A CENTURY OF ENGINEERING MANUFACTURING *and* SERVICE QUALITY

Over 100 years of engineering experience – reflected in top-quality integrated solutions supplied to a range of sectors – has elevated Milan-based Boldrocchi Group to its leading position in global markets. “Quality, forward thinking and a customised approach are the foundations of our success,” said Giuliamaria Meriggi, Executive Director – International Operations. Romana Moares reports.

Founded in 1909 as a fan producer by the grandfather of the company’s current President, Boldrocchi Group has grown into a world-renowned engineering, manufacturing and service firm with products in over 140 countries and offices in eight, including its headquarters near Milan, Italy.

Boldrocchi is among the few companies in the world that can offer a wide-ranging portfolio of solutions that includes fans, blowers and compressors, air pollution control and environmental solutions, heat exchangers and coolers, gas turbine systems, noise protection and heavy-duty process dampers, among other equipment.

Forward thinking has been the company’s hallmark from the very beginning. In 1914, before most countries had even introduced environmental emissions legislation, Boldrocchi started to sell air filtration equipment to reduce fumes in and around plants. In 1927, the company purchased a licence from the United States to produce embedded finned tubes, which are still a core part of the business today.

Boldrocchi has continued to grow in every sense since, expanding its expertise, product portfolio, manufacturing and testing facilities as well as its global reach, establishing international offices around the world. Today, the company operates four production facilities in Europe and Asia and employs upwards of 500 people.

Boldrocchi offers customers a truly turnkey experience. The company has invested in its manufacturing and testing facilities as well as in its engineering, technical and service departments to ensure clients receive reliable, well-conceived and well-made systems. Its rotating machine testing facility, equipped with the latest technology, is the largest of its kind in Europe and in North America.

Innovation driven

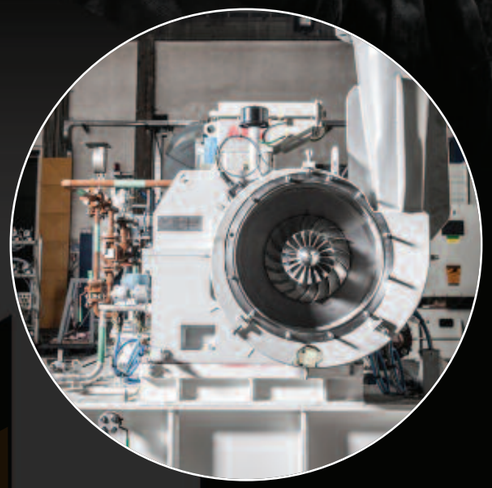
“We have remained a family company and the family spirit is felt throughout the business,” said Giuliamaria Meriggi, Executive Director – International Operations. “Another factor that has been always present throughout our history is the commitment to continuously invest in the business, and particularly in R&D.

“As our President Massimo Boldrocchi put it: “Continuous research and development is the only way to remain successful.”

While the traditional product line of rotating machines – such as fans, blowers and compressors – remains at the heart of the business in terms of market demand, all other product lines have good potential and are growing.

The company’s products are currently applied in a range of sectors from heavy industry through petrochemical, chemical, oil and gas, offshore and marine, to the power and waste-to-energy sectors. Throughout the business, quality is one of the company’s key drivers.

Boldrocchi has its own testing facilities to guarantee production excellence, is certified and accredited around the world, and is recognised as a provider of high-quality solutions.



"Another driver is innovation," stated Ms Meriggi. "For example, our centrifugal compressors are a relatively new product line, as we noticed a gap in the market for medium-sized compressors that are required as a pairing with several of our other products. These compressors meet API 617 and API 672, and like our fans and blowers, can be part of an in-house engineered integrated solutions package."

Another product recently launched by Boldrocchi is ceramic candle filters. Ms Meriggi said filtration using ceramic filters is a technology generating increasing interest and Boldrocchi is one of the few companies in the world with experience in implementing it.

"High temperature filtration provides optimal filtration efficiency while withstanding high operating temperatures and is particularly useful when looking to increase heat recovery and comply with stringent emission regulations," she explained. "So far, more than 10,000 ceramic elements have been put in operation worldwide, which is quite an impressive number given that this brand-new technology was launched only a few years ago."

Global operation

To give a few examples of the company's product installations, Ms Meriggi pointed out that Boldrocchi engineered, manufactured and tested complex fan systems to optimise the steam reforming process at the Banggai Ammonia Project, a new ammonia plant commissioned in 2017 for Panca Amara Utama in Indonesia.

"As for similar recent projects in the same application, Boldrocchi's team designed the system to reduce energy consumption at lower loads. Plant operators can reduce fan speed and fine-tune the regulation of the process by controlling a damper. This double regulation allows the plant to reuse energy while ensuring that critical speeds are never reached."

The company has a long list of reference projects also in the heat exchanger and cooler product line. Although grouped under one category, these are completely different products, for different applications, as Ms Meriggi highlighted.

"A good example of our heat exchanger installation is a complex project in Kazakhstan, where Boldrocchi designed, manufactured, inspected and tested nine high-performance, air-cooled heat exchangers (ACHE) solutions, and delivered all products in an impressive 11 months," she said.

Another project highlighting the company's capabilities occurred in 2018 when Boldrocchi welcomed over 30 customers from some of the largest OEMs to its in-house testing facilities near Milan for the functional testing of an enormous 7m x 7m diverter damper. The gas turbine diverter, one of three delivered to the client, not only offers extreme capacity, but surpasses the norm in terms of geometrical sealing, sealing pressure and closing time, while reducing maintenance and easing transportation and assembly.

The diverter damper can withstand temperatures of up to 700°C, vibrations and gas turbulence, as well as elevated wear of components. The diverter is equipped with an air sealing system which allows the sealing degree on exhaust gases to equal 100% (full tightness). The air sealing pressure is > + 500 mm wc, whereas original equipment manufacturers (OEMs) only require +50 mm wc.

Guests attending the demonstration also witnessed how the diverter's hydraulic actuators give it a normal operation time of less than 60 seconds and an emergency closing time of less than 20 seconds, as per the customer's request. However, the diverter has been engineered and manufactured to obtain even shorter actuation times.

On the other side of the globe in Canada, the company delivered the highest capacity transformer coolers ever realised for an aluminium smelter. Boldrocchi was the only company up to the challenge of engineering and manufacturing 10 enormous transformer coolers with capacity of 800 kW each with very low oil operating temperatures.

The company's capability in the area of coolers may be referenced by an Australian LNG contract Boldrocchi completed recently.

"This project was important, as it was implemented for the world's first LNG plant to use combined cycle technology. The onshore plant is powered by natural gas from the Ichthys Field," noted Ms Meriggi.

"In recent years, the market has been increasing its focus on efficiency and lower energy consumption and these requirements apply to all of our machines. Environmental protection is of course the key topic today. Following efforts in Europe and North America, this topic is now being seriously addressed in Asia."

Staying at the forefront

Boldrocchi has a whole division dedicated to air pollution control and environmental protection. Its dust removal solutions can achieve practically zero emissions (0.1 mg/Nm3 0.06 gr/ft3 WTE applications) and its flue gas treatment solutions remove dust, acid gases, nitrogen oxides, sulphur oxides, mercury, furans, hydrochloric acid, dioxins and other heavy metals.

"We offer everything needed to meet or surpass all air emission regulations worldwide," declared Ms Meriggi. "One of our latest projects in this area includes the transformation of several electrostatic precipitators into fabric filters on line 2 kiln and raw mill in Tambon Pukrang, Thailand. We are also providing ID fans for the project, to be completed in 2019."

She further noted that Boldrocchi's R&D team currently performs pioneering research, together with the University of Naples, into studying superfine particles, an area which is not yet covered by legislation.

"Again, Boldrocchi is ahead of others, making steps towards even cleaner air for future generations," remarked Ms Meriggi. "But innovation is not our only competitive advantage. The others are customer-centric approach and flexibility.

"We always listen to our customers and tailor our solutions and services to their needs. We have more than one product, we can provide an integrated approach, offer more products for complex installations. In other words, we can be a simple equipment supplier as well as an APC contractor delivering complex systems – whatever the customer requires."

In concluding, Ms Meriggi confirmed that investment in Boldrocchi development will continue, not just in its production capability but also in its geographical footprint.

"We are very active in expanding our global reach," she affirmed. "In terms of production, we are firmly set in Europe and Asia but lack coverage in Americas. This is something we are looking at now, and considering investment in that region, possibly through acquisition." ■