

PetrolValves has always paid great attention on being close to its customers and intensifying its presence in key geographic markets. The Italian company's focus on continuously improving customer satisfaction, cost optimization and achieving operational excellence proves its responsiveness to the market. This also applies to launching innovative products to meet end-user's market demands.

By Lucien Joppen



## Closer to the customer

In the almost 65 years of its existence, PetrolValves has evolved as a valve manufacturer who has specialised in high-demanding applications for the oil and gas sector.

The Italian company has put itself on the map by developing several innovative concepts. In 1968, PetrolValves launched the patented top-entry ball valve. The following decade, PetrolValves moved into the subsea business where it solidified its market position. In the 1980s, the company launched the first metal-to-metal sealing ball valve.

"One of the reasons for me to join PetrolValves was its rich heritage", says CEO Cristiano Tortelli. "Furthermore, we are not so much governed by fast returns or stock market ratings. Our mission is clear and still stands: to deliver safely and efficiently energy flow solutions, suited to the vital needs of our global customer base, the oil and gas industry. We dedicate our resources without limits to safely delivering solutions that also meet high quality standards and match OTD customers' needs. We solve its most complex challenges using our expertise, imagination and

innate curiosity continuously pushing the boundaries of technology."

### Focus on cost

Having stated this, Mr. Tortelli also mentions the current situation in the energy sector which has a major impact on the oil/gas/energy-sector and its supply base.

"We are living in unprecedented times, in which the near future for the global economy is very uncertain. As for now, we need to adapt our strategy to remain not only competitive in a extremely cost-driven market but on the other hand we aim to offer solutions to improve our customers' Total Cost of Ownership. We are positive that we can master this challenge, while at the same time keeping our long-term vision intact."

As Mr. Tortelli has mentioned, cost has come to dominate the oil and gas sector. "You have to be competitive in CAPEX to win the business and provide solutions to lower the OPEX. As we don't want to compromise on product quality and safety, we aim to streamline our business



operations in general and - more specific - in production technologies and more efficient design and use of materials (metals and polymers). We also aim to increase the productivity of our valves in operation by assisting our customers with innovative monitoring and predictive maintenance systems. We are also providing insights, for example through tailor-made analysis and preventive maintenance programs, that help them to optimise the potential and vitality of our valves through a Total Cost of Ownership approach and ultimately their entire production process.”

### More bang for your buck

Mr. Tortelli mentions several routes, specifically pertaining to valve and actuator design, that PetrolValves is exploring to decrease CAPEX and OPEX at an end-user level. One is reduction in size and weight. By using different concepts and solutions from different industries, the company can design and manufacture more ‘bang for your buck’-product concepts, integrating with advanced manufacturing technologies and alternative materials.

“We also see opportunities to improve the integration of the actuator into the valve to



reduce operational cost. The same accounts for using 3D-print technology and advanced manufacturing to reduce cycle time, and concurrently embedding sensing in the valve to completely rethink this aspect. Currently, we are in contact with several specialised IOT-companies that have proven concepts in different industries such as aviation, Oil & Gas or Power, to develop a comprehensive sensing and monitoring solutions for our customers, extending into full Digital Service Solutions to extract maximum Value from operating Assets. Again, these solutions should contribute to minimize production costs and optimize operating lifetime and maintenance costs for our customers improving the TCO of their installed asset base.”

### Local presence

To serve some of its customer base better and faster, PetrolValves has chosen to establish joint-ventures in important markets. “These collaborative efforts are crucial for us to gain footholds in markets that are important for us”, Mr. Tortelli says. “We need local presence in these markets for various

reasons. First of all, the importance of local content for governments. Also, to be closer to our end-users and speaking the language. My impression is that with COVID-19 this customer proximity will become only stronger.” In 2017, PetrolValves KIOS Kazakhstan LLP was founded: a joint-venture between PetrolValves and KIOS LLP (Kazakhstan). In 2019, PetrolValves entered its second joint-venture with the Saudi-Arabian company Dynamic Energy. The JV, PetrolValves Saudi Arabia, is set up in Dammam and manufactures various valve types including ball, gate, globe, check, butterfly and control valves, catering to local and regional oil and gas companies.

### Incremental innovation

As Mr. Tortelli has mentioned, PetrolValves is innovating to serve its customers in a better and more efficient way. CTO Federico Noera is responsible for both R&D/new product development and product management. “Innovation is not only about technical breakthroughs. It is also about incremental innovations - or continuous improvement if you will - that add value or eliminate

The management team of PetrolValves has a shared background. Both the CEO, CTO and CCO have worked previously for General Electric’s oil/gas/energy business.

**Cristiano Tortelli**, CEO since 2018, has worked in various management capacities in the oil and gas industry in different locations and business segments (turbomachinery, subsea). Before he joined PetrolValves, Mr. Tortelli headed Prysmian Group, an Italian multinational corporation that manufactures electric power transmission and telecommunications cables and systems.

**Federico Noera** joined PetrolValves as the CTO in 2019. After his study in Mechanical Engineering at the University of Genoa, he joined a multinational where he worked in various management roles at the company’s Oil&Gas and Power division. When he was stationed in Aberdeen, he was the SVP at the Subsea & Drilling Engineering and Product Management.

**Sandro Malquori** is also recently (2019) employed by PetrolValves. Equipped with an engineering degree, Mr. Malquori started his career in the international oil/gas/energy sector. In the following years, he moved into a commercial role and later in executive functions at the company. Before he joined PetrolValves, Mr. Malquori was the VP at an Italian multinational corporation Oil&Gas division.

non-value added activities. This process is a matter of finetuning, gradually sharpening our operations. In this era of cost-pressure in oil and gas, we need to find a balance between cost and complexity. The complexity arises from the varying end-user requirements that lead to similar product applications that have different, client-specific features. These variations, though, increase production costs. We have developed a modular production system by which we are grouping the common parts and add the more bespoke components to the overall product configuration. This approach facilitates a more efficient production cost and it also allows us to respond faster to customer's requests."

### Launching an Innovative Design and Valve Concept

At the moment, PetrolValves is busy testing a new prototype of a new valve that encapsulates the company's drive to develop and manufacture more efficient valves in a more efficient manner.

The new valve's name will be kept classified until the official Product Launch where more design and performance details will be disclosure. "With the new design, we have managed to leverage Oil & Gas leading and well proven technologies into an overall valve configuration. This means 30 to 40 per cent less weight with less internals, and similar pressure containment abilities. Due to the new product concept optimization, we are able to reduce cost in material selection and assembly cost. Currently, we are conducting extensive tests which will be concluded in the coming months both for topside and subsea applications. The next step is to test the valve in the field at one of our customers."



Wolfram Scheible, 2018, Nord Stream 2 stock image

### Predictive maintenance

IIOT is also an interesting option which in the '(post-)pandemic era' will definitely gain more traction. Noera states that some end-users are more advanced in this domain. Other still rely on conventional methods to monitor valve/actuation systems. "The best way is to convince end-users with a case study. However, it is best to talk directly to specific customers to understand what they want from this technology. At the moment, we are in discussion with some end-users in the Nordics and Kazakhstan. The projects in question are related to remote monitoring of an actuated valve system and the creation of a digital twin (predictive maintenance, spare parts management, ed.). These technologies are definitely interesting from a cost-perspective as many man-hours are involved to carry out various

asset management tasks. Again, it is about cost-reduction and minimizing the chance of unplanned shutdowns from happening."

### Strong in subsea equipment

Finally, Valve World spoke with CCO Sandro Malquori about PetrolValves' market approach. Also, PetrolValves' main markets were discussed.

"For our company, up/midstream is by far the most important segment, accounting for 85 to 90 per cent of total sales. During the years, PetrolValves has evolved to one of few global players in subsea equipment. Despite a slow-down of activities in the subsea segment, there are some promising opportunities in the Gulf of Mexico, Australia, Africa and North Sea. Topside equipment for platforms, semisubmersibles and FPSOs are also a major segment for us. At



### Company with a global presence

PetrolValves is a leading manufacturer of valves and actuators for the oil and gas industry. Formed in 1956, the company, based in Northern Italy, has evolved to a midsize company (approximately 500 employees) with sales, services and manufacturing facilities throughout the world. PetrolValves has a direct presence in the United States, Norway, United Kingdom, Italy, Australia, Malaysia, Saudi Arabia, UAE and Kazakhstan via sales offices, service facilities and joint-ventures with local companies.

The company also owns VSI Controls, a company that specializes in the design, the production and the sale of control valves on the global market with over 35 years of gained expertise and experience in particular in engineered products.

the moment, the Middle East, most notably in Saudi-Arabia and Qatar, is the most active region in this space.”

Malquori also mentions LNG as an interesting market for PetrolValves, both for cryogenic and non-cryogenic applications. “Due to slowing down in energy demand, project development has halted. However, we managed to secure interesting volume on some large LNG projects, in Texas.” Malquori mentions that receiving and exporting LNG-terminals is an important market segment as well given the demand for severe service valve applications. The company is also focusing on pipelines and downstream/refinery applications, continuously pushing the boundaries of technology leveraging R&D and design optimization initiatives.”

### Closer to customer

Regardless of the market segment, PetrolValves has a clear vision of customer intimacy, as Mr. Tortelli already mentioned earlier.

“We already have increased our presence in key markets, such as the aforementioned joint-ventures, commercial offices and service shops. We need to be closer to our customers to improve our and their performance levels. For example, in communicating with our customer base. Transparency is often forgotten but it makes a huge difference. To give an example, during the height of the pandemic in Italy, we proved our commitment sending frequent status updates via e-mail to our customers, providing also information on current orders. One client from an EPC from Japan complimented us with this pro-active approach.”

Customer proximity of course also translates itself into faster response times for



example in field services or shorter purchase order lead times.

“With our joint-venture in Kazakhstan, we are one of the few global players who have

operations on the ground, providing field services/maintenance and manufacturing valves. In this way, we are able to stay with our customers during the entire valve life cycle.”



### PetrolValves' pure bred: TOV AJ Series

Not to the detriment of PetrolValves expansive valve portfolio, its triple offset valve series deserves special attention. The product line and production process also embody PetrolValves' goal to develop more efficient products in a more efficient manner. According to Mr. Tortelli, the TOV's clever, compact design and engineering features are setting this product range apart from the competition. “For example, the torque seating, non-rubbing rotation and asymmetric design that entails a preferred sealing direction ensure a long-term operating reliability. The valve is therefore capable of providing a consistent tight shutoff. The low and constant torque requirement is another important consideration as it means the valve can be easily operated by hand whilst low size actuators will be sufficient if automation is required.”

To produce the TOV AJ Series PetrolValves has invested in a state-of-the-art production facility in the Italian city of Piacenza. The plant operates to the highest standards of operational excellence. “With this facility, we also have integrated design and production in a seamless fashion”, Noera says. “It is fully CAD/CAM-integrated, with automatic welding for the overlays and automated testing facilities, for example for cryogenic applications. Customers are able to witness our testing procedures from their office. This has helped us too during the quarantine-period as you can imagine.”