Vallourec, at the heart of a changing world
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The commercial successes achieved by Vallourec month after month endorse its decisive transformation at the heart of a changing world. Its competitive production routes, value-creating services offer and engaged employees underpin Vallourec’s path to recovery as the leading provider of tubular solutions to the energy and industry sectors.
United States
Fostering local production

American shale oil is among the world’s cheapest to extract. Developments in shale drilling have brought down the profitability threshold for oil producers to less than $50 a barrel and helped investment to recover. There are currently around 1,000 drilling rigs operating in the United States, and maximizing local tube production is now the biggest challenge facing Vallourec North America. Section 232 of the Trade Expansion Act aims to protect American steel, has effectively created customs barriers to entry and slowed imports. In 2018, Vallourec North America increased local production by 16%, and in 2019, will increase its finishing capacity to fully utilize local rolling capacity. With the addition of its new services offer, Vallourec North America is out to win new customers.

Brazil
A new president and a new direction

Vallourec South America provides tubular solutions to the oil and gas sector, and to the automotive industry. During the 2015-2017 period, these market segments suffered a serious crisis due to political and macroeconomic instability. Nowadays however, based on the Brazilian economy’s healthier prospects, the new government elected in 2018 is beginning a program of structural reforms. Additionally, the opening up of the oil and gas market is attracting overseas companies, which will stimulate sales for Vallourec, the only producer of seamless tubes in Brazil.
China reviews its energy mix

China uses almost a quarter of the world’s energy and is on course to consume up to 28% by 2035. Until now, its primary energy source has been that most locally accessible: coal, which meets two-thirds of its energy needs. But high pollution levels in most major Chinese cities have led the country to reconsider its energy mix. This likely means coal’s share will fall to less than 30% of the total. As for oil, at 12 million barrels a day, China has become the world’s largest importer, and wants to reduce its dependency by expanding domestic production. Chinese companies are looking to conquer the world’s oil fields, where Vallourec’s expertise can make all the difference.


Europe
A new focus

The revival of offshore deposits in the North Sea and Caspian Sea presents opportunities. However, due to the intense competition in the oil and gas market, Vallourec Europe is focusing on the most innovative technical solutions and on stepping up its cost reduction program. The German mechanical industry provides an important outlet for Vallourec tubes, while the decline of coal is once again impacting industrial equipment. In Europe, improving competitiveness remains the No. 1 challenge.

Africa
Is now our time?

Three consecutive years of falling investment in exploration and production have forced oil companies to draw on their reserves with no chance to replenish them. But in 2018, the rise in crude oil prices revived investment and re-energized the African oil industry. By late 2017, the number of active rigs had fallen to its lowest level in 10 years: 76, including only 10 offshore platforms. By mid-2018, however, the working fleet had grown to 103 rigs, including 17 offshore. Whether in Algeria, Egypt, Uganda, Angola, Mauritania, Senegal or South Africa, the upturn is giving the entire continent a welcome boost. And Vallourec is ready.

(1) Source: Baker Hughes.
With its strong industrial heritage and modern agility, Vallourec is driving the tube industry forward and supports its customers worldwide in meeting every challenge.

Vallourec: partner for every possibility

Revenue by activity

- **72%**
  Oil and gas, petrochemicals
  Exploration, production, transport and transformation

- **7%**
  Power generation
  Power plants, all generations

- **21%**
  Industry and other
  Infrastructure, mechanical equipment

Revenue by geographical area

- **32.7%** Middle East and Asia
- **27.7%** North America
- **15.9%** South America
- **15.0%** Europe
- **8.7%** Rest of the world
More than 19,000 employees in 20 countries

More than 22% women managers

3,921 € M in revenue

2.36 million metric tons of production shipped

125 years of industrial history and expertise

200 VAM® licensees around the world

More than 50 production plants on four continents

€45 M allocated to R&D

130 innovators involved in the 2018 Innovation Challenge
Vallourec’s new industrial footprint

Supplying the local oil and gas market

In the United States, Vallourec is increasing its finishing capacity to fully meet local orders.

“Best-in-class” producer for the local and export markets

As the only producer of seamless tubes in Brazil, Vallourec is applying its expert knowledge of the Brazilian pre-salt basin.

Production sites:
- Pipe mill
- Steel mill
- R&D center
- Finishing unit
- Sales and services office
- Plantation and mine

Sales of premium products exported from Brazil and China in three years: x 6
The center of technological excellence
A demonstration of the total industrial footprint reduced to 25% and focused on the most complex and innovative solutions.

A highly competitive production hub
Integration of the plant in Tianda, China, and the accelerated premiumization of its offer enabled access to local and export markets with optimized attractiveness.

Ready for the big projects
The boost to competitiveness coming from new routes and team motivation strengthens Vallourec’s place in these strategic oil and gas markets.

Highly competitive new routes
An increased presence alongside oil and gas customers.
The Vallourec share price is extremely volatile. How can investor confidence be regained?

P. C.: Recent volatility in Vallourec shares reflects that in barrel prices and the sector in general. Investor confidence rests on Vallourec’s capacity to stay on the path to recovery. For this reason, the improvement in our results in 2018 shows we are moving in the right direction, with sales up 11% at constant exchange rate, of €150 million and a transformation plan well ahead of its ambitious goals. The €2 billion in lines of credit available, of which €600 million had its maturity extended, attest to our banks’ confidence in how well our recovery is progressing.

How can we manage the constant fluctuations in barrel prices?

P. C.: When it comes to oil prices, anything is possible, but the underlying trend is toward stability. Worldwide consumption is still increasing, while reduced production from old fields and the delay in developing new reserves will inevitably lead to renewed
investment in exploration and production from new drilling. The catch-up process began in 2018, and we predict between 8% and 9% annual growth in exploration and production investment over the next five years. This will increase the demand for tubes.

What is the outcome for 2018 in the main regions where Vallourec is present and what is the outlook for 2019?

P. C.: The American market has clearly recovered since 2017. The United States became the world’s largest oil producer in 2018, and the same will soon be true for gas as well. The EAMEA region¹ began to recover in the fourth quarter of 2018, stimulated by demand from national oil companies and renewed investment by the majors. In South America, Brazil is profiting from its exceptional geology. Its offshore is the most competitive in the world, and the opening up of the market to international majors should lead to a rapid increase in influence. These are the Group’s three main growth drivers, which have ignited one after the other and offer good prospects for growth.

What precisely is the situation in Europe?

P. C.: Europe remains a strategic strength for Vallourec. With significant industry activity, especially in mechanical equipment, it’s the Group’s technological platform and production center for technical solutions. Currently, the decline of conventional power plants has prompted us to move away from this activity, which means altering our industrial footprint. We are pursuing this last phase of restructuring, which significantly affects Germany, in close consultation with our trade union partners.

Vallourec generates almost 70% of its revenue in the oil and gas sector. Where are you in terms of diversifying your markets?

P. C.: In industry, our main markets are the mechanical market in Germany and the automotive market in Brazil. With energy transition, we see potential growth in the longer term. We are already present in geothermal and are exploring renewable energies, including offshore wind. Oil and gas will sustain us long enough to find new applications for our products and expertise in the management of complex fluids.

The Vallourec.smart services offer is a sign of Vallourec’s movement toward digital. How is it perceived?

P. C.: We have enormous amounts of data on our tubes, and digital allows us to use it in applications that create value for customers. We have integrated this enhanced products and services offer into Vallourec.smart. The movement toward digital marks a cultural shift where we are discovering a new way of working: iterative innovation, and co-building is bringing us closer to our customers. It’s also very motivating for our employees.

More than 7 out of 10 employees are very happy to be working at Vallourec. What are you doing to sustain this level of motivation?

P. C.: I want to reach 10 out of 10! Approachable managers who listen to people, and ongoing explanation have let us get through difficult times in our restructuring. Senior management is committed to providing reassurance about Vallourec’s future in each region. Vallourec’s employee engagement levels are remarkable and demand admiration. Vallourec is their company, their story and, ultimately, will be their success.

(1) Europe, Africa, Middle East, Asia.
Tomorrow in a nutshell

“With a new bond issue successfully completed in April 2018 and the recent extension of significant lines of credit to 2021, Vallourec has established high liquidity in keeping with its improved financial performance.”

“Vallourec is heading in the right direction. Market trends are favorable, the transformation plan is progressing, and our people’s unfailing engagement continues to make the difference. A new Vallourec is emerging – expert and creative, resilient and agile. In a nutshell: the future’s bright.”

“Our performance improvements continue. This recovery reflects favorable trends in our markets and the impact of our transformation plan. The cost-saving measures and deployment of our new competitive routes are bearing fruit. Digital is stimulating our capacity for innovation. We’re on the right track.”
Hubert Paris
Senior Vice President, Technology & Innovation

“Innovation in products, offers, routes and methods is a constant in Vallourec’s history.”

Nicolas de Coignac
Senior Vice President, North America

“Our employees’ ability to take ownership of the challenges facing the company makes the impossible possible.”

Philippe Carlier
Senior Vice President, Technology & Industry

“Vallourec’s industrial and logistical routes guarantee our lasting competitiveness.”

Alexandre Lyra
Senior Vice President, South America

“Thanks to the engagement and determination of all our employees, Vallourec will always prosper.”

Édouard Guinotte
Senior Vice President, Middle East/Asia

“Endurance, engagement and passion! It’s our heart that will let us complete the Group’s transformation.”

François Curie
Vice President, Human Resources

“Collective performance at Vallourec is spontaneous and knows no limit.”

Rémi Dujon
Group General Counsel

“Our solution-based approach, our presence and innovations make Vallourec our customers’ preferred partner in all circumstances.”
Thai company PTTEP has selected Vallourec for its ambitious offshore exploration project in Myanmar (formerly Burma)

Vallourec will supply more than 3,000 metric tons of OCTG tubes from Brazil, China and Germany, plus on-site support services.

Partnership with Interpipe: a complementary offer for Europe

Non-OCTG seamless tubes, destined mainly for the European mechanical equipment market, are rolled by Ukrainian producer Interpipe at highly competitive prices. They are then inspected and packaged in a shared finishing unit managed by Vallourec, which commercializes them exclusively in Europe. The capacity meets all demand in Vallourec’s oldest market.

Cleanwell® success in Egypt and Morocco

This multifunctional factory-applied coating eliminates the need for lubrication and speeds up tube descent with no rejects. This fast, efficient and safe system has been tested and approved by Petrobel in Egypt and Sound Energy Morocco.

Smartengo online sales

The Smartengo online sales platform makes it possible to obtain a live quote, order online from stock, and take delivery in a few weeks rather than several months. It’s Vallourec quality with added flexibility.

Smartengo Best Fit intelligent – and instant – assembly

This solution is based on the tube’s geometric data. With Smartengo Best Fit, the operator can find the perfect fit between two tubes and the ideal degree of rotation for fast, fault-free welding of line pipes. This offers substantial savings on the procedure, which is most often carried out offshore on ships leased for millions of euros.

New offer

Global support, from design to maintenance, that boosts customers’ operational performance (see page 18 for more).
Vitoria, Brazil
This large-scale platform supplies Sole, Subsea 7’s offshore gas project in Australia. Built near the coast and international port installations, it enables Vallourec to provide a comprehensive solution, from product manufacture to the transportation and coordination of deliveries.

Geothermal: the future of energy and of Vallourec
The Munich municipality has set itself the goal of meeting all the city’s district heating requirements through geothermal energy by 2040 – and it’s chosen Vallourec to achieve it. The Group will supply almost 4,000 metric tons of OCTG tubes for building the deep geothermal power plant: six deviated wells, each around 3,000 meters deep and 4,400 meters long. It’s the fruit of 30 years of Vallourec experience in geothermal solutions.

A revolution in corrosion protection from Serimax (Orbiter)
Where there’s a weld, there’s Field Joint Coating. And from now on, there’s Orbiter. This is an automated spray machine that ensures fast and efficient application of liquid corrosion protection coatings. Successfully tested in extreme conditions in Eastern Europe, Orbiter has proven itself on the 250 km pipeline from the Caspian Sea to Turkey, and was chosen for the Humber project in northern England. Here, the solution will be implemented on the longest gas pipeline in the world, located beneath the Humber river, through a tunnel and in a single sleeve.

4,000 welds, the equivalent of 50 km of line pipe, made by Serimax in Egypt on the Subsea 7 offshore vessel Seven Borealis using the world-renowned Saturnax 09 welding bug.
The climate battle intensifies
For the past 10 years, Vallourec has been conducting an ambitious energy efficiency program that has appreciably reduced emissions from its factories and products, thus contributing to its customers’ carbon policies. Global awareness of the urgency of climate issues has encouraged it to go further. Signing the “French Business Climate Pledge” in favor of a low-carbon economy, together with 88 other French companies, demonstrated the Group’s commitment. This was confirmed by the Vallourec Executive Committee’s decision to publish the Group’s 2020 emissions targets. The formation of a Corporate Social Responsibility Committee within the Supervisory Board makes it possible to create initiatives around the world and support their development.

Vallourec “Great Place to Work®”
Staff turnover is 10% on average in Houston but just 4% at Vallourec North America – both a marker and a source of pride for this subsidiary, which earned Great Place to Work certification in 2018.

Ultrasonic testing
This technology, the most advanced in the world, has been installed at the Düsseldorf-Rath rolling mill in Europe. It detects natural defects in 360°, considerably adding value, and increases both inspection speed and precision.

Tracking tubes from billet to well
Printed in white on the black coating of the finished tube, and using the widely recognized “Code 128” format, the clear and durable barcode contains the eight-digit serial number unique to each tube, plus plenty of other useful information. Vallourec is developing applications that make use of this data to simplify every stage from factory to well. With Tallix, the tube is identified in the storage yard. On the rig, Smart Tally is used to obtain extra information, such as the length of the tube and column during descent, and soon, a map of every tube’s position in the well.

Over 1,000 meters: the depth to which casing tubes were descended in Bolivia, under the control of VAM® Field Services teams, using the very latest gas-tight VAM® LOX connection.

350 metric tons of MSH hollow sections will form the structure of the offshore wind farm at Borssele in the Netherlands. They will protect the high voltage cables, switchgear and measurement/control units from the extreme environmental conditions in the Zeeland province.
Open innovation: the new DNA

Innovation has been in Vallourec’s DNA for 125 years and is now augmented by its data culture. The open data project provides a structure, on a global scale, for gathering data and making it available to everyone: employees, customers, startuppers, media, etc. This data lake is fed by real-world examples in a new agile approach to problems that was introduced during the first Vallourec datathon. This was organized in June 2018 in Valenciennes, France, and involved 23 participants from every business line and European organization. Six real-world examples were processed in three days and 109 datasets were added to the Vallourec data lake. Innovation Day 2018 followed, involving almost 130 innovators from every part of Vallourec, crowning four champions and upholding Vallourec’s principles of innovation. It will be useful to customers, and Petrobras, Total, Subsea 7 and Van Leeuwen came along to discuss their needs. It will also be open – external partners have shared their best practices and most convincing pitches.
Co-building is a new way of working

Innovation at Vallourec will be collective and iterative, as shown by the projects that won awards at Innovation Day 2018. The latest-generation premium OCTG connection, winner of the R&D Product category, involved different research centers and industrialization teams from America and Brazil. The winning solution in the Sales category united all the sales teams around the world, but also production, logistics and finance. Multi-product, multi-country teams are now responding to tenders with proposals for integrated solutions. Co-building with customers is also becoming a reality, with Vallourec North America initiating the Vallourec.smart integrated services offer with a large onshore operator. Having identified together the problems encountered in managing the flow of tubes, the two teams co-built a custom offer from preparation to delivery. After several months’ testing on a pilot rig, it was rolled out on seven rigs in Oklahoma.

Cultural change has begun

Supporting change continues and is improving employee perception. The engagement barometer, which is now completed every six months, shows a remarkable level of satisfaction: 73% of employees are very happy to be working at Vallourec. And the transformation is now in its final phase of cultural change. This involves simplifying everything that can be simplified and thinking of the customer in everything we do. These two golden rules are broken down into behaviors chosen by each region and into iconic actions to take on board. This ambitious project involves every Vallourec employee and will be cascaded down from the Executive Committee to the regional teams. Trained ambassadors will be tasked with communicating the two key messages to everyone. Launched in the Middle East/Asia region under the banner “Agile Team Players Who Deliver” and in the United States with the unifying motto “Winning As One,” this cultural change is gradually conquering the Vallourec world.
Vallourec on demand

Genesis of a disruptive offer

by Yvan Rivaux, project lead

Vallourec has a large quantity of tube production data that can be made usable thanks to digital. We put ourselves in the customer’s shoes and thought about the value chain. We chose the best solutions used by our people around the world, gathered them together in Vallourec.smart and enhanced them with our most recent advancements. It’s a complete offer of solutions and applications that cover the entire development cycle of a project. It’s a powerful service-based model to support our customers’ digital transformation.”

Didier Hornet, Senior Vice President, Development & Innovation, answers four questions: https://www.youtube.com/vallourec.com
An integrated services offer for the customer’s entire value chain

**Design:** From engineering studies to staff training
THE + Support at every stage of the customer’s project development

**Tube management:** Logistics, storage, supply and complete traceability of tubes
THE + Guarantees an optimized delivery network, fast installation and commissioning with complete peace of mind

**Supply:** Everything the customer needs, when the customer needs it
THE + Simplifies the supply chain and optimizes costs

**Installation:** On-site assembly and installation support services
THE + Improves tube integrity and maximizes efficiency

**Asset management:** End-to-end monitoring and analysis of operating data using sensors on the tubes
THE + Optimizes the lifespan of installed tubes

Access to a digital platform with integrated tracking of all operations
The Vallourec.smart offer as seen by employees

The offer was launched in Brazil at the Rio Oil & Gas 2018 fair and was very favorably received by customers

“Vallourec.smart simplifies tube installation on site and optimizes their management, which reduces the overall costs of Brazilian offshore projects. The first customers have clearly appreciated this.”

Renato Renno, Petrobras Key Account Manager, Vallourec do Brasil

The deployment of Vallourec.smart is attracting similar interest everywhere in the world

“Vallourec.smart significantly reduces rejects and improves efficiency on the rig. A pilot project undertaken with an onshore operator in the Midcontinent Region proved it. They then immediately adopted it on all wells in this area.”

Alejandro Baiz, Service General Manager, Vallourec North America

The Vallourec.smart offer is available on demand. Smartengo Best Fit, for example, is proving very successful

Smartengo Best Fit enables traceability of tubes and instant analysis of their compatibility, which optimizes assembly while at sea. It’s a considerable time and money saver.”

Karsten Walz, Key Account Manager, Vallourec Europe

The Smartengo marketplace makes it possible to buy tubes online and opens up new prospects

“From 2019 onward, the marketplace will be available to customers in Southeast Asia and North America. We expect to expand it gradually to include all Vallourec products and services, available in just a few clicks.”

Geoffroy de Roffignac, Online Business Director

The movement toward digital improves Vallourec’s competitiveness and its customers’ operational performance

“The enhanced products and services offer makes the value added by Vallourec readable, usable and measurable for our customers.”

Nicolas Gotusso, Smartengo Best Fit Project Owner
VALLOUREC

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A French limited liability company (société anonyme) with Management Board and Supervisory Board and capital stock of €915,975,520