explosion of the technology is extremely recent and confirms its state of novelty. The main applications in the gas turbine sector are in the construction of tubes, heat exchangers and engine components. For example, patent no. US2016003157\_A1, “Additive Manufactured Tube Assembly” or patent no. EP2963267\_A1, “Insulated Flowpath Assembly”, are about the construction of turbine components using 3D printing techniques. Another interesting

gas turbine system, based on data predictions. This patent presents also a combination of different technologies related to the I4.0 belonged to the Sensors and Automated Controls/IoT categories. The analysis we performed on the Gas Turbines sector confirmed therefore an increasing hype on the Industry 4.0 paradigm; moreover, the rates of growth for patents involved in the enabling technologies seem to indicate the readiness of the O&G environment to embrace this epochal change.





## Eni: story of a digital transformation based on skills

*The company's digital transformation has reached a crucial milestone with the launch of its new HPC4 supercomputer, giving Eni the world's most powerful computing system in the industrial sector. The CEO, Claudio Descalzi, presented the new system during a meeting organised at Eni's Green Data Center with scientists and company representatives. The supercomputer system will be partially powered by a new photovoltaic plant installed at the centre, the first to become operational within "Progetto Italia".*

Ferrera Erbognone (Pavia), 22 February 2018: Eni has entered a crucial phase in its process of strategic digitalisation - with 150 projects cutting across all business areas and involving over 150 managers. It aims to achieve significant economic and operational benefits in the short and medium term. The company has been on a path of digital transformation for several decades, starting long before the rest of the industry began to talk about the issue. Over time it has managed to transform the need to process large amounts of data into a significant competitive advantage. While technological progress today offers opportunities that were unimaginable until recently, without the right people and skills it would be an unproductive tool albeit an extremely powerful one. Eni's digital transformation is therefore a success story of the integration of people, skills, technology and IT science. It is thanks to this mix that Eni has been able to achieve extraordinary results, such as, for example, the discovery of the Zohr field in Egypt, the largest ever made in the Mediterranean. This is what emerged today during the event "Imagine Energy. Stories of data, people and new horizons", held at Eni's Green Data Center (GDC) in Ferrera Erbognone, which was attended by Eni's CEO, Claudio Descalzi, the Chairman of the Italian National Research Council (CNR), Professor Massimo Inguscio, scientists and representatives of Eni.

Eni's CEO gave an outline of the company's digitalisation process, which began some thirty years ago and has recently reached a fundamental milestone with the introduction, at the Green Data Center, of a new HPC4 supercomputer, making Eni's computer system the most powerful industrial system worldwide. Eni's digital transformation, which is specifically designed to involve all areas of the company's activities, has wide-ranging transversal objectives. They range from the improvement of the staff's health and safety to a further increase in the plants' level of reliability, operability and technical integrity, with knockon benefits in terms of both safety and environmental impact; and from a strengthening of economic-operational performance to the development of new business models and the acceleration of decision-making processes, which will become increasingly data-driven. In the long term, this digital transformation is part of a broader process of evolution that will make Eni even more integrated in its processes, as well as increasingly capable of combining emerging digital competences with traditional technical skills, open to innovation, in collaboration with the most advanced technological start-ups, quicker in operational and work processes, and increasingly attractive to young talent.

Eni's first contact with the digital world was with the first powerful computers and proprietary software associated with the calculation and elaboration of enormous quantities of data: those related to exploration, as well as those simulating reservoir fluid dynamics. Subsequently, the company began developing proprietary algorithms in its exploration activities. Since 2000, Eni has rewritten its algorithms, engineering them according to an integrated hardware structure (CPU+GPU) that makes it possible to overcome sequential logic and to work with calculation clusters. In this way, every elaboration is broken down into separate "jobs" that are then recomposed, making it possible to work in parallel and more quickly.

Today, the addition of the HPC4 to Eni's supercomputing system provides the company with a computing infrastructure with a peak capacity of 22.4 Petaflops, or 22.4 million billion

mathematical operations per second. But while power and technology, even in their most advanced forms, can provide fundamental competitive advantages, they are unproductive tools without human skills. In fact, Eni's computing infrastructure operates on the basis of a single highly advanced and complex proprietary algorithm ecosystem, created and developed over a decade, and based on the company's experience and know-how, in partnership with some of Italy's most important research institutes. Having a program created and developed internally means having complete control, flexibility and speed, as well as facilitating the continuous development of skills. Eni's supercomputers provide strategic support for the company's digital transformation process across the entire value chain, from the exploration and development phases of oil and gas fields to the management of big data generated during operations by all of the Group's productive assets (upstream, refining and chemicals).



## New Partners Join Charter of Trust to Protect Critical Infrastructure

*Houston, March 8, 2018:* Siemens, and the eight founding Charter of Trust members, today welcomed The AES Corporation, Atos and Enel to its global cybersecurity initiative at the 2018 CERAWeek® conference in Houston, TX. With America's energy hub as its backdrop, cybersecurity is a leading topic of conversation at the conference, as energy is the most attacked segment within U.S. critical infrastructure.

In 2017, the U.S. Department of Energy reported that America's electricity infrastructure was in "imminent danger" from cyberattacks that are "growing more frequent and sophisticated." And, according to a recent report from the Council of Economic Advisors, malicious cyber activity against government and industry cost the U.S. economy between \$57 billion and \$109 billion in 2016 – approximately one-half of U.S. GDP.

The Charter of Trust represents an unprecedented cybersecurity initiative that establishes three primary goals: to protect the data of individuals and businesses; to prevent harm to people, businesses, and infrastructure; and to establish a reliable basis where confidence in a networked, digital world can take root and grow.

The Charter of Trust was announced at the Munich Security Conference (MSC) in February, and signed by a group of founding companies, including Airbus, Allianz, Daimler Group, IBM, MSC, NXP, SGS and Deutsche Telekom, who called for binding rules and standards to ensure greater digital security and integrity in both the public and private sectors.

"Cybersecurity is the most important security issue of our time," said Joe Kaeser, CEO, Siemens AG. "Siemens is working with key partners in industry, government and society to promote the Charter of Trust to make our digital world more secure. The transformational opportunities that exist for society and industry can only be realized if we all have confidence in, and can rely on the security of our data and connected systems."



As the number of cyberattacks worldwide continues to grow, the hardware and software that control critical infrastructure like electricity and gas have become highvalue targets. A study of the U.S. oil and gas industry by Ponemon Institute found that operational technology (OT) cyberattacks now comprise 30 percent of all attacks in the U.S. oil and gas industry.

“Protecting our nation’s energy infrastructure is critical to maintaining so much of the American way of life,” said Senate Energy and Natural Resources Committee Chairman Lisa Murkowski, R-Alaska. “It is great to see companies coming together to build trust and strengthen collaborative efforts to protect critical assets in our nation and around the world. Cybersecurity is a shared responsibility that requires partners at all levels of government and the private sector to address threats and sharpen responses to cyberattacks.”

The new Charter of Trust members include The AES Corporation, a Fortune 200 global power company providing energy distribution and generation in 15 countries; Atos, a global leader in digital transformation operating in 72 countries and supporting clients across various business sectors, including energy and utilities; and Enel, Europe’s largest power company for market capitalization, operating in more than 30 countries across five continents.

The Charter outlines ten principles to ensure companies and governments are taking action to address cybersecurity at the highest levels through a dedicated cybersecurity ministry in government and a chief information security officer at companies. It calls for mandatory, independent certification for critical infrastructure where lives are at risk, including in the oil and gas, and power generation and distribution industries, and digital applications across all aspects of IoT. It also affirms that as technologies become increasingly digital and connected, security and data privacy functions should be preconfigured and that cybersecurity regulations should be incorporated into free trade treaties. The Charter’s signatories are also looking for greater efforts to encourage cybersecurity in vocational training and in international initiatives.

**Comments from Andrés Gluski, President and CEO, The AES Corporation**

“AES’ mission is to improve lives by providing safe, reliable and sustainable energy solutions. Our continued success depends on adapting to change, including utilizing new technologies. A successful cyberattack would impact our ability to deliver electricity and a data breach could negatively affect our employees, customers and partners.”

**Comments from Thierry Breton, Chairman and CEO, Atos**

“Atos is fully engaged in the digitalization of all areas of the economy. Cybersecurity is a crucial component and enabler for this transition. Working hand in hand with Siemens we have jointly developed digital solutions such as best-in-class security operating center and identity and access management for extended enterprise and IoT, or prescriptive security analytics based on artificial intelligence. I fully endorse the initiative of the global Charter of Trust for greater cybersecurity and its ten key principles. I am glad to join as a signatory of this Charter, a great foundation upon which we can build to spread digitalization and create value for our customers and partners.”

**Comments from Yuri Rassega, Enel Group Chief Information Security Officer**

“Cooperation is key to effectively prevent and manage cyber risks. In today’s world, technology is becoming increasingly disruptive, making the cyber threats we face all the more frequent and sophisticated. In past years Enel has been working to adopt a systemic vision that takes into account both business drivers and IT/OT/IoT systemsspecific protection objectives, defines a risk-based strategy and drives a “cyber security by design” model, boosting the resilience of infrastructure and applications to face cyber threats and risks. With the signing of the Charter of Trust for a Secure Digital World, we are formalizing our commitment to an increasingly coordinated approach to cyber security by merging info and real-time data sharing.”

# INDUSTRY 4.0

## Digital platforms and e-business solutions for industrial application

By Ruggero Baldi | Mechanical Engineer, Founder of SMARTAFTERSALES.COM

### Digital transformation and transition to the cloud

Digital transformation is providing to the modern industry a variety of new challenges and opportunities, new competences and skills have to be developed inside each company to understand and exploit the new changes and trends. Big Data is one of the challenges for the modern industry, smart factories involve the collection and processing of massive quantities of data from connected assets and machines. Smart Data focus on the selection and analytics of the most sensitive among the huge number of available data. Cloud computing represents an effective solution for the management of such amount of information and data based on large computational capacity centralized in few digital hubs. Cloud computing solutions provide a variety of advantages to the modern industry: scalability, flexibility, data storage capacity, high performing servers, accessibility from different locations.

### Digital platforms and e-business

The development of digital technologies is driving the changes in every industrial field, the digital customer experience may become the main interface that customers have with a supplier. Collaborative digital platforms enhance communication and cooperation between partner companies through shared IT solutions in the cloud.



Digital transformation / cloud computing (to be confirmed)

All in one place, cloud-based collaborative platforms can unify all data to reduce the time and efforts dedicated to access the needed information. Use of web-hosted solutions and digital platforms also reduce investments for IT and software, lowering the costs for licenses, maintenance and upgrading.

assets management systems for the operation and maintenance of their plants and machinery. Plant availability is one of the most important factors to maximize profitability of industrial businesses. With a focus on availability and cost savings, the importance of modern and efficient management



#### *Smart services (to be confirmed)*

A large number of companies are adopting web-hosted solutions offering professional and ready-to-use digital solution to modernize their business. While for B2C business-to-consumer transactions the e-commerce is already covering most of the overall business, for B2B business-to-business is ongoing the evolution of electronic-business involving the exchange of products and services by the mean of digital supports and the internet network. New e-business solutions as shared digital platforms are conceived and designed to be open and flexible for integration with companies' IT programs and traditional software to build automatized processes for sharing data and information between different systems. It is developing an ecosystem involving networks of companies cooperating through a web-hosted systems with relevant increase of business opportunities.

#### **Digital platforms and smart services**

How digital platforms can support the industry?

Industry is following the trend of digital transformation with the evolution of Industry 4.0, the smart factories are becoming fully connected and integrated, big investments are put in place to develop new digital solutions to improve the quality of production processes and services provided to customers. Industrial and production plants are adopting modern predictive maintenance and

of operations and maintenance activities: machine dysfunction or breakdown can cause large-scale damages to industrial and utility companies, reduction of man-hours required to get specific activities done properly is also a must to reduce labour cost. In the smart industry context, after sales services related to the product are becoming increasingly prominent in value creation. Customers are demanding a full package service including the supply of equipment and at the same time the assistance service to run machinery and plants in the most efficient way. Equipment manufacturers are developing new smart service solutions to meet the demand for effective after sales service, this result in very important added value for customers being able to receive through modern digital tools real-time support for the operation and maintenance of their assets and plants.

#### **SMARTAFTERSALES.COM Digital platform for management of after sales service**

Smart After Sales is an innovative cloud-based platform specifically designed for the after sales service in B2B business-to-business industrial application, suitable for a wide range of industries to improve the efficiency of supplier-to-customer communication and service. Smart After Sales main target is to enhance long-term cooperative relationships between Suppliers of equipment and



### Smart After Sales - schema Supplier / Customer

machinery and their Customers, industrial plants and production factories operating machinery and plants at their sites. The Smart After Sales is a collaborative platform designed for sharing efficiently the main information and data required for the operation and maintenance of machinery

interface. Through Smart After Sales, Customers can select spare parts and assistance service in a few easy steps by an interactive process, selection of parts and service is then shared with the supplier for confirmation, finally Customers can place an online order for the selected spare parts and service directly

**SMARTAFTERSALES.COM** CUSTOMER TEST - CUSTOMER

Select Spare Parts for Machine: Centrifugal Fan  
VIEW MACHINE IMAGE | DOWNLOAD TECHNICAL DOCUMENTATION

Show 10 entries

Pos. #	Part Name	Part Code	Q.ty Installed	2 Years Q.ty	Delivery Time	Qty	Unit Price	Total Amount	
1	Rotor	rr-2200-16	1	1	6 weeks	1	754.56 €	754.56€	ORDER
2	Shaft	rr-225-hk2	1	1	6 weeks	0	298.25 €	0.00€	ORDER
3	Bearings supports	sp-160-hk2	2	2	6 weeks	2	157.04 €	314.08€	ORDER
4	Flexible joint	tj-160-er	1	1	6 weeks	0	112.74 €	0.00€	ORDER

Showing 1 to 4 of 4 entries Previous 1 Next

**YOUR ORDER:**

**Spare parts:**

machine  
1 x Rotor 754.56 €

machine  
2 x Bearings supports 157.04 €

**SPARE PARTS SUBTOTAL 1068.64€**

**Services:**

No services in your order

**SERVICES SUBTOTAL 0€**

**total amount 1068.64 €**

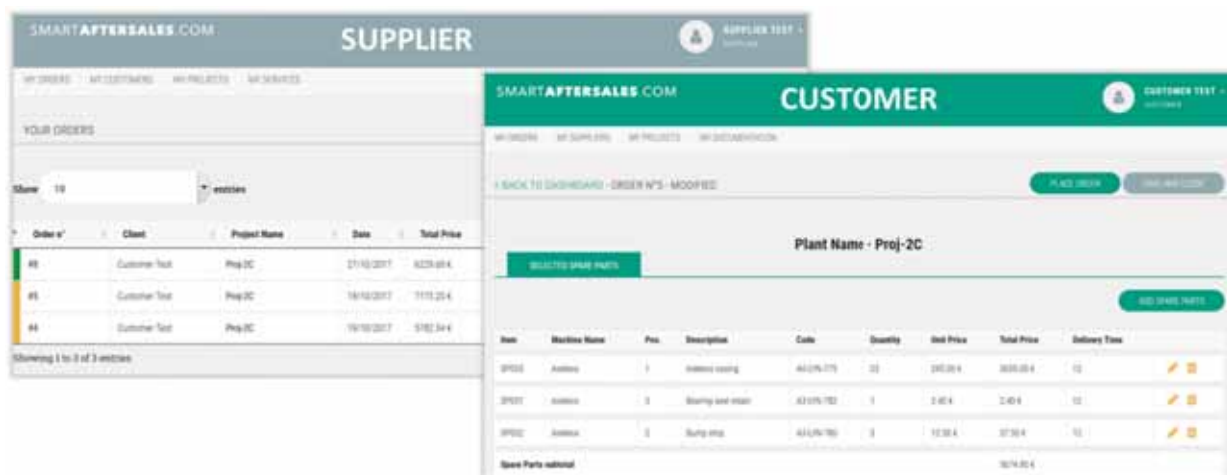
**REVIEW AND PLACE ORDER**

### Online order definition and confirmation

and industrial plants including: spare parts lists, assistance service, technical documentation. Suppliers upload the database with spare parts lists and technical documentation for every plant and machinery supplied to each specific Customer. Suppliers upload also the list of available assistance service to be offered to Customers, the service list shall report the type of services and related daily rates. Customers have full access to the information and database through an intuitive and user-friendly

from the platform. The Smart After Sales platform is a ready-to-use digital platform extremely simple and effective, it requires no technical expertise and the intuitive interface offers an easy-to-use and efficient tool for management of the after sales activities, significantly cutting time and costs. Users operate through a main control dashboard for managing and monitoring all activities, all selections and orders are displayed in a logical and chronological sequence, stored in dedicated archive.





### *Dashboard customer/supplier*

Smart After Sales represent an innovative digital tool offering a great opportunity for companies to start e-business with no investments and specialized resources involved. The platform is suitable for integration with any kind of traditional software with the possibility to exchange data in a variety of formats. Integration with ERP Enterprise Resource Planning system for automatic update of the database with spare parts and service lists, synchronization of new coming online orders directly on the company accounting software. Integration with CMMS Computerized Maintenance Management System for the automatic upload of routine orders and synchronization for management of spare parts inventory.

### **Digital platforms as added value for industrial service activities**

Web-hosted and collaborative platforms become strategic tools for the optimization of industrial services, especially for plant operation and maintenance activities, improving at same time, communication, interaction and long-term cooperation between equipment manufacturers and their customers. More and more manufacturing companies are looking to build their success by expanding their core business, including smart services through digital platforms. Industrial and production plants are moving towards collaborative platforms to get the required service through modern digital solutions with possibility of integration with their IT systems.



*Smart After Sales-cloud*

# LATIN AMERICA

## Latin America's Hydrocarbon Industry in 2018

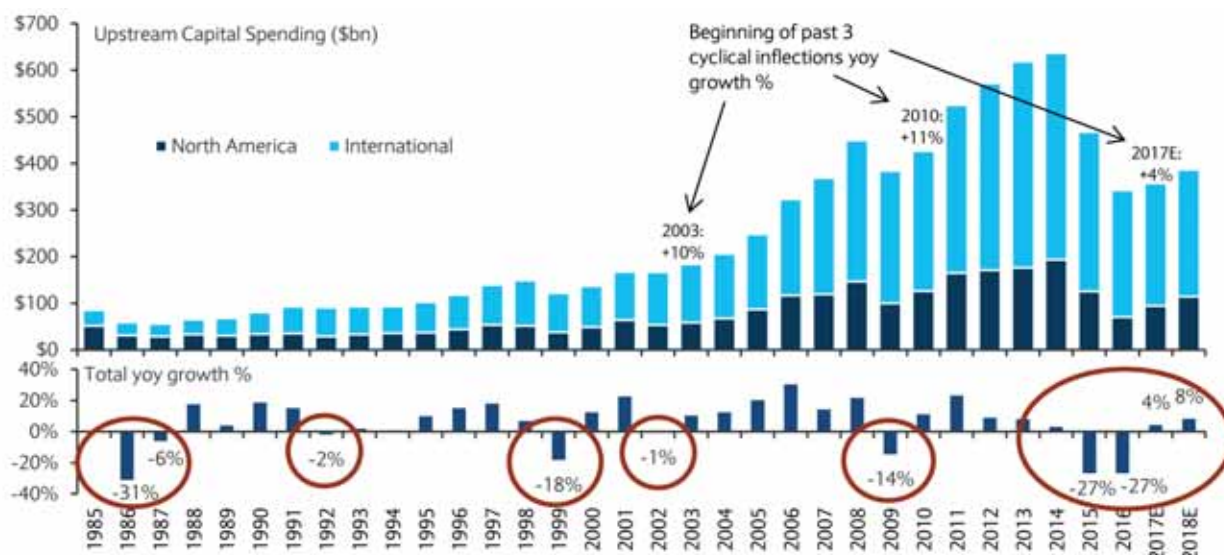
By Mauro Nogarín | Journalist

In general, the economy of Latin America in 2018 is going to be more dynamic, considering that the Brazil economic growth (one of the main player in the continent) will reach 2%, while last year it was limited at 0.9%. Furthermore, many countries which were growing in the last years with a moderate rate, will have a prominent growth acceleration: for example Chile, from 1,5% in 2017 to 2,8%; Colombia, from 1,8% to 2,6%; Peru, from 2,5% to 3,5%. In Latin America, Panama is going to be the economy that will record the highest rate of expansion next year (5,5%), followed by Dominican Republic (5,1%) and Nicaragua (5%). Cuba, Ecuador and Venezuela will show different trends - +1%, +1.3% and -5.5% respectively - while the rest of Latin American economies will grow between 2% and 4%. After many efforts, the equilibrium would be reached, and the threshold of 60 USD per barrel could be consolidated, if and when OPEC maintains pre-established production cuts in order to hold current prices. This scenario has been sufficient to reignite the motors of the main petroleum exporting countries of Latin America, in order to re-start the investment in three fields: new tenders for the exploration of oil and gas fields, the construction of new gas pipelines in order to widen new industrial areas and finally the enhancement of the installed capacity of refining plants. A specialised department of Barclays has recently conducted an analysis of the worldwide hydrocarbons' market, which shows that the increase in global expense in 2018 will be 8%, it means a considerable improvement compared to the 2017 for which it was about 4%. However it must be highlighted this financial data has been preceded by two years of drop.



In Brazil, after the Petrobras' scandal, energy minister Fernando Coelho Filho confirmed in early October that it will begin a privatisation of the state company. The economic figures and the names of the companies involved are not yet available, but it is sure that this privatisation process is going to be finalised soon. This scenario will open a competition between the big global players in oil and gas sector, willing to put their hands on a business that has now reached a production of 2.8 million barrels a day, at the end of October. The only unknown that could slow down the economic and political dynamism of this country, it would be the uncertain outcome of the elections, scheduled for October. What is clear for any of the six candidates is that to continue the current trend and finally get out from the economical crisis, this country must focus on the restructuring of Petrobras, based on transparency. A huge injection of foreign capital is necessary to complete this renovation process and to reactivate the Brazilian oil sector. On December 2017 Bolivia's government (through the state-held company Yacimientos Petrolíferos Fiscales Bolivianos [YPFB]) signed natural gas development deals with Spain's Repsol,

Royal Dutch Shell, Petrobras and Pan American Energy, that are expected to draw \$1.6 billion in investment into the country and boost the domestic production. The agreements cover the eastern part of the country, where the consortium's 3D seismic studies has confirmed the presence of 33 TCF of natural gas. The economical scenario in Ecuador is different and complex. The anticipated sales of oil to Asian multinationals; such as Petrochina, Unipet (Sinopec subsidiary) and Petrotailandia for a total of 600 million barrels, and the national public debt that has reached the alarming threshold of 42 thousand million dollars state, are two of the main reasons why the state has slowed down with the investments necessary to strengthen the oil&gas industry. The efforts of the Colombian oil industry were rewarded at the end of December 2017, with the listing on the stock exchange of Ecopetrol's shares; which is the main Colombian oil company (with the majority of state capital). This was the main positive result after 31 months, which coincides with the crisis of crude oil prices. The second successful result in 2017 in this country was the discover of a new light oilfield (25°-28° API), thanks to the investments in exploration

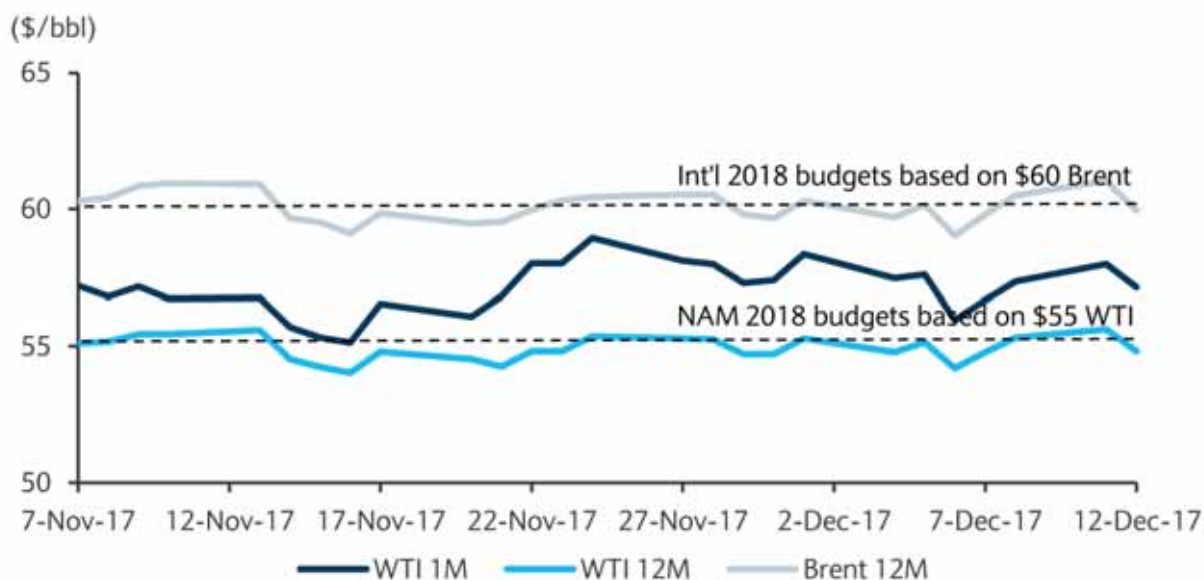


*Increase in Upstream investments worldwide. Credit: Barclays Research*

in the Santander's region. These new oil-wells will help to considerably increase the national reserves of hydrocarbons, which in the recent years have been resizing in a rather alarming manner, threatening the stability and the self-sufficiency of the country. After the new national law of privatisation of the hydrocarbon industry, Mexico is writing a new page, but it doesn't contain always good titles for its own national industries. According to the outcome from the analysis of the national statistics institute

million barrels. In Venezuela, the inflation that have reached 2700% and the recent nomination of a military man as director of PDVSA, have generated a lot of uncertainty on the data of the main oil indicators. The OPEC board has expressed a justified skepticism about this scenario.

Cesar Triana, the vice-president of PDVSA, has recently declared "We are talking with our allies and our strategic partners (Rosneft, Eni, Repsol and Statoil) for their partnership with our company



*Oil prices. Credit: Thomson Reuters*

(INEGI), the oil exports have declined, while domestic production stands at 1.8 million barrels per day (12% less compared with the previous year). This decreasing could not be totally justify by the international restriction agreements, even because in Veracruz region, a new oilfield was discovered in November 2017, with an estimated reserve of 1,500

(PDVSA), with the aim to increase the investment our projects and to increase soon our production of oil and gas". This alliance certainly will be open to new investors, in order to fix the huge debit (60.000 million of USD) of the state-owned company, from which depends more than 60% of the Venezuela income.



# AMERICA

## The climate challenge: seeking practical solutions

*An extract from Exxon Mobil 2018 Outlook for Energy*

Billions of people still lack access to modern energy and technology as they struggle to improve their living standards and reduce the negative health impacts of energy poverty, while billions of others enjoy the conveniences of modern life. Awareness of this enduring disparity is a reminder of the need to expand access to reliable, affordable energy for all, even as parties around the world pursue common ambitions to improve the environment and address the risks of climate change.

Effectively managing the risks of climate change will require practical, cost-effective solutions. Opportunities exist worldwide across all sectors to improve efficiency and reduce energy-related emissions. As noted earlier, these solutions are expected to focus on improving energy intensity or efficiency of economies, as well as reducing the carbon intensity of the world's energy mix.

### Boosting energy efficiency

To pursue a 2 °C pathway to address the risks of climate change, the need for efficiency gains is likely to ramp up significantly, meaning that capturing the most cost-effective efficiency gains will become even more important in order to spare society an unnecessary economic burden associated with high-cost options to reduce emissions.

Boosting efficiency while meeting essential needs for products and services and supporting standard of living improvements will require effective investments and sound policies to promote them. Opportunities to boost efficiency are many and varied, ranging from better equipment (e.g., transportation vehicles, appliances) to

electrical distribution networks to better insulation in buildings. Gains are also likely in systems affecting how people live or how businesses operate. Importantly, not all of the same mechanisms apply across all energy sectors.

efforts across various energy demand sectors to boost efficiency and lower the CO<sub>2</sub> emissions intensity of energy use.

### Shifting the energy mix

Shifting the CO<sub>2</sub> emissions intensity of the energy mix to lower levels, while keeping energy reliable and affordable, also requires investment, with an eye toward opportunities for using less carbon intensive energy sources to meet needs across the range of demand sectors. For example, while bioenergy could be used across all sectors, nuclear energy is limited to the power generation segment.

The table to the right highlights a likely distribution of technologies and other

Energy Demand Sectors				
Pathway levers	Power	Transport	Industry	Buildings
Energy Intensity				
Equipment / Operations	X	X	X	X
Materials		X	X	X
Retrofits				X
Lifestyle choices		X		X
Carbon Intensity				
Bionergy	X	X	X	X
Hydro	X			
Geothermal	X			X
Nuclear	X			
Solar	X			X
Wind	X			
Electrification		X	X	X
Natural gas	X	X	X	X
CCS	X		X	

## Adopting policies to promote cost-effective solutions

To help speed the application of practical and cost-effective solutions across the entire energy system, open and informed discussions will help clarify the potential and relative value of available options. Further, policy frameworks that promote better transparency on the costs and benefits of various options and rely on market-based solutions should be pursued. As the IEA has noted, clear price signals have advantages, including that “higher prices stimulate consumers to reconsider their energy consumption and make savings where this can be done most cheaply, whereas regulation through mandatory standards may not be the least-cost or most effective approach.”<sup>10</sup>

The long-term nature of the climate challenge promises an evolution of available solutions. Therefore, policies that promote innovation and flexibility afforded by competition and free markets will be critical to ensuring the world pursues the most cost-effective opportunities.

## Investing in research and development to advance technology

Ongoing research and development to spark technological advances will also be important to help minimize the costs of reducing emissions. This will preserve limited financial resources for other needs, including helping to ensure universal access to reliable and affordable energy.

Advancing the application of cost-effective technology solutions around the world will likely be critical to pursue a 2 °C pathway, while helping keep energy reliable and affordable for an

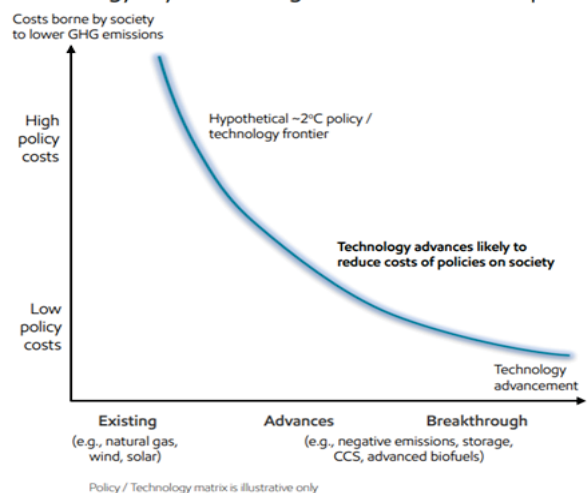
expanding population. As the chart to the below shows, expanding technology options through ongoing research and development efforts remains important to accelerate the options that can play a role in meeting people’s energy needs while reducing the risks of climate change. Such technologies include those related to carbon capture and storage (CCS), advanced biofuels and battery technology. Without robust development of such technology options, the stringency of policies and their related costs to society will prove more burdensome.

## Keeping options open

Transformation of the world’s energy system as envisioned by a 2 °C scenario is unprecedented. Therefore, it is understandable that governments, businesses and individuals exercise care in weighing its potential implications. A key consideration is the significant value for society in not prematurely foreclosing options or negating reliable, affordable and practical energy systems that billions of people depend upon.

Practical solutions to the world’s energy and climate challenges will benefit from market competition as well as well-informed, well-designed and transparent policy approaches that carefully weigh costs and benefits. Such policies are likely to help manage the risks of climate change while also enabling societies to pursue other high priority goals around the world – including clean air and water, access to reliable, affordable energy, and economic progress for all people.

Technology key to reducing societal costs of 2°C pathway



Technology advances are expected to lower the cost to consumers and taxpayers of reducing GHG emissions like CO<sub>2</sub>.

## Reference

<sup>10</sup> IEA, World Energy Outlook 2016, page 290

# AFRICA

## Africa's oil and gas market

By Dott. Ing. Mor Nguirane | Chemical Engineer

Many African economies are growing in the last decade although the growing rate is lower than the forecast. According to the African Development Bank (AfDB) (1) the real output growth from estimated increase of 3.6% in 2017 will accelerate to 4.1% in 2018 and 2019. Considering the 2.2% of economic growth in 2016, the 2018/2019 forecast is almost twice. This trend is the result of generally good macroeconomic policies, progress in structural reforms, infrastructural improvement and political stability in most African countries.

Considering biggest African economies are also oil and gas producers, the increasing oil demand due to African population growth, it's not surprising to see oil and gas industry growing. African oil producers have a huge percentile of GDP based on oil production indeed the growth rate in the oil and gas industry will be higher than the estimated GDP growth.

Although some African economies were not producing as well as past years because of the oil and gas price falling and later OPEC members agreement to cut oil output, it's expected to see an increase of oil output in respect to the last two years. The main reasons are the forecasted rising of global oil price and the increase of global oil demand in 2018 and 2019. A consequence of this global trend is the internal African oil market will be reinforced too as many African countries have increased the internal energy supply.



Proven oil reserves in Africa are estimated at 128 billion barrels 7.5% of global oil reserve (2), a 0.1% drop from 2016. Despite this reduction, there encouraging recent large finds as Owowo in Nigeria with a potential of one billion barrels of oil, Cayar in offshore Senegal/Mauritania with approximately 15 trillion cubic feet (Tcf) of gas and Block 20/21 in Angola with around 313 million barrels of condensate and 2.8 Tcf of gas. Beside the new discoveries, most African oil producers are, as above mentioned, implementing reforms in the oil and gas sector to bring more transparency and efficiency in production and management in a such way to strengthen the economies and reduce poverty. Furthermore, there are almost new African producer as Ghana which start producing from 2009 and countries as Senegal and Mauritania will start producing oil or gas after recent discoveries. Libya with a proven oil reserve amounting about 45 billion of barrels is not producing at his maximum capacity and most exploration and other projects are frizzed or cancelled for political and social instability reasons. Despite the instability the oil output has been increased during the 2017.

Nigeria has registered a recession in 2016 because of oil price reduction and drop in oil production amounting at 11.9% but now the Nigerian economy shows sign of recovery. The growth is projected at 2.1% in 2018 and 2.5% in 2019. Oil production also increased from 1.45 million bpd in the first quarter of 2017 to 2.03 million bpd in the third quarter of 2017 reports the African Economy Outlook 2018. Nigeria is one of African economies' largest oil and gas producers, with over two million bpd. The country also has the largest oil and gas reserves in sub-Saharan Africa, with an estimated 37 billion barrels of oil (excluding the recent large finds Owowo with a potential of one billion barrels of oil) and 188 Tcf of gas. Also, several legislations are in act to bring transparency and efficiency in the oil and gas and extractive sector as the implementation of the Extractive Industries Transparency Initiative (EITI). The rising price of crude oil in the international market together with new legislation policies put the Nigerian economy in a good position to maintain macroeconomic stability in the short-to-medium term. As an example of this politics we can mention the 650,000 bpd Dangote refinery expected

#### OIL RESERVES

**128.0 billion barrels,**  
**7.5%** of the world's proven  
reserves, With Libya has 45 billion  
barrels oil reserves

#### GAS RESERVES

503.3 Trillion cubic feet, **(86.8  
billion BoE)**  
**7.6%** of the world's proven reserves

By 2050, Africa's oil & gas is set to  
increase by **74%** and global  
consumption by 45%. Africa's share  
of global consumption will increase  
from 4.3% to **5.1%**.

Africa has the **3.5%** of Global  
Refinery capacity: 2016 throughput:  
**2.6%** or **2.1 million** bbl/day



Africa LNG nominal liquefaction  
capacity **68.3 MTPA** at December  
2016. **20.2%** of global capacity.

Gas pipeline exports were **45.6**  
billion m<sup>3</sup>, **6.2%** of the world's  
export.  
Africa exports increased by **8.3%**  
in 2016

African's OPEC members oil  
production at October 2017:  
**Algeria:**1.02 bpd; **Angola:**1.71  
bpd; **Equatorial Guinea:**  
0.135 bpd; **Gabon:**0.203 bpd;  
**Libya:**0.962 bpd; **Nigeria:**2.03  
bpd

Gas consumption **13.3** Bcf per day,  
grew by **1.4%** in 2016

to start operation at the end of 2019. The refinery has the main goal to reduce even cancel the Nigeria's dependence on imported petroleum products. The country currently imports over 85% of its daily refined petroleum products need despite having 3.445 million bpd of installed capacity. Nigeria's four refineries are currently producing less than 20% of their installed capacity owing to long period of poor maintenance and outdated technology. The amount of turnaround work to revitalize the refineries has been overwhelming for the Nigeria National Petroleum Corporation (NNPC) who is now seeking partnership with private investors in its revamping effort. 25 companies have indicated their interest in NNPC's partnership and selection process is expected to commence soon and selected companies announced by early 2018. The revamping attempt is expected to cost 2 billion USD and is expected to result in the shutdown of the refineries for up to two years. When the renovation is completed coupled with production from Dangote Refinery, Nigeria is expected to be a net exporter of refined products. Egypt together with Nigeria, Angola and Algeria produce over 77% of Africa oil production of 7.9 million bpd of crude oil. Furthermore, Egypt is the biggest oil refiner in Africa with a total of ten refining companies operating 12 refineries with a total output of 732,550 bpd. This output is only the 18% of Egypt's maximum refining capacity. Beside Egypt is facing a population increase and an energy demand growth that cannot be balanced by the domestic production. In 2016, Egyptian oil production and consumption was respectively 491,000 bpd and 853,330 bpd even if in 2017 the oil

production decreased to 472,000 bpd.

The huge gap of the energy supply overall, further burdened the Egyptian government to boost oil production, improved refineries efficiencies and restart new exploration activities.

The Zohr supergiant field, with a potential reserve more than 30 Tcf of gas, started production on December 2017 as reported by Eni S.p.A. The initial daily production rate of 350 million cubic feet will be distributed through a facility in Port Said City to the national network. Furthermore, the daily production will reach about 1 billion cubic feet (bcf) in June 2018 and 2.7 bcf by the end of 2019. Zohr will be able to satisfy a part of Egypt's natural gas demand for the incoming years.

Regarding the exploration, the first national company engaged in research, exploration and production of oil the General Petroleum Company (GPC) sets to start drilling 5 wells for exploration, the development of 13 wells, as well as maintaining and completing 27 wells during FY 2018/2019. The Egyptian government has signed several exploration contracts with GPC and westerns companies.

Ghana, the almost new oil and gas producer, is the fastest growing economy in Africa with an average 10.1% in the last four years. Moreover, Ghana need a huge external capital investment and technical assistance to keep this trend. The growth is expected to be stronger if macroeconomic fundamentals improve and impact positively on the non-oil economy too. Assuming the restoration of energy supply, new hydrocarbon wells coming on stream and timely resolution of technical issues that led to disruptions in the Jubilee Oil and gas field in 2016,



the oil production of Ghana is expected to reach more than 210,000 bpd by 2020.

Ghana's oil output is expected to continue to rise to reach an average of 170,000 bpd this year. Production from the integrated oil and gas development project on the Offshore Cape Three Points (OCTP) block 60 km offshore western Ghana by Eni SPA began on 22 June 2017. The OCTP development comprises Sankofa Main, Sankofa East, and Gye-Nyame fields, which altogether have 770 million boe in place, of which 500 million barrels is oil and 270 million boe is non-associated gas (about 40 billion m<sup>3</sup>). Production is carried out through the John Agyekum Kufuor FPSO unit, which is expected to produce as much as 85,000 boe/d via 18 underwater wells.

Production ramp up from the 'TEN' project not only offsets losses from the Jubilee field, but also adds new capacity. Oil output in Ghana is estimated to expand by 40,000 b/d in 2018, to reach a level of 210,000 bpd.

Senegal has picked up its economic growth since 2014. Over the course of 2017, Senegal's macroeconomic performance has been strong, with a GDP growth rate of 6.8%. GDP growth is projected to continue accelerating gradually to about 7% over 2018-2020 as the primary sector continues its strong growth due mostly to agriculture and extractive industries, while services also show a growth rate over the average. As a result, Senegal registered the second fastest growing economy in West Africa, behind Côte d'Ivoire. The proven gas fields, the recent gas reserve discovery by Kosmos Energy and the new exploration projects are a big opportunity for the Senegalese economy growth if conveniently managed. The policy framework for the oil and gas sector is set in the Energy Sector

Development Policy Letter (LPDSE), which has been integrated into the Plan Senegal Emergent (PSE). The Plan aims to ease structural bottlenecks to growth and facilitate private initiative by basic structural reforms. It targets Senegal to become a newly industrializing, middle-income country by the year 2035. To realize its full economic potential and achieving the PSE target, the country will be faced with formidable governance, technical, environmental and social challenges. The discovered natural resources are anticipated to become a key factor in accelerating economic growth and help the country achieving the PSE's target by 2035.

The above-mentioned countries for several reasons are representative of the African oil and gas market, its dynamism and its politics. They provide a general view of what is happening in the oil and gas sector in Africa. For instance, the need of most countries to optimize the production efficiency, to increase oil and gas output, to increase the local workers in the business and their technical and managerial skills, to redistribute the wellness, to bring more transparency and with the oil and gas revenue to impact positively on the non-oil economy by the mean of structural reforms, exploration projects and so on.

Of course, we will have the opportunity to talk about also other interesting African countries as Algeria, South Africa, Angola, Mozambique and Morocco too.

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(1) *African Economy Outlook 2018*

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*OPEC Monthly Oil Market Report Nov. 2017.*

*Ecobank Middle Africa Energy Market Update*



## Major milestone achieved for BP-operated Tortue/Ahmeyim gas project

*Inter-Government Cooperation Agreement  
signed between governments of Mauritania  
and Senegal*

BP today confirmed that a key agreement between the governments of Mauritania and Senegal, which will enable the development of the BP-operated Tortue/Ahmeyim gas project to continue to move towards a final investment decision, has been signed by the two governments.

The Inter-Government Cooperation Agreement (ICA) provides for development of the Tortue/Ahmeyim gas field through cross-border unitisation, with a 50%-50% initial split of resources and revenues and a mechanism for future equity redeterminations based on actual production and other technical data.

The agreement was signed on Friday, 9 February in Nouakchott, Mauritania by Mauritania Minister of Oil, Energy and Mines Mohamed Abdel Vetah and Senegal Minister of Petroleum and Energies Mansour Elimane Kane during a ceremony with President Mohamed Ould Abdel Aziz of Mauritania and President Macky Sall of Senegal.

Bernard Looney, BP Upstream chief executive, commented: “This is an important milestone for this innovative gas project which reflects the strong, cooperative partnership between Mauritania and Senegal. We look forward to continuing to work with both countries and our partners, Kosmos Energy, Petrosen and SMHPM, towards a final investment decision.”

The Tortue/Ahmeyim gas field, with estimated resources of 15 trillion cubic feet of gas, is located offshore on the border between Mauritania and Senegal.

BP has completed significant engineering design towards the Tortue/Ahmeyim project, an integrated gas value chain and near-shore liquefied natural gas (LNG) development which would export LNG to global markets as well as supplying gas to Senegal and Mauritania.

# EUROPE

## **Europe and Turkey: between energy demand and supply** **Feeding Europe's energy demand: The Middle East and the Caspian Basin**

The staggering size of tapped and untapped energy reserves in the Middle East and the Caspian Basin (ME&CB) have long fed, and will continue to feed, Europe's energy demand. Middle Eastern countries collectively possess an estimated 800 billion barrels (bb) of crude oil, roughly half the world's total reserves, and 80 trillion cubic metres (tcm) of natural gas reserves, around 40 percent of the world's total<sup>1</sup>. Similarly, today in the Caspian Basin there are an estimated 48 bb of oil and 8 tcm of gas in 'proved and probable' reserves. In addition, a number of oil- and gas-rich areas in the ME&CB remain inaccessible or chronically underdeveloped as a result of conflict, sanctions or territorial disputes. Moreover, as estimated by the United States Geological Survey, there may be an additional 20 bb of oil and 6–7 tcm of gas yet to be discovered<sup>2</sup>. Among these, a portion is classified 'unconventional resources' – which include shale oil, shale gas, tight gas and coal-bed methane – and are spread across the ME&CB.

The export of crude oil from the Middle East to both Turkey and the European Union (EU) accounts for an enormous trade flow, amounting regularly to up to \$50 billion in value each year. The region's export volume to Europe has historically been as high as 900 million barrels (mb), and has only once dipped below 500 mb in the period 2005–2017<sup>3</sup>. Russia and other Caspian countries provide Europe with the rest of its imported energy supply<sup>4</sup>.

Despite the fact that future outlooks for energy demand in the EU are not as promising as was estimated by European institutions around 2007, Europe's demand for imported natural gas – between 80 and 100 billion cubic metres (bcm) – will most likely grow due to declining domestic production. Turkey has also become

a significant energy user, consuming over 300 mb of oil and nearly 50 bcm of gas annually<sup>5</sup>, and its demand is likely to grow in the future. While most of Europe's and much of Turkey's imported natural gas is currently Russian-sourced, geopolitical and energy-security considerations have compelled both the EU and Turkey to diversify supply and to seek an increase in imports from reliable alternatives in the ME&CB<sup>6</sup>.

### **Turkish energy objectives: diversification and bridging**

The Europeans have long recognized that Turkey, with its strategic location between areas of energy supply and demand, can play a substantial role in the EU's energy security. Inevitably, they have also appreciated that the EU's reliance on Turkey would act as a serious driver for their cooperation – not only in the energy sector but also, more generally, at political level. It is not surprising, therefore, that the EU has invested significant political capital in its energy partnership with Turkey at least since 2007–2008, placing it at the centre of its most ambitious external energy-policy initiative – namely, the development of the Southern

Gas Corridor pipeline network (SGC). The SGC is designed to run from the gas-rich Caspian Basin to the EU, crossing Turkish territory and thereby bypassing Russian soil. The SGC has the potential and capacity to accommodate additional pipelines extended from neighbouring Middle Eastern countries. If realized in its entirety, the SGC project would significantly reduce the reliance of European countries on their Russian gas supply and limit Moscow's political leverage over the EU<sup>7</sup>.

Similarly to the EU, one of Turkey's strategic energy objectives is further diversification of access in order to reduce reliance on a limited number of sources, reduce prices and guarantee supply to a growing internal demand. Of course, lying between the huge European market and the abundant supplies of its northern, eastern and southern neighbours, Turkey wants to become an indispensable energy 'bridge' between the two continents. Although its new energy strategy, publicized in April 2017 by Minister of Energy and Natural Resources Berat Albayrak, does not mention Europe's energy security as a pillar of the country's strategic vision<sup>8</sup>, Turkey remains committed to acting as an energy



bridge – a role from which it stands to benefit in the form of transit fees and other energy-generated revenues<sup>9</sup>. This commitment is best demonstrated by Turkey's steady investment in the development and maintenance of ports and pipelines, and its active engagement in the facilitating bilateral energy trade with regional 'players' such as Azerbaijan; Iran; Iraq; and the Kurdistan Region of Iraq (KRI), with its capital in Erbil.

Currently, around 3 million barrels of crude oil and petroleum products pass through the Turkish Straits on a daily basis, amounting to 3 percent of the world's supply<sup>10</sup>. Turkey receives hydrocarbons from Russia (via the 'Blue Stream' gas pipeline), Azerbaijan (via the Baku–Tbilisi–Ceyhan oil pipeline and its parallel South Caucasus gas pipeline), Iraq (mainly via the Kirkuk–Ceyhan and the KRI's new oil pipelines), and Iran (via the Tabriz–Ankara gas pipeline).

However, Turkey's ambitions go beyond its current energy-transmission capacity, as evidenced by the large investments aimed at the realization of the new Trans-Anatolian Pipeline (TANAP) for gas as an integral part of SGC. TANAP will supply gas from the Shah Deniz II field on the Caspian Sea in Azerbaijan, which currently has gas reserves of more than 3 tcm, to Turkey en route to Europe. The construction of the pipeline started in March 2015 and is due for completion in 2020. It will initially supply an annual 10 bcm of gas Europe and 6 bcm of gas to Turkey, but its capacity could possibly be expanded in subsequent phases – reaching 24 bcm per annum by 2023 and, eventually, 31 bcm per annum by 2026 – to accommodate possible new supplies from the Caspian Basin.

In short, since the launch of the SGC initiative, the European narrative describing Turkey as an indispensable partner for Europe's energy security and a natural bridge that ensures the diversification of hydrocarbon supplies has consolidated into several bilateral initiatives. From this perspective, Ankara's commitment to the development of the SGC would, by default, complement European energy narratives and contribute to reducing the Continent's reliance on Russian gas. Such complementarity and potential interdependence between the EU and Turkey has, over the years, created ample opportunities for cooperation, and possibly convergence, in the short-, mid- and long-term future.

### **EU-Turkish energy relations and pipeline politics**

At the time of launching, the SGC was designed to create greater interdependence between the EU and

Turkey in the energy sector, with an anticipated impact on the two polities' overall political relations. However, the two sides' subsequent political divergences impacted on their mutual energy policies and significantly changed the nature of the SGC itself.

In the European Commission's original plans, the SGC was expected to result from 'the integration of multiple pipeline systems which would have transported gas not from a single supplier but from multiple sources', including Azerbaijan, Iran, Iraq, the KRI and other potential exporters from the broader ME&CB<sup>11</sup>. However, the pipeline network route has been revised on several occasions since 2007-2008 for political, economic and commercial reasons. Indeed, its current shape is quite different from the one initially envisioned by Brussels. Despite these changes, however, the parties involved have never officially called into question Turkey's role as a key transit country for regional hydrocarbon resources. From a Turkish perspective, the SGC is a key element in the country's strategic relations with the EU. It represents a policy priority and a fundamental test case for energy cooperation between Brussels and Ankara. As frequently emphasized by high-level officials, Turkey's role within the Corridor was initially expected to reinforce the country's position in its accession process to the EU, and, more generally, its integration into the European political and economic system<sup>12</sup>.

In the original proposal conceived by the EU in the early 2000s, the key enabler of the SGC was the Nabucco project, a 3,825 km-long pipeline crossing Turkey's territory from east to west in order to transfer 31 bcm of Caspian gas to South East and Central European countries<sup>13</sup>. However, despite strong institutional support, Nabucco (and its successor initiative, Nabucco West)<sup>14</sup> failed to gain the support of the Shah Deniz producing consortium, mainly due to lack of supplies in the early years and insufficient gas demand from the targeted Central European markets. As an alternative to Nabucco, the combination of the TANAP and the Trans-Adriatic Pipeline (TAP) project was selected to deliver Azerbaijani gas to Italy and the rest of Europe via Georgia, Turkey, Greece and Albania<sup>15</sup>.

Turkey's changing energy priorities and growing political divergences with the EU have contributed to remarkable shifts in the balance of power surrounding the Corridor. Indeed, Ankara's eagerness to secure additional volumes of gas at a reduced price from Azerbaijan played a key role in the realization

of what became Nabucco's killer, TANAP. The latter pipeline is owned by the Baku-controlled Southern Gas Corridor Closed Joint Stock Company holding 58 percent of the shares, the Turkish Petroleum Pipeline Corporation (BOTAŞ) holding 30 percent and British Petroleum (BP) holding 12 percent<sup>16</sup>. However, while TANAP remains a major factor in advancing the SGC, the new pipeline represents a significant departure from the idea initially conceived by Brussels as well as a concrete power shift in favour of Azerbaijan. Baku, along with members of the Shah Deniz producing consortium, such as BP, now takes centre stage in the implementation of the SGC, replacing the group of European companies that

was involved in Nabucco. Although Turkey's move reduced the EU's role to that of a minor partner, both Brussels and Ankara still maintain the desire to continue regional cooperation while trying to keep the SGC at the top of their energy agenda.

In fact, making such ambitious infrastructural investments supports Ankara's goal to maximize political and economic returns by linking energy supplies in Azerbaijan to European consumers. Meeting this objective will only serve to bolster EU-Turkey energy policy cooperation despite diverging on issues such as migration, counterterrorism, the war in Syria, relations with Russia and Iran, and Turkey's domestic politics.

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<sup>2</sup> Today in Energy (2013): "Oil and natural gas production is growing in Caspian Sea region," 11 Sep 2013, <https://www.eia.gov/todayinenergy/detail.php?id=12911>, (accessed 09/07/2017).

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<sup>5</sup> The U.S. Energy Information Administration (2017): "Country Analysis Brief: Turkey," 2 Feb 2017, <https://www.eia.gov/beta/international/analysis.cfm?iso=TUR>, (accessed 21/07/2017).

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<sup>7</sup> Tsereteli, Mamuka (2015) "The Southern Energy Corridor: A Strategic Priority for the U.S.?", in The Central Asia-Caucasus Institute and Silk Road Studies Program, 27 May 2017, <http://cacianalyst.org/publications/analytical-articles/item/13218-the-southern-energy>

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*Authors: Dlawer Ala'Aldeen, Kamaran Palani, Giorgi Babunashvili, Jackson Balisdell.*



## In Venice the vaporetti run on Eni Diesel+

***The City of Venice, Gruppo AVM, Veritas and Eni have agreed a trial of new ecological fuel for all floating public transport vessels. Used cooking oil will be collected from citizens and transformed into green diesel at Eni's Bio-refinery in Venice.***

Venice, 9 March 2018 : Venice is embodying the circular economy as it takes used cooking oil from its citizens and transforms it into biofuel for public transport.

Eni and the City of Venice, together with the AVM Group and Veritas, have signed an agreement to launch a large-scale experimental project based on the use of Eni Diesel+ in part of its public transport fleet. Eni's new fuel is 15% renewable and will be supplied to the Venetian public transport company at the same cost as traditional diesel.

The trial will run for seven months, from 1 April to 31 October 2018. All the vessels of the AVM/Actv fleet, which currently run on traditional diesel fuel, will use the new fuel, the vegetable part of which is produced in Porto Marghera, where Eni has converted a conventional refinery into a bio-refinery. The bio-refinery, the first of its kind in the world, is able to transform raw materials of biological origin, including used vegetable oils and animal fats, into high quality biofuels.

The agreement means that Veritas, the multi-utility company which collects, enhances and processes waste in the Venice area, will, after purification, send the domestic frying oil it collects to the Eni bio-refinery in Venice, facilitating the valorisation of consumption waste.

To test the results of reduction in polluting emissions from Eni Diesel+, a Euro 3 bus was used at Eni's laboratories in Milan. Eni carried out tests in collaboration with and under the supervision of the Istituto Motori of the CNR in Naples, aimed at validating the positive impact of the use of Eni Diesel+. Laboratory tests have shown a reduction in polluting emissions, in particular nitrogen oxides, as well as ultrafine particles, in addition to lower consumption, due to the high calorific value of the fuel's biological component.

For the first time tests on marine engines will be carried out during the experimentation phase in Venice: an engine of a vaporetto running on the new diesel will be subjected to bench tests to analyse the emissions and consumption carried out by AVM/Act (using a test protocol of the Ca' Foscari University of Venice) and by the Istituto Motori of the CNR of Naples for Eni.



## Shell sees potential LNG supply shortage as global demand surges

Feb 26, 2018: The global liquefied natural gas (LNG) market has continued to defy expectations of many market observers, with demand growing by 29 million tonnes to 293 million tonnes in 2017, according to Shell's annual LNG Outlook. Such strong growth in demand is consistent with Shell's first LNG Outlook, published in 2017. Based on current demand projections, Shell sees potential for a supply shortage developing in mid-2020s, unless new LNG production project commitments are made soon.

Japan remained the world's largest LNG importer in 2017, while China moved into second place as Chinese imports surged past South Korea's. Total demand for LNG in China reached 38 million tonnes, a result of continued economic growth and policies to reduce local air pollution through coal-to-gas switching.

"We are still seeing significant demand from traditional importers in Asia and Europe, but we are also seeing LNG provide flexible, reliable and cleaner energy supply for other countries around the world," said Maarten Wetselaar, Integrated Gas and New Energies Director at Shell. "In Asia alone, demand rose by 17 million tonnes. That's nearly as much as Indonesia, the world's fifth-largest LNG exporter, produced in 2017."

LNG has played an increasing role in the global energy system over the last few decades. Since 2000, the number of countries importing LNG has quadrupled and the number of countries supplying it has almost doubled. LNG trade increased from 100 million tonnes in 2000 to nearly 300 million tonnes in 2017. That's enough gas to generate power for around 575 million homes. LNG buyers continued to sign shorter and smaller contracts. In 2017, the number of LNG spot cargoes sold reached 1,100 for the first time, equivalent to three cargoes delivered every day. This growth mostly came from new supply from Australia and the USA.

The mismatch in requirements between buyers and suppliers is growing. Most suppliers still seek long-term LNG sales to secure financing. But LNG buyers increasingly want shorter, smaller and more flexible contracts so they can better compete in their own downstream power and gas markets.

This mismatch needs to be resolved to enable LNG project developers to make final investment decisions that are needed to ensure there is enough future supply of this cleaner-burning fuel for the world economy.



# Eni announces a gas discovery Offshore Cyprus

***The discovery confirms the extension of the “Zohr like” play in the Cyprus EEZ***

*San Donato Milanese (Milan), 8 February 2018:* Eni has made a lean gas discovery in Block 6 Offshore Cyprus with Calypso 1 NFW. The well, which was drilled in 2,074 meters of water depth reaching a final total depth of 3,827 meters, encountered an extended gas column in rocks of Miocene and Cretaceous age. The Cretaceous sequence has excellent reservoir characteristics.

An intensive and detailed data collection (fluids and rock samples) has been executed on the well. Calypso 1 is a promising gas discovery and confirms the extension of the “Zohr like” play in the Cyprus Exclusive Economic Zone (EEZ).

Additional studies will be carried out to assess the range of the gas volumes in place and define further exploration and appraisal operations.

Eni is the Operator of Block 6 with 50% of participation interest while Total is partner with the remaining 50%.

Eni has been present in Cyprus since 2013 and detains interests in six licenses located in the EEZ of Cyprus (in Blocks 2, 3, 6, 8, 9 and 11), five of which are operated.



# MIDDLE EAST

## The roles of Saudi Arabia biggest companies in the reform program Saudi Vision 2030

By Dott. Ing. Mor Nguirane | Chemical Engineer

The Saudi Arabia kingdom is one of the most oil export depends country in the middle east. The impact of oil revenues is estimated up to 80 % of the GDP. Considering the oil price decline, the young growing population and the high un-employment level, the Saudi Arabia cannot even more continue its traditional energy policy and needs several economic and social reforms. Through the Saudi Vision 2030 (SV2030) an ambitious reform program, the kingdom is providing an effective response to above mentioned challenge. The SV2030 was launched in April 2016 with the main goal to reposition the Saudi's economy away from its dependence on oil export revenues and government spending by encouraging private sector participation and promoting non-oil and gas and new established industry.

The national biggest companies Saudi Basic Industries Corporation (SABIC) and SAUDI ARAMCO are all involved in helping the kingdom to reach the goals of the SV 2030. Each of these companies has set several target/policies/projects according to SV2030.

SABIC roles in the SV2030:

- SABIC to provide key training ground for talented Saudi to improve national workers knowledge and skills;
- SABIC join venture with Exxon Mobil for world's largest ethane cracker in Texas: A proposed multibillion dollar investment would include a world-scale ethane steam cracker capable of producing 1.8 million tonnes of

ethylene per year, which would feed a monoethylene glycol unit and two polyethylene units. The proposed project is expected to create thousands of jobs during the construction phase, as well as 600 new, full-time jobs and 3,500 indirect jobs during operations. It is also expected to generate more than \$22 billion in economic output during the construction phase and more than \$50 billion in economic output during the first six years of operations;

•Yanbu Oil-to-Chemicals Project: The plant will be a fully integrated facility to process crude oil into petrochemicals. The project would process about 400,000 barrels per day (bpd) of Arabian light crude oil to make about 9 million tonnes of chemicals and base oils a year, plus 200,000 bpd of diesel for domestic use. The complex would process crude at international prices to make polyethylene, polypropylene, xylene, benzene and other products. The Crude Oil-to-Chemicals complex will comprise of several plants such as: a 400,000-barrels-per-day integrated crude distillation and vacuum unit, a distillate hydro-treater, a vacuum gas oil hydro-cracker, a residual fluid catalytic cracking

unit, a mixed feed cracker and a polyethylene, polypropylene, butadiene and aromatics recovery units. The project will have a technology that allows conversion of crude oil to petrochemical products at the highest ever achieved conversion rate in a competitive and sustainable way.

- SABIC will be also involved to find other opportunities in Asia and the US to access new customers and alternate sources of ethane feedstock.

SAUDI ARAMCO roles in the SV2030:

- SAUDI ARAMCO will provide key training ground for talented Saudis;

•SAUDI ARAMCO to participate in the RAPID project with Petronas in Malaysia, the refinery project with PT Pertamina in Indonesia and other opportunities in the oil and gas supply chain abroad, particularly Asia.

SAUDI ARAMCO has signed Share Purchase Agreement (SPA) with PETRONAS, a \$7 billion investment, which will allow Saudi Aramco's equity

participation in PETRONAS' RAPID project in the southern Malaysian state of Johor. Under the partnership, Saudi Aramco will meet most of the crude feedstock requirements of the refinery, with natural gas, power and other utilities supplied by PETRONAS;

- Yanbu Oil-to-Chemicals Project as above;

- Focusing on upstream oil and gas activity in the Kingdom;

- The Energy Industrial City in the Eastern Province to develop energy-related industries. The city, which will be developed over 50 km<sup>2</sup> of land allocated for energy-related industries, will complete its first phase that covers almost 12 km<sup>2</sup> by 2021. of course, SAUDI ARAMCO will play the key roles.

- King Salman International Complex for Maritime

Industries & Services at Ras Al Khair;

- Initiatives to improve efficiency and localisation of the supply chain through Saudi Aramco's In-Kingdom Total Value Add (IKTVA) program, which aims to deliver 70% localisation of the oil and gas supply chain by 2021 and which must be complied with as a condition to doing business with Saudi Aramco.

The Saudi Vision 2030 presents significant new opportunities for private sector participation in the Kingdom's economy and both SABIC and SAUDI ARAMCO can be expected to be the key drivers in realising this program. Activity in the Oil & Gas sub-sector can be expected to remain high and present many opportunities, particularly with respect to gas project development, the localisation of the supply chain and technology and the development of new and existing industrial cities/SEZs.



## Eni establishes a long-term presence in UAE acquiring a stake in two of Abu Dhabi's offshore producing concessions

*Abu Dhabi (UAE), 11 March 2018:* Eni signed today in Abu Dhabi two Concession Agreements for the acquisition of a 5% stake in the Lower Zakum offshore oil field and of a 10% stake in the oil, condensate and gas offshore fields of Umm Shaif and Nasr, for a total participation fee of about 875 million US dollar and a duration of 40 years.

The signing ceremony was attended by His Highness Sheikh Mohamed bin Zayed Al Nahyan, Crown Prince of Abu Dhabi, and Deputy Supreme Commander of the United Arab Emirates Armed Forces, the Italian Prime Minister, Paolo Gentiloni, His Excellency Dr Sultan Ahmed Al Jaber, ADNOC Group Chief Executive Officer, and Eni's Chief Executive Officer, Claudio Descalzi.

The agreements represent a strategic move for Eni gaining access to a Country with hydrocarbons reserves among the largest in the world.

Lower Zakum is located about 65 kilometers off the coast of Abu Dhabi. The discovery dates back to 1963 and production began in 1967. It has a target production of 450,000 barrels of oil per day. Umm Shaif and Nasr are located about 135 kilometers from the coast of Abu Dhabi and have a target production of 460,000 barrels of oil per day.

Eni's CEO Claudio Descalzi commented: *"I'm very pleased about this agreement creating a larger presence for Eni in Middle East, in line with our expansion strategy, and creating a strong alliance with ADNOC and Abu Dhabi. The stakes in the two concessions give access to giant fields with huge potential and Eni is willing to contribute its best technology to maximize the future production"*.

H.E. Dr Al Jaber said: *"these agreements underline the international market's confidence in ADNOC's long-term growth plans and the UAE's stable and reliable investment environment. They also broaden and diversify our partnership base, while contributing experience, technology, capital and market access."*

*"Our partnership with Eni, and other concession partners, will enable us to accelerate our growth, increase revenue and improve integration across the upstream value chain, as part of our ongoing transformation and build on the foundations that have been laid to deliver a more profitable upstream business. With these agreements ADNOC continues to leverage its 46-year legacy of successful energy partnerships, in support of its 2030 strategy"*.

In both concessions, ADNOC owns a 60% stake. The operator is ADNOC Offshore.

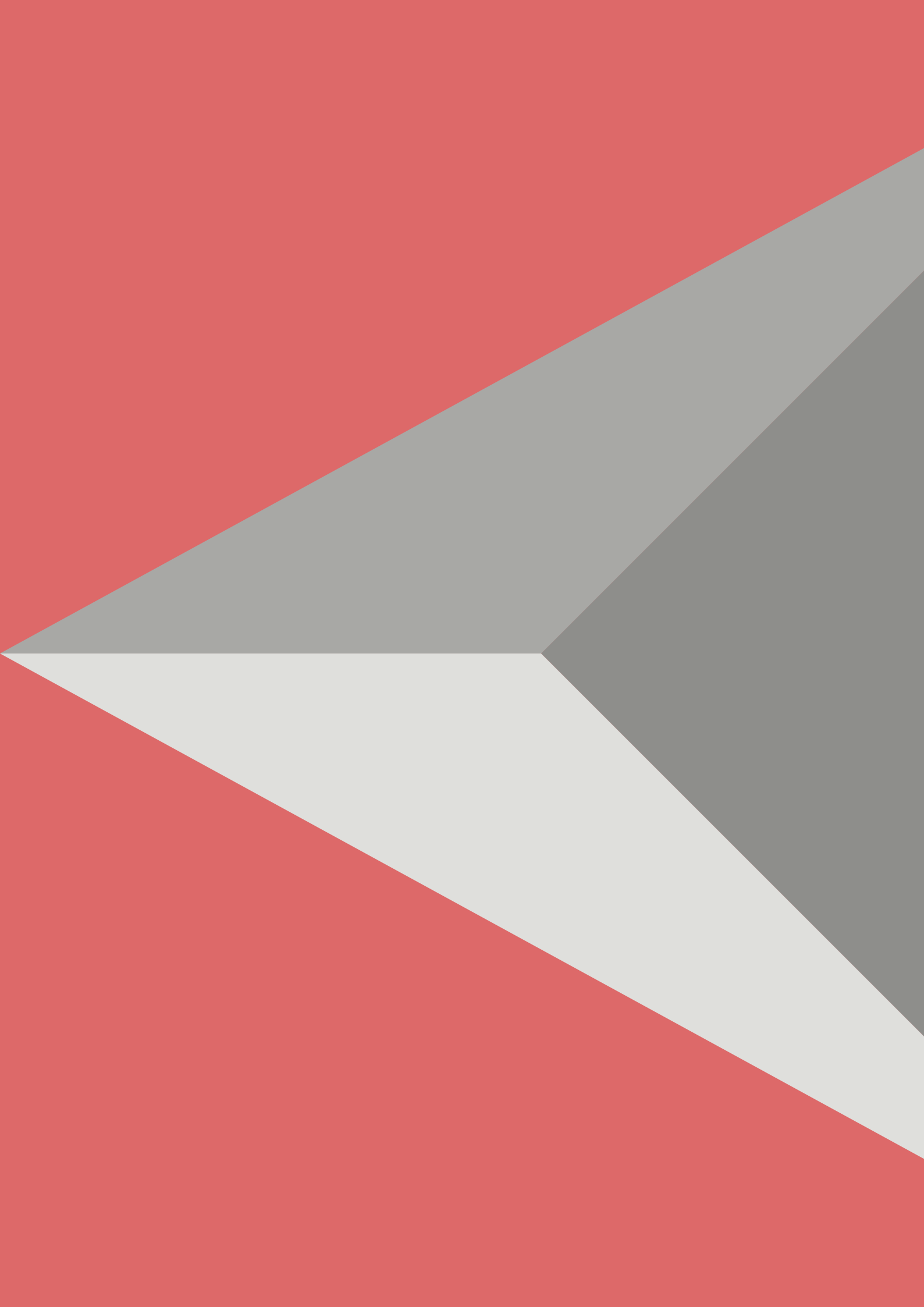


## Eni enters in Lebanon signing two Exploration and Production contracts

*San Donato Milanese (Milan), 9 February 2018:* Eni has signed two Exploration and Production Agreements (EPA) with the Republic of Lebanon covering Blocks 4 and 9, located in the deep waters offshore Lebanon. The agreements are the result of the first International Competitive Offshore Licensing Round launched by Lebanese Petroleum Authority.

The agreements open the way for the exploration of the Offshore of Lebanon and further strengthen the Company's presence in the Eastern Mediterranean, where the Company operates exploration and production activities in Egypt and exploration activities in Cyprus.

Eni holds a 40% participation interest in both blocks. Total is the Operator with a 40% stake, while Novatek holds a 20% stake.







# PLASTIC

High Precision Molds  
and Injection Molding  
Rental Process Cooling

# Carro Luigi



Carro Luigi Srl has been designing and producing injection moulds for thermo plastics since its foundation in 1977. Because the company continuously tries to provide better service for its customers, it now also has a fully equipped moulding department. The goal, then and now, is to provide its knowledge and technical experience for product development: from the idea to its realization. Our engineering staff takes the idea and develops it in continuous collaboration with the customer, creating a product that best satisfies all different kinds of requirements.

We have technologically advanced machinery for producing the moulds and all the equipment our customers need. The engineering department, equipped with the latest generation of CAD/CAM systems, can also create moulds of complex parts fairly quickly.

The machine shop, in direct communication with the engineering staff through a network of numerical control machines, can create moulds up to 1.000 x 500 mm for any type of vertical and horizontal press, standard or special.

The customization department can create all types of injection moulds, including:

- Pilot moulds for initial tests
- Moulds for Babyplast/Boyplast presses
- Hot chamber multi-cavity moulds
- Moulds with mechanical and hydraulic unscrewing
- Moulds for comoulding and overmoulding

Our work ranges from the medical field to toys, household articles to electrical components. Great attention is given to small and medium-sized companies where problems must be solved by a single entity able to fulfil all requests, from design to production and assistance.

In the moulding department we test directly the mould and related documentation is provided. Our warehouse always has over 15 different types of plastic materials available for every use.

An additional high value-added service is the mould maintenance and targeted modifications service. We have always been known for our quick, accurate and efficient service, which increases the value of the moulds over time.



# *CARRO LUIGI* s.r.l.

[www.carroluigi.it](http://www.carroluigi.it)



The ideal partner to realize  
a product from your idea

- ✓ Design and mould-making for injection
- ✓ Prototyping
- ✓ Injection of technical parts
- ✓ Injection of medical devices in cleanroom
- ✓ Certified ISO 9001 and 13 485



**Carro Luigi s.r.l. - Rudiano (BS) - ITALY**

# Brenta Rent



*Il freddo a noleggio*

## **BRENTA RENT - RENTAL mobile units**

chillers with remote monitoring - heat pump units - roof/top air conditioners

Brenta Rent propose itself on the chiller market in Italy and Europe as specialists in cold air for applications in air-conditioning and process cooling, a service company specialist in rental units both for HVAC and process cooling that has been operating for more than **10 years**.

Founded in 2001, Brenta Rent benefits from the experience that its management, gained in over 20 years as manufactures: industrial cooling (chillers), air conditioners (close control unit and roof-top), AHU, pump stations and heat pump units for any application and are specialist in short and / or long-term hire. Our units are equipped with technical **solutions (built-in hydronic kit, lifting-up frame)** and mounting accessories for a fast and secure connection temporary to users.

Experience transformed in the chiller rental market in the form of consultation aimed at competently solving Client's problems. Brenta Rent has facilities in Arzergrande, (Padua - Italy) equipped for the storage, loading and unloading of the chillers. The same Brenta Rent structure also host a testing system to make sure the rented chillers run properly after being returned, therefore, they are always perfectly efficient.

An organized network of expert refrigeration engineers, extended throughout the territory, guarantees on-site service at limited cost assembly, start up, assistance, disassembly within 24 hours of all rental units. We provide a **Service Supervision** 24 h, to monitor and to assist the units from remote. **Experience, efficiency, availability** are the main

characteristics that distinguish our, throughout the years has been increasing, we are proud to be specialized in the industrial process; renting units for the plastics industry.

### **The main advantages of industrial rental chillers are:**

Quality improvement of the plastics articles

No investment of capital

Recover the cost in one year

No depreciation of goods

Use only when needed

Units in perfect working conditions

Maintenance included

### **How can rent?**

Event organizers (air conditioning)

Industries (process cooling)

Wine cellars (winemaking industries)

Building yards

Service managers, facility management

Ice rink installers

Hospital

Hotel

### **When to rent? In case of:**

Breakdowns

Emergencies

Routine maintenance

Extraordinary maintenance

Production peaks

Stand by machine

Temporary use

### **Wide range of machine**

Mobile refrigerating units with reinforced structure and power ranging from 20 to over 1.000 kW

for production of chilled water solution

Cabinet air conditioners

Air-conditioning units from 5.000 to 20.000 m<sup>3</sup>/h

Pump station

Roof-Top air conditioners

Heat pump units

### **Accessories**

Plate-type heat exchangers

Electrical and hydraulic connections with fast coupling

Flexible ducts for air distribution

Tanks for chilled water solution



# BRENTA RENTA



## RENTAL COOLING

**BRENTA RENT** is a service company specialist in rental units both for HVAC and process cooling, that **has been operating for more than 10 years**.

If you are looking chillers for applications in air-conditioning and process cooling, **BRENTA RENT**, with an extensive fleet of high quality equipment (cooling capacity from 30 to 1.000 kW) is the solution.

We provide an organized network of **expert refrigeration engineers**, extended throughout the territory, and a **Service Supervision 24 h**, to monitor and to assist the units from remote.

### ADVANTAGE OF RENTING

- no investment of capital
- no depreciation of goods
- use only when needed
- unit in perfect working conditions

### WHO CAN RENT

#### INDUSTRIES (use process cooling)

- extraordinary maintenance
- production peaks
- stand-by (for no-stop production)
- emergencies

#### WINE CELLARS (winemaking industries)

- process cooling for short periods

#### BUILDING SITE

- temporary cooling

#### EVENT ORGANIZERS

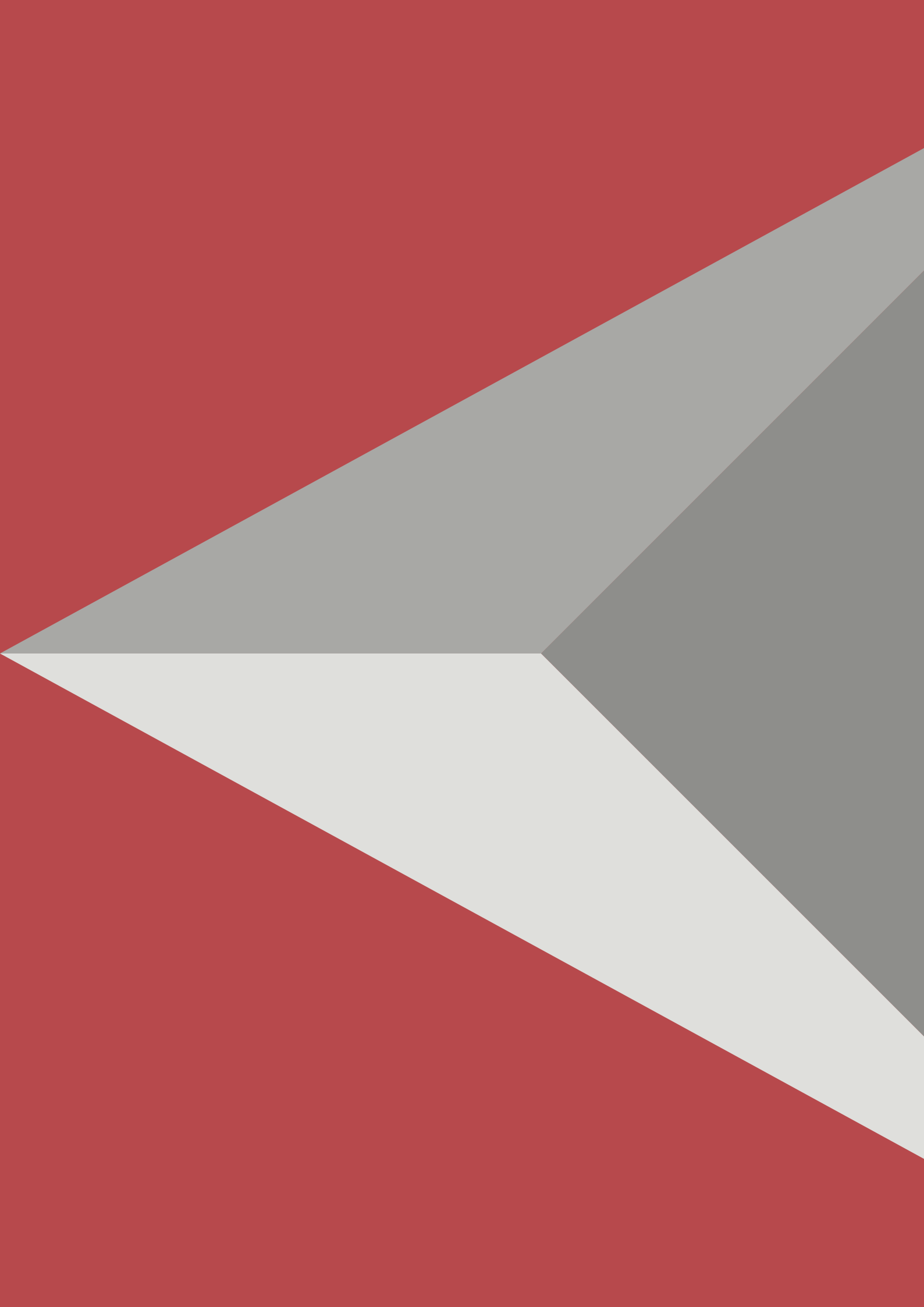
- congress / exhibition
- concert / public events
- sport events / ice rink
- television / cinema

#### HOSPITAL

- routine / extraordinary maintenance
- breakdown
- back up machine in stand by







# EQUIPMENT

Chills and Hot Rolls

Sealing Solutions

Intrusion Detection Systems

Abrasive compounds

Fire-Fighting Equipment

Security Products

Trenchless Technology

# L'Artigiana S.r.l.



## Company activities concern production of:

- rotating pressure cylinders for textiles, plastics and paper plants, and, more detailed, in relation to the function and use, of:
  - heating or drying rotating cylinders working with saturated steam;
  - heating or drying rotating cylinders working with diathermic oil;
  - cooling rotating cylinders working with cooling water;
  - generics rolls;
- pressure vessels for petrochemical, gas and textile industry:
  - tanks also with quick closures;
  - heat-exchangers;
  - body filters;

## Materials employed in construction are:

- stainless steels of group 300 (Aisi 304, 304L, 316, 316L,); EN10028-7 (1.4301,1.4307,1.4401,1.4404);
- quality carbon steels (UNI EN 10028 P265GH, P275NH, P355GH, P355NH; A/SA 515, A/SA 516 in different grades);

## Production usually includes:

- design phase;
- construction phase;
- checking and verification during and at the end fabrication;
- final inspections and tests;

## In particular, construction activity makes use of:

- cutting, assembling and welding department including oxyfuel gas cutting cnc plant and shearing plant, roller levelling, bending, bevelling and welding plants ;
- machining department including lathes, drilling, milling and band-polishing machines;

## L'Artigiana S.r.l. is able to design and fabricate according to the following codes/stamps (under control of the relevant Inspection Authorities):

- VSR, AQUAP, AD MERKBLATT, ASME VIII div.1;
- “CE” Stamp according to Pressure Equipment Directive (P.E.D.) 97/23 CE;
- License D1+D2 “SELO” (according to Safety Quality License Office) for PRC market ;
- “U” ASME Stamp ( work in process-according to Asme Sect. VIII Div. 1);

## L'Artigiana has established a quality system conforming to the ISO 9001 – Vision 2000 including:

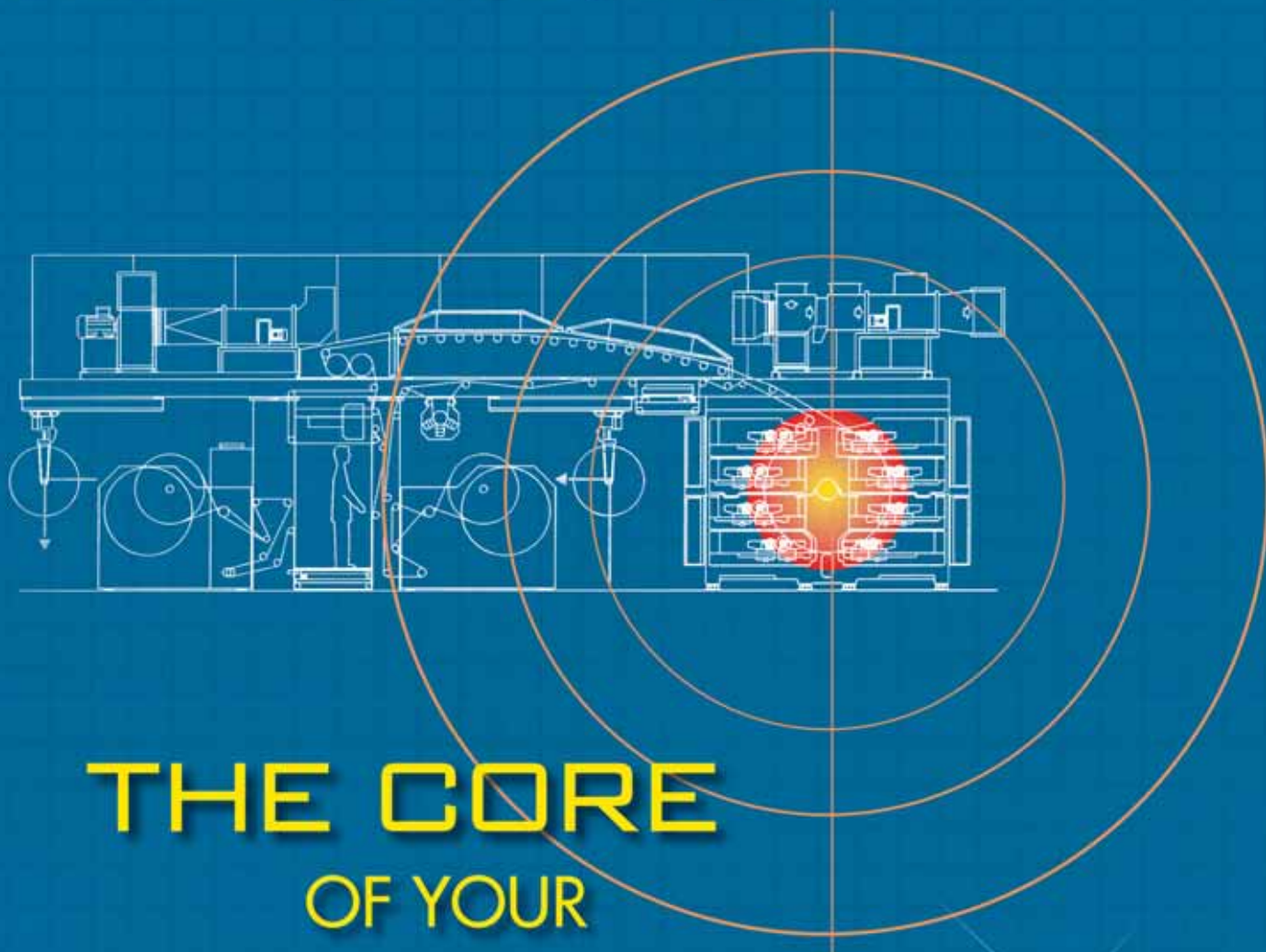
- quality manual;
  - internal arranged procedures;
- Company has established also the certification of welding qualification procedures conforming to the norms ASME IX; UNI EN 729-2 and the respective UNI EN 288, UNI EN 287, UNI EN 1418.
- Working activity take place on a open area of 9800 square meters of which 2500 covered, with 6 overhead travelling cranes from 5 to 25 tons and altitude until 10 meters.

## Company staff is represented by:

- Managing Direction (Dr. Nicola Quaglia and Miss Floriana Quaglia);
  - Accounting Manager (Miss Floriana Quaglia);
  - Technical-Commercial and Purchase Manager (Dr. Nicola Quaglia);
  - Production Manager who is also Welding Coordinator (EWS “European Welding Specialist”) and the Workshop Foreman (Mr. Giuseppe Calini);
  - Quality Control Manager (Miss Sara Lombardi);
  - Work Safety and Environment Manager (Miss Romana Quaglia);
  - workmen as: qualified welders and/or welding operators, assemblers, mechanical skilled workers and employees;
- In case of working peaks, L'Artigiana co-operates with some external companies qualified by itself. Company makes use also of qualified sub-suppliers (SNT-TC-1A and EN-473) for N.D.T.

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OF YOUR  
PRINTING PLANT IT'S OUR WORK!**



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# Sealcore S.r.l.

**sealcore**<sup>®</sup>  
network



**FLUORTEN**<sup>®</sup>  
PTFE and Technopolymers manufacturing



The SEALCORE Network is the result of the union of some entrepreneurial Italian Companies active for many years in the production of customized articles to drawing and technical components for various industrial sectors. The Companies of the SEALCORE Network are active worldwide in the following industrial areas:

Aerospace - Wind - Mining & Earth Moving Equipment - Primary Metals - Pulp & Paper - Naval & Marine - Food - Automotive - Automation - Chemicals - Petrochemicals - Pharmaceutical - Hydraulic, Heating & Sanitary Systems - Dynamic & Static Sealing - Heavy Duty and General Industry.

The SEALCORE Network is made of 12 Companies grouped under 7 main production divisions for a total of 652 employees and 130 million € in sales in the year 2017. About 44 million € have been invested between the year 2015 and the year 2017 in technology, infrastructure, people, training and equipment, and further 21 million € are planned for investments in year 2018.

The lean management and a focus on the service to the customer, in addition to a guaranteed quality Made in Italy are the strength of the SEALCORE Network and its seven main production divisions:

-ORINGONE: Large size and Endless O-Rings in various compounds, produced with an innovative step-molding method ([www.oringone.com](http://www.oringone.com)). Norsok M-710 ed. 3 approved materials available;

-DUCI: O-Rings in various compounds with many approvals and certificates of quality. From the automotive to the hydraulic and the food industry ([www.duciguarnizioni.com](http://www.duciguarnizioni.com)). ISO TS-16949 certified;

-DUEPI: Molds design and manufacturing. Production of Injection molded custom-made articles in various techno-polymers and liquid silicon ([www.duepistampi.com](http://www.duepistampi.com));

-FLUORTEN: PTFE, PEEK and High Performance Techno-polymers. Stock shapes and customized engineered components ([www.fluorten.com](http://www.fluorten.com)). Norsok M-710 ed. 3 and API 6A approved materials available. ISO EN9100:2009 certification for aerospace available;

-F.LLI PARIS: Rotary Shaft Oil Seals and custom-made articles to drawing in elastomer and rubber-to-metal ([www.fpparis.com](http://www.fpparis.com));

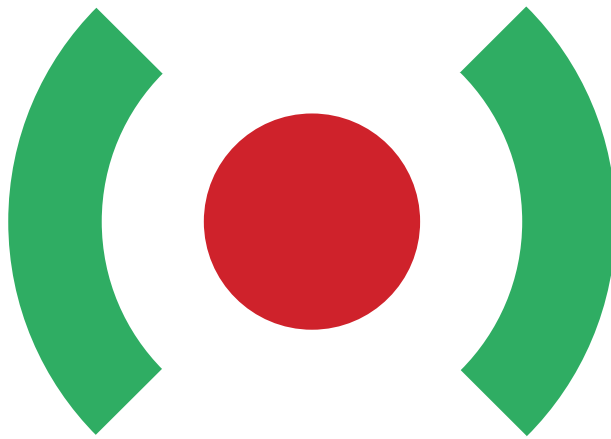
-ATS: Special and large size rotary shaft oil seals for applications in the heavy-duty industry, and custom made oversize parts to drawing ([www.atsoilseals.com](http://www.atsoilseals.com));

-SLIB ITALY: Self-lubricating bushings and washers for valves and other applications in the hydraulic, energy and metal industry ([www.slibitaly.com](http://www.slibitaly.com)).

All this and much more is SEALCORE Network. Discover us under [www.sealcore.net](http://www.sealcore.net) or download our SEALCORE APP from the Google store."



*"Think Sealing  
with our quality  
made in Italy"*



sealcore.net

**sealcore**<sup>®</sup>  
network



**FLUORTEN**<sup>®</sup>  
PTFE and Technopolymers manufacturing



# Politec



### **Made in Italy excellence**

Politec is an Italian company that specialises in the design and production of active infrared anti-intrusion perimeter barriers designed specifically to protect outdoor perimeters.

For more than 20 years, Politec has been creating the most advanced products with high quality and technological standards, combined with ease of use and installation, made entirely in Italy.

Politec has the technology and the expertise to design and manufacture intrusion detection systems, offering the solution for the indoor and outdoor perimeter protection of your property. Over the years we have developed a notable and innovative research and development resource that enables us to meet the requirements of a

challenging and demanding market and to adapt to our customers needs, who are ever more aware of a need of security.

WS SMA - HIBRID SMA - SMA SOLAR are defacto new product lines meeting all the market demands even for the most critical installation environments. Politec is constantly committed to designing innovative products and systems to meet the requests for customised solutions.

A partner who supports you from the design phase: Politec works closely with architecture firms, builders and engineers to draw up technical specifications for public, residential or industrial projects that require intrusion detection systems.

# MANA SMA

## Barrier for protecting large perimeters.

Mana is the new barrier designed by POLITEC for outdoor protection of large sites. MANA can be composed and configured to match the installation requirements and the level of security required: only IR, only microwave, double "dual technology" or "triple technology", where there is a Doppler microwave that covers the dead zone.



HIGH INTENSITY  
LEDS  
VISIBLE AT 250 m

MANA can be connected and  
managed remotely via RS485 BUS

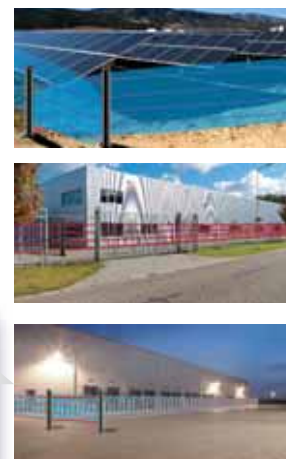
### MANA DT3 triple technology

This version has a Doppler microwave  
installed inside the column to protect the  
blind zone.

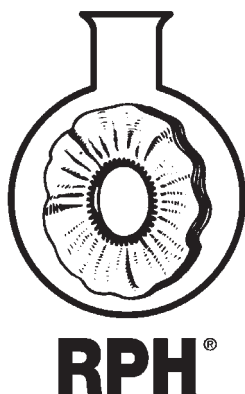
## Performances

- Outdoor range 250m
- Random delay
- Parallel or crossed beams
- Fog disqualification with dedicated output OC
- Random AND or bottom two beams activation
- Exclusion of the first beam or the lower two beams
- Wired or optical synchronization

- Antimask detection with dedicated output OC
- Crawl detect on bottom beam
- Adjustable response time
- optical synchronization
- Exclusion Leds
- RS485 connection (only with wired synchronization) with the Adebuss system
- Dimensions 25 x 20 cm - H 1,2 ÷ 4 m.



# Roditor & Philadelphia



## History

Roditor & Philadelphia is today one of the most important manufactures of products for robotic and manual polishing and metal surface treatment in the world.

The historic company, Confezioni Dischi Roditor, was born in 1958 in Verolanuova with the objective of supplying the local customers in the metal polishing.

During the years Roditor & Philadelphia gained greater stature and popularity on the national market, and the products began to be used by a growing number of companies.

At the beginning of the 70's, to satisfy the requirements of the customers, Roditor & Philadelphia decides to complete the production range of buffs introducing the production of the abrasive compounds, with the assistance of an expert manufacture who was operating into the local market. In 1972, the partnership between Mr. Giovanni Pugnetti and Confezioni Dischi Roditor, forms the company Philadelphia Chemical, the name took its basis from the street the company was set up.

In 1980 the merger between Confezioni Dischi Roditor and Philadelphia Chemical created Roditor & Philadelphia birth. In 1991 Roditor & Philadelphia put together the production department of buffs and abrasive compounds and in 1999 combine

the production, the management and the sales offices into the same facility located in the present headquarter in Via San Donnino 13 Verolanuova (BS).

In 2002 the company obtains the Certification UNI EN ISO 9001 for its Quality Management and in 2016 the certification OHSAS 18001 for its Occupational Health and Safety Management System.

Today Roditor & Philadelphia solutions for the surface treatment and metal finishing are used all over the world.

## Philosophy and quality

The continuous and steady research, the technical improvements of our equipments, the use of high quality raw materials are the basic principles of the company philosophy.

Thanks to this way we help our customers to reach operational advantages, such as the upgrading finishing, the progress of output results, the cost optimization, the working cycles simplification.

The increase of research and development activities; the raise of the standard production and the level of customer's satisfaction; the investment in the production and storing areas; the investment in new and up-to-date machineries are the main concepts of the quality policy of our company, which is oriented to the success of our Customers.



**RPH®**

## *Metal Cleaning and Industrial Polishing*



*ventilated buffs*

*Our production range includes liquid and solid abrasive compounds  
for polishing, finishing and mirror finishing operations of metals*

***a wide range of production***

*checkout our website*

**[www.roditor-rph.it](http://www.roditor-rph.it)**

**Roditor & Philadelphia s.r.l.**

*Via San Donnino, 13*

*I-25028 Verolanuova (BS) ITALY*

*Tel. +39.030.931211*

*Fax +39.030.931768*

*E-mail: [info@roditor-rph.it](mailto:info@roditor-rph.it)*



# Di Marca



### **For your safety, we will fish in a barrel**

Di Marca Service represents today in Italy a point of reference in the field of work safety against fires. Founded in 1973, the company has an experience, professionalism and a staff that includes experts who provide assistance for every situation.

We believe that safety represents an important value for our lives and for our economic welfare.

For this reason the protection of life and of what has value is very important for us. We achieve this purpose with innovative and sustainable ideas. Our fire fighting technologies always offer maximum reliability, with particular attention to respect for the environment.

To support our customers, we offer integrated and innovative systems and services. We offer complete and innovative solutions, designed for every need. We can satisfy requests in different areas: OIL & GAS, Power Generation, Refineries, Airports, public and military buildings. Our company has an extensive catalog of products and services in the field of fire

safety. We offer technical and commercial advice for the installation of fire-fighting systems and for the prevention of fires and accidents with a careful surveillance service. We are also a center specialized in training qualified personnel in the field of fire safety.

With the deep experience and high specialization that we have, our company offers design services for special fire-fighting systems, with the most important international standards. The field of application concerns the protection methodologies with sprinkler systems, water mist, hydrant networks, monitors, gas extinguishing systems, foam, dust, fire detection systems and alarm communication.

Di Marca is a constant presence on the national and international territory: 5 branches in Italy, 1 in Croatia and 2 in Africa allow Di Marca Service to have different skills in relation to the different territories. For your company, be sure: believe in Di Marca.



## YOUR SAFETY. OUR MISSION.

**DiMARCA** Service is an important point of reference in workplace safety against fires, on all national and international regions.

We have an extensive list of products and services about fire protection.

We offer technical and commercial advices in fire-fighting systems, especially to avoid fires and injuries through a supervisory system.

We also are a training center for an highly qualified personnel in the security area.

# Cometa



**CoMETA S.p.A. operates in the field of electronics and mechanics applied to security since 1986.** Today offers a wide range of solutions: professional electric locks, security portals with interlocking doors system, emergency exits certified for escape routes, armored doors, revolving security doors, swinging-sliding portals, access control systems with badge readers, biometric acquisition systems (fingerprint, face detection), metal detectors, values protection systems, safe room management systems, security shutters, etc.

The CoMETA Group currently consists of five companies: **CoMETA SpA** (Holding Company), **CoMETA FRANCE**, **CoMETA Group SRL**, **CICOS SCRL**, **ISON SRL** (the group's manufacturing company).

CoMETA products find application in many sectors: **Banks, Government, Industries, Military sites, Ministries, Museums, Schools, Airports, Data Centres, Prisons, Shopping centres, Civilian areas**, etc. **CoMETA is also expanding to foreign markets**, thanks to the contribution of new partnerships in Africa, Middle Est and Asia.

**Quality First: concrete customer care and product's high quality**, that is how **CoMETA** became one of the leading international producers for security & safety solutions. We firmly believe in these two values and they helped us to gain high level of respect and trust from customers, collaborators and suppliers.

CoMETA designs, produces, assembles and manages all its products and solutions directly in its Florence Headquarters. **CoMETA products are 100% Made in Italy.**

CoMETA achieved important international certifications: ISO 9001, OHSAS 18001, ISO 14001. All the certifications constitute a valid reference point for those who demand high performance, quality and reliability. All CoMETA products are always tested by an internal department, but for getting resistance certifications are also tested by external Qualified Organizations.

For Further information:

**Web site: [www.cometaspa.com](http://www.cometaspa.com)**

# CoMETA

Reliable Security



Professional  
Electric Locks



Security Portals with  
interlocking doors system

*from Italy  
with passion!*



Armored  
Security Portals



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*since 1986*

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Headquarters in Paris, France



[www.cometaspa.com](http://www.cometaspa.com)



# Laspe srl



LASPE was founded in 2003 with the sole purpose of operating in the NO-DIG technology industry. Therefore, relying on technical personnel and skilled workers, through the years it has proceeded to equip itself with advanced tools in order to operate with reliability and professionalism in this field.

The essential aim of LASPE is to assist companies which have pre-existing NO-DIG projects, so that the aforementioned can be carried out without interfering with the remaining elements or cause delays on the main subcontracted order.

Various projects have been finalised with great results in Italy, collaborating with renowned companies, both National and International. Our company is specialized in Trenchless technology suitable for the installation of new pipelines, which allows underground crossings of road tunnels, railways, airports, waterways, areas

with environmental protection ext... with the use of different materials, such as steel, vibrated reinforced concrete and GRP; implementing the previously quoted innovative technologies like Pipe Ramming and/or with the use of the traditional ones as Pipe Jacking, Auger Boring Method, Horizontal Directional Drilling and Jacked Box Tunnelling. In addition, LASPE also performs existing pipe rehabilitation with or without the employment of the existing pipe system.

In this case, the laying of new pipes can occur with the use of materials such as steel, cast iron or polyethylene.

Finally, LASPE is sponsoring seminars and conferences, together with other specialized companies to ensure that these technologies are widespread and applied by planners, government agencies, individuals and businesses.

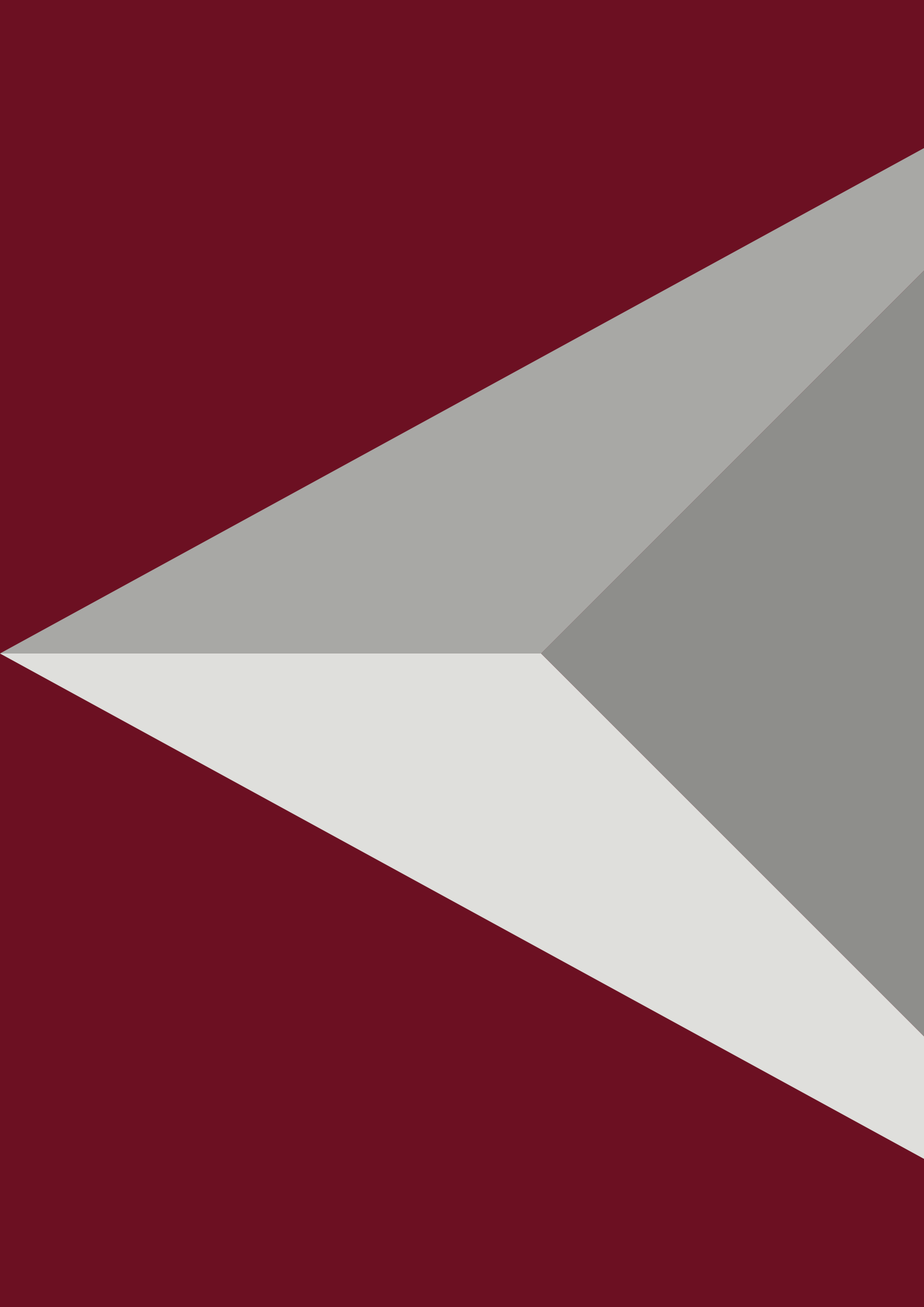




**PIPE JACKING**  
**HORIZONTAL DIRECTIONAL DRILLING**  
**PIPE BURSTING**  
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# MACHINES

Forming Machines

Valves

Roof Wind Ventilators

Chips Removal Tools

Machine Tools

Vertical Lathes

Gear Pumps

Dispensing System

# Carlo Salvi S.p.A.



### COMPANY HISTORY:

The company was founded in 1939 by Mr. Carlo Salvi, with the purpose of building mechanical descenders. In the late 40's started the production of flat die thread rollers; shortly after, the production of head slotter machines for the screw market was begun. In 1952, the first single die - double blow header to produce screw blanks was built, with an immediate success.

The first market which appreciated its technical qualities was Germany, overcome by the U.S. market only in the middle 70's.

In the early 70's was introduced a new line of headers for the semi tubular and fully tubular rivets. These machines allowed to produce up to 600 rivets per minute, with very low production costs. In the 80's new headers were added: two die four blow and progressive.

Since the 90's have been introduced ranges of progressive headers with 5 and 6 dies for the production of parts with particularly complex shapes, included tubular rivets, capable of handling wire from 1,2 up to 24 mm. in diameter.

Presently the company is developing an its own technology, not only for the cold heading but also the hot heading, using induction processes capable to heat the wire up to 900 °C.

This technology opens new horizons to Carlo Salvi for the heading of materials which can not be formed by cold process, like titanium and other special alloys especially used in the aerospace and automotive industry.

As of April 1, 2016 Carlo Salvi S.p.A. is joining forces with Hatebur Umformmaschinen AG. This acquisition represents for both companies a great potential and will allow Carlo Salvi S.p.A. and Hatebur to be a strong and powerful supplier of innovative and advanced cold, warm and hot forming solutions and services to the market.

### MANUFACTURING PROGRAM:

#### **1-die 2-blow headers**

This kind of headers allows to head up to six diameters of material and offers the possibility to produce components with quite complex shapes. Main features: high speed and precision to head screws, semi tubular rivets even with a shouldered shank and tubular rivets, granting a remarkable tool life and an easy maintenance.

#### **2-die 4-blow headers**

These headers allow to obtain components with complex shapes which cannot easily produced on multi station machines, where it is necessary to transfer the part several times, because the shank is very short or the head too big. Components which can be obtained: screws, shaped semi tubular rivets and tubular rivets with large head.

#### **Progressive headers**

The progressive headers allow to produce with high precision special parts with very complex shapes, which are used in various fields of the market and particularly in the automotive and in the aerospace industries.

Since 2012 Carlo Salvi is investing in men and equipment to rebuild machines by its own but even by customer's facilities: a new service that is gathering a big success and interest.

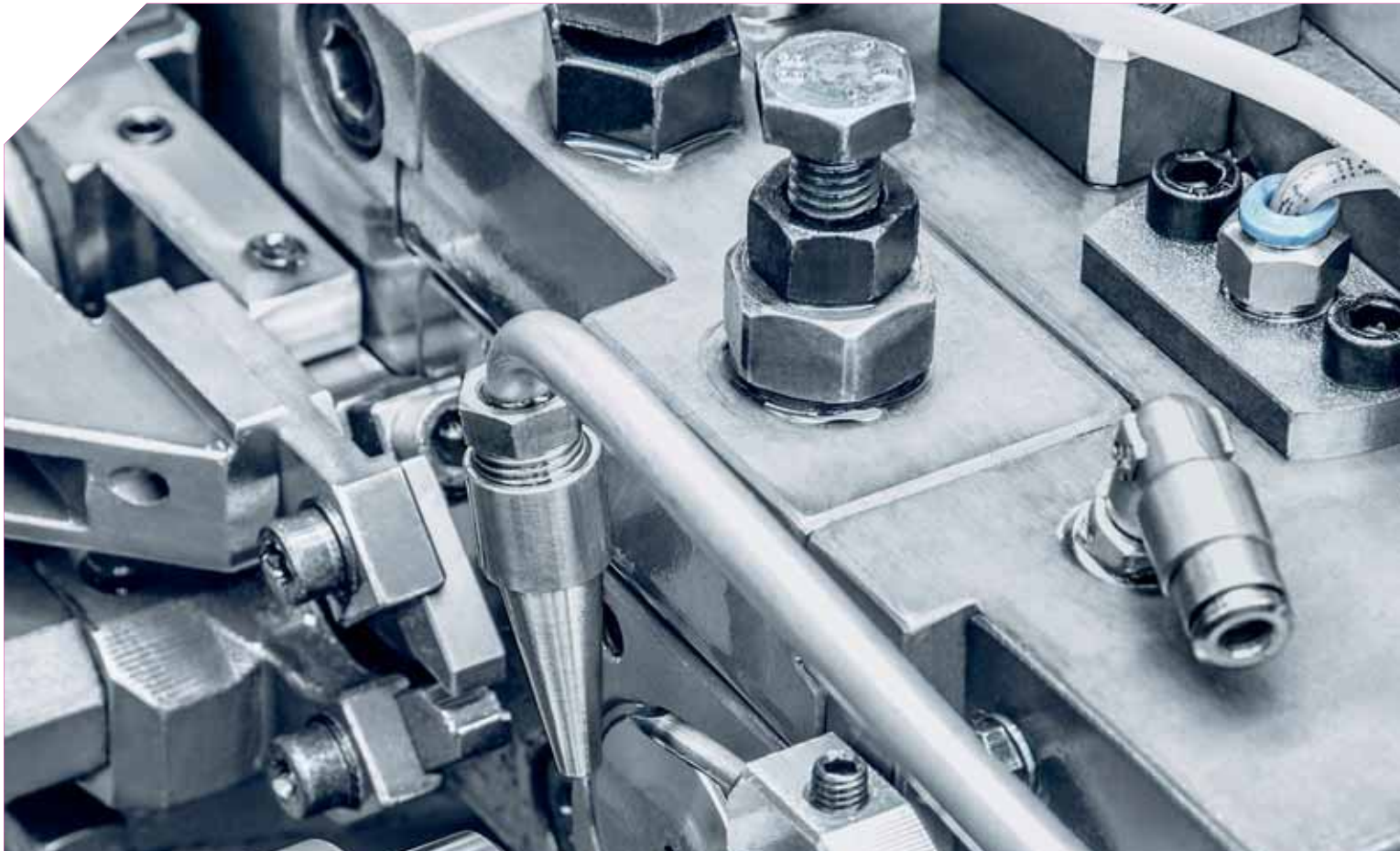
### FACILITIES:

The administrative offices are located in Milan, since the year of the foundation, 1939.

The management, accounting and commercial offices as well as the development department, the production area, the assembly room and the spare parts warehouse are in Garlate.

At the end of 90's Carlo Salvi USA was established in Toledo, Ohio, with the aim to better serve the customers of North America, Canada and Mexico. Since April 2011 is operating the Chinese subsidiary, Carlo Salvi (Guangzhou) Machinery and Equipment LTD. Since April 2013 is fully operative the Uk branch, Carlo Salvi UK Limited, located in Birmingham area.





Carlo Salvi CS 001

## 1 die - 2 blow header for highest precision and productivity

The perfect machine for the production of screw blanks and solid parts. Small quantities as low as 5'000 parts are profitable due to the minimized set-up time.



**carlosalvi@carlosalvi.it**

Please get in touch for any questions you may have.

For technical information and brochures,  
visit [www.carlosalvi.com](http://www.carlosalvi.com)



### Highlights

**Suitable for the heading of very small parts**

— Up to 660 parts per minute

— Wire diameter from 0.6 mm up to 3 mm

— Equipped with Toggle Action system for smooth forming process

— Complete with P.K.O.'s on both punches





Effebi is an Italian manufacturer of ball valves in steel, stainless steel and brass. With 20 years' experience, the company offers a vast range of innovative yet proven ball valves. Thanks to an integrated production process which begins with the careful selection of raw materials, Effebi has become a leader in the Italian and international markets and a reference for valve quality, reliability, competence and customer care. Since June 2002 Effebi has manufactured all its valves according to the requirements of the European Directive 97/23/CE and, where necessary the valve bodies are CE marked. Effebi offers customers all the most important certificates and declarations relating to ball valves, including DVGW (for gases and drinking water), TUV, TA-LUFT, Fire Safe, Atex, declarations of conformity, FDA approvals for seats and other approvals (f.i. DNV or Lloyd's approved foundries). More than 50 certifications and approvals demonstrate the quality and reliability of the Effebi products. One of the biggest strengths of Effebi is the possibility to produce and customize the valves according to the customer's demand, along with highly trained staff, able to give to customers the right technical support and one-day answers. Effebi ball valves are suitable for all the most important industrial applications. The Effebi range includes manual and pneumatically or electrically actuated 2- and 3- way ball valves with threaded, flanged and welded connections. Materials of construction are carbon steel A105 or LF2. Stainless steel includes AISI316, AISI316L and AISI304. Also a very wide range of technical ball valves in brass is available, manual or with actuator, as well as cast iron

butterfly valves. The choice of pressure ratings is very wide, according to the execution from PN10 to PN100 for the wafer, split-wafer and flanged types and up to PN420 for the threaded and welded types. Temperature range goes from -40° to +260°. Among the new products, the new range of ball valves in the pressure classes PN100 and ANSI600 in the wafer and split-wafer execution. The sizes go from DN15 to DN100. The materials available are A105, LF2, AISI304 and AISI316. Under development are also the ANSI600 flanged ball valves. A new range of threaded or flanged three way valves with 4 seats in Aisi316L, manual or with Iso top is also available. Special executions include: standard painting treatment, special painting treatment according to customer's specifications, zinc plating treatment, degreased valves for oxygen, integral seats for the food or paint industry, special valves' marking, tag numbers or packing according to customer's specifications. The possibilities of special products also include valves with heating jacket, flanges' surface finishing according to customer's specifications, spindle extensions, locking devices, gear boxes, mounting kits according to customer's actuator connection, raw materials from DNV or Lloyd's approved foundries.

The Effebi range also includes a very wide range of electrically or pneumatically actuated ball valves, in brass, steel and stainless steel, including accessories like solenoid valves (standard or ATEX), limit switches (standard or ATEX), electro pneumatic positioners, pressure reducers, emergency gear boxes and emergency batteries. Also compact electric actuators for special executions can be offered.



# FOLLOW THE QUALITY



**EFFEBI**  
MADE IN ITALY



UNI EN ISO 9001: 2008



**EFFEBI**

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Atex   
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ISO 14001: 2004



# RT Rappresentanze



The MTM srl ita ( [www.mtm-group.it](http://www.mtm-group.it) ) works in the electronic engineering field developing and proposing solutions in the most diverse sectors. Our team is composed by professionals whose experience has improved company knowhow in the following branches:

- Motorways
- Industrial Automation
- Railways
- Aerospace

The most qualified suppliers on the market collaborate with MTM for the products development and production. The CE certification of the Roof Wind Powered Extractor was carried out by TESEO spa of Druento (TORINO), one of the most important Italian certification authority. The Roof Wind Powered Ventilator we are proposing is the result of a long and challenging development project whose target was the realization of a reliable and silent product for air extraction, at a fair price in relation to its performances and to quality of the used materials. Our roof fans (solar and magnetic) are part of the ElectroAspiroMatic lineup.

The ElectroAspiroMatic offered in three versions:

**240FTV** with photovoltaic panel for use in very sunny sites but with poor ventilation. It's the first solar and magnetic roof air vent.

**240BQ-INOX** suitable for air exchange and smoke extraction.

**240BR-INOX** suitable for round flues

MTM products, and these roof turbine ventilators, are manufactured in order to fulfill the following characteristics:

- Max reliability
- Long life

- Mechanical strength
- Suitable materials use in the most rigid environmental conditions
- Optimal component sizing
- Strict tests
- Easy maintenance
- Adequate price to product quality

Something more:

The market rewards the quality.

We are not looking for general consumers; we prefer to give loyalty to customers.

Less maintenance means more reliability.

The customers know what they want, inquire, make comparisons.

It is not always true that the customer prefers the most cheap product. The customer is looking for reliable and enduring products.

The best publicity is the quality of the product and not the marketing campaign.

It is impossible to supply a high quality product at a risible price.

The high quality components are expensive. The use of low quality and too cheap materials result in missing costumers.

The use limits of the normal roof wind ventilators in the absence of wind are well known. No wind, no air exchange. Furthermore, when the wind is not constant, the air exchange is variable without any assurance of the flow.

The Electroaspiromatic solves this problem and cancels the lack.

All our ventilators are suitable for hot fumes extraction and can be used to increase the draft of fireplaces. For further information:

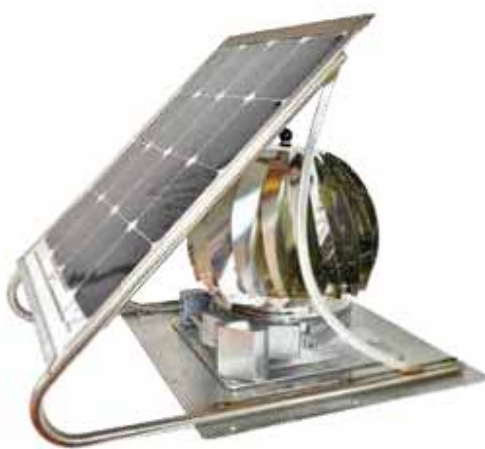
**[www.mtm-group.it](http://www.mtm-group.it)**



# Roof Wind Powered Ventilator



240BQ-INOX  
Model



240FTV-INOX  
Model



240BR-INOX  
Model

*The most qualified suppliers on the market  
collaborate with MTM for the products  
development and production.*

# BFT Burzoni



### **BFT Burzoni, constant innovation!**

For more than 40 years, BFT Burzoni has been operating successfully in the machining mechanical operations and tools market. The philosophy of the company from Piacenza is to continue investing heavily in its product range. "BFT Burzoni - tells Arianna Burzoni, daughter of founder Alberto Burzoni and on his side in managing the company - was born in 1974 as a small business reality and since its inception the intent has always been to provide the best service possible to clients. That's why we have tried to create a complete, reliable and forefront utensil program. "

BFT Burzoni is a constantly evolving company and introduces every day new products to offer to its customers. The company has achieved remarkable results from the two innovative grades of hard metal CCD40 and CCT35, which are known for the processing of demanding materials such as stainless steels, titanium, titanium alloys, Duplex and Superduplex (Hrsa). They guarantee a high degree of toughness under conditions of extreme temperatures, allowing high cutting speeds and longer lives, as well as absolute reliability during milling and turning operations.

"Competence is indispensable - says Alberto Burzoni, BFT owner - but two other important aspects are the attention to quality-price ratio and the a ready delivery service in less than 24 hours, which we can guarantee to our customers thanks to an enviable warehouse, our flagship flower. Our

sales philosophy must always be customer-oriented: to ensure a full service by placing first the highest customer satisfaction, which must be supported from planning to implementation of their projects, without neglecting any details. "The goal of BFT is therefore to continue the development course undertaken in these years, both commercial and technological, in order to constantly play a leading role in the tool market. BFT aims is to expand its range of product lines so that they can cover an increasing number of types of mechanical machining.

For the year 2018 the BFT Burzoni is introducing a lot of new products and projects. Two good example are the new line of turning inserts Gold Panther and the innovative development of a high feed indexable milling cutter, the TJ401. The new line of hard metal turning inserts called Gold Panther (GP, featured in a gold-plated coating that will also keep track of the wear of the insert itself) included new geometries and new innovative coatings complement the already proven Black Panther line. In this way, the BFT further expands its range of possibilities in all application of turning machining. The new TJ401 is a milling cutter with a specific insert (SDMT12 and SDMT16) specifically developed for high feed operation of hard materials with large chip volume removal. The metal quality and the innovative coating of the inserts ensure an efficient and long tool life.

The strategic direction of "BFT Panther" is not only to consolidate its position within the Italian market, but also intends to increase its commercial flow to foreign markets. "Even so, 90% of our turnover is achieved in the Italian market - says Arianna Burzoni - we are already present in some foreign markets such as Brazil, Germany, Spain, Hungary, Poland, Romania Croatia and Slovenia. Certainly, BFT can boast points like the quality and professionalism of the service it offers to its customers. It will be the task of BFT's commercial network to face the great challenge of expanding the foreign market share with the utmost enthusiasm. "





45.000 ITEMS  
10 MILION PIECES  
READY FOR DELIVERY



*We are ready,  
and you?*

[www.bftburzoni.com](http://www.bftburzoni.com)

# Famar



FAMAR. A NEW WAY OF THINKING

### ***Turning machine: ERGO INFINITY***

**FAMAR** strongly believes that innovation is a fundamental ingredient to be a top player in a very competitive market such as that of turning machines constructors.

Thanks to the studies based on our customer's needs, the "Infinity" version of our turning machines was created: a lathe that is able to guarantee high performance and increase the efficiency of a production cycle.

With this option, the worn out tool is changed at the same time the machine loads and unloads a part, so that the typical time required to change a tool manually is removed. Therefore the cycle time is not influenced by the tool change, ensuring a very high efficiency of the machine. This results also in a very low production of scrap parts during tool pre-setting operations.

The machine presents an external storage for pre-set sister tools, which is accessible also during machining, without any risk for the operators' safety.

The tool storage can hold up to 45 tools and it's fit

for sister tools but also for different tools in case of different productions.

To produce with our "Infinity" solution means saving 15 to 20% in tool change efficiency.

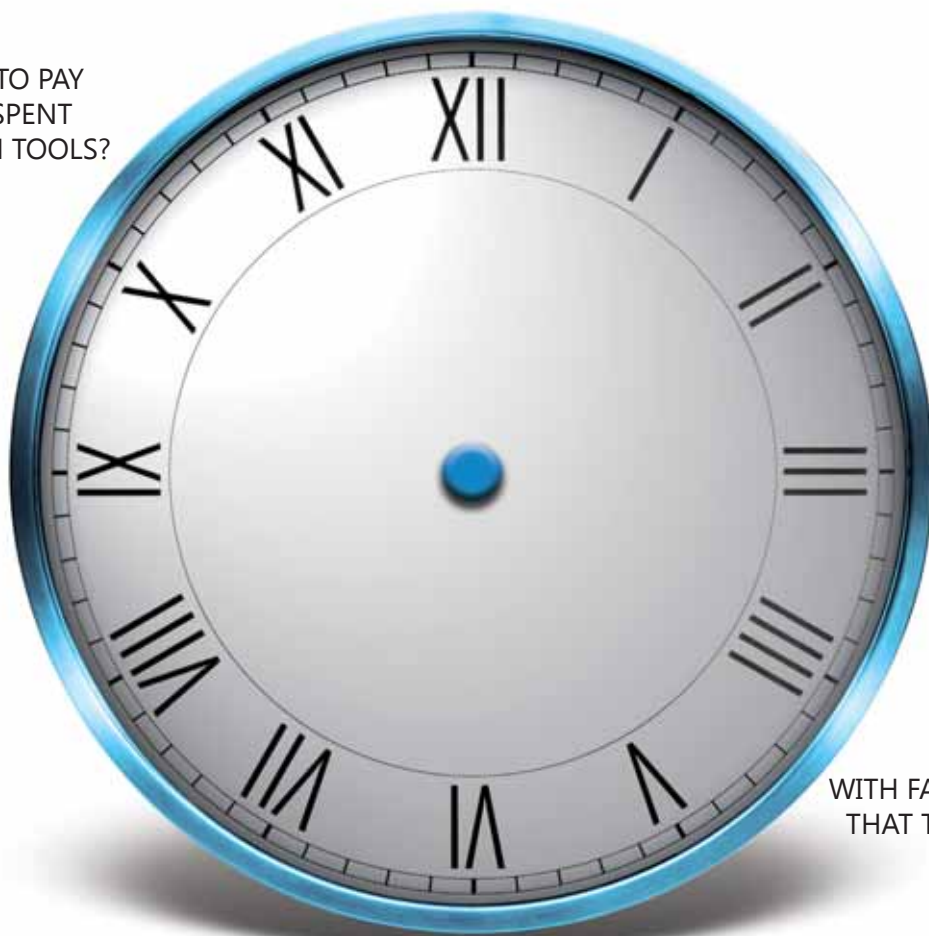
Each Famar machine is also characterized by a very special flexibility, which allows you to incorporate different operations during the cycle time: milling, teething, drilling and so on.

There is not only a focus on turning, but emphasis is given on key points that are part of Famar's vision: better precision on machined parts, smaller space requirements and unmatched speeds.

Forty years experience in the field of machine tools allows Famar to offer a customized solution, according to the customer's needs.

FAMAR cooperates to the development of the best possible production system for every kind of request, following the customer step by step during the entire project, from the definition of the machining process to the best solution for its realization.

WHO IS GOING TO PAY  
FOR THE TIME SPENT  
CHANGING WORN TOOLS?



WITH FAMAR **ERGO INFINITY**,  
THAT TIME DOESN'T EXIST.

FROM 1973 WE WORK TO DESIGN AND BUILD THE BEST TECHNICAL SOLUTION  
FOR EVERY KIND OF MACHINING. TODAY, WITH **THE EXCLUSIVE INFINITY OPTION**,  
THE TYPICAL TIME REQUIRED TO CHANGE THE TOOL MANUALLY IS REMOVED.



Scopri di più su



With **Famar Ergo Infinity** the machining time is infinite and the typical time required to change a tool manually is removed. The machine is able to reach almost 100 % of its efficiency.

Ergo Infinity presents a very **special external tool storage** made for the pre-set sister tools or for tools for different productions, accessible also during machining operations without any risk for the operators' safety.

The dedicated Famar software guarantees a very simple management of worn tools and tool change.



+39 011 9367186



FAMAR. A NEW WAY OF THINKING

# IMT Intermato



IMT Intermato S.p.A. started in 1983 its activity of design and construction of vertical lathes for the machining of aluminum alloy wheels.

Over the years, the Company has constantly evolved with the introduction of the machines series for mechanical machining in general and with the entry, first in the Asian Market and then in the global one. Production and turnover have constantly grown as well as the production site. Currently, IMT Intermato S.p.A. spreads over an area of about 15.000 square meters, has a turnover of around 50 million Euros per year and employs 120 people in the various departments, as well as specialized collaborators.

Mechanical, software, electrical and plant design, production, assembly and testing are all phases carried out in our headquarters in Crosio della Valle, while other Companies, always on the Italian territory and of which IMT Intermato S.p.A. it is the mother company, realize ancillary machining and some key components. Our products are therefore fully made in Italy.

The international presence is guaranteed by our service and spare parts points, directly managed by

us (Indonesia and Germany) or through our close collaborators, especially in Shanghai, China, where we have a long-standing co-operation with highly qualified Technicians and spare parts warehouse. We are therefore able to operate quickly on the five continents, both with reference to maintenance interventions and for the supply of spare parts.

Today IMT Intermato S.p.A. is a Supplier of complete turning solutions, able to assist the Customer in the definition of the technical specifications and to propose a range of tailor-made products, by ensuring at the same time high productivity with high quality standards. Although maintaining its core business in the field of light alloy wheel machining, the production of IMT Intermato S.p.A. vertical lathes it is aimed at the various production sectors: automotive, aerospace, railway, heavy mechanics, oil & gas, nuclear and energetic fields, with solutions for pieces from a few tens of millimeters of diameter up to 6 meters and more. The common denominator of all the machines is the philosophy of IMT Intermato: turnkey solutions specifically designed for the Customer, which allow the achievement of high production objectives combined with high quality.





MADE IN ITALY

# WE PROVIDE PROVEN SUCCESSFUL SOLUTIONS

VBM30.36



## AUTOMATIC LINE



**IMT INTERMATO** is a leader company in the production of modular vertical lathes for the manufacturing of details with a diameter ranging from 100 to more than 7000 millimeters. Details always different, but united by one only great philosophy: the search for the optimal solution for every kind of production.

**IMT Intermato S.p.A.**

Via Caregò, 14 - 21020 Crosio della Valle (VA) - ITALY - Tel. +39 0332 966110 - Fax +39 0332 966033 - [commerc@imtintermato.it](mailto:commerc@imtintermato.it)

### HIGH SPEED MACHINING LATHES



"JW" SERIES



"RW" SERIES



AUTOMATIC LINE  
FOR AUTOMOTIVE

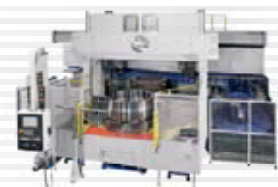
### VERTICAL LATHES <1400



"VL" SERIES



"S" SERIES



"P" SERIES

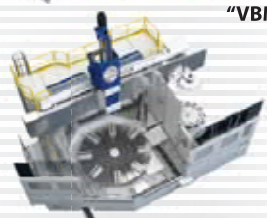
### VERTICAL LATHES >1400



"NTM" SERIES



"VBM" SERIES



[www.imtintermato.com](http://www.imtintermato.com)



# Ultra Pompe



## ULTRA POMPE Srl

ULTRA POMPE S.r.l., founded in 1957, was one of the first Italian firms that completely design, produce and test external gear pumps in its own workshops. ULTRA's success is based on satisfying customer requirement through efficient manufacturing and by providing quality products and competitive pricing. ULTRA POMPE know how and experience has been handed down from one generation to the next. Due to this reason they have accumulated a lot of direct experience in the last sixty years. ULTRA POMPE maintains a large inventory of standard spare parts and unassembled pumps in its own stock, allowing us to quickly provide complete pumps or replacement spare parts for customer emergency. Compact enough to quickly provide innovative custom designs, but large enough to manufacture high volumes in a short time, Ultra Pompe invests every year in new technology for the automatization of its production lines. At today, each machinery in our factory has at least one automatic backup in addition to one controlled manually. This allows us to avoid any production delays caused by machinery crashes and to meet promised delivery. ULTRA POMPE carries on in its own premises the whole of mechanical processing, gear cutting included, thus achieving an unparalleled quality standard of the finished products. Continually updating out technology and products designs allows ULTRA POMPE to provide the right gear pump or system for a variety of processes and liquid, semi-fluid or emulsions. Using of UNI/ISO/ANSI/DIN/MEC dimension significantly increase the possibility to meet all customer requests.

### GEAR PUMPS – EASY VIEW

These gear pumps are used from 1 up to viscosity 1'000'000 cSt. In the operating scheme is shown how the rotations of the gears displace the product from the inlet side to the outlet side. The entire operation can be resumed in three main phases: Suction, Delivery and Discharge. Into a gear pumps the two rotors, that are respectively called driving and driven rotor, are seated in a body that round them from all side. On the both sides of the mesh zone of the teeth there is a hole in the body of the pump. These holes are respectively called suction and discharge. Spinning the rotors the fluid is moved, through the chambers between the teeth of the rotors and the body, from the suction side to the discharge side. Fluid does not pass through the meshing zone of the gears due to small tolerances. A back-flow of the fluid is blocked by the contact of the teeth of the two rotors in the meshing zone.

### ADVANTAGE

Gear pumps need a lesser NPSH and have better properties of delivery repeatability. Gear pumps, being rotary volumetric pumps, are the best metering pumps, since their delivery depends directly on the revolutions rate. Also gear pumps will not generate flow pulsations, as standard metering pumps do, making the media flow constant.

### MAIN APPLICATIONS

- Lube oil Pumps
- Fuel Pumps
- Chemicals Pumps
- Bitumen Pumps
- Foam Pumps

# **"ULTRA POMPE": HIGH PERFORMANCE IN EVERY LAP, *Since 1957.***

AdverTime

## **Main Sectors:**

- Machinery Manufacturer.
- Chemical.
- Oils.
- Pharmaceutical.
- Thermohydraulic.
- Fire Fighting.
- Food.
- Agriculture/Fertilizer.
- Cosmetic.
- Water Treatment.
- Prototyping.
- Plastic & Rubber.

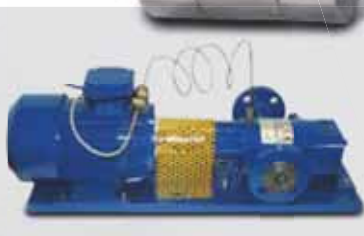
Displacement  
Rotary Gear  
Pumps  
Transfer  
& Dosing  
Service Flow  
from 1 to 75000 L/H.

## **Materials:**

- Stainless Steel.
- Bronze.
- Cast Iron.
- Special Material on Request.

## **Compliance to:**

API676 - ATEX - NACE MR0175.

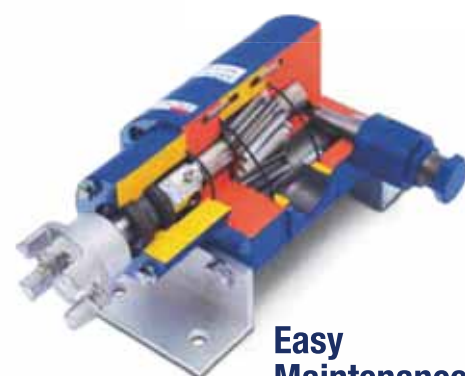


**Compliance to NFPA20**



**ULTRA POMPE**

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20090 Trezzano S/N (MI) Italy  
Tel. +39 (0)2 48464552  
sales@ultrapompe.it  
www.ultrapompe.it



**Easy  
Maintenance**

# Inkmaker



### *Perfection in Precision*

Inkmaker manufactures integrated dispensing systems that improve efficiency by automating the process of ink, paint, lube blending, additive dosing and chemical dispensing and mixing. Inkmaker systems guarantee highly accurate products consistently, precisely and instantly. We have never believed in the one-size-fits-all approach. We make many different types of dispensers and develop our own proprietary software in-house. This enables us to customise every single solution to meet the specific requirements. Founded in Italy in 1987, and still in the same private ownership, we have successfully built a worldwide presence via subsidiaries in Europe, north and South America, Asia Pacific and China. With hardware manufactured in Italy, China and Malaysia we offer quality, competitiveness, precision and efficiency. And with over 2000 installations to our credit we can guarantee just that. In short, Inkmaker delivers an unbeatable combination of price, accuracy, customization and service – which all adds up to an exceptional return in investment.

#### **CUSTOMIZED ACCURACY**

Inkmaker's dispensing equipment streamlines the custom product creation process by using a database containing all components to create a precise and correct final product. This database is accessed via a computer that controls a series of valves and pumps that select the appropriate ingredients which are then weighed, one at a time, and dispensed into a container to be mixed into a final product. We develop state-of-the-art solutions in-house for customers worldwide.

We manufacture and supply a range of simple, accurate and reliable dispensing systems for

- Printing Inks
- Offset & UV Inks
- Industrial Coatings

- Decorative Paints
- Coil Coatings
- Car Refinishing
- Lube blending
- Additive dosing
- Wood Coatings
- Marine And Aeronautical Coatings
- Speciality Chemicals
- Filling lines

#### **RESEARCH & DEVELOPMENT**

We are driven by the spirit of innovation and constantly seek to enhance our products. We have achieved an enviable track record. Our systems provide cutting-edge solutions for modern and forward-thinking companies.

#### **OUR PRODUCTS' KEY FEATURES**

- Our single point dispensers allow dispense into every kind of can
- Self dispensing parameter adjustment ensures optimal accuracy
- Our user-friendly software interfaces with the commonest ERP and MRP programmes
- Our dispensers are made entirely of commercial parts normally available in the market
- Valves are driven by just one pneumatic cylinder, so there is minimal mechanical movement
- Valves' washing system is completely automatic
- A variety of sizes and valves designs cater for different applications

#### **KEY BENEFITS**

- Instant products production
- Production of the right quantity whenever needed
- Major stock reduction
- Improved stock management
- Optimized recycle-management
- Elimination of wastage
- Complete tracking of operation – from raw material handling to finished product
- Increased free space in the factory
- Added ability to capitalize on commercial opportunities thanks to dispenser flexibility



# AUTOMATIC, SOFTWARE CONTROLLED **ADDITIVES DOSING SYSTEM**



Inkmake automatic, software controlled additives dosing system is the answer to one of the most crucial and delicate production's process: additives' dosing. Our automatic dosing system ensures the quality and consistency of the final products by eliminating dangerous and costly mistakes. All our dispensing solutions are tailor made according to each customer's specific requirements. Additives are stored in dedicated containers and whenever necessary, a custom designed distribution system transfers them to stainless steel hoppers mounted on electronic scales.

## ADVANTAGES

**Eliminate human errors:** additives are discharged directly into the production vessel without human intervention.

**Ensures that the correct amount** of additives is used.

**Ensures that the correct sequence** of the additives is followed.

Ensures real-time stock monitoring. Each additive is handled through dedicated pumps & piping.

**Software controlled operations;** our *Maestro®* software calculates the correct additives' amount based on the production batch size.

**Software controlled self-cleaning of the additives' dispensing hopper:** used washing liquid can be either added into the product or discharged separately ensuring saving and minimizing waste.



## STEP BY STEP OPERATION PROCEDURES

### Step 1

Our software automatically determines the required quantity of additives based on batch size

### Step 2

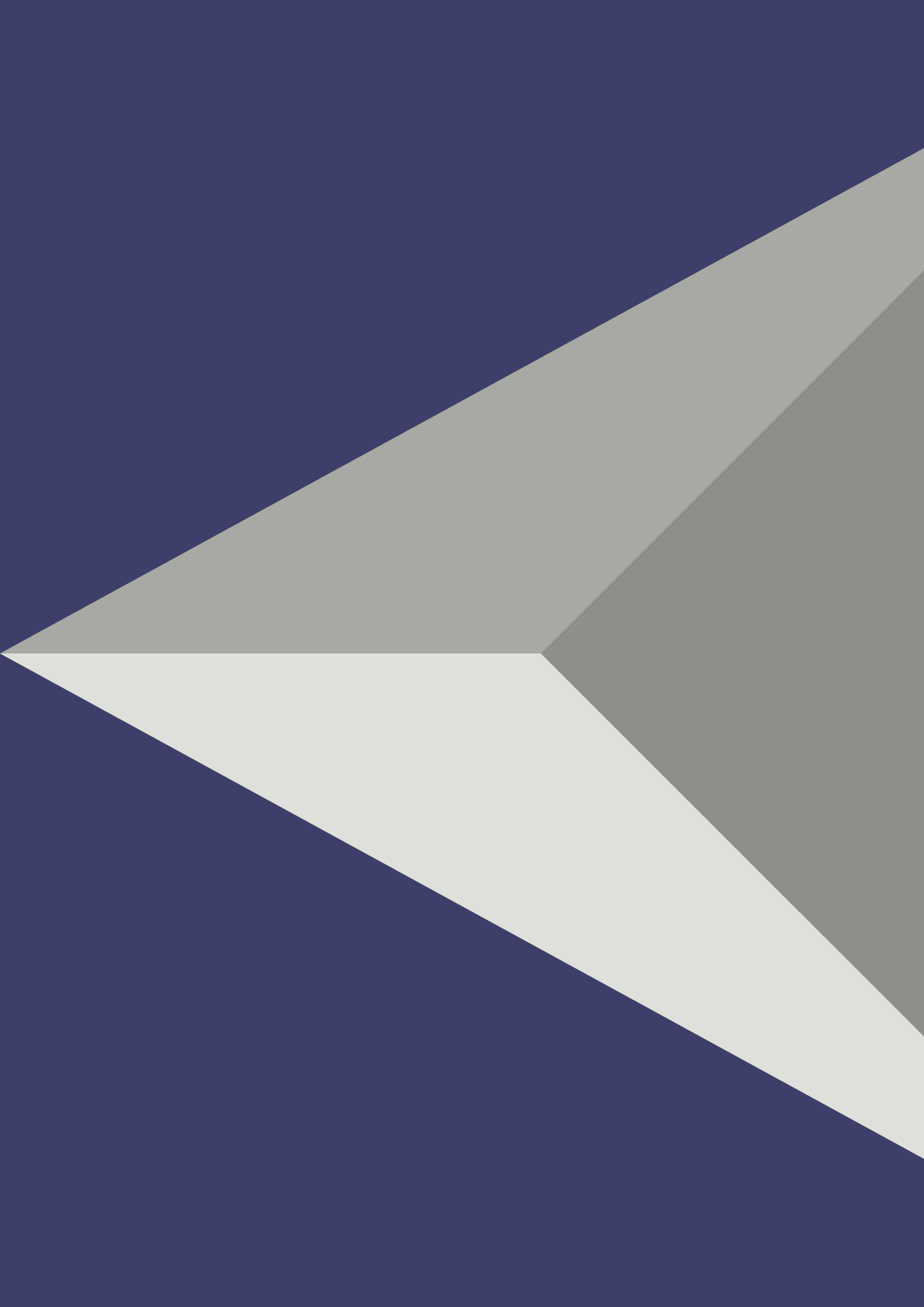
First additive is dispensed into a weighing hopper

### Step 3

Once the required quantity of additive is reached, dispensing operation stops.

### Step 4

Additive is discharged into the selected tank through a custom made piping network, following which, the hopper is thoroughly washed before the cycle starts again. The washing liquid can be either added into the finished product or discharged separately.





# **AUTOMATION INSTRUMENTS COMPONENTS**

**Software Engineering  
for Industries**

**Measuring Instruments**

**Couplings**

**Special Cables**

**ICT**

**Tubes and Protections**

**Instrumentation**

**Solutions for Gas Alarm Systems**

**Instrumentation and Analyzer  
Technology**

**Transmission Couplings**

# C.Si.Co



C.Si.Co., Computer Sight Company, operates in the information technology field with significant in the industrial area. C.Si.Co born within the Group F.A.R. where he developed the first projects.

Now supports the Group but it's a completely independent company.

Our mission is to supply a highly avant-garde technology service, employing the best skills of our strategy:

**INNOVATION** C.Si.Co focus on the latest automation technology innovations by studying the newest solutions and products. This allows us to develop and deliver the best solutions for our partners in terms of price and performance.

**EFFICIENCY** We managed to consolidate several partnerships with carefully selected companies, specialized in collateral services, in order to deliver different proposals ranging from a simple program to a funny equipped plant/machine (electrical, mechanical and software solution) with worldwide commissioning at competitive costs.

**CUSTOMER SATISFACTION** We are not entirely associated to any specific technology, in order to focus on customized solutions which better attune our customers' needs rather than forcing them to choose sponsored tools.

**TRAINING** C.Si.Co.'s engineers are carefully trained both from a theoretical and practical point of view, results of a path developed over years of experience.

**CAREFUL STAFF SELECTION** C.Si.Co.'s team is composed of engineers with solid knowledge, proven motivation and zeal in work.

C.Si.Co. boasts of the technological know-how to solve difficult integration requirements between various levels of production (field data capture, standalone machine control, process cell control, plant control, OP, HMI, MES, up to the integration with ERP).

Some industry fields we have worked in: Food/wine industry, Tobacco, Chemicals, Telecommunications, Machine Tools, Building Automation.

Some relevant references: Parmalat, Montorsi, F.A.R., Philip Morris, B.A.T.

Some of our skills:

### **Embedded**

several developments of firmware for microcontrollers of different companies (Motorola, Intel)

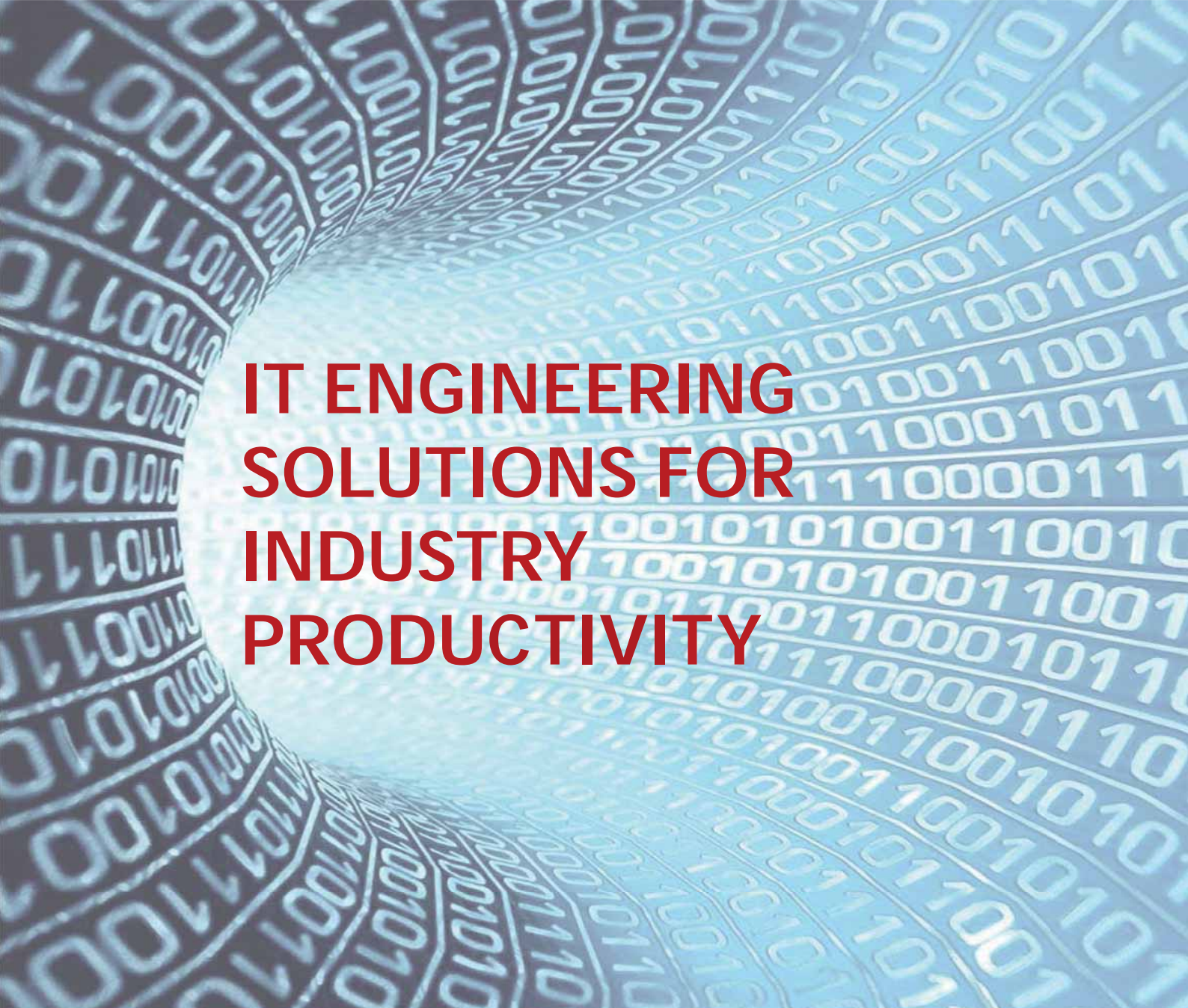
### **PLC / DCS**

we created numerous control systems, from a simple standalone machine to a complex system made of up to 40 stations on network and 12,000 I/Os with equipments of different brands.

### **PC**

we developed several supervisory applications, both on SCADA (iFix, WinCC, Intouch, Movicon) and native (C++, VB6 and now java and C#.NET).

C.Si.Co. is the deal partner for companies that believe in technology innovations as core element of a strategy able to overcome the contemporary challenges.



# IT ENGINEERING SOLUTIONS FOR INDUSTRY PRODUCTIVITY

Computer Sight Company  
Software Engineering for Industries  
C.Si.Co offers specialized services of computer and  
automated engineering for the production world  
This way we do software: better



C.Si.Co. Computer Sight Company  
Azienda certificata OHSAS 18001  
Sede: Via Galileo Galilei, 1 - 31057,  
Silea (TV) - Italy  
Tel & Fax +39-0422-460903  
Web: [www.csico.it](http://www.csico.it)  
[commerciale@csico.it](mailto:commerciale@csico.it)



# Axiotek



HARDNESS TESTERS - CUSTOMIZED SOLUTIONS

### **Axiotek, measuring instruments for hardness tests**

Thanks to our considerable experience gained from more than 60 years of activity, we work in the whole field of measuring instruments to calculate the properties of materials, with a strong specialization on hardness testers manufacturing.

We design and produce groundbreaking machines to measure the hardness of materials (Rockwell, Brinell, Vickers, MicroVickers, Knoop, Shore, IRHD, EHT, HU, etc.) and even to calculate Case Hardness Depths. Our strength is being able to create customized solutions for any types of need: from bench to portable hardness testers up to special instruments – developed purposely following customers' requests.

We also offer consultancy, technical assistance, maintenance, measuring instruments repair and calibration according to international ASTM and ISO standards.

Our products – including their mechanical, electronic and software components – are completely invented, designed and manufactured in Italy using latest technological systems available. In our plant, highly-skilled workers employ cutting-edge machinery and successfully cooperate to reach a continuous improvement.

#### **Portable magnetic hardness testers**

Our wide range of instruments includes the first portable magnetic and automatic hardness tester for Rockwell, Superficial Rockwell, Brinell and Vickers tests according to ISO 6508, ASTM E-18, ISO 6506, ASTM E-10, ISO 6507, ASTM E-384 standards.

Thanks to its magnetic clamping base, it is possible to perform on-site tests directly on pipes, valves, etc., in any direction – even with the device turned upside down.

#### **Fully automatic hardness testers**

To reduce skilled labor costs and minimize test times, we offer machines with fully automatic test cycle and direct reading of indentations, which have a large and robust base to support heavy or irregular-shaped samples.

#### **L.I.S.A. patent: Laser Indicator System Axiotek**

We recently developed an innovative laser pointing system to help the operator identifying the precise point where the instrument will perform the indentation (patent 1428177 of June 2017).

#### **Customized equipment and accessories**

Do you need to make measurements on “difficult samples”? Our technical department will follow you step by step, creating from scratch the accessory which suits your specific needs. Moreover, we supply every tool, spare part and consumable to correctly perform hardness tests: test blocks, indenters, anvils, etc., from standard to customized.

**Axiotek: looking forward to the future while investing into research, using latest technologies and manufacturing fast, reliable and accurate hardness testers.**

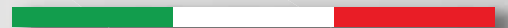


HARDNESS TESTERS - CUSTOMIZED SOLUTIONS



### **FAST, RELIABLE and ACCURATE**

Hardness testers entirely designed, developed and **MANUFACTURED IN ITALY**



### **OUR RANGE:**

from standard to custom

**Rockwell, Brinell, Vickers, Micro- Vickers and Shore hardness testers**



### **RETROFIT**

As a result of the experience we gained, we offer a retrofit service on **several brands of hardness testers**, making a final product with a great value for money through to the implementation of cutting-edge technologies

### **OUR LABORATORY**

AXIOTEK issues calibration reports traceable to the National Reference Standard **in compliance with ASTM and ISO standards**. Thanks to partnerships with external laboratories, we are able to provide ACCREDIA, UKAS or DAKKS calibration certificates for hardness testers and test blocks



### **We ARE PREPARED TO LISTEN**

We offer **consultancy, technical assistance, preventive maintenance and measuring instruments repair**

Via Monte Tagliaferro 8 - 21056 Induno Olona - Italy  
Phone number +39 0332 1892847 - Fax +39 0332 1892846  
[info@axiotek.eu](mailto:info@axiotek.eu) - [www.axiotek.eu](http://www.axiotek.eu)



# Westcar



The Italian company WESTCAR founded on 1978, has always distinguished itself at international level as a leader in the manufacture of hydraulic and hydromechanical couplings, used to startup and drive machinery in different applications sectors of Industry and Oil & Gas.

Hydraulic and Hydromechanical couplings are characterized by the capacity to transfer torque from the driving side (motor), to the driven side (machine), transferring the centrifugal force to the oil content inside the coupling.

The internal impeller (pump) pushing the oil against the outer impeller (turbine) transfers torque necessary to start and drive the machine, with an high efficiency, close to 97-98%.

Thanks to their simple design combined with a high quality, Hydraulic and Hydromechanical Westcar couplings have distinguished themselves for their strength, affordable prices and excellent

operation warranty in various fields of industry.

The following are the most common applications where our products are widely used:

- Centrifuges for oil and sludge in "ATEX" environment
- Pumps and compressors
- Conveyors
- Grinders and Mills
- Marine propulsion

Last but not at least Westcar would like to introduce fluid coupling KD series, just developed specifically for internal combustion engines according to SAE standard connection, with output shaft specifically designed for radial load, with power capacity up to 600kW.

WESTCAR with its long experience grown during all these years is able to provide a complete service, from design to construction of products "Custom Made" to meet and satisfy any requirements of the customers.



# *Westcar production range*



*Constant fill fluid couplings*



*Constant fill fluid couplings with annular chamber*



*Hydromechanical couplings*



*Flexible, elastic couplings and brakes*



Contact us: [marketing@industrialtechmag.com](mailto:marketing@industrialtechmag.com)

Visit us: [www.industrialtechmag.com](http://www.industrialtechmag.com)



Follow us on  
facebook & twitter



# Ramcro



## Special Cables you can trust

Ramcro s.p.a. is a family Company producing high-end quality cables in Italy, successfully covering worldwide markets for over 35 years. Ramcro C.E.O. Mr. Carlo Croci expanded progressively the core business, by investing in skilled people, new equipment, first quality raw material and innovation. Leading a young organization of high professional specialists and technologists, Mr. Croci made Ramcro one of the most successful family Company producing Special Cables for the globe. Today Ramcro is distributed in over 40 Countries, and lately opened even a new Branch at the prestigious DWC in Dubai South. A clear sign of Customer satisfaction is the fact that 83% of Ramcro turnover has done with Clients using Ramcro cables for more than 15 years. Their loyalty not only because of our product performance, but also because the famous Ramcro post-sale support.

Ramcro production is divided in 4 main product lines: FIRE Cables, Oil & Gas, BMS & Control, Fiber Optic. Each product line is fully certified under the most reliable and international standards: IPCB for UNI ISO 9001, ICONTEC for UNI EN ISO 9001, RINA for UNI EN ISO 14001, RINA for OHSAS 18001, and many others.

### RAMCRO FACTS & FIGURES

- 100% family owned Italian company, North Milan based
- Founded in 1979, now present in over 40 countries
- Leader in Special Cables: Oil & Gas / Fire / Signal & Contrai/Building

Management Systems (BMS) / Fiber optic.

-2017 turnover:

over 43 million USD , 10% average yearly growth

-Production capacity :

5.000 l(mts/month and 60.000 l(mts /year

-80 staff(50 in production)

-Manufacturing surface: 18.000 sqm.

-Warehouse: 3.000 sqm

-R&D laboratories : 750 sqm

-New branch in UAE with office, warehouse and manufacturing premise.

### OUR MISSION

Be preferred partners tor demanding customers, who require high performing, added value cables We achieve this by supplying:

- Special cables customized to match top quality and strongest performance market requirements
- Fire resistant cables tested and certified according to all main industry standards
- High technology instrumentation cables suitable to operate under extreme environmental conditions

### YOU CAN TRUST US FOR ...

- Strong customer orientation: 80% turnover made with customer working with us since more than 15 years
- Tailored solutions to any technical requirement
- High quality standards in products, processes and people
- Outstanding worldwide experience
- Flexible reliable after sales services





**INTRODUCING OUR NEW  
BRANCH OFFICES  
IN DUBAI SOUTH (DWC) !**

***RAMCRO MENA DWC-LLC***

BUILDING A5: OFFICE 547  
P.O. BOX 712661  
DUBAI WORLD CENTRAL  
DUBAI U.A.E.  
[www.ramcro.it](http://www.ramcro.it)



**We are at your disposal  
for Technical and Commercial information.**





# Alascom Srl



## A solution with innovative Technology for Oil&Gas

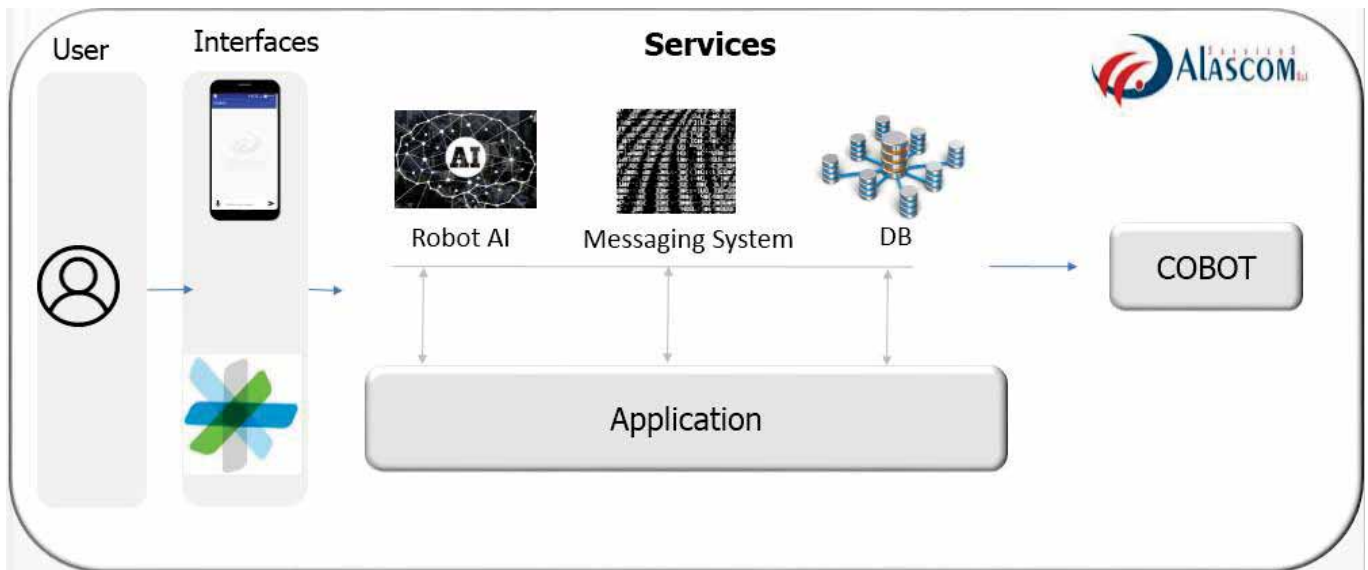
There is a new challenge for the “Internet of Things” applications and Alascom has a solution to fulfill the needs and necessities of Oil&Gas companies: offering Real-time monitoring of different processes throughout the gas sector, using Two-way communication that not only improves the company’s ability to monitor remotely but also the ability to perform a remote intervention for scheduled maintenance as well as unscheduled incidents. The solution offers support for the end devices to run solely on battery power only because the remote locations of some equipment made hardwired electrical connections impossible. The ability to monitor operations through a local operations center as well as at the company’s headquarters in Europe. This system provides reliability, data integrity and security. Alascom proposes innovative technology that targets the key requirements of IoT such as secure bidirectional communication, mobility and localization services. The solution provided seamless interoperability amongst smart things without the need of complex local installations and gave back the freedom to the end-user, developer, businesses enabling the rollout of IoT. Alascom’s mission consists of designing, proposing, testing and globally implementing IT/OT infrastructure, software, analytics and custom applications to deliver the results or business outcomes defined with the Stakeholder. Thanks to its wide versatility and deep technological knowledge, Alascom can act on all vertical market segments: automotive, aerospace and defense, manufacturing, Oil&Gas, distribution, telecom provider, government, utilities, and more. Alascom can provide an open, modular and cost-effective end-to-end solution to bring the data from the field up to the network/cloud and extract value from it and has a complete solution with the following benefits:

- Create a Digital Twin - Pipeline Rfid Tagged and Mapped, end-to-end setup of a LoraWan network
  - Real-time management and maintenance: remotely control valves, pump stations, and other pipeline issues:
    - Gas pressure leakage      - Erosion detection
    - Magnetic flux leakage      - Vandalism and security
  - New pipeline protections that can prevent accidents and detect leaks much faster
  - Lower operational costs – Re-Deployment and assignment of resources
  - Product/service improvement and innovation
- Alascom proposes Innovative technologies integration composed of:
- Augmented Reality application introduced by Alascom to support remote maintenance and asset management for manufacturing industries.
  - Collaborative robots innovate with: Light, flexible and user-friendly; Cooperative with man; Ensure zero down time; Easy to program; increased safety; No shielding; Suitable for process optimization, cost reduction and quality control.
  - AI solutions wants to create a new channel of communication between digital automated world and human world, using a natural like speech robotic system which recognizes what the human says, using an advanced AI system and to autonomous execute the action. Human workers are therefore freed from critical, dangerous, repetitive tasks, saving time for skill-demanding tasks.
  - Drone usage to assist monitoring, distribution process and prediction maintenance for Oil& Gas/ manufacturing companies
  - Wearable device introduction in the designing process, asset management, maintenance support.
- Alascom is anticipating the trend of radical and pervasive digital transformation undertaking a significant investment policy in high-impact innovative technologies, expanding its offer in the IoT area and covering all layers composing it: Sensors, Communication technologies, IoT gateways, Network infrastructure and cloud, IoT platforms, CyberSecurity.

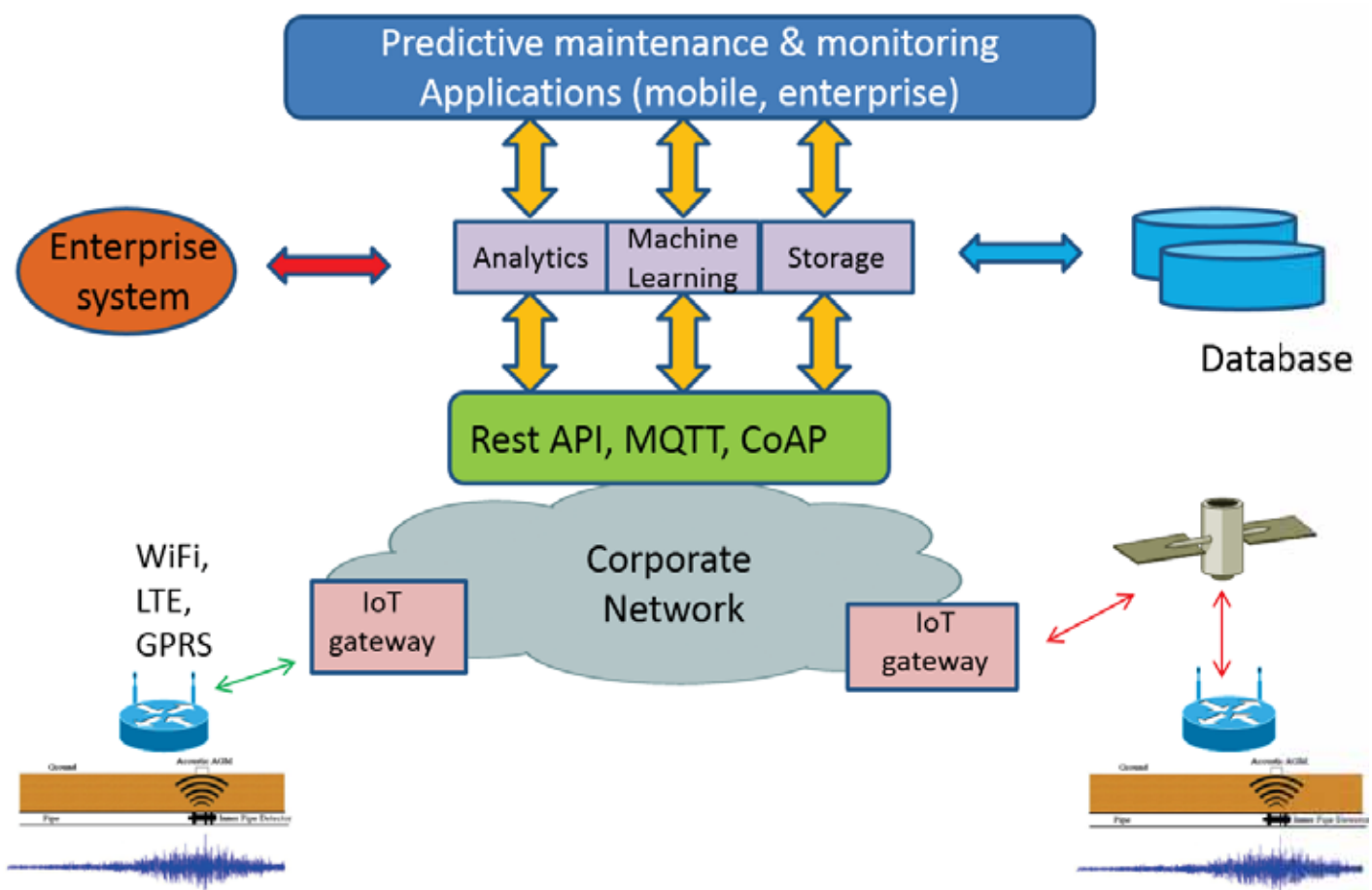
**Website- [alascom.it](http://alascom.it)**

Management- Marco Scuri, Owner

# Integration of cobot with NLP



## IoT and the magnetic flux leakage pipeline detection



# Smart Protections



Born as a “spin off” of an historical Italian manufacturer leader in the extrusion of thermoplastic tubing, Smart Protections started its manufacturing operations in March 2015 and moved to a brand new site in January 2016.

Smart Protections is a leading company in manufacturing high technical thermoplastic extrusion products & hydraulic protections. The technical background, the build in know-how acquired by Smart Protections, with particular focus to quality, manufacturing capability & internal R&D testing lab, are some of the strength of this “aged” startup.

The range of products for pneumatic applications includes Tubing in Polyamide 12, Polyurethane, Polyethylene, Polyamide & Polyurethane recoils & custom made tubing made accordingly to customer’s requirements.

The range of products for the Hydraulic applications includes a complete range of protections for flexible hoses. Kovertec, a spiral wrap for abrasion protection; Texsleeve, a textile sleeve to contain oil spills; Shitec & Shiltape, a fire proof sleeve made of fiber glass & silicon. Most products in this range are MSHA approved.



**NOT ONLY PROTECTIONS**

**FIFTY YEARS OF EXPERTISE**

**Pneumatic tubes**



[www.smartprotections.com](http://www.smartprotections.com)



# Cembre



This is Cembre.

Cembre designs, manufactures and distributes electrical connectors and cable accessories.

It enjoys a leadership position in Italy and significant market shares in the rest of Europe.

It is also the world's largest producer of connector installation tools (mechanical, pneumatic and hydraulic) and tools for cable shearing.

The products it has developed for connection to the rail and for other railway applications are used by the main companies in this sector round the world.

Cembre owes its success to an insistence on innovative, high-quality products, a broad and thorough collection, and an extensive distribution network both in Italy and abroad.

Founded in Brescia in 1969, the Cembre Group is now a full-fledged international force.

Besides the parent company Cembre SpA based in Brescia, the Group covers the commercial associated companies located in Paris (France), Madrid (Spain), Munich (Germany), Edison, New Jersey (United States of America) and Birmingham (United

Kingdom), this latter being also a manufacturing unit.

In 1999 Oelma srl in S. Giuliano Milanese is acquired (and since 2002 it was merged within Cembre SpA).

In July 2002 General Marking srl has been constituted, a manufacturing company with operating headquarters in Bergamo, operating in the field of the industrial marking (cable markers, conductors and electrical components marking products).

Since 2013 General Marking srl was merged within Cembre S.p.A.

As of December 31, 2017 the total workforce is of 712 units.

Since 1990 its products have been certified by Lloyd's Register Quality Assurance for the design and production of accessories for cables, electrical connectors and tools for their installation.

Cembre has been listed on the Italian Stock Exchange since December 15, 1997, and on the STAR section since September 24, 2001.



# Cembre

MAKING THE RIGHT CONNECTIONS



[www.cembre.com](http://www.cembre.com)

# MSR-Electronic



### Protection under Extreme Conditions

#### **MSR-Electronic protects health and plants under industrial conditions.**

In the chemical and petrochemical industry, permanent monitoring of plants and closed spaces, in which explosive atmosphere can occur, is necessary. For the protection of human beings, constant monitoring of toxic and combustible gases and vapours is required. Additionally, the lack of oxygen and the oxygen surplus monitoring, must be carried out.

MSR-Electronic offers a wide range of methods for the detection of gases. On this basis MSR-Electronic develops dedicated gas sensors for industrial applications where extreme environmental conditions prevail.

In many manufacturing industries, health hazardous gases are being used. In order to protect workers in these areas effectively, the ambient air must be continuously monitored on the concentration of toxic gases or on the dangerous decrease of oxygen content.

All companies dealing with production and processing of gases need extra protection to prevent explosions

or poisoning of the working staff. The continuous monitoring and recording of measurement values serves the primary explosion protection and thus the plant safety.

#### **Your advantages - with MSR-Electronic you improve the Safety, the Efficiency and the Competitiveness.**

- More safety - More than required by all national standards (ATEX, IEC Ex, SIL2)
- Exchangeable sensor X-Change: Considerably lower maintenance costs
- Better planning with overall less costs by Integration in existing Controller / SCADA System

#### **Safety First - MSR-Electronic provides extended safety and complies with more than the global standards.**

MSR-Electronic develops and produces reliable gas alarm systems that permanently monitor the ambient air and thereby protect human life and values. On this basis MSR-Electronic develops individual gas sensors and systems for many applications where toxic or combustible gas concentrations can form and integrates them into complex warning systems.

## Protection under Extreme Conditions

MSR-Electronic protects health and plants under industrial conditions.



### PolyXeta® 2

Fixed Gas Warning Systems  
for Industrial Plants

COMBUSTIBLE GASES + TOXIC GASES

### Your advantages:

- **More safety**  
More than required by all national standards (ATEX, IEC Ex, SIL2)
- **Exchangeable sensor X-Change:**  
Considerably lower maintenance costs
- **Better planning with overall less costs**  
Integration in existing Controller / SCADA system



[www.msr-electronic.de](http://www.msr-electronic.de)



# ABB



MEASUREMENT MADE EASY

### **ABB Spa**

### **BU Measurement & Analytics**

#### **About ABB**

ABB is a pioneering technology leader in electrification products, robotics and motion, industrial automation and power grids, serving customers in utilities, industry and transport & infrastructure globally. Continuing a history of innovation spanning more than 130 years, ABB today is writing the future of industrial digitalization with two clear value propositions: bringing electricity from any power plant to any plug and automating industries from natural resources to finished products. As title partner of Formula E, the fully electric international FIA motorsport class, ABB is pushing the boundaries of e-mobility to contribute to a sustainable future. ABB operates in more than 100 countries with about 135,000 employees.

**[www.abb.it](http://www.abb.it)**

#### **Overview**

The Industrial Automation division in Italy provides products, systems and services designed to optimize the productivity of industrial processes. Solutions include turnkey engineering, control systems, measurement products, life cycle services, outsourced maintenance and industry specific products (e.g. electric propulsion for ships, mine hoists, turbochargers and pulp testing equipment).

#### **BU Measurement & Analytics**

Inside the Industrial Automation division we find the BU Measurement & Analytics. To operate any process efficiently, it is essential to measure, actuate, record and control. In selecting ABB you are choosing

a partner who is offering the best measurement and analytical solution for your needs, enabling maximum return on your investment. When investing in ABB's measurement and analytical solutions you are receiving the best technology, reliability and service in the business. Research and development is a vital source of ABB's technology leadership. ABB constantly builds on the foundation of existing technologies for new applications, and continues to develop the breakthrough technologies needed to meet the challenges of the future. ABB and its heritage companies have been leaders in innovation and technology for more than 100 years.

#### **The factory on the lake**

ABB Measurement & Analytics has more than one hundred years of experience in providing solutions for the measurement of pressure, flow, level, force and it is a center of excellence for pressure transmitters. It has a production plant and a research center in Tremezzina, Ossuccio (CO). From this plant hundreds of pressure transmitters and transducers are exported worldwide every year. The ABB process instrumentation, especially studied for different types of applications, enables the optimization of productivity, energy efficiency and the safety of plants. From the production of electricity to the waste-to-energy plants and biogases, from the chemical and petrochemical market to the pharmaceutical, from metal and mineral industries to feeding ABB, Measurement & Analytics is the perfect partner in the field of analysis and process instrumentation.

#### **Comprehensive measurement solutions**

ABB's measurement and analytical products provide world-class measurement solutions for any industry, utility or municipality. Latest innovations deliver technological solutions to make it easier for you to run your plant. ABB's measurement and analytical products are based on common technology, providing a common look and feel and method of operation. This results in products that are easy to configure, easy to integrate, and easy to maintain.



A working day for him  
with less job pressure

Pressure transmitters accurate  
to  $\pm 0.025\%$  365 days a year

## What's your measure?

ABB's 266 Series Pressure transmitters match the highest accuracy performance on the market. Plus they are packed with features like 'Easy Setup' auto-configuration menu and 'Through-The-Glass' HMI that take the pressure off your team when it comes to installation and maintenance. However you measure the world, a partnership with ABB is a simple choice to make.

**Measurement made easy.**

Want to learn more? Visit [abb.com/pressure](http://abb.com/pressure)

**ABB**

# Ru-Steel S.r.l. Italia



**Business field : design, engineering, building, realization & sale of transmission couplings on its owned patents & spare parts for them.**

Ru-Steel Italia s.r.l. is a medium company specialized in the field of the transmission couplings, from its first times (1958), the company is grown, step by step, increasing their capacities together with the range and the variety of their products.

All our products are built with a very large range of sizes, versions and transmissible torques, who, however, can be modified and adjusted to fit exactly the customer's requirements, therefore to supply the better solution for every type of duty.

Moreover, in case our standard product line was not able to satisfy some particular requirements or if the trade needed a "custom-made resolution", we can make our technical dpt. available to the customer and project together the problem solving, suggesting it to the trade on the basis of our experience in know-how increased in sixty years of company's life.

The customer's satisfaction we enjoy developed itself from the basis of a high grade range of product, and also thanks to our features of flexible organization and the production agility that



identify Ru-Steel like primary interlocutor for all the companies using couplings and for the planners of systems, both in Italy as in the foreign countries.

Every element in **RU - STEEL** couplings is produced into our factory by us that follows the whole production process, from the spare part to the finished product, and, **RU - STEEL**, means today an ample range of models used on machines in a vast variety of industrial sectors, including: **Chemical, Petrochemical, Paper Industry, Compressed Air and Pumps.**

**RU - STEEL** products are built in compliance with the European machinery directives and the company is now attaining the granting of **ISO 9001/2015** Quality Certification; this programme is carried out with **The Bureau Veritas Register.**

Our company, can also project and produce some versions of coupling from its product line according to ATEX (European standard for Hazardous Areas), API 671, API 610; in case of particular requirements, you can ask our technical office to find a better solution.

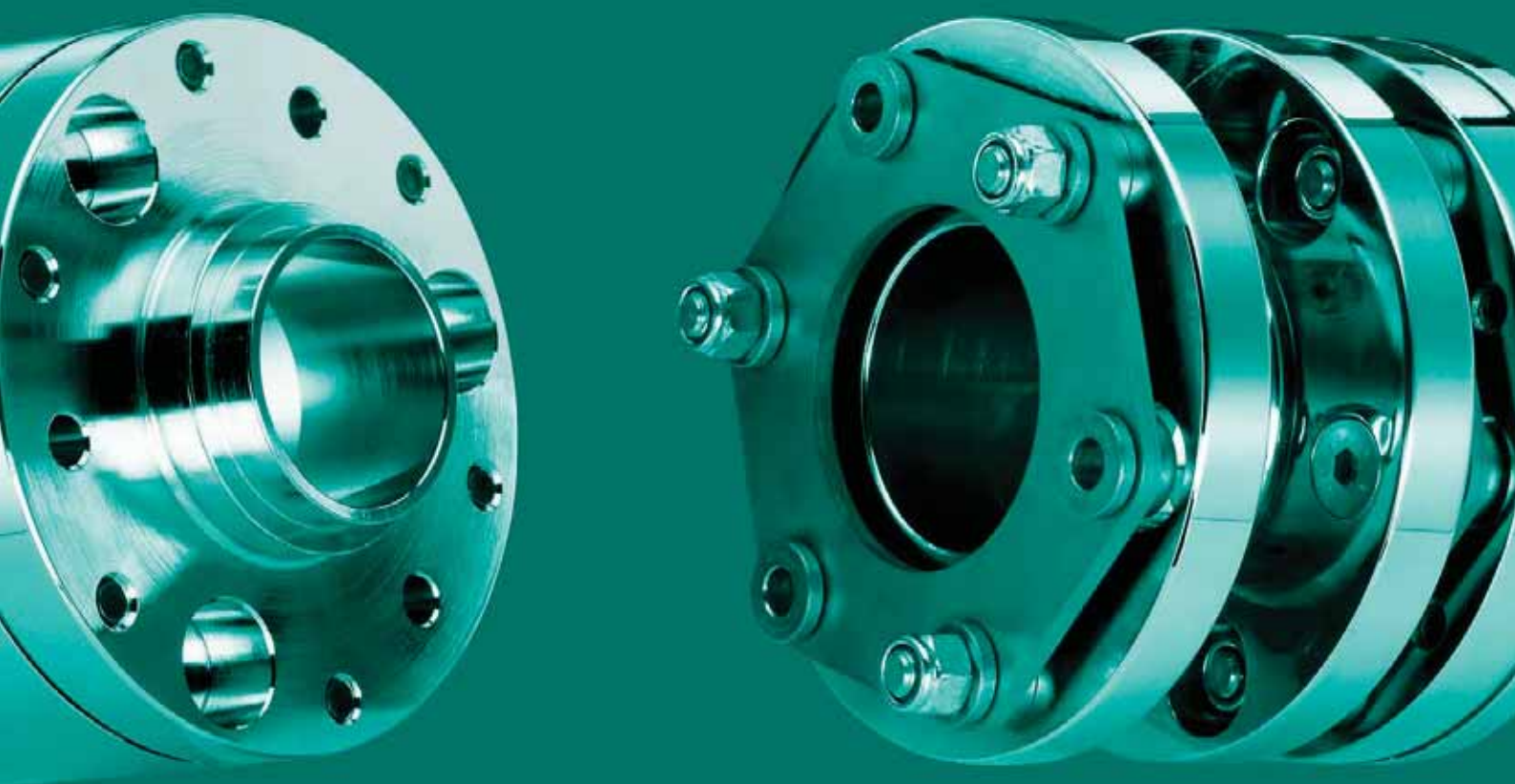




Specialized in the field of the  
Transmission Couplings  
since 1958



Strong Tradition  
An Engagement Towards Quality  
And Technology  
A Reliable Presence



**RU-STEEL S.r.l.**

*REGISTERED OFFICE*

Via Sforza, 4 - 20060 Liscate - Milano (Italy)

*PRODUCTION SITE*

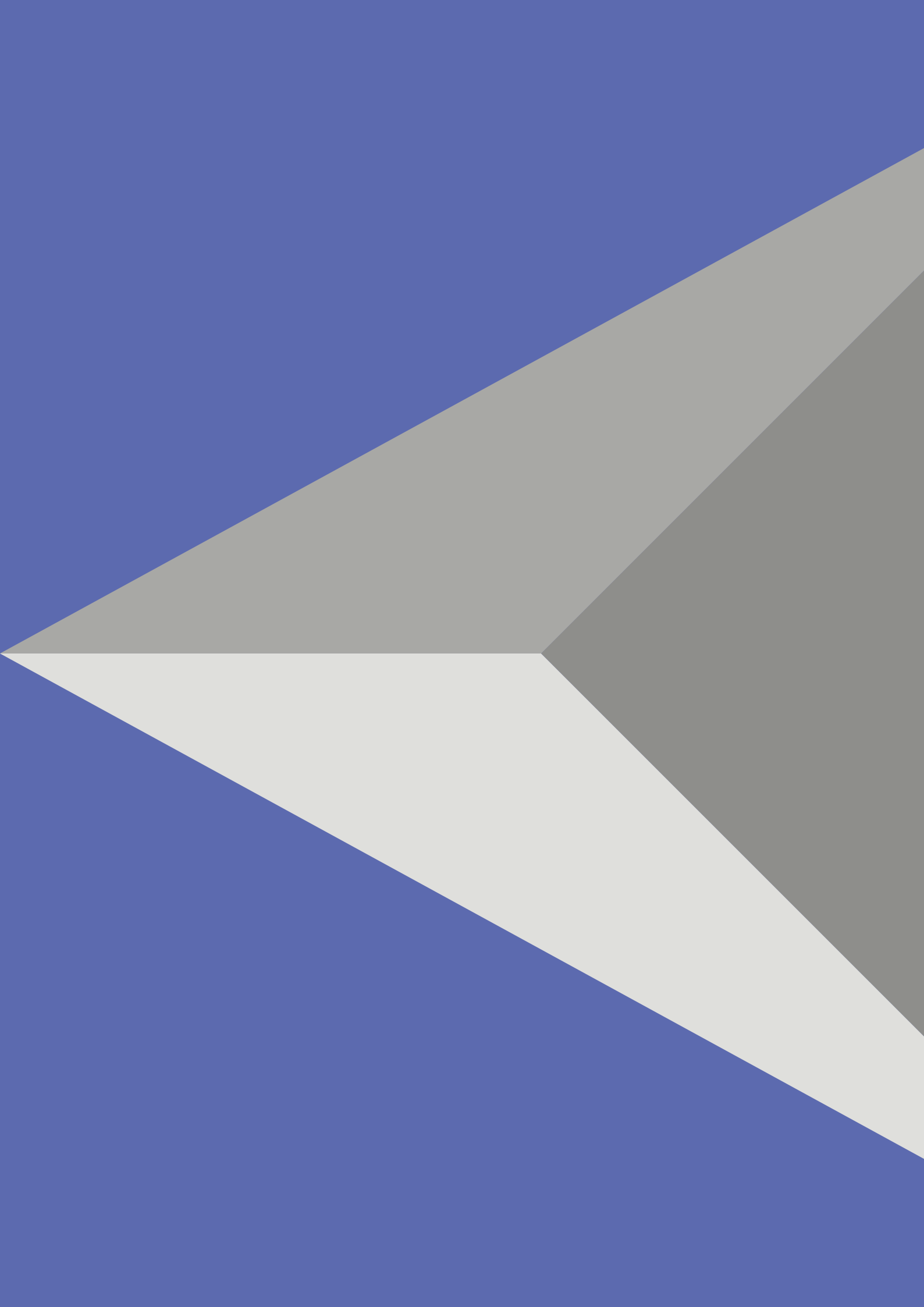
Via Ugo La Malfa, 25 - 20066 Melzo - Milano (Italy)

Tel +39 02.95.73.52.69

Fax +39 02.95.73.52.70 (Melzo)

[www.ru-steel.it](http://www.ru-steel.it)







# LABORATORY

Test Analysis  
Laboratory Information  
Management System



## TEST, ANALYSIS & CONSULTING

Pontlab is a company which from more than 10 years supports the Industry combining advanced technical competences, laboratory examinations and controls to find innovative solutions.

**“Finding defects to propose solutions”** is our commitment to be the reference in materials science, in testing and counseling through the activities of “testing and analysis”. A qualified team who daily dedicate their expertise to develop projects, improve products and provide complete solutions on time.

**“Consulting”** is the activity that encompasses our commitment to research and development of our clients.

We work in areas of excellence through continuous development and our expertise is recognized by Certification Bodies, we make use of tools and techniques that allow to analyze the characteristics of the materials, to simulate the conditions of use, foresee the strength and know their behaviour, certifying the results in order to give real value to our work and certainty to our Customers.

### ACTIVITIES

#### **“We test your ideas”**

Pontlab has a flexible and multi-service structure, able to support companies of different sizes and from different sectors: mechanical and automotive, oil & gas, aerospace, chemical and pharmaceutical, manufacturing, fashion etc.

Using the latest modern and sophisticated instrumental equipment, technical personnel with

experience and expertise in different sectors, we are able to provide several services for analysis, tests and measurements on materials, products and components.

#### **“We give quick response to your needs”**

We support companies with a full range of tools, services and skills, providing customized solutions tailored to the needs of the Customer. The result is an innovative and dynamic service, characterized by great professionalism.

### MAIN SERVICES & TECHNOLOGIES:

- MATERIAL SCIENCE:** Chemical analysis, Chemical/physical characterization, Failure Analysis, Metallography, Corrosion, Contamination
- STRESS-CORROSION CRACKING TESTING** in chloride and sulfide environment: Dead weight test, Proof ring, Slow strain rate, Creep test, Ripple test, Autoclave testing, Hydrogen Induced Cracking
- ACCELERATED AGING TESTS:** Resistance to solar radiation, Thermal shock resistance, Thermal and humidity cycles, Ozone resistance, Corrosion resistance, Erosion resistance
- MECHANICAL AND FUNCTIONAL TESTS:** Injection systems durability test benches, Fatigue stress, Static stress, Stress tests fatigue LCF- HCF, Stress tests fatigue whit pressure, Vibration tests, Impact tests, Functional tests
- METROLOGY AND PROTOTYPING**
- NON DESTRUCTIVE TESTING**

### ACCREDITATION

Pontlab is accredited as a testing laboratory in accordance to UNI CEI EN ISO/IEC 17025.

# PONTLAB

TEST, ANALYSIS & CONSULTING

your partner for  
technological innovation



Materials Analysis / Failure Analysis / Metallography / Corrosion  
Sulphide Stress Corrosion Cracking Tests / Metrology & Prototyping  
Accelerated Aging Tests / Non Destructive Tests  
Mechanical & Functional tests / New Materials R&D / Consulting



**PONTLAB S.R.L.**

Via Lazio, 4 - 56025 - Pontedera (PI), Italy  
info@pontlab.it - www.pontlab.it

**T** +39 0587 295170 - **F** +39 0587 295991



# Eusoft



### **EuSoft.Lab 10 SaaS LIMS: one platform, many advantages**

EuSoft.Lab 10 is the latest generation LIMS solution for the management of the laboratory that combines maximum functional completeness to the most innovative web-based technologies. This means you can use it natively as Software as a Service (SaaS) with cloud computing platform and you can also access it from your mobile devices and it gives you access to powerful business information tools, multi-language management and more.

There's no integration needed on your side, it can connect to your preferred browser with just a single configuration of the LIMS server.

International technology advisers, Gartner, described our LIMS product as one of the first "100% cloud" LIMS systems in the world.

#### **SIMPLE, FAST AND SCALABLE**

EuSoft.Lab is designed for laboratories who need a LIMS system which is easy to implement and can evolve with your changing needs. As your laboratory grows, you can add or reduce users, features and storage space, without affecting the settings you've set up.

#### **START COSTS DOWN, ROI UP**

There's no obligation to invest in buying your LIMS or maintaining its technical infrastructure. We will provide all the hardware and software you need

to run the LIMS programme. The cost reduction, combined with a speedy deployment and activation time, allows for a quicker return on investment than an in-house system.

#### **LATEST VERSION GUARANTEED**

Whenever new features are released, all our customers' versions are automatically updated at no additional cost.

#### **AFFORDABLE, MANAGEABLE COSTS**

If you choose EuSoft.Lab LIMS system, all you pay is a monthly fee based on the numbers of users you have. The fee includes support and maintenance so there won't be any nasty surprises when it comes to hidden or unexpected costs.

#### **SECURE AND COMPLIANT**

We use the cloud computing infrastructure of Microsoft Windows Azure. Microsoft has the most comprehensive approach to meeting European security and data protection laws. We offer customers Windows Azure platform services through a network of global data centers which are designed to comply with industry standards ISO/IEC 27001:2005 and run 24 hours per day, seven days per week without any interruptions to service.

# **Eusoft.Lab 10 SaaS LIMS:**

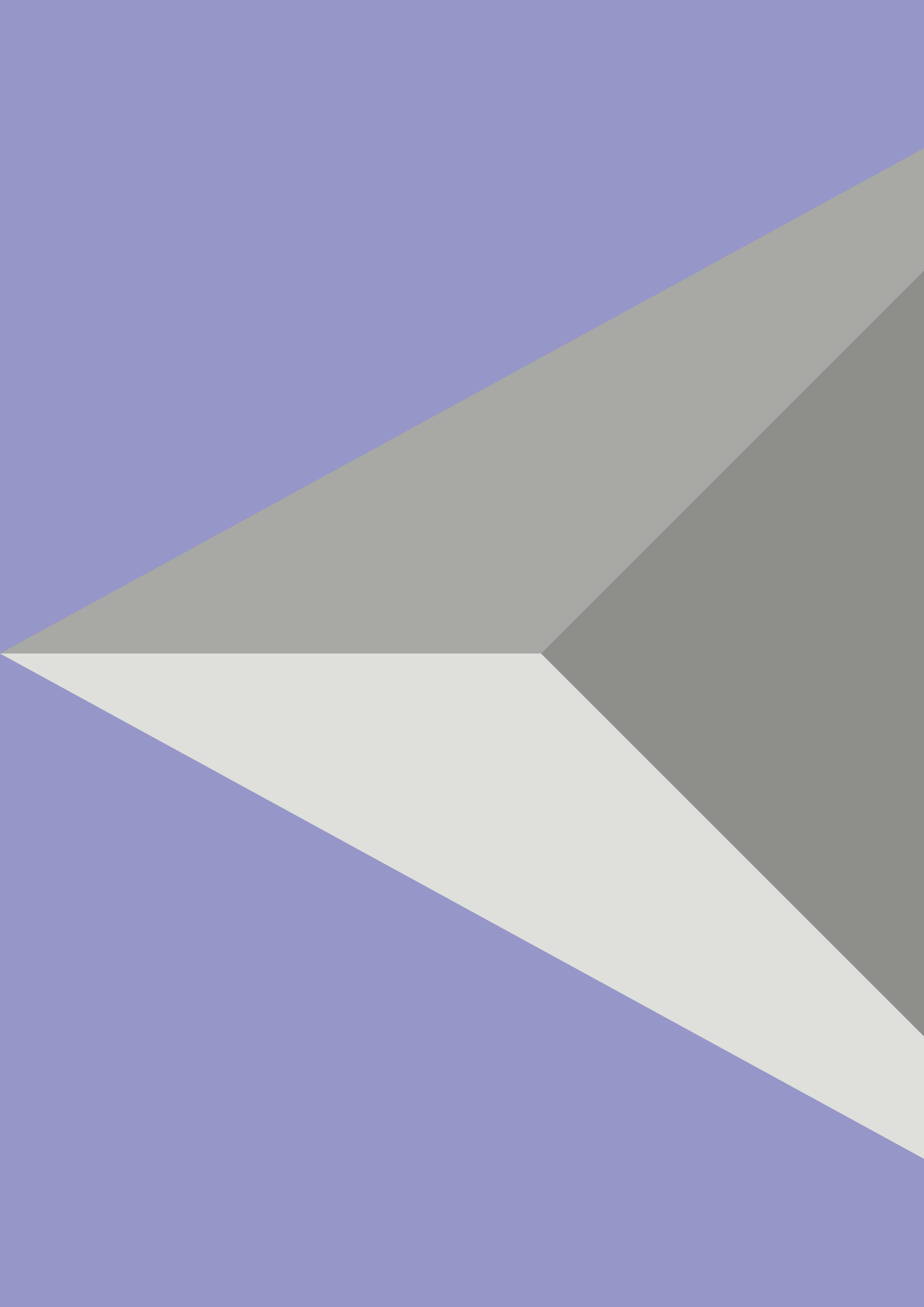
## **Digital innovation for your laboratory**

Laboratory Information Management System

We think of the lab as a mix between functional completeness at the highest level and the most innovative technologies for web based cloud and mobile LIMS systems.

### **MAIN BENEFITS:**

- A complete LIMS to manage all your lab processes
- 100% cloud ready: flexible, easy to use and affordable
- Mobile access from smartphone and tablet
- Accessible also by external users
- Highly configurable and usable
- Instrument interfacing and with other software packages
- Quality assurance and complete data traceability
- Multilanguage and multilocation
- BI advanced functionalities





# CRANES

Cranes

Lifting And Handling Equipments



# Heila Cranes



## Custom Built Marine & Offshore Cranes

In a market with saturated and repetitive crane design characteristics to withstand heavy duty operations, **increased lifting performance, stability, and limited parking position** are more often required to be provided. A development of features that should bring to ship owners additional value.

Being this a common challenge for crane makers, for Heila instead, used to supply tailor made cranes as their peculiarity this becomes a standard operation. Every single crane is **“equally different”**. This is where the HEILA knuckle telescope cranes can overcome the need and provide a grip to these requirements.

### Refit Vs Newbuild units

Upgrading or converting of an existing vessel can be competitive with newbuild options if prepared and managed well.

Accomplishing the needed maintenance and modernization is essential to creating a competitive maritime capability.

### Solution by proven design

Currently, Heila is engaged in the construction of a giant 70T knuckle telescopic boom crane that will be tested by middle 2018. This crane is the latest brand new seized design concept in the entire marine market.

With only 60Ton of deadweight, this crane can be installed on the smallest ship without impacting on the vessel stability; only 320kW of power consumption by electric or diesel driven power unit.

Up to 30 meters radius; very limited parking space

required: only 6 meters, suitable for fitting of a 40m vessels length and most space-sensitive offshore platforms;

Allowing the owner to:

- engage the existing unit for multi-purpose chartering,
- avoiding crane replacements due to charter requirement,
- cut off time, be more competitive and increase the numbers of awarded charter during bidding,
- cut off vessel downtime, saving money

### Wider bidding prospects by wider crane application

Considerable advantages by widening the spectrum of the activities proposed to shipowners with a consequent rise for vessel charter operations and turnover prospects.

A combination that brings to owners increased fleets optimization with consequential gain on raised asset value. This means higher revenue for the ship owners. Providing to the operator key features that allow to utilize this crane in several applications. From platform supply vessels, ROV lifting, buoy & Anchor handling, and now subsea with our new developed 100T capacity crane.

### Reduced operational & maintenance time

The more time can be saved, the more can be utilized for other targeted activities.

More effective operation timing by proven design and longer lifetime by implemented in-house developed anti-corrosion program applied on every crane secure return investment for ship-owners

**“Targeting excellence”**



Custom Built Marine & Offshore Cranes



Lifting is inside our DNA



  
MARINE & OFFSHORE



Stiff boom cranes  
Telescopic boom cranes  
Fully Foldable Telescopic cranes  
Telescopic Knuckle boom cranes  
Jib cranes  
Offshore cranes & AHC

**Heila Cranes S.p.A.**  
Via Romana, 34/6 - 42028 Poviglio (R.E) - Italy  
Phone +39 0522 966352 Fax +39 0522 960391  
info@heila.com | [www.heila.com](http://www.heila.com)



# ATTOLLO



We manufacture lifting and handling equipment for industry, carpentry, shipyards, mechanical workshops. Type of jib crane, lifting scales, stands for CE certified loads, suction cups for compressed air lifting, under-hook and fork-mounted accessories for forklift, hoists for jib cranes and mobile portal crane on wheels in iron and aluminum, for the handling of materials , specially designed for the customer. In accordance with the prior analysis made by our design department. Beyond all the commercial lifting accessories for load-bearing and strictly CE certified.



# ATTOLLO **MILANO**

## JIB CRANE

Design and manufacture  
of underhook lifting  
equipment and devices  
for industrial material handling



ATTOLLO SAS | Piazza Insubria n° 1 | 20137  
Milano | Italy

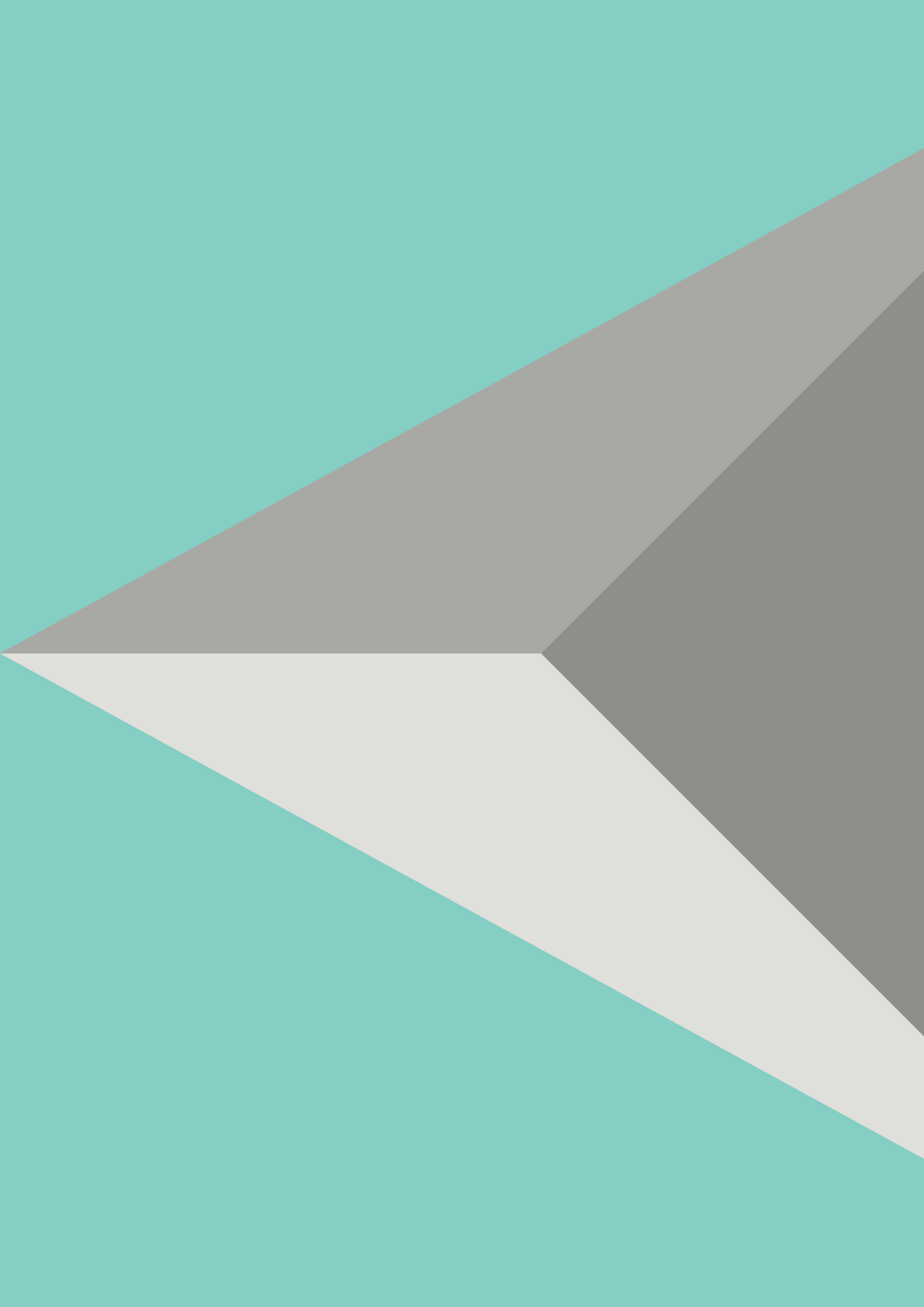
Tel: +39 0249793695 | Fax: +39 0289954106

[conte@attollo.it](mailto:conte@attollo.it)

[www.attollo.it](http://www.attollo.it)

[www.attollo-sollevamento-milano.it](http://www.attollo-sollevamento-milano.it)





# ENERGY

Photovoltaic Machines  
Energy

Engineering Solutions, Power  
Generation and Distribution  
Consulting, Design  
and Construction Services

# Ecoprogetti



## **Machines for Photovoltaic Modules Production**

Ecoprogetti is a globally active company, among the TOP 5 photovoltaic machine manufacturers for worldwide capacity. Ecoprogetti is specialized in machines and turn-key lines for Photovoltaic Module Production. For 20 years the Italian firm has been designing solutions for photovoltaic module manufacturing with innovative materials and high-quality standards. Ecoprogetti provides its customers turn-key production lines of various levels of automation and capacity, tailor made on our customers' requirements. PV equipment, installations, certified training, know-how transfer, raw material support, certification support are the activities that Ecoprogetti offers in order for you to produce high quality PV modules.

## **Ecoprogetti, a reference point in the photovoltaic world.**

Since 1998 the Italian company Ecoprogetti has been studying, designing and developing machinery and complete turn-key lines for the production of photovoltaic panels. Everything, from the first drawing to the final testing of the machine is done here in our Italian facility, having the advantage of a single representative from the time of order to post-

sale assistance and support. Our experience allows us to offer a wide range of services that are not limited to the sole phase of machine production but that include a series of operations which purpose is to guarantee a complete, quick and professional support.

### **WE PROVIDE:**

#### **•Turnkey lines for PV module manufacturing:**

We design and produce complete lines of machines for pv module manufacturing. To the client is delivered a turn-key package to start the production of pv modules.

#### **•Machines for Pv module production:**

Our machines are designed to carry out the best performance for their specific activity in the module production cycle. From the stringer machine to the sun simulator, from the laminator to the framing machine, every machine can be inserted inside a production line or as a standing alone unit.

#### **•Equipment for quality tests:**

We have machines for quality control of the modules and make testing necessary to the correct certification on the basis of the market's standards. Ecoprogetti provides quality control machinery to specialized laboratories and to who desires to manage the certifications themselves.

#### **•Know-how transfer at 360°:**

We provide our expertise on pv module production, covering each step of the production, costs optimization and certification of the photovoltaic modules. The training we provide guarantees our clients that they will be able to produce High Quality Tier-1 photovoltaic modules.

Our experience in the design, production and testing fields allows us to provide a punctual and precise service, always.

## 300MW FULLY AUTOMATIC TURNKEY MODULE MANUFACTURING LINE

300  
MW/year



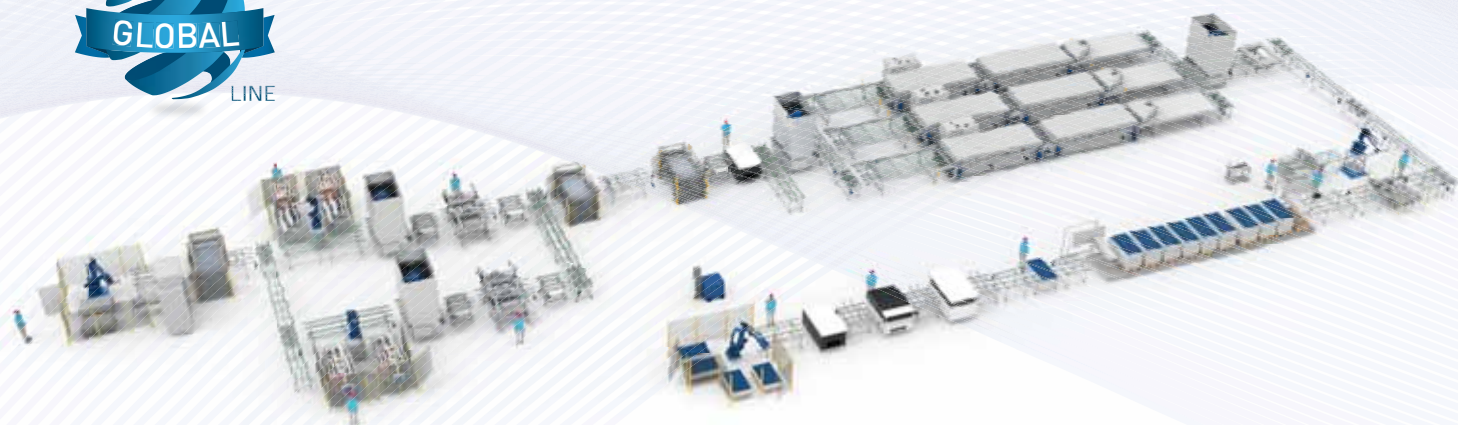
116  
modules/h



12 operators  
per shift



2000 m<sup>2</sup>  
production  
area required



100% Made in Italy 

## GLOBAL SERVICES

### COMPLETE PACK OF SERVICES INCLUDED WITH THE 300MW GLOBAL LINE

- DETAILED DESIGN & LINE LAYOUT FOR YOUR FACTORY;
- COMPLETE BUSINESS PLAN PROVIDED;
- COMPLETE PROCESS & SERVICE SUPPORT;
- KNOW-HOW TRANSFER FOR PHOTOVOLTAIC PROCESS;
- COMPLETE CERTIFICATION SUPPORT FOR TÜV & UL;
- TRAINING BOTH IN HOUSE & ONSITE BY EXPERTS TECHNICIANS;
- MANPOWER RECRUITMENT & SELECTION SUPPORT;
- IN HOUSE R&D CENTER AND MODULE MFG FACILITIES;
- RAW MATERIAL SELECTION AND PROCUREMENT SUPPORT;



**ECOPROGETTI ITALY -Headquarters**

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Tel. : +39 (0)49 5991959 | Mail: [sales@ecoprogetti.com](mailto:sales@ecoprogetti.com) | Website: [ecoprogetti.com](http://ecoprogetti.com)





# I-Energy Energia e Gas



New to the energy scene, the **I-Energy Energia e Gas** brand intends to increase the impact and the recognisability of the **Interconsult S.p.A** brand (a leading expert management company) on the Power and Gas market.

Our goal is to stand out as a supplier on the crowded Italian market, focussing mainly on industrial and SME clients and offering up-to-date and highly competitive tariffs through effective trading management.

Over the years, it has always been evident that the true added value we bring lies in the service we provide, always attentive and supportive, offering instant solutions to problems encountered.

Thanks to established partnerships with the biggest Italian traders and wholesalers who produce and market electricity across Europe, I-Energy Energia e Gas clients enjoy consistent benefits through flexible solutions and customised products.

The I-Energy Energia e Gas client portfolio, today reaching one TW/h, consists of large industrial groups, reseller suppliers and direct sales to a widespread market, through a network of around 50 agents.

We at I-Energy Energia e Gas team are renowned for our professionalism and expertise, and our ability to provide a flexible, timely response.

The company is split into four divisions, with the aim of ensuring a comprehensive, efficient service for all clients:

•Sales and Customer Support:

- Direct contact with the client in order to offer financially beneficial solutions.
- Plans developed specifically for SMEs or large industrial groups.
- Support services with qualified, dedicated consultants (we don't use call centres).

•Trading:

- Research and market analysis.
- Research into financially beneficial and competitive products.
- Development of specific, shared purchase plans with the most well-known European traders.

•Admin:

- Management of admin and accounts via an innovative and fast digital system.
- The admin department deals with finance and accounting, managing client relationships using the latest generation flexible IT software that allows easy consultation of invoices and consumption data.

•Accessory Services:

- Energy flow optimisation.
- Optimised management of the transporting of electricity, based on internally developed revision models and national and foreign market data.

# TRASPARENZA E SUPPORTO



## AL SERVIZIO DELLE IMPRESE

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[www.i-energy.it](http://www.i-energy.it)

# D-ENERGY ENGINEERING & CONTRACTING SRL



D-ENERGY was born in 2015 as an aspiration of Tiziano Frascoli, a manager with more than 30 years of experience in Oil & Gas business, together with the know-how of two societies operating in the industrial sectors for more than 40 years: COMPAGNIA TECNICA MOTORI (CTM) and SITAL. CTM extends over a global area of 25.000 square meters; with over 65 Mil. € turnover and 120 employees. Production overview: Standard and Tailormade Generating Sets, CHP Power Plants, Diesel Dynamic UPS, Fire Pumps Packages, Rental Gen Set, , Modular Data center packages, Word wide engines and generators services.

SITAL extends over a global area of 20.000 square meters; of these, 12.000 square meters are covered surface. SITAL manufacture containers, enclosures, canopies and shelters suitable for every need of housing industrial machines or technological equipment, both in onshore and offshore environments.

D-Energy is able to coordinate and develop engineering activities required for system

integration of generation and distribution, as well as: Feasibility studies, Value engineering studies, Project Management, Basic engineering design, Detailed engineering design, Test & Commissioning support activities. D-Energy engineers and provides 'E-House' customize size solutions, made of soundproofed containers, equipped with passive fire protection by insulation class A0, A30, A60, H60, H120 and in compliance with BS EN 12079-1: 2006 for offshore and onshore facilities. The E-House can be fully developed by D-ENERGY to the specific customer requirements and specifications and can include all, some or more of the following list: MV Switchgear , Low Voltage Switchgear, SCADA systems, AC and DC UPS systems; Transformers, extinguishing systems; F&G systems; HVAC and pressurization system; Internal and external lighting and distribution power; Lightning protection and earthing. The E-House will be fully developed, engineered, manufactured, assembled and pre-tested in the factory and connected and put into operation on site using a "plug and Play" concept.





# FULL INTEGRATED CONTROL AND POWER DISTRIBUTION SOLUTIONS

The concept of control and power distribution embodies the motto: "We bring to you the best solutions". D-Energy provides solutions for E-House, Local Electrical Room and Local Instrument Room. D-Energy is the only reference point for the provider of a fully integrated package solution. We aim to provide a turnkey, plug & play solution taking charge of all engineering activities, interfaces between the systems, procurement, assembly, testing c/o our workshops and supervising commissioning in the field.

D-ENERGY S.r.l. · Via F. Magellano, 7 I · 20090 Cesano Boscone (MI)  
[www.d-energy.it](http://www.d-energy.it) · [info@d-energy.it](mailto:info@d-energy.it) · Phone +39 02 45058555



# Golder



**GOLDER**

**We approach our work with a dedication to excellence that raises the bar for quality. We understand that by solving the problems of today, we create a legacy of value.**

Founded over a half century ago in 1960, Golder was created to offer specialized ground engineering services that exceeded client expectations. The Golder of today continues to excel and deliver on that vision, driving our industry forward, and anticipating and responding to our clients' needs. From deep mine shafts in Africa, to tall building foundations in Australia, from airports in Hong Kong to pipelines in Canada, from tailings management in Chile to waste management in the U.S., from transportation tunnels in the UK to groundwater remediation in Italy...

**At Golder, we thrive on challenges.**

### **Ownership Drives Quality**

Our people share a common passion for technical excellence and innovation, which is at the core of our culture. And as an employee-owned company, our people are truly invested in, committed to, and are the primary beneficiaries of, Golder's success. Together this creates a strong commitment to quality that sets us apart in every aspect of what we do. Our clients know they are working with people who own the business and the outcome. At Golder, we deliver a level of excellence and expertise that is innovative, industry-leading and is always focused on a shared vision of success.

### **Health & Safety is Fundamental**

Work safe, home safe...that's our goal. Safety, security, health, and wellness are fundamental

tenets of our business. Awareness and attention are the first step, but mutual caring and individual responsibility is the ultimate answer. At Golder, every individual has the training, the tools, and the power to create a safe work environment.

### **Taking a Sustainable Approach**

We are committed to thoughtful balance as we plan, design and consume, with a view to the long term. When it comes to services we provide, we proactively engage our clients in discussions about sustainable options to help them achieve their own goals for economic, social, and environmental measures. We aim to improve the lives of communities we touch through our work and by our giving.

### **We are Built to Deliver**

With over 6,500 highly skilled engineers and scientists operating in more than 150 offices worldwide, Golder provides consulting, design, and construction services in the specialized area of earth and environment differentiated through technical excellence, innovative solutions and award winning client service. Whether your business or program is local or international, we can mobilize to deliver. One of the keys to our success is that much of our knowledge and skills are transferable from project to project, field to field, country to country. We have the resources to assemble exceptional teams of engineers, environmental specialists and scientists to address your project challenges. Many of our professionals live in your community and understand your local issues, but we can also draw upon experts from around the world who have a broad range of international experience. Golder is a place where collaboration and innovation are fostered, creating a unique culture where we build lifelong relationships that are strengthened with each passing day. Our network of clients and colleagues is built on trust and nurtured by commitment, longevity, and transparency, creating exceptional value for both our clients and the industry at large. And our impact goes beyond the projects we complete.



Business is transforming.

Technology is radically advancing.

Markets are disrupted.

At Golder, we transform complexity into success for you.

# We thrive on challenges

[golder.com](https://golder.com)







# SERVICES

Logistics and Transportation  
Consulting  
Certification



# Mistral International

## MISTRAL INTERNATIONAL

Mistral International has been founded in 1980 and based on a continuous growth, we're specialized in logistic services for big projects from ex works to door, ocean and air freight, inland transports, customs clearance, operations of import/export cargo, in Genoa or in the most important Italian, European, worldwide (especially Egypt, Morocco, Saudi Arabia and Brasil) ports where we're present with our agents.

A solid part of our business are the local Italian trucking services, both for general cargo as well as for versized and/or project cargo, to and from any Italian or European or Easter European Countries. We also offer express transport of small cargoes with truck of different capacity to any place in Italy (including the Islands) and in Europe also for ADR. For any operations of loading/unloading and lashing of cntrs we dispose of our warehouse in the Port of Genoa even for fumigation operations. Among our customers we can mention Companies specialized in biomedical equipments, refractories material, plant engineering, chemicals.

Our services are appreciated by smalls and medium sized companies which entrust in our versatile experience and care to handle their goods including those of considerable value.

### EXPERIENCE

Since 1980 we are specialized in sea, land and air freights. Remarkable experience in plant building (operations)

### CONSULTANCY

We provide expert advice for the most suitable solution to every transport issues.

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Fumigation

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Heavy – extragauge road transports

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Mistral International has been awarded with the ISO 9001 since 2000.  
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# MISTRAL INTERNATIONAL



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# Studio Barbieri Rag. Devis



## Studio Barbieri

### **Lo Studio Barbieri** **FISCAL AND TAX ASSISTANCE**

We offer to corporate **accounting services** in the various existing tax systems, **accounting and tax consultancy**.

Our **fiscal consultancy**, real estate and contributory services are also available for private individuals.

Thanks to the experience and reliability handed down from father to son, we can guarantee to our customers expertise and professionalism in dealing with problems related to fiscal and tax sectors.

### **OUR SERVICES**

#### **Consultancy in fiscal, real estate and tax field**

Thanks to our experience and constant professional updating, our Office - in collaboration with Master Data s.r.l. - can offer a complete service in the fiscal, real estate and tax fields.

Our Office also takes advantage to the collaboration with an Employment Experts from Brescia for the full-scale theme of payroll.

#### **Accounting for corporates and organisations**

Stock records keeping and depreciable asset bookkeeping service for each existing accounting regime (simplified, ordinary, minimum ...).

### **Consultations and tax returns for corporate and private individuals**

Tax and social security consultancy and tax returns for all types of taxpayers, tax returns such as Unico, 730, Irap, VAT and all kinds of tax returns.

### **Financial statements drafting**

Consultancy for the preparation of interim and year-end financial statements. For the joint-stock companies we also make the deposit at the Trade Register office of each province in Italy.

### **Real estate consultancy**

Consultancy for companies and private taxpayers' real estate's owner in fiscal field (tax on property) and declarative (declarations for successions, purchases or sales).

### **Paperwork in tax and social security institutions and local authorities**

Consultancy for companies and private taxpayers at any local authority in the sector of tax, social security and welfare (Inps, Inail and other Italian institutions).

### **C.A.F. for private tax payers**

Tax and social security consulting to employees and retirees, within the 730, red-Inps, ISEE, ISEEU and all the services that a "C.A.F." offers to taxpayers.



# Studio Barbieri

ASSISTENZA FISCALE E TRIBUTARIA

**OUR EXPERIENCE  
AT THE SERVICE OF  
COMPANIES,  
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AND PRIVATES**



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- **Consultancy in fiscal, real estate and tax field**
- **Accounting for corporates and organisations**
- **Consultations and tax returns  
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- **Financial statements drafting**
- **Real estate consultancy**
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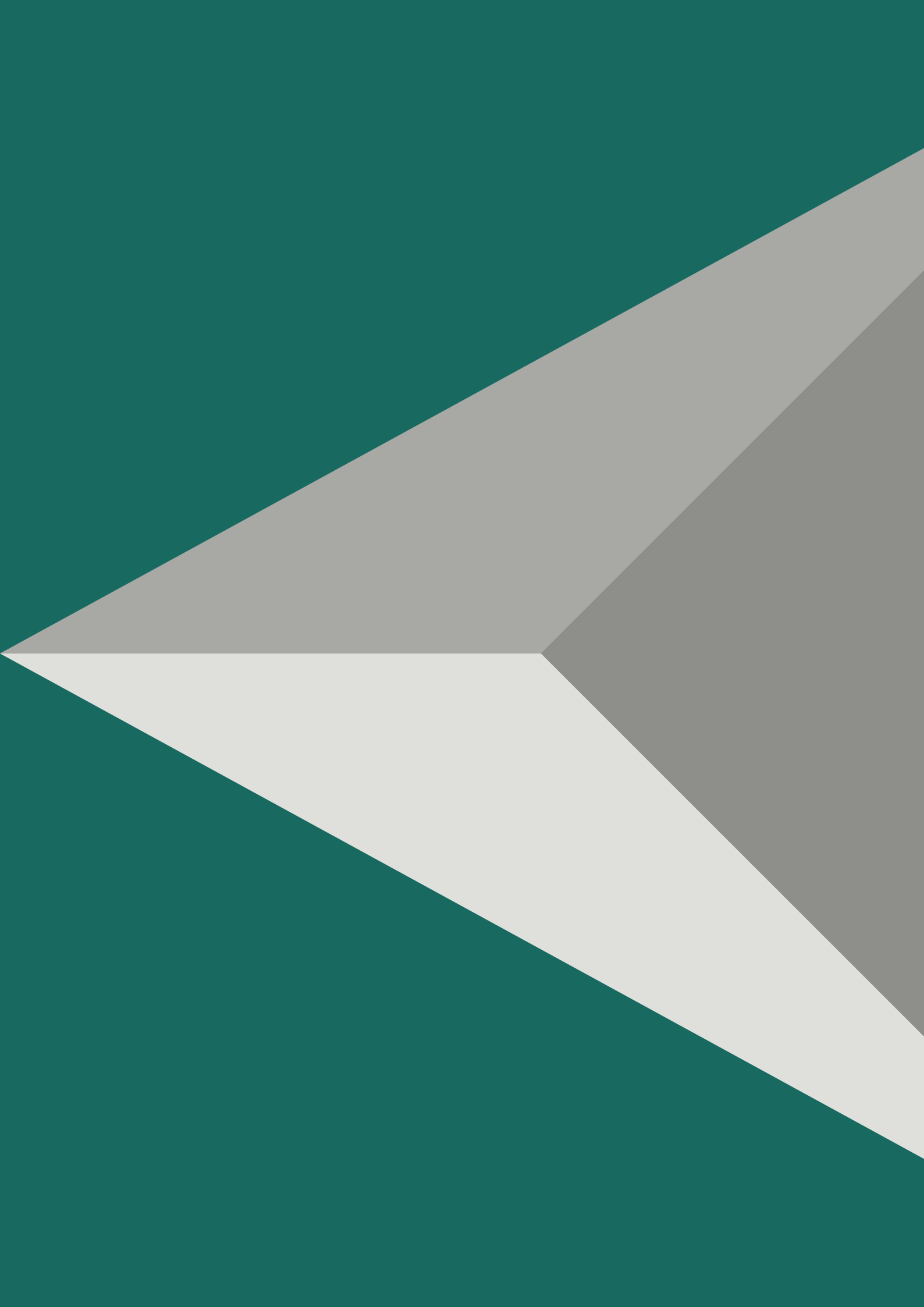


## **CERTIFICATIONS**

**ISO 9001   ISO 14001   BS OHSAS 18001   ISO 50001**

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