

UPS AND DOWNS: FLOW CONTROL SOLUTIONS

Heba Hashem takes a closer look at the commercial challenges and latest technologies in the integral elements that make the pipes, valves and fittings industry move forward

In recent years, manufacturers of pipes, valves and fittings have been riding a crest with the increased pace of exploration and production activity brought on by the favourable economics of oil and gas extraction in the region.

Keeping up with demand

In the Middle East region, where the oil and gas market has bigger projects than anywhere else in the world, manufacturers of pipes,

valves and fittings (PVF) need to develop faster ways of sourcing and delivering materials.

Yet meeting customer demand becomes a challenge when a manufacturer lacks adequate local foundries and sub-suppliers, according to Kajal Saha, FIELDVUE instrument product manager at Emerson Process Management Middle East & Africa.

"This was made more complex by the release of pent-up demand after the economic downturn in 2009-2010. We're still seeing

suppliers and manufacturers who reduced capacity back then and are struggling to keep up with demand."

Operating costs are also on the rise, notes Saha. "We have seen organisations for whom this has been a challenge to the point where it has threatened to affect project schedules and budgets."

To top it all, the continuing political turmoil in some countries has made doing business difficult, which means manufacturers and





Kajal Saha, Emerson

“The global market for industrial valves is projected to surpass \$92 billion by 2018 according to Global Industry Analysts”

suppliers have to take extra measures in getting people and goods in and out of those countries.

Vertical integration crucial

Increasing collaboration with sub-suppliers and local business partners is possibly the most proven route to preventing shortfalls and guaranteeing a reliable supply chain within the PVF industry. Some manufacturers, however, have opted for vertical integration of their businesses, offering one massive source for all related products.

Pentair, for example, has made significant investments in having a fully integrated valve manufacturing facility in the UAE, which enables the company to provide its

own castings to its factory and assemble its valve components.

The Swiss company provides a full range of valves and controls, water and fluid solutions, as well as thermal management and equipment protection products for upstream and downstream production. It is also the only manufacturer in the region with an integrated foundry and valve manufacturing plant.

Armed with these self-contained facilities, Pentair is now tapping into the Saudi market, where total spending on upstream and downstream oil products is expected to reach US\$15 billion between 2012 and 2017, according to estimates by MEED. In fact, the company recently agreed to form a joint venture with Ali Abdullah Al Tamimi Company to manufacture, sell and service Pentair's products in Saudi Arabia.

The UAE is expected to spend even more on upstream and downstream oil products – nearly \$40 billion within the same period. To be part of this booming market, Pentair acquired a 75 per cent equity stake in Dubai-based Holdings Ltd., an integrated valve manufacturer and steel castings provider.

Meanwhile, TMK, whose tubular products hold 15 per cent of the Middle East market, only recently established its Middle East division – in March 2013.

“The sales division of TMK Middle East was launched seven years ago in Dubai, where most of the world's sector giants have a presence. The successful launch of the sales company led to a second production branch in the region,” says TMK Middle East division director, Kirill Marchenko.

The expansion strengthened TMK's position in the MENA region, encouraging the company last December to acquire a controlling share in Gulf International Pipe Industry LLC (GIPI) in Oman. Now known as TMK GIPI, the plant can produce up to 250,000 metric tonnes of tubular products per year.

It didn't stop there, as the third stage of TMK's expansion involved a joint-venture deal with EMDAD – one of the largest oil service companies in the region – to

construct a service centre for pipe repair and pipe threading in Abu Dhabi. Threading and Mechanical Key Premium LLC produces approximately 10,000 tonnes of premium tubular products per year.

“TMK's three-tiered production and sales complex in MENA now covers all potential needs for tubular products and associated operational services of clients in this region,” Marchenko points out, adding that the expansion of TMK's business in MENA will



The Fieldvue digital valve controller

require increasing market share. "Division management plans to increase delivery volume of welded line pipe and casing, thereby boosting production at TMK GIPI."

Switching to automated

Besides having their supply demands met, oil and gas companies are always on the look-out for durable products that can withstand their harsh operating conditions. At the same time, wireless and automated solutions are being favoured over wired and mechanical options.

"We are seeing an increasing demand for wireless on-off control and monitoring. Incorrect valve alignment is a common issue in oil and gas production—a problem that often results in spills, lost batches, and even safety incidents."

Although many businesses that considered converting valves from manual to automated control decided against it because of the daunting costs and time needed for the project, wireless monitoring has changed all this. "With wireless monitoring of the valve position, these budget and schedule obstacles are gone", highlights Emerson's Saha.

In the control valves industry particularly, digital solutions and microprocessor-based technology are continuously improving. Such solutions are enabling oil and gas companies to solve old problems in innovative ways.

"Operators can receive alerts on pending valve issues and take comprehensive control of their pre-emptive response, including valve configuration, calibration, tuning, and assembly diagnostics," explains Saha.

Durability wins

For oil and gas clients, maximising return on investments certainly means providing long-lasting pressure and flow control solutions, rather than traditional "throw-away" valves or pipes.

Moreover, the coatings used in oil and gas operations are often critical not only to the performance of the valve, but also to the safety of personnel. In the Middle East's specific environment, for example, coatings must handle a variety of challenges such as corrosion, erosion, putting, wear, and material build-up.



Ramesh Nuggihalli, Pentair Middle East

Last year, TMK GIPI delivered around 22,000 tonnes of pipe with anticorrosion coating to some of the largest oil companies in the region, including Petroleum Development Oman and Oman Oil Exploration and Production, proving the large demand for piping with high-tolerance coating.

On the other hand, the abrasive nature of certain gaseous agents creates serious operating challenges that require advanced, safety-certified valves. By ensuring that valves can handle the most common leak areas – stems and body gaskets – pipeline and process plants can adhere to legislative, safety and environmental requirements.

"In recent years, we have made significant engineering advancements in product designs, safety features and new materials, offering products that are reliable with zero-leakage in the most critical conditions," says Ramesh Nuggihalli, vice president and managing director of Pentair Middle East.

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Beyond products

PVF manufacturers that want to remain on top of the game, however, will have to look beyond the delivery stage; providing in-the-field customer support, valve analysis, maintenance and repairs, through regional service centres located within proximity from customers' sites.

Emerson's regional network, for instance, is strategically present in Dubai and Abu Dhabi in the UAE, Jubail and Khobar in Saudi Arabia, and Doha and Ras Laffan in Qatar. Their manufacturing facilities are also interconnected globally to make sure that every valve product meets the right specifications and delivers its expected performance

"The proximity of the production and service sites to each other and to global ports yields a synergetic effect. A client can obtain any pipe produced by the company, apply protective coatings and thread and repair pipe," notes Marchenko of TMK.

According to a new market research report by Global Industry Analysts, the global market for industrial valves is projected to surpass \$92 billion by 2018, driven by increased industrial expansion in emerging economies and government regulations relating to emission control. Future growth for industrial valves is expected to be the strongest in the emerging markets of Asia-Pacific, Latin America and the Middle East. 🌐