

# SUSTAINABILITY REPORT



2018



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# CHAIRMAN'S LETTER

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Sustainability principles are deeply embedded in our values and management processes, as we position Tenaris to grow and prosper over the long-term. This report on sustainability forms part of our integrated 2018 annual report and focuses on those aspects of our performance, which are an integrated and necessary complement to our financial and economic performance.

First and foremost is an absolute commitment to the safety of our employees, contractors and users of our products and services. While we are encouraged to be making progress on improving our safety indicators, we realize that further cultural change is still needed to achieve our safety objectives. We have decided to change the role of shift leaders in our industrial system to give them more responsibility to lead the change.

The ramp up in production at our modern Bay City mill is having an impact on our environment indicators, which are showing a gradual improvement. At the same time, we are investing in our older facilities to improve air quality and material recycling performance indicators. Over 10% of our capital expenditure budget during 2018 was dedicated to projects whose primary aim is to improve our safety and environmental performance.

During the years, we have been researching the application of digital, automation and machine learning technologies in our industrial processes and we incorporated many of these new developments into our Bay City mill. Now, we are beginning to introduce these new technologies and transform the rest of our industrial system. This work will be strengthened in the years ahead.

We continue to work on transforming our human relations processes to strengthen the role and opportunity for employees to control their own development and career choices and encourage flexible working programs. We are pleased to note that, in our internal surveys, employee engagement has been improving. We are now extending the use of these surveys to our factory-floor employees, which is providing us additional insight into opportunities for improving working conditions.

The cornerstone of our programs to strengthen the communities where we operate is our investment in technical education and providing opportunities for promising young students from all backgrounds. As our Roberto Rocca Technical School in Campana completed its fifth anniversary, PISA and College Board tests show that its pupils are performing appreciably better in mathematics and language than their peers within Argentina and the OECD average.

Over the past decade, we have focused our expansion strategy on organic growth with the construction of new rolling mills at Tamsa and Bay City and the expansion of heat treatment, threading and service facilities around the world. Now, with the acquisition of a welded pipe mill in Saudi Arabia, the launch of the Tenaris Severstal joint venture project in Russia, and our prospective acquisition of IPSCO Tubulars in the US, we are starting a new phase of industrial expansion in key markets for the oil and gas industry, with the opportunity to further integrate our operations and sustaining values in these communities.

Sincerely,

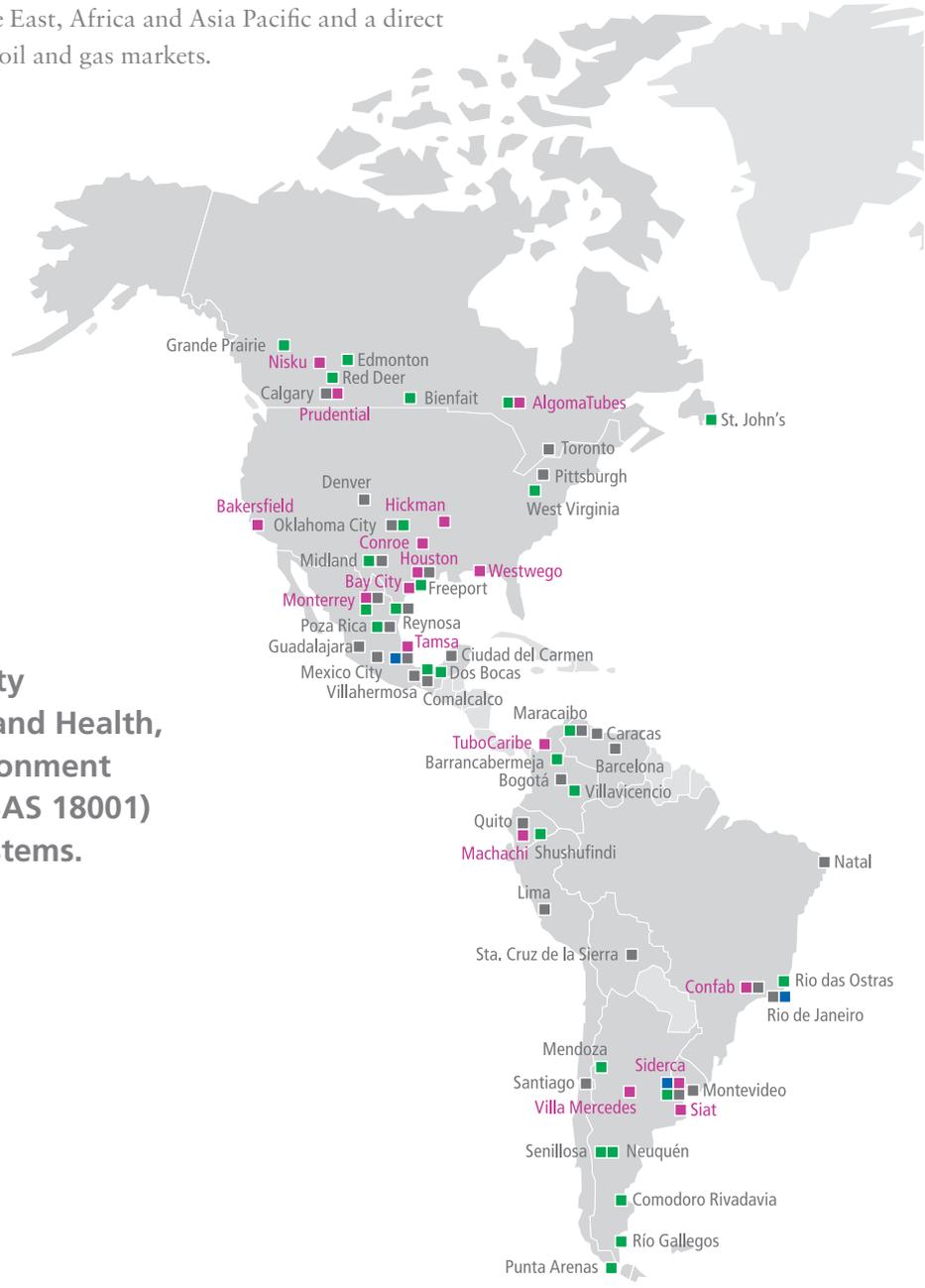


Paolo Rocca  
April 1st, 2019

# GLOBAL ORGANIZATION

Tenaris is a leading global manufacturer and supplier of steel pipe products and related services for the world's energy industry and other industrial applications.

Our customers include most of the world's leading oil and gas companies. We operate an integrated network of steel pipe manufacturing, research, finishing and service facilities with industrial operations in the Americas, Europe, CIS, the Middle East, Africa and Asia Pacific and a direct presence in most major oil and gas markets.

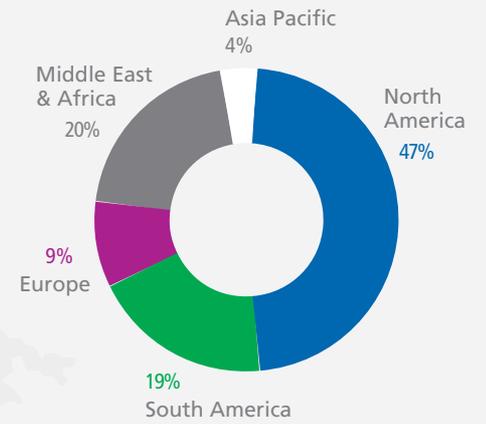


**Integrated Quality (ISO 9001:2008) and Health, Safety and Environment (ISO 14001 - OHSAS 18001) management systems.**



- Manufacturing Centers
- R&D Centers
- Service Centers
- Commercial/Administrative Offices

## SALES BY REGION



Service and distribution network in **30 COUNTRIES**

**4 STOCK EXCHANGE LISTINGS**

- New York
- Buenos Aires
- Italy
- Mexico

## TOP CUSTOMERS

- Aramco
- Canadian Natural Resources
- Chevron
- ConocoPhillips
- Continental
- Ecopetrol
- ENI
- ExxonMobil
- KPC
- Noble
- PAE
- Pemex
- Pioneer
- Tecpetrol
- YPF

# SUSTAINABILITY IN TENARIS

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Tenaris is a leading global manufacturer and supplier of steel pipe products and related services for the world's energy industry and other industrial applications. Our customers include most of the world's leading oil and gas companies, and we operate an integrated network of steel pipe manufacturing, research, finishing and service facilities with industrial operations in the Americas, Europe, the Middle East, Asia and Africa. We have a direct presence in most major oil and gas markets.

Through an integrated global network of manufacturing, R&D and service facilities, and a team of 23,000 people worldwide, we work with our customers to meet their needs in a timely manner, observing the highest levels of product performance and reliability.

Our core values of safety, health, environment, quality and transparency guide our daily activity. They are clearly reflected in our QHSE policy ([www.tenaris.com/qhse](http://www.tenaris.com/qhse)), which, together with our Code of Conduct ([ir.tenaris.com/corporate-governance/code-of-conduct](http://ir.tenaris.com/corporate-governance/code-of-conduct)), is embedded in all aspects of our business processes. This report, now in its fifth edition, reflects how those values translate into concrete indicators of our performance. Its preceding publication, the Health Safety and Environment (HSE) report, was first published in 2009 presenting data dating back to 2004.

Tenaris is a long-term project that goes back over six decades. Since we opened our first mill on the banks of the Parana River in Campana, Argentina in the early 1950s, to the start-up of our new state-of-the-art mill in Bay City, Texas in December 2017, our prime objective has been to grow alongside the communities where we work and live, to give our employees opportunities for professional development, to minimize our environmental footprint and to be a reliable partner for our customers.

Tenaris is a signatory of the United Nations Global Compact, a commitment to translate Ten Principles deriving from the Universal Declaration of Human Rights into daily business activity. Tenaris's Human Rights Policy pledges to conduct all company operations in a manner that is consistent with human rights principles. We share these values with the World Steel Association ([worldsteel](http://worldsteel)) by being signatory of their Sustainability Charter and Policy.

We believe the steel industry can play an important role in addressing the planet's growing concerns about climate change. The industry is joining efforts to report and take action on reducing CO<sub>2</sub> emissions. Tenaris is playing a leading role in these efforts. It is also well positioned as it uses the least CO<sub>2</sub> intensive steel production route. In 2018, [worldsteel](http://worldsteel) named Tenaris a Sustainability Champion for "leading the way in creating a truly sustainable steel industry and society" in relation to its work in 2017.

Our Health, Safety and Environment, and our Quality Management systems are designed according to the latest versions of the ISO 14001, ISO 9001 and OHSAS 18001 standards. Today 92% of our production sites are working under management systems certified according to these Health, Safety and Environment standards.

### **Our reporting, in context**

Tenaris is committed to strengthening a corporate culture of integrity, transparency and rational decision-making. We aim to disclose and communicate transparently all issues that can affect, either positively or negatively, our stakeholders, both internal and external to our organization.

This report has been prepared taking into account the guidelines established by worldsteel, the UN Global Compact and the Global Reporting Initiative (GRI) - Please see the GRI Content Index in the annex at the end of this report. We have identified, evaluated and prioritized those topics that can materially impact our ability to achieve our objectives in a sustainable manner in accordance with the above-mentioned guidelines and our own risk assessment. The indicators we present in this report have been carefully selected to show the most relevant aspects of our performance in the areas of Economics; Health and Safety; Environment; Innovation; Human Resources; Community Relations; and Governance, Risk and Compliance.

Material topics have been defined covering our whole value chain, from the sourcing process, manufacturing of our products and delivery of our services up to the end use of our products. They also include information gathered through our stakeholders network and our internal strategy and objectives.

We consider it relevant to highlight how our actions are contributing with the achievement of the Sustainable Development Goals defined by the UN in 2015, as shown in the table included in this section.

This report has been approved by our board of directors on April 1, 2019, as part of our 2018 Annual Report, and sets out the non-financial information required to be disclosed as part of the company's reporting requirements in accordance with Luxembourg law.\*

\*Article 1730-1 of the Luxembourg law of August 10, 1915 on commercial companies, as amended, and article 68 and 68bis of the Luxembourg law of December 19, 2002 on the commercial and companies register and on the accounting records and annual accounts of undertakings, as amended.

## OUR IMPACT IN THE VALUE CHAIN

### UN SUSTAINABLE DEVELOPMENT GOALS

### RESOURCES

### PROCESSES AND ACTIVITIES

### OUTPUTS

#### Health and Safety



- Code of Conduct for Suppliers.
- Risks minimization throughout the supply chain.
- Contractor safety management.

- Safety-oriented culture.
- Reinforcement of safety leadership.
- Accident prevention initiatives focusing on behavior.
- Catastrophic risk evaluation.
- Health protocol to ensure fit-to-work level.

- Committed workforce to ensure a safe and healthy working environment.
- Safe processes, products and services.

#### Environment



- Code of Conduct for Suppliers.
- Risks minimization throughout the supply chain.
- Supplier evaluation process.

- Decrease of CO<sub>2</sub> intensity.
- Efficient use of energy.
- Responsible use of water and maximized recycling rates.
- Efficient use of materials and co-products.

- Minimized environmental footprint in operations, products and services.
- Maintained license to operate and long-term relationships with our communities.
- Product stewardship: environmental product declarations.
- Circularity and material efficiency for products and co-products.

#### Innovation



- R&D initiatives to make our production processes more efficient and reliable.

- Investment in R&D to manufacture high quality products with increased reliability.
- Development of Dopeless® technology and Rig Direct® service model that contribute to a safer workplace with reduced environmental footprint.

UN SUSTAINABLE DEVELOPMENT GOALS

RESOURCES

PROCESSES AND ACTIVITIES

OUTPUTS

Human Resources



- Recruitment of employees from different cultures and backgrounds, fostering diversity.

- Continuous training of employees.
- Career development based on merit.
- Promotion of all forms of diversity at the workplace.
- Code of Conduct.

- Empowered workforce, engaged in the development of the industry.

Community Relations



- Promotion of local institutions.

- Engagement of employees in volunteering initiatives in our immediate and broader communities.

- More learning opportunities for our local communities, from elementary to higher education, with a focus on technical education.
- Preservation of our communities' identity and heritage through artistic and cultural initiatives.

Governance, Risk and Compliance



- No use of conflict minerals.
- Code of Conduct for Suppliers.
- Risks minimization throughout the supply chain.
- Prevention of forced labor and child labor.
- Promotion of local suppliers, fostering the development of local value chains.

- Code of Conduct, Policy on Business Conduct and Code of Ethics.
- Critical Risk Committee.
- Business Conduct Compliance Program to foster ethical and transparent conduct.
- Anti-bribery procedures.
- Climate Action Program.

- Development of long-term relationships with customers and vendors, promoting transparency and economic growth.



# ECONOMIC INDICATORS



# ECONOMIC INDICATORS



Our capital expenditure

## USD 349 million

in 2018

Economic value generated

## USD 7.7 billion

in 2018

We report on our operational and financial performance in the rest of our annual report (<http://ir.tenaris.com/reports.cfm>). Here we have included our main economic indicators and the distribution of economic value generated.

Demand for our products and services grew strongly in 2018. This growth was widespread across geographies and product lines, and reflected the efforts we have made over the past years to strengthen our market positioning and our industrial and technical capabilities.

Our financial performance also improved as the growth in sales was reflected in improved margins for operating and net income, which returned to levels that support sustainable levels of investment in our business and the payment of dividends to shareholders. Our financial position remains solid, even as we invested in working capital to support our Rig Direct® service strategy and increase in sales and we maintained our strategic investment program and our dividend payments, as we did throughout the previous years during our sector's prolonged and profound downturn.

Now, we are well positioned to begin a new cycle of growth, following our strategic investment in our new Bay City mill in the USA. In January 2019, we completed the acquisition of a controlling position in a welded pipe producer in Saudi Arabia, a major oil and gas producing country that is aiming to develop local industrial participation in its economy. In February, we announced the formation of a joint venture initiative with Severstal, a leading Russian steel producer, to build a new welded pipe

mill in Western Siberia, Russia's most productive oil producing region. In March, we announced the prospective acquisition of IPSCO Tubulars in the US.

### Capital expenditure

In 2018, we completed the initial start-up phase of our new rolling mill at Bay City and have consolidated the Rig Direct® service in the United States and Canadian markets. We are working to increase differentiation through improving service quality and extending integration with customer operations. In addition, we focused on enhancing automation at our industrial processes, product differentiation and competitiveness, increasing local finishing capabilities, as well as enhancing plant safety and minimizing environmental impact.

The major highlights of our capital spending program during 2018 included: investments in automation at our industrial system worldwide, increase in the capacity of automotive components, investments at the steel shop and laboratory in Mexico, completion of the expansion of heat treatment capacity at our mill in Italy, completion of construction and start-up investments at Bay City, USA, and installation of a new waste water treatment plant in our mill in Campana, Argentina.

In addition to capital expenditures at our plants, we have invested in information systems for the integration of our production, commercial and managerial activities. These investments are intended to promote the further integration of our operating facilities and enhance our ability to provide value-added services to customers worldwide.

## CAPITAL EXPENDITURE



## FINANCIAL INDICATORS

	2014	2015	2016	2017	2018
<i>Millions USD (except otherwise stated)</i>					
Net sales	10,141	6,903	4,294	5,289	7,659
Operating income	1,881	166	(59)	335	872
EBITDA	2,696	1,219	598	943	1,536
Shareholders net income	1,159	(80)	55	545	876
Shareholders equity	12,654	11,713	11,287	11,482	11,783
Cash flow from operations	2,044	2,215	864	(22)	611
Dividends	531	531	484	484	484
Net cash (debt)	1,257	1,849	1,441	680	485
EBITDA margin %	27%	18%	14%	18%	20%
ROE %	9%	-1%	0%	5%	8%
ROCE %	17%	2%	-1%	3%	8%
FCF / Net income %	81%	N/A	N/A	N/A	30%

## ECONOMIC VALUE GENERATED AND DISTRIBUTED

(2018, in USD)





# HEALTH AND SAFETY



# HEALTH AND SAFETY



## USD 21 million

invested on Health and Safety  
in 2018

Lost Time Injury Frequency Rate  
decreased

## 25%

when compared to 2017

Safety awareness videos

## 22,168

views in TenarisTV

from October 2018 to March 2019

### Our commitment

To improve safety performance, aiming to have no accidents throughout our industrial system.

### Our objectives

- Consolidate a strong safety-oriented culture.
- Achieve a target of Lost Time Injury Frequency Rate below 1.
- Ensure that 100% of our employees, including contractors, are fully fit to carry out the tasks they are given.

### Our actions

Our core values of safety, health, environment, quality and transparency guide our daily activity. In 2018 we spent more than 10% of our capital expenditures on projects that focus on reducing risks of operations and the environmental footprint of our activities, as well as optimizing water management and improving working conditions at our sites, in terms of indoor air quality and ergonomics.

Safety is our number one priority. As stated in our Quality, Health, Safety and Environment Policy, ([www.tenaris.com/qhse](http://www.tenaris.com/qhse)) nothing is more important for Tenaris than the health and safety of the people who work in our facilities and use our products and services. The entire organization is oriented towards achieving the goal of zero accidents in a transparent manner.

We believe that all accidents and work-related injuries and illnesses can and must be prevented. Therefore, we are constantly implementing initiatives to strengthen awareness and achieve full compliance with our procedures, and we continue to standardize practices and technologies in order to minimize exposure to safety risks.

Activity in our industrial facilities increased significantly during 2018, and we registered 8% more worked hours than in 2017. In that context, we have also continued to improve our Lost Time Injury Frequency Rate.

During 2018, we regrettably suffered two fatalities in Tamsa, Mexico. Although in these years we have devoted great attention and effort to improving safety, these irreparable losses show us we still need to strengthen a working culture in which professionalism and quality are indissolubly associated with a safety culture.

Following a deep analysis of the last years, we designed a three-year Industrial Transformation Plan which includes a focus on safety, occupational health and environmental protection. A detailed plan was defined for each site, taking into account the particular circumstances and risks involving operations, maintenance, engineering and training.

We seek to consolidate a stronger safety-oriented culture that focuses on behavior and we understand this requires the involvement of leadership at all levels. Therefore, we have designed new training opportunities to expand the competences of shift leaders, line managers and production unit managers in order to improve safety performance. We have also included new goals related to safety in our annual performance evaluation.

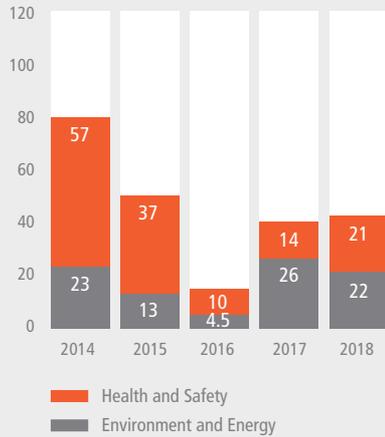
Moreover, we have reinforced the role of shift leaders at our production centers, as we believe their involvement is essential to improve safety. Assessing their skills and measuring their safety performance are now core parts of their development plans.

Systematic communication of safety issues in the shop floor helps maintain high levels of awareness. With this in mind, we have implemented new initiatives such as communication routines and videos targeting shift leaders, which serve as a complement to the Safe Hour program, introduced in 2012 throughout Tenaris.

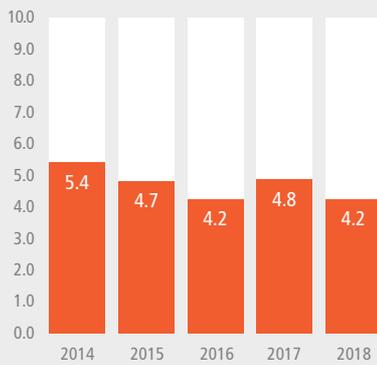
## HEALTH AND SAFETY INDICATORS

### Investment in Health, Safety and Environment

in million USD



### Injury Frequency Rate



**Methodology:** Number of accidents with and without lost days (not including First Aid) per million hours worked.

### Lost Time Injury Frequency Rate



**Methodology:** Number of accidents with lost days per million hours worked.

Main hazards identified in our three-year plan are related to cranes, vehicles, moving machinery, housekeeping and manual tools. Planned actions include the revision and standardization of procedures, control practices and training for all cases.

We participate, along with leading steel producing companies, in the World Steel Association’s safety groups in order to define common guidelines on different topics concerning safety management. Some of the aspects under discussion include Process Safety Management to reduce high-risk incidents and fatalities, and Safety Leadership Management to improve performance.

Our Process Safety Management program focuses on the design and engineering of facilities, equipment maintenance, effective alarms and control points, procedures and training. This project, along with another project on catastrophic risk analysis, seeks to detect and to prevent unexpected events that could have a serious effect on our people, our mills or the environment. After completing the assessment stage of the project, we are now focusing on implementing improvements.

In order to ensure the effectiveness of our prevention programs, all contractors working in our sites are included in the Tenaris Safety Management System and we have recently implemented an IT tool to register and monitor key data such as contractors’ performance, working hours, fit-to-work level and safety scores. Our aim is to implement a model under which contractors have the same safety standards as our employees.

## Health

Tenaris is committed to providing a healthy workplace, equipment and technologies through a comprehensive occupational health and hygiene program.

Our Health Management System identifies, evaluates and controls chemical, physical, biological and ergonomics factors arising from our activities that could affect the health of our employees.

Through a pre-defined health protocol, we ensure that all employees receive adequate and regular medical check-ups. Its main focus is to evaluate their fit-to-work level and guarantee that there is no possible long-term health risk due to work-related activities. Also, we promote healthy lifestyles, in order to help our employees prevent common illnesses such as cancer, heart diseases and obesity.

We have defined guidelines related to in-door air quality, noise and vibrations, and we have mapped all activities that involve handling of chemicals in order to assess risks and assure compliance with global procedures.

Given the impact of ergonomics in the health and safety of our people, we have completed an ergonomic risks assessment in all of our sites and we are now working on an action plan to improve workplace conditions where needed.

# ENVIRONMENT



# ENVIRONMENT



Reduction of CO<sub>2</sub> intensity

**8%**

in steelmaking sites  
when compared to 2016

Steel recycling content

**68%**

as a weighted average  
in our produced steel

Material efficiency

**98.7%**

in steelmaking sites

## Air quality

### Our commitment

To minimize emissions in order to contribute to good air quality in the communities where we operate.

### Our objectives

- Comply with the local and internal requirements on emissions, and monitor activities to oversee our performance.
- Avoid fugitive emissions in our steelmaking process.

### Our actions

Among our activities, steelmaking is one of the most relevant processes in terms of air emissions. Therefore, we have established corporate procedures to limit stack dust emission levels for our steelmaking sites (Dalmine, Siderca, Silcotub and Tamsa mills). Our internal limit has been defined in accordance to the European Union Best Available Technologies to foster improvement beyond compliance, since not all countries where we produce steel have set these values as a legal requirement.

Continuous monitoring performed at all of our steel shop stacks show that our particulate material emission has been decreasing during the last years. Values decreased from 100 gr of dust per ton of pipes in 2016 to 60 gr per ton in 2017 and 40 gr per ton in 2018, as weighted average for our steelmaking sites stack emissions. These numbers will probably change in the future due to the addition of new point sources related to ongoing investments.

Since 2018, we have been deploying a USD 36 million investment plan for our Siderca and Tamsa production centers in order to improve the capture and treatment of fumes generated in the steel shops and to minimize fugitive emissions.

In Siderca, we are currently performing the detailed engineering for the addition of a new filter that will be installed during the next production stoppage, by the end of 2019, in order to increase fume extraction capacity. Tamsa will be implementing a similar project during their production stoppage in May 2019.

In Italy, our Dalmine production facility has started to operate a new heat treatment line with burners designed to achieve low NOx values as well as low natural gas consumption. The line also includes a shot blasting process with stringent particulate material filters, as well as a special equipment to reduce potential noises.

The rolling mill located in our new production center in Bay City, USA, started to operate during the last quarter of 2017. Given its design and the use of the best available technologies, Bay City is our flagship in terms of environmental performance. We are now investing USD 1.2 million in a thermal oxidizer for the water-based varnishing line, which will further reduce emissions and enhance flexibility of the operational area.

We continue to evaluate the implementation of best available technologies in all new lines, aiming at improving our performance beyond local compliance regulations.

# ENVIRONMENTAL INDICATORS

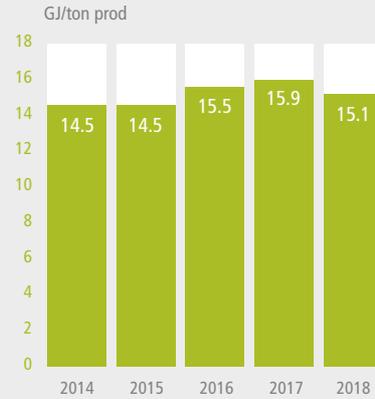
**Energy intensity for Tenaris steelmaking sites**



**Methodology:** worldsteel CO<sub>2</sub> data collection.

**Tenaris steelmaking sites:** Dalmine, Siderca, Silcotub and Tamsa.

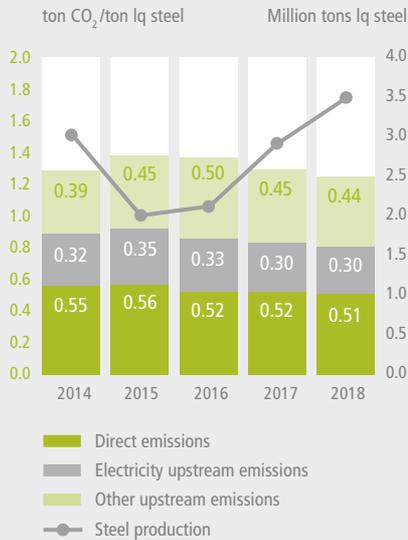
**Energy intensity for all Tenaris sites**



**Methodology:** Energy intensity based on electricity and natural gas used.

**Tenaris sites:** Siderca, Siat VA, Siat VC, Confab, Hickman, Bay City, Tamsa, Silcotub Calarasi, Silcotub Zalau, Dalmine, Arcore, Costa Volpino, Piombino, Sabbio, Algoma, NKKTubes, Tubocaribe, SPIJ.

**CO<sub>2</sub> emissions for Tenaris steelmaking sites**



**Methodology:** worldsteel CO<sub>2</sub> data collection.

**Tenaris steelmaking sites:** Dalmine, Siderca, Silcotub and Tamsa.

**CO<sub>2</sub> emissions for all Tenaris sites**



**Methodology:** Direct emissions and electricity consumption related emissions calculated with IEA CO<sub>2</sub> world average emission factor.

**Tenaris sites:** Siderca, Siat VA, Siat VC, Confab tubos, Hickman, Bay City, Tamsa, Silcotub calarasi, Silcotub Zalau, Dalmine, Arcore, Costa Volpino, Piombino, Sabbio, Algoma, Nkk, Tubocaribe, SPIJ.

## Energy and climate

### Our commitment

To decrease our CO<sub>2</sub> intensity and to make an efficient use of energy resources.

### Our objectives

- Use energy sources more efficiently.
- Decrease our CO<sub>2</sub> emission intensity by implementing best available technologies in our developments.
- Provide products and services that contribute to minimize emission levels.

### Our actions

The world's steel production accounts for around 8% of GHG (Greenhouse Gas) man-made emissions. But steel, an essential material for our daily life, can also be part of the solution for the world's climate change challenge, as it is a versatile material that can be recycled infinitely.

As part of the World Steel Association's Climate Action Program, we have been recognized for complying with CO<sub>2</sub> emissions reporting requirements for the last 10 years, including submission of information and verification. The data collection program is a key part of the steel industry's global sectorial approach to climate change.

We track our emission levels, and we participate in international forums to identify areas in which we can improve and further reduce our emissions given the technology we have at our sites. Our steelmaking facilities are based on electric arc furnaces, the least intensive CO<sub>2</sub> emission process in steelmaking. We also have a Direct Reduction mill in Argentina based on natural gas.

In 2018, CO<sub>2</sub> intensity for steelmaking sites at Tenaris decreased slightly when compared to 2017 and 2016. Considering absolute numbers, steel production increased 55% in 2018 in comparison to 2016, when we were still low on production levels due to the market downturn. Direct emissions, electricity consumption related emissions and other upstream emissions only increased 45% for the same period, an indication of improved efficiency.

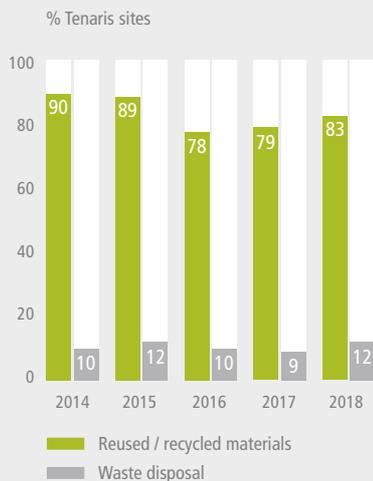
CO<sub>2</sub> emissions and energy intensity from our other sites also show intensity decreased by 5% when compared to 2017 values, while production levels increased 25%. This production ramp up and reduced intensity is also explained by a more relevant participation of the Bay City mill in our production matrix.

As for our products, Tenaris is the only pipe manufacturer to publish an Environmental Product Declaration (EPD) for seamless OCTG pipes. In 2018 we re-certified the EPD of average OCTG pipes produced in our steelmaking sites, following ISO 14025 standards. When compared to 2017, this new EPD shows an improvement of 7% in the global warming potential indicator per ton of pipes.

This OCTG EPD, along with two other EPDs for line pipe and structural solutions, shows that more than 60% of our GHG emissions are related to upstream processes and 30% are related to the pipe manufacturing process, while transportation has a limited impact in the overall total. Therefore, we are focusing our efforts on improving consumption rates, efficiency and raw materials used in steelmaking.

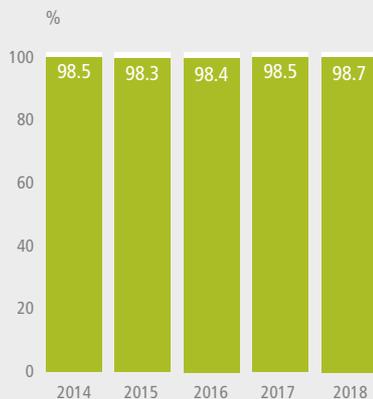
## ENVIRONMENTAL INDICATORS

### Waste & co-products management



Tenaris sites: Algoma, Arcore, Aberdeen, Bay City, Campina, Costa Volpino, Confab, Dalmine, Hickman, Mc Carty, NKKTubes, Prudential, Siat VA, Siat VC, Siderca, Silcotub, Tamsa, Tubocaribe.

### Tenaris steel sites material efficiency



Methodology: worldsteel, Sustainability indicators.  
 Tenaris steelmaking sites: Dalmine, Siderca, Silcotub and Tamsa.

Our drive for sustainability goes beyond our production centers. For example, Tenaris has designed the Rig Direct<sup>®</sup> service model to help our customers save not only time and total costs by reducing on-site inventories and synchronizing the supply chain, but also decrease the total amount of CO<sub>2</sub> generated for the project since less material is produced, transported and handled, contributing to a more efficient project in terms of cost, time and environment.

Tenaris is currently serving 490 rigs with Rig Direct<sup>®</sup>, covering 190 customers worldwide. We have developed a model to measure its impact in terms of CO<sub>2</sub> emissions, based on our life-cycle assessment (LCA) model and our latest OCTG EPD. After optimizing demand, for every rejection rate point we achieve to reduce in a project, 60 kg of CO<sub>2</sub> per ton of OCTG pipes are saved, assuming a combination of production from our four main manufacturing centers and a 1,000 km truck transportation for each case.

## Circularity and material efficiency

### Our commitment

To implement circular economy concepts in our system.

### Our objectives

- Maximize the recycling rates at our facilities.
- Maximize the availability and use of scrap.
- Reduce the amount of materials sent to landfill by materials recycling, reusing and appraisal.

### Our actions

Steel can be recycled infinitely without losing any of its properties, and it is the most recycled material in the world. By recycling steel we also save iron, energy, coal and other materials, and prevent useful material from ending up in landfill as waste.

During 2018, we recycled 2,6 million tons of scrap to produce new steel. Scrap recycling is one way to minimize the environmental footprint of our operations and is considered one of the main opportunities the steel industry has to reduce CO<sub>2</sub> emissions based on current technology.

Steel produced in our steelmaking sites has a recycling content higher than 68% as a weighted average, calculated in accordance to ISO 14021 standards. This steel is used to produce our pipes. We have achieved these values due to the use of electric arc furnaces which allow recycling steel scrap without altering steel properties.

These amounts are weighted averages for the four sites based on steel bars production or pipes production. For instance, in our European sites, Dalmine and Silcotub, the recycled content surpasses these values, while they are lower in Tamsa and Siderca. Tamsa uses hot briquetted iron along with scrap and Siderca has a Direct Reduction plant that provides the metallic charge needed for the operation. The differences in processes and raw materials depend on local availability and scrap market conditions.

Many residues and co-products are reused and recycled in our industry and also in other processes. Compared to 2017, we increased the reuse or recycling of co-products from 70% to 73%, recycled residues from 9 to 10% from total material generation. Waste sent to disposal increased from 9 to 12% from total material generation due to specific situations in different sites that had an impact on the overall numbers.

We are working on several initiatives in each region to reduce waste generation and avoid landfills. Slag, which is the most relevant co-product in steelmaking, is reused and recycled for multiple applications and products such as roads, cement, asphalt and coast-consolidation. Also, scale is used in the cement industry, mostly with co-products from the Direct Reduction plant. During 2018, we used more than 400,000 tons of slag, 30,000 tons of iron-based products from the Direct Reduction plant and 80,000 tons of scale.

Research continues for internal recycling for different residues streams. Some are already being implemented, such as refractories and mill scale in our steel shop in Romania. Other solutions involve external recycling of refractories in Dalmine and Tamsa. We are also testing ladle furnace slag in Tamsa and sludge treatment in Dalmine.

Other residues with lower production volume such as wood, plastics and cardboard are also being recycled. For instance, during 2018 we recycled 8,500 tons of wood and 2,500 tons of plastic, including plastic thread protectors. Moreover, we have developed several campaigns to reduce single use of plastics.

## Water management

### Our commitment

To ensure a responsible use of water.

### Our objectives

- Minimize water intake in areas of water scarcity where we have operations that are water intensive.
- Meet water discharge quality targets.
- Implement the best water management technologies available for new production lines.

### Our actions

We have evaluated the water-stress level of the areas where we have operations. Our efforts focus on those facilities where the activities involve high rates of water use, such as steelmaking, rolling and heat treatment for seamless pipes. Welded pipes facilities and finishing plants processes require significantly lower amounts of water.

Most of our more intensive water-use facilities are located in areas of medium water-stress risk. In all of these cases, our sites have water systems able to recycle high amounts of water. We monitor water discharges following local and also corporate references in order to make sure we meet quality requirements.

The Bay City production center operates under a water system that recycles 95% of the used water, while blow down is further treated in the local wastewater treatment facility.

The same concept was applied in our new heat treatment and finishing facilities in Colombia, which were designed to recycle all used water. After treatment, even wastewater from sanitary services is used to water green areas of the new site.

Also in Colombia, a new wastewater treatment facility is in the start-up phase for a new coupling phosphate line, in order to treat effluents and recycle the rinsing water, since it is located in an area with low water availability.

80% of water withdrawal in our sites comes from surface water, and 17% from subsurface, with the remaining coming from the local networks. Siderca accounts for more than 95% of our surface withdrawal because the site was originally designed with an open water circuit at the shore of Parana de Las Palmas River, in an area of high water availability.

The company has invested USD 20 million in a new treatment facility for the water circuit of the rolling mills, which started to operate by the end of 2018, maximizing water recycling rates, improving treatment processes and reducing water intake by up to 20%. We will continue to make more investments in the following years to change the water management system of the Siderca mill.

Our efforts for better water management do not stop at our production centers. In fact, we have developed Dopeless® technology, a dry multifunctional coating applied at Tenaris mills, that minimizes the need to use water for pipe preparation. Connections using Dopeless® technology do not need to be cleaned on the field, while standard threads require between 10 to 20 liters of water per pipe.

# INNOVATION



# INNOVATION



## 360

people working in R&D

## 490

rigs supplied under the Rig Direct®

model worldwide

in December 2018

### Our commitment

To offer the energy industry product and service solutions to enhance safety, efficiency and to minimize its environmental footprint.

### Our objectives

- Develop and improve our product portfolio and production processes to meet the needs of the oil and gas industry with reliable technology and sustainable manufacturing.
- Deploy our service proposal to streamline the way in which the energy industry's supply chain works.

### Our actions

We carry out Research and Development activities with a global team of 360 people in R&D centers in Argentina, Brazil, Italy, Japan and Mexico, coordinated from our main technology office in Amsterdam. Our product developers and researchers work closely with our technical sales teams, who know first-hand the reality and needs of our customers on the ground.

Our products are manufactured in accordance with the highest industrial standards. Our quality management system, under ISO 9001 and API Q1 specifications, provides assurance that products comply with customer requirements from the acquisition of raw materials to the delivery of the final product, and are designed to ensure the reliability and improvement of both the product and the processes associated with the manufacturing operation.

In 2018, we invested USD 63 million in R&D, totaling USD 392 million over the last five years. Maintaining a constant flow of investments in R&D projects and people, even through the market downturn, differentiates us from our competitors and places us as the partner of choice for the companies that require support, collaboration and commitment to innovation.

We have also developed innovations for use in our industrial system, including non-destructive controls for full-length pipes and couplings, applications for visual recognition of defects and innovative systems for process control, enhancing the efficiency and reliability of our processes.

We are exploring the application of digital, automation and machine learning technologies in our manufacturing processes and have incorporated many advances in these fields into our newest production center in Bay City, Texas. We aim to transform our whole industrial system by implementing these new technologies in the rest of our production centers in the coming years.

### At the forefront of the industry

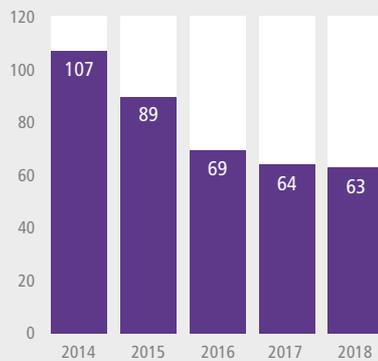
Over the last years, we have made a contribution to the development of unconventional resources for shale plays around the world, most notably in the United States. We have launched new products to accompany these advances, such as our TenarisHydril Wedge XP® 2.0 connection for high-torque demand in the shales, the TenarisHydril Wedge 625® for high-pressure shale wells, BlueCoil® for longer life performance in extended laterals, and AlphaRod® Series of sucker rod products.

We have developed a comprehensive range of industry leading products for deepwater and other HPHT applications, with a portfolio that includes Blue®, Blue® Max and Blue® Heavy Wall and Wedge 623® and Wedge 623® RW. Also, we have designed connections for large OD, surface and conductor casings, such as BlueDock® weld-on connectors and Blue® Quick Seal connections.

## RESEARCH AND DEVELOPMENT

### Investment in R&D

in million USD



Our Dopeless<sup>®</sup> technology continues to be a landmark in the industry in terms of a technological solution that seeks to guarantee that operations are cleaner, safer and more reliable for our customers.

### Rig Direct<sup>®</sup>: sustainable supply chain

Our drive for innovation goes beyond product technology. We are working to transform the tubular supply chain through our Rig Direct<sup>®</sup> service, a fully integrated approach that feeds materials from the production units and service centers to the rigs, ready to be run, contributing to a simpler and more sustainable and cost-efficient operation.

Based on the three pillars of pipe management services, technical consulting, and field services, by December 2018, Tenaris served 490 rigs worldwide with Rig Direct<sup>®</sup>, up 36% from a year earlier and covering 190 customers.

By partnering with the customer, we reduce the costs of operations through an integrated service solution that covers technical advice for product selection, collaborative demand and supply planning, efficient supply chain management from the mill to the rig and on-site technical assistance.

With Rig Direct<sup>®</sup>, we shorten the supply chain and ensure the availability of tubular products, sucker rods and accessories in the right quantity, place and time. An improved inventory management system lowers obsolescence and rejection rates, as well as reduces the need to scrap, re-thread rejected pipes, transport them and then produce new pipes, with the consequent reduction of environmental emissions. With service centers and yards strategically located closer to our customers' operations, we are able to respond faster to customers' needs while reducing the total energy footprint.

Particularly for offshore operations, when the Rig Direct® model is combined with the use of Dopeless® technology, the environmental results are impressive. Its dry multifunctional coating applied in a fully automatic process at Tenaris mills reduces compound discharge to zero and eliminates the use of water at the rig. This results in a lower impact at the well site in terms of water use and waste generation, while ensuring a safer workplace for everybody at the rig.

By implementing pipe-by-pipe traceability, we can keep track of goods and update tubular status in each part of the process. Pipe preparation, including inspection, tallying, delivery scheduling and execution, ensures tubulars are received at the field or quay in the best conditions.

With our PipeTracer® technology, customers have access to technical pipe information, avoiding manual pipe measurement and reducing handling, errors and work load, thus making operations safer and more efficient.

Through our Net Invoicing model and a better-planned demand, customers can reduce stocks and only pay for the tubulars that are used, enabling to cut costs while taking care of the environment, as we only need to produce and transport the pipes and accessories that will actually be utilized thus contributing to minimizing the CO<sub>2</sub> related to the project. Less material is handled, which also improves the overall safety of the operation. Additionally, our teams also inspect and clean any surplus pipes and recover them for future use.

We offer customers recycling or final disposal of plastic thread protectors, depending on the local legal requirements and available infrastructure, aiming at decreasing the environmental footprint of our customers' operations and of our products.

# HUMAN RESOURCES



# HUMAN RESOURCES



## 1.7

million hours of training delivered in 2018

## 94%

of supervisors received upward feedback

## 88

nationalities represented in our team

### Our commitment

To foster an attractive working environment through motivation and engagement, aligning our people's career development with business goals.

### Our objectives

- Establish transparent and effective processes to help employees grow in their professional careers.
- Encourage continuous learning and feedback through concrete tools.
- Respect and promote diversity in all its forms, with a special focus on gender, generations and culture.

### General principles

Tenaris embraces diversity in all its forms, on the understanding that diverse points of view and perspectives contribute to the rational solution of problems and the effective accomplishment of goals. Diversity based on ethnicity, gender, creed, race and nationality is part of Tenaris's DNA and constitutes an important differentiation aspect of our uniqueness as a global enterprise.

Tenaris, as a global organization that draws its workforce from diverse cultures and backgrounds, values cultural and geographic adaptability among its employees.

The company's Code of Conduct prohibits unlawful discrimination in employment relationship and grants all persons the right to apply for a position in Tenaris or to be considered for a new position in accordance with opening requirements and merit criteria, without any arbitrary discrimination. All employees, at every level, must cooperate to maintain a respectful environment should there be personal differences.

Similarly, the Company's Human Resources Policy promotes equal opportunity and provides that hiring, promotion, transfer and other employment decisions will be adopted without regard to race, color, religion, gender, age, disability, national origin,

immigration status or sexual orientation.

Compensation in Tenaris is strictly based on each employee's duties and personal performance, competencies and behavior.

Tenaris is subject to the UK Modern Slavery Act 2015. In February 2019, the board of directors approved the company's Slavery and Human Trafficking Statement, available at [ir.tenaris.com](http://ir.tenaris.com).

### Our actions

At Tenaris, we believe people are our most important asset. We have grown to become a global leader thanks to the hard work, performance and innovative ideas of our diverse workforce.

In this new cycle of the global energy market, the talent and determination of our teams will continue to be key to our business worldwide. Following the downturn, our workforce has grown 20% in the last two years. The number of employees has reached 22,969 by December 2018.

In this new challenging market scenario, the motivation, knowledge and effectiveness of our people will be, more than ever, a fundamental factor for the company's success. Throughout the last years we have worked to design and implement a new vision for Human Resources that places our people at the helm of their professional development. As a result, we are implementing new programs and adapting our tools to empower our employees to design their own career paths and to improve their learning and development options.

### TenarisUniversity redefined

Created in 2005, TenarisUniversity is a cornerstone of the integration, alignment and consolidation of the knowledge that our company generates worldwide. For more than a decade, our corporate university has provided a common curriculum and base training for employees at all levels. Its 14

# HUMAN RESOURCES INDICATORS

## Total hourly and salaried employees

In thousands of people



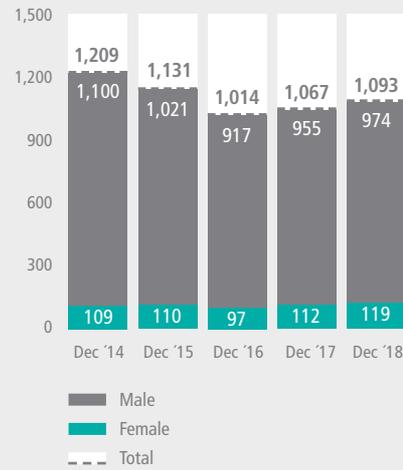
## Salaried employees by gender

In thousands of people



## Managers by gender

In number of people



regional centers around the world and five schools have delivered over 1.2 million hours of training per year, gaining various awards for corporate education in the process.

In order to remain at the forefront of innovation in corporate training, back in 2017 we decided to change its focus largely based on prescriptive learning and implement a new model. By partnering with the learning platform Degreed, TenarisUniversity is now placing the employee's interests and needs at the center of the system, while offering a wider array of topics and courses.

The fixed curriculum is gradually being replaced by a new culture of training in which employees can decide what competences they want to develop, when and how. The new platform offers Tenaris specific courses as well as external content, both online and in-classroom training.

Tenaris's own data collection and analysis shows that during the first six months after the deployment of Degreed, the number of log-ins and completions has doubled. 97% of the learning items completed in Tenaris have been micro-learning or just-in-time learning, and there has been a 12% increase in the total number of on-line training hours.

#### **Core management and leadership programs**

TenarisUniversity continues to deliver its core management and leadership programs, such as the Global Trainee Program (GTP) with its induction camp (TUIC), the Management Development Program (MDP) for managers, the Advanced Management Program (AMP) for senior managers and the Leadership Program (LP) for top managers.

Back in 2003, Tenaris launched the GTP, a two-year development program for young professionals entering the company. The TUIC was planned as one of the first steps in the program, gathering groups of around 50 new employees from all over the world for

one month in one of our production facilities in Argentina, not only for them to have a first-hand exposure to the company's main industrial processes and products, but also to the values and the culture of Tenaris, while building a network of peers from different nationalities and professional backgrounds.

In order to complement our in-house training, Tenaris has partnered with top universities and professional associations that deploy programs specially designed for our company, including the International Institute for Management Development (IMD) in Switzerland and Rice University in the US.

#### **Continuous feedback and development**

Our performance management process is an essential aspect of our Human Resources policy. We have worked to make it more transparent and accountable in order to understand our employees' aspirations and interests in terms of career development, better align objectives and enhance the relationship between employees and supervisors.

We see performance evaluation as an opportunity to strengthen the different teams and promote individual development. Since 2017, we have incorporated midway checkpoints to the process in order to encourage permanent performance feedback and to promote an ongoing dialogue between managers and employees in terms of goals and growth opportunities.

We are building a culture of continuous feedback that requires our commitment at all levels. For this reason, we have put in place a series of surveys to better understand the needs of each team.

Employee participation in last edition of the Employee Opinion Survey (EOS) registered an all-time high since its implementation in 2006. Nearly 90% of all eligible employees voiced their opinions through this confidential platform, a very

# HUMAN RESOURCES INDICATORS

## Employee participation in TUIC, MDP and AMP courses

Participants per course

Year	TUIC	MDP	AMP	LP
2014	233	255	79	36
2015	180	56	52	35
2016	145	123	-	42
2017	65	54	104	40
2018	133	113	48	38

TUIC: TenarisUniversity Induction Camp  
 MDP: Management Development Program  
 AMP: Advanced Management Program  
 LP: Leadership Program

## Upward feedback

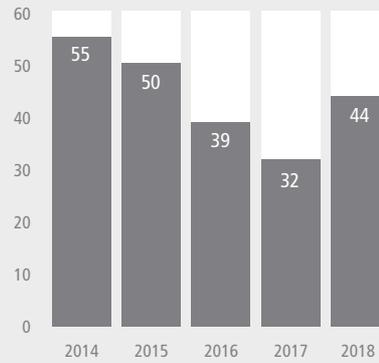
Year	% of supervisors that received UF	% of employees who provided UF
2014	81	56
2015	96	90
2016	96	89
2017	96	89
2018	94	84

## Employee Opinion Survey participation

Year	Target population	Rate of participation (%)
2008	6,817	80
2010	6,892	76
2012	7,646	80
2014*	7,903	74
2015	7,534	85
2018	6,850	90

\* Mid-Cycle Survey

## Total training hours per salaried employee



## Total training hours per hourly employee



## Resignation rate



Percentage of employees resigning from the company in previous 12-month period.

important sign of the level of engagement of our teams worldwide.

The results became very useful not only for understanding how employees perceive their working environment but also for developing and implementing concrete actions to address areas that need improvement.

Reinforcing this initiative, we have launched Engagement Pulse Surveys every six months in order to fine-tune ongoing action plans for each area. This targeted approach aims at making Tenaris a better place to work, while assuring the commitment of management to improve our employees' work environment, and validating we are all moving in the right direction. The last Pulse Survey, conducted in December 2018, registered 87% participation and showed an improvement of 8 points in terms of satisfaction with Tenaris as a place to work.

As part of our drive to empower employees, we have updated our system to post internal vacancies. The new Career Opportunities Portal not only lists the positions open but also enables employees to proactively seek growth opportunities, promoting internal job rotation in order to enrich their professional profiles.

Complementarily, we are working on an integrated online platform for managers that facilitates access to employees' information in order to help them work on the career development of their team members.

#### Fostering integration

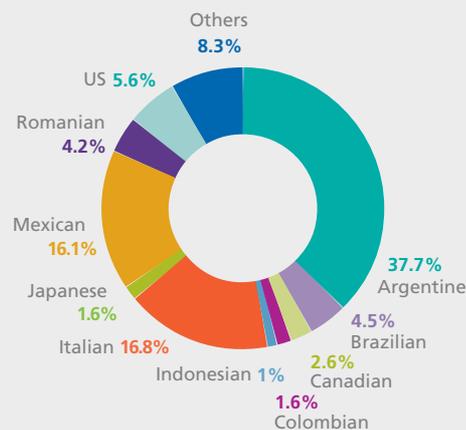
In line with our commitment of promoting integration at all levels and in all areas, during 2018 we conducted opinion surveys among our shop floor employees in Argentina and in the US. The results showed room for improvement regarding the working environment and the quality of personal interactions between

## HUMAN RESOURCES INDICATORS

### Employees by nationality

Argentina	5,584
Brazil	1,287
Canada	950
Colombia	1,081
Indonesia	555
Italy	2,151
Japan	400
Mexico	5,803
Romania	1,861
United States	1,902
Others	1,395

### Managers by nationality



supervisors and shop floor employees in Argentina and we have implemented actions to help change these matters.

We are already extending these surveys to our employees in other production facilities, in order to help us identify opportunities for improvement in the alignment of all our people towards shared goals.

Throughout 2018, we have also been working to reinforce the role of shift leaders at our production centers. A nexus between the professional management and the employees at the shop floor, the involvement of this 700-population is essential to improve safety and quality, as well as awareness of the impact of daily actions in the overall business.

We have designed new training opportunities to expand their knowledge and competences and to help them communicate company's values across the shop floor, while promoting engagement.

#### **Encouraging diversity**

Born in the early 2000s from an alliance of three companies in Argentina, Italy and Mexico, multiculturalism has always been a substantial part of the company's identity and the reason behind much of its successes. Today, Tenaris has grown to become a truly global company, with 88 nationalities represented among our staff. Our managers also continue to grow in diversity, with 34 nationalities among them.

In 2008, we launched a specific program to boost the level of gender diversity within the company. Over the years, it has expanded its scope to include cultural and other forms of diversity (Diversity+).

As the world – and the industry – changed throughout the past 15 years, so did the generational mix of Tenaris, as well as the gender mix. Our one-month induction program for Global Trainees, the TUIC,

is a prime example of this shift. Launched in 2005, the first TUIC had a female component of 16%. That percentage has gradually increased throughout the past years, reaching 40% in the 48th edition. In terms of cultural mix, the pool of nationalities also became more diverse. In 2005, only 30% of the employees participating in the GTP were nationals from countries other than Argentina, Italy or Mexico. By 2018, this percentage has jumped to 50%.

As for the rest of the company, we have been working on several projects to foster diversity at all levels and we have seen a gradual increase of the female population in the last years. Even though it is still difficult to see perceptible changes in statistical results, we are seeing more examples of women in senior positions.

As part of the tools we use to encourage employee commitment to diversity, we offer a series of courses, seminars and inclusive nudges designed to better manage age, cultural and gender mix and to mitigate unconscious biases and promote inclusion.

Also, we have designed programs to increase flexibility and reduce bureaucracy at the workplace, enabling a better balance between the professional life and the needs of each employee. Our people's motivation, their sense of belonging and their pride in what we do are key to our company's success.

#### **Attracting top candidates in every location**

As Tenaris continues to grow in new regions, attracting, developing and retaining the talent needed by the company becomes more and more important. In order to recruit the best profile for each position, we are incorporating validated tools and methods in our recruitment and talent development strategies that help us find candidates who identify with our company culture, thus reducing turnover rates.

## A NEW MODEL FOR TENARISUNIVERSITY

### Customized learning paths

In 2018, the company implemented a new model for TenarisUniversity, which places our people's interests and training needs at the center of the system. Developed with the Degreed learning platform, the new model establishes the minimum mandatory training required for employees to perform their job, but opens a broader and more flexible array of options for training. After the first months of its deployment, the number of log-ins has doubled and there has been a 12% increase in the total number of on-line training hours.

"Having Degreed on my mobile phone is very handy as it's very easy to access from wherever you are or during business trips. I use a lot of information from the articles I get on the different apps, providing real time data. Also, sharing or recommending interesting information is very easy", Anamaria Puie, Compensations & Organization Senior Analyst, Romania.



"As most of the resources are very brief, checking them out only takes me 15 minutes at the beginning of my day. The sources are very varied, including online material from MIT or Harvard. It makes you leave your comfort zone and take in new ideas", Rodrigo Da Costa Martins, Talent Attraction Analyst, Argentina.

"The world is changing rapidly. And the tools that help us carry our day-to-day activities are changing too. Constant learning is more important than ever. A good platform helps you gather relevant information in an effective way", Renwar Berzinji, VP Commercial - Middle East, United Arab Emirates.



# COMMUNITY RELATIONS

# COMMUNITY RELATIONS



## 336

students enrolled to the Roberto Rocca Technical School in Campana

## 2,650

students involved in the Technical Gene program in 2018

## 1,114

children enrolled in the AfterSchool program in 2018

## 1,195

Merit Awards granted during 2018

### Our commitment

- To be a factor for growth and development in the communities where we work and live, and to promote a culture that rewards merit and enterprise.

### Our objectives

- Contribute to improve all levels of education in our immediate and broader communities, with a focus on technical education.
- Help preserve our community's identity and heritage.
- Encourage creativity and innovation through culture.

### Our actions

Our community program reflects more than seven decades of industrial tradition worldwide, with a special focus in Latin America. The principle that guides our work is that an industrial project like ours can only succeed if it benefits the communities around it.

Over the last years, we have concentrated our community action in two main areas: education and culture. We have focused our work on eight strategic programs that are designed globally and implemented locally, taking into account the particular circumstances of the diverse target communities where we operate:

- Roberto Rocca Technical Schools
- Technical Gene
- AfterSchool program
- Merit Awards
- Roberto Rocca Education Program
- Film Festivals
- Photo Library
- Volunteers in Action

Our programs cover the entire school cycle, from elementary to higher education. In 2018, we invested 63% of our USD 11.7 million budget for Community Development in educational programs, as we believe education is key to community growth. We also work to bridge the gap that exists in many of the communities where we work.

Being a multi-cultural and multi-language company, the promotion of culture is also an important part of our program, as we seek to encourage diversity and integration.

### Technical schools network

We promote technical education as a tool for personal and community growth; and work to contribute to the development of an education system that adapts to the changes technology is bringing to our industry and society at large.

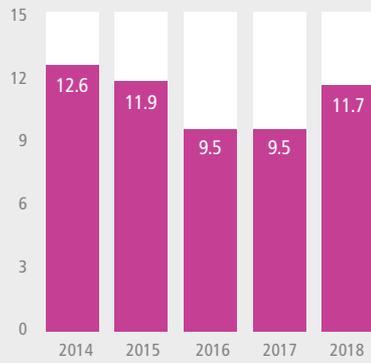
One of our main projects is the development of the Roberto Rocca Technical Schools (ETRR, by its acronym in Spanish). Named after one of the company's founders and promoter of industrial culture and technical education, the ETRRs were created to educate high school students from our communities using innovative teaching methods and the latest technology for the classroom and labs. All students have different levels of scholarships, depending on their needs.

In 2013 we inaugurated the first ETRR in the city of Campana, Argentina, which will reach its full capacity in 2019 with 420 students. Ternium, our sister company, opened the second technical school with a capacity of 384 students in the town of Pesquería, Nuevo León, Mexico, located in a region where Ternium is leading industrial development. In 2019 both schools will have their first graduates, after seven years of study in Argentina and three in Mexico.

## COMMUNITY INDICATORS

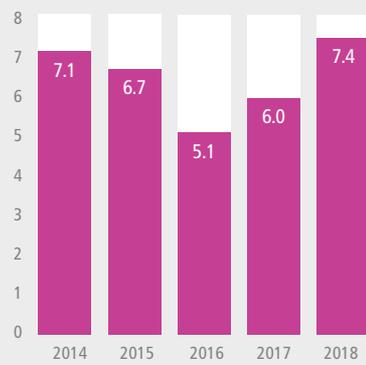
### Investment in the Community

in million USD



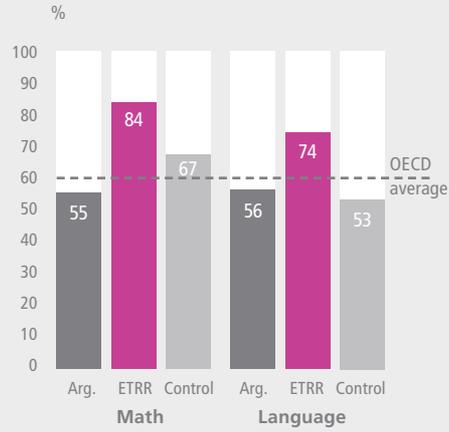
### Investment in Education

in million USD

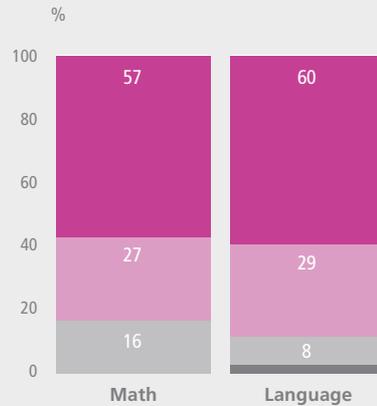


### Roberto Rocca Technical School (ETRR) performance

#### PISA tests



#### College Board test



- Basic
- Intermediate
- Intermediate advanced
- Advanced

In 2018, we started to measure the quality of learning with international standardized tests from College Board. These tests are used in many countries in Latin America, and our ETRR was the first school to apply them in Spanish in Argentina. The results showed that 57% of students at the ETRR in Campana have achieved an advanced level in Math, 60% of students have an advanced level in Spanish. Overall results are better than in most Latin American schools. (See Community Indicators – ETRR Performance - College Board results)

In addition to College Board tests, we also apply standardized tests, including PISA exercises, to compare the performance of ETRR students with control groups formed by students attending technical schools in the region. The results showed ETRR students in Campana are doing better than their peers in the community, in both math and reading skills. (See Community Indicators – ETRR Performance - PISA tests)

Students at ETRR also benefit from the fact that the schools are located close to our production facilities: our expert employees teach some of the technical classes, we implement the same Safety Rules that we enforce at the mill and we are currently working to launch internships at our manufacturing facilities in 2019.

In order to develop 21st century skills and approach learning comprehensively, our schools have incorporated Project Based Learning methodology, generating cross-curricular projects that foster innovation. For example, during 2018 students programmed an automatic watering system and built a solar-powered car, which was presented in the Argentine championship of eco-friendly cars, called Desafío Eco YPF.

Moreover, students participated in different activities throughout the year, such as volunteering initiatives for the community, the TED-Ed Club and Tecnoaventura, where they learnt about shales and oil & gas applications in Argentina. Also, first-year students got the gold medal in the Tarbut Math Olympiad.

We believe creativity and self-expression are vital for the integral development of our students. With this in mind, we organize literary activities to encourage students to write stories and poetry and find their own voice. For example, during 2018 we held the 3rd edition of our Literary Contest in Campana and, along with the school in Mexico, we launched the International Literary Contest for the Roberto Rocca Technical School Network.

Since 2015 we have been implementing a performance evaluation system for teachers created by Alejandro Ganimian, a Harvard graduate and member of the Gates Foundation Measures of Effective Teaching (MET) Project. The evaluation system consists of opinion surveys on students, on-the-ground class observation and evaluation of the school's principal.

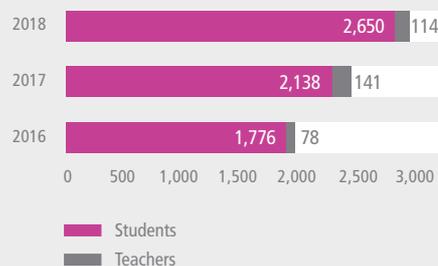
Based on the results, we are working on the implementation of training and incentive programs to improve teacher performance. Almost 60 teachers were evaluated and received an intensive training on positive discipline, project-based learning and social-emotional skills.

During 2018, we implemented a personalized tutorship methodology for students that required academic or socio-emotional support, accompanied by follow-up sessions.

## COMMUNITY INDICATORS

### Technical Gene

Students and teachers involved



### Technical Gene

Students and teachers involved per community

Community	2016	2017	2018
Bay City	7	10	8
Blytheville	8	393	99
Cartagena	-	169	131
Calarasi	-	-	24
Pindamonhangaba	377	332	349
Sault Saint Marie	-	60	60
Veracruz	145	365	672
Zalau	775	549	1,026
Zárate/Campana	542	401	395
<b>Total</b>	<b>1,854</b>	<b>2,279</b>	<b>2,764</b>

### AfterSchool program

Students involved per community

Community	2016	2017	2018
Blytheville	-	100	131
Campana	91	76	97
Cartagena	126	205	287
Montevideo	46	87	117
Pindamonhangaba	47	47	141
Veracruz	234	234	237
Zalau	131	-	104
<b>Total</b>	<b>675</b>	<b>749</b>	<b>1,114</b>

### Roberto Rocca Education Program

Active scholarships by country

Country	2016	2017	2018
Argentina	157	129	173
Brazil	20	24	15
Canada	5	3	2
China	10	10	10
Colombia	16	17	23
Ecuador	1	-	-
Guatemala	4	5	5
Indonesia	-	6	-
Italy	32	32	32
Japan	8	8	8
Mexico	139	136	136
Romania	40	40	40
UK	1	-	-
Uruguay	4	4	2
USA	31	18	-
<b>Total</b>	<b>468</b>	<b>432</b>	<b>446</b>

### Merit Awards by country

Country	2016	2017	2018
Argentina	230	215	232
Brazil	200	200	200
Canada	54	54	39
Indonesia	207	219	96
Italy	80	85	82
Mexico	140	150	160
Nigeria	24	30	48
Romania	423	456	293
USA	24	25	45
<b>Total</b>	<b>1,381</b>	<b>1,429</b>	<b>1,195</b>

### Supporting technical education

The Technical Gene program is another initiative that contributes to the development of technical education. The program provides support for infrastructure and equipment, as well as teacher training, school management and on-the-job training internships for high-school students.

The program now runs in seven countries and nine communities. 2,764 people participated in this program: 2,650 students and 114 teachers and 76,281 hours of training were delivered. Also, in 2018 we provided equipment for a technical high school in Kazakhstan and we will be fully implementing the Technical Gene program at this location during 2019.

During 2018, teachers participated in a technical update course and students developed not only technical skills, but also soft skills such as safety fundamentals, teamwork and leadership.

In Campana, we implemented internships in our production center for the first time: 48 students from three high schools completed their internships in our mill. In Italy, we purchased educational robots and trained teachers and educators to be able to offer robotics workshops for 8,000 students during 2019. In Romania and Brazil we continued organizing internships in our manufacturing facilities in Zalau and Pindamonhangaba.

Also, following the experience at the ETRR network, we continued with the implementation of Project Based Learning in Veracruz, Mexico, where 349 students presented projects about environment, innovation and social responsibility.

Along the same line, in Campana, students from technical schools built an electric-powered boat to provide transportation to the islanders linking the town port with the Carabelas river. Students from ETRR were in charge of the calculation, design and assembly of the electrical installation of eight docks.

### Educational activities in primary school

The AfterSchool program has grown significantly over the last few years. In 2018, 1,114 children were enrolled in the seven countries where the program takes place, a considerable increase from the 749 enrolled during the previous year.

Our AfterSchool program offers three extra hours of non-formal education for primary students, four days a week, in addition to the four hours of formal schooling most children already have. It includes STEM education (Science, Technology, Engineering, Math) as well as art and recreational workshops.

We work in communities with high levels of school dropout rates. Impact assessments show that students who participate in the program not only increase their reading comprehension, but also make progress in interpersonal relations and positive emotions.

During 2018, we have strengthened the AfterSchool model including Math content with a curriculum that includes active learning and Project Based Learning.

## ROBERTO ROCCA EDUCATION PROGRAM

### First scholarship awarded in Middle East

Shyma Alhuwaider is the first student in the Middle East to receive the Roberto Rocca Education Program scholarship to advance her studies. Tenaris is a co-sponsor of the program established in 2005, which provides scholarships and fellowships to undergraduate and graduate students of engineering and the applied sciences.

Alhuwaider, 22, has a penchant for programming, artificial intelligence and big data analysis. She started her studies in the United States and later joined Prince Mohammed bin Fahd University (PMU) in Saudi Arabia where she is continuing her education.

In 2018, the Roberto Rocca Education Program granted 12 fellowships for students pursuing PhDs at universities outside their country and 446 scholarships for undergraduate students at universities in their home country.



“I loved the fact that Tenaris is hiring female engineers and encouraging them to continue their studies. The Roberto Rocca Program is there for a very noble cause and I am proud to be the first in the Middle East to be awarded this scholarship”,  
Shyma Alhuwaider.

In Zalau, Romania, the program resumed after one year without operating: 104 students now assist regularly to Porolissum primary school. In Pindamonhangaba the AfterSchool model was implemented in a new school, now reaching 141 regular students. In Colombia, the first cohort of 42 students completed the program.

Although attendance varies from country to country, 70% of the students that enroll reach the standard 70% attendance target that the program has defined.

#### Rewarding merit

Launched in 1976, the Merit Award is the oldest of our educational programs. Initially designed to benefit the children of our employees, it opened to the entire community in 2007. This program encourages good academic performance of high school students and granted 1,195 awards in 2018 in nine countries.

We also continued to award fellowships and scholarships under the Roberto Rocca Education Program, sponsored by Tenaris and its sister companies in the Techint Group, which was launched in 2005 in order to promote the study of engineering and the applied sciences at undergraduate and graduate level in the countries where we have a major presence.

In 2018, we granted the Roberto Rocca Education Program scholarship for the first time in Saudi Arabia: Shyma Alhuwaider was the first student in the Middle East to get the scholarship to study computer sciences and engineering at university, starting.

Worldwide, last year the program funded 12 fellowships for students pursuing PhDs at universities outside their country and 446 scholarships for undergraduate students at universities in their home country.

#### Culture and diversity for integration

With the purpose of encouraging cultural integration and identity, while preserving our communities' heritage, in 2018 Tenaris used 30% of its community budget for cultural activities.

We understand art and culture as a source of innovation in our communities. Tenaris and its sister companies in the Techint Group promote art through Fundación PROA ([www.proa.org](http://www.proa.org)) in Buenos Aires, and Galleria d'Arte Moderna e Contemporanea - GAMeC ([www.gamec.it](http://www.gamec.it)) in Bergamo.

Founded in 1996, Fundación PROA has become an important player in the local arts scene. At the forefront of the cultural life of Buenos Aires, its exhibits of international excellence encourage critical thinking and creativity. The renewal of its building in 2008 is considered a milestone in the renovation of La Boca district and has promoted the development of a cultural hub in the area.

Last year PROA welcomed 135,000 visitors and held four major international exhibitions. PROA also conducts educational programs for schools based on the shows on exhibit, as well as workshops and other open-door activities for the community. For example, during 2018, more than 4,000 people visited PROA21, a new exhibition venue that includes art labs and workshops.

GAMeC opened in 1991 in Bergamo, Italy, where Tenaris has its Dalmine mill. It is located in what was formerly a convent built in the 15th century and presents a wide variety of local and international exhibitions.

In terms of cultural activities for the communities where we operate, our work in this area is channeled through two global programs that have been growing over the last few years: the film festivals and the photo libraries.

During this period, we organized 15 festivals in five countries: Argentina, United States, Italy, Colombia and Romania. A total of 8,966 people attended to 41 screenings in 2018.

The photo libraries collect and preserve the photographic memory of the locations where we operate, under the guidance of Fundación PROA. We have built photo libraries in Campana, Argentina; Pindamonhangaba, Brazil; Veracruz, Mexico; and Montevideo, Uruguay.

In 2018, we implemented the photo library program for the first time in Pindamonhangaba and developed the Ciudad Industrial (Industrial City) initiative in Campana along with one local school from the area, featuring the history of the community and its industrial culture.

In Italy, our Fondazione Dalmine, which opened in 1999 next to our mill in Bergamo, is tasked with compiling and preserving the historic heritage of our industrial facilities around the world. The Fondazione's archive keeps some 120,000 documents, 80,000 photographs, 500 films, 5,000 drawings and 900 other objects depicting the centennial-plus industrial history of our industry in the region. It regularly holds photo exhibitions and organizes other cultural events.

Also, we engage the community through the Fondazione Dalmine per le Scuole program (Dalmine Foundation for Schools), which delivers hands-on workshops on the past and present of the region's history, targeting elementary and high school students. Last year over 4,500 students participated in these workshops. The Fondazione also offers a training program for teachers.

#### **Volunteers in action**

We are committed to making a difference in the communities where we operate.

Through participation in volunteer events, our employees are encouraged to get involved in work that makes a contribution and strengthens our mutual bonds with our communities. In 2018, 1,317 Tenaris employees and their family members from around the world joined different volunteer events, putting 5,954 hours of volunteer time, to support deserving causes and engage in the co-creation of a better community.

After a 7.1-scale earthquake hit southern Mexico in September 2017, Tenaris, its sister companies in the Techint Group and employees responded by raising funds for the victims and with special volunteer actions to distribute help. During 2018, we used the funds to build 191 houses for the families affected by the earthquake in Oaxaca.

Other volunteer activities took place throughout our different locations. In Campana, for example, volunteers repainted and refurbished an elementary school. In Bay City, our employees participated by joining a Matagorda county drive called Day of Caring and conducting minor repairs and yard work for local residents in need.

In Montevideo, we had the first edition of the “Historias que Inspiran” program, where Tenaris employees visited different schools to pass on their values, life experiences and foster the permanence in the education system.

Lastly, in Aktau and Cartagena, employees participated in the first volunteer activities in their respective communities.

#### **Toni, the bridge builder**

For almost three decades, Toni Ruttiman has brought together the lives of more than two million people in Latin America and in South East Asia with suspension bridges he builds with the collaboration of the people that will later benefit from them. Through the years, Tenaris has donated 1,792 tons of material to Mr. Ruttiman’s mission: 64% of his bridges stand on Tenaris’s pipes.

Mr. Ruttiman is a Swiss national who started his bridge-building mission after visiting Ecuador in the aftermath of the 1987 earthquake that left tens of villages isolated. Since then, he has expanded his mission to the rest of Latin America and to the South East Asia. In total, he has built 809 bridges in 12 countries.

# GOVERNANCE, RISK AND COMPLIANCE



# GOVERNANCE, RISK AND COMPLIANCE

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Tenaris is a company established in 2001 in Luxembourg to consolidate Techint Group's pipe and tubes business. In addition to controlling 60.45% of the shares in Tenaris, the Techint Group has controlling interests in Ternium, the leading producer of steel in Latin American; Tecpetrol, an oil and gas company; Techint, an engineering and construction company; Tenova, a supplier of equipment and technologies for iron and steel and mining; and Humanitas, a network of research hospitals in Italy.

The company's shares trade on the Italian Stock Exchange, the Buenos Aires Stock Exchange and the Mexican Stock Exchange; in addition, the Company's ADSs trade on the New York Stock Exchange. Responsibility for the management of the company resides in its board of directors, currently comprising 11 directors, of which five qualify as independent directors under applicable US securities regulations and four qualify as independent under the company's articles. Our Chairman and CEO is Paolo Rocca, the grandson of the founder of the Techint Group.

The company's board of directors has an audit committee currently consisting of four independent members. The charter of the audit committee sets forth, among other things, the audit committee's purpose and responsibilities, which include oversight responsibilities relating to the integrity of the company's financial statements; the effectiveness of the company's system of internal control, risk management and internal audit over financial reporting; and the independence and performance of the company's external auditors. In addition, the audit committee is required to review material transactions with related parties in order to determine whether their terms are consistent with market conditions or are otherwise fair to the company and/or its subsidiaries.

For further details of our corporate governance, including our board of directors, audit committee, senior management and major shareholders please refer to our Annual Report and website ([www.tenaris.com](http://www.tenaris.com)).

## **Risk management**

As part of our commitment to sound corporate governance, Tenaris has established a process of risk identification and management. At the helm of the process is our Critical Risk Committee (CRC), which is tasked with assisting the board of directors, the audit committee and the CEO in the oversight and monitoring of risks, the development of mitigating actions, and the monitoring of action plans.

The CRC focuses on risks considered critical to the company's assets, operations or reputation. We have categorized risk factors according to the potential area impacted, the likelihood of their occurrence and the severity of eventual impact, and appointed an owner within our organization for each area to carry out a mitigation plan. The main risks we have identified include major accidents that could be caused by natural disasters, cybercrime and climate change. We also review the potential impact of climate change on the business of our oil and gas customers and consequent demand for our products and services.

On climate change, as well as the actions we take to minimize our own emissions, we have listed a series of actions to increase awareness and develop a broader industry response, which include cooperating with local governments in order to implement rational policies that help achieve the United Nations Climate Conference goals, to generate business awareness and be proactive in efficient energy management and CO<sub>2</sub> mitigation and to continue to participate in global steel industry actions like the World Steel Association's Climate Action Program.

For more details about the risks facing our business, please refer to the risks section included in our Annual Report.

**Business Conduct: committed to Compliance**

Tenaris is committed to building a corporate culture of transparency and integrity based on ethical behavior and compliance with law. Our Code of Conduct is the cornerstone of that effort. Since it was first published in 2003, it has been reviewed periodically to bring it up to date with the latest trends and introduced new provisions when necessary.

The updated version of the Code, approved in February 2018, incorporates explicit language on the protection of data privacy, the promotion of fair and transparent economic competition and the strengthening of a respectful workplace environment, particularly expressing respect for human and labor rights and that no form of abuse, coercion, discrimination or slave labor are tolerated in our activities.

Besides the Code of Conduct, we have a Policy on Business Conduct and a Code of Conduct for Suppliers. They are available in ten languages: Arabic, Bahasa Indonesia, Chinese, English, Italian, Japanese, Portuguese, Romanian, Russian and Spanish.

During 2018, Tenaris's employees were required to acknowledge the updated version of the Code of Conduct and to renew their commitment with the Policy on Business Conduct.

In 2010, Tenaris appointed a Business Conduct Compliance Officer (BCCO), who established a Business Conduct Compliance Program aimed at identifying and mitigating corruption risks and fostering the culture of ethical and transparent conduct.

Tenaris regularly issues, renews and validates its codes, policies, procedures and standards aimed at ensuring anti-bribery compliance, in keeping with national laws against corruption and bribery, and other international laws such as the US Foreign Corrupt Practices Act (FCPA) and the UK Bribery Act.

Tenaris's Business Conduct Compliance Program is a single and risk-based approach to how the company develops, structures and implements anti-bribery compliance and adherence to ethical business, inherent to the interaction with public officials, governmental entities, communities, other public and private corporations, business partners and third-party employees.

The Business Conduct Compliance Program develops a variety of preventive actions within the following ten core compliance activities: Risk Assessment and Planning, Normative Framework, Advising and Guidance, Communications, Training, Certifications, Third Parties, Monitoring and Audit, Discipline and Remediation, and Benchmarking.

These activities are based on regular risk evaluations to identify and focus on critical factors and best practices, and they are aimed at developing and applying them with special attention on education and risk prevention.

During 2018, Tenaris updated six anti-bribery related procedures, and trained 1,065 employees in person worldwide. We also trained 165 third parties employees based in high-risk countries. We have implemented and updated internal procedures applicable to all our employees for the approval of corporate gifts, business trips and hospitality, such as accommodation and meals offered to public officials and/or private persons, and non-for profit or charitable contributions.

The company regulates and standardizes the process of evaluating, selecting and hiring representatives or associated persons such as commercial intermediaries, customs agents, permitting assistants, advisors and/or law firms. Procedures include the regulation of due diligence processes, internal authorization controls and standard provisions to ensure third parties' commitment to follow Tenaris's antibribery and anticorruption policies.

Tenaris believes that the effective involvement and responsibility of each employee, every day, is critical in the pursuit of an ethical culture. As part of the Business Conduct Compliance Program, we promote awareness and communicate relevant guidelines, policies and procedures throughout the organization through newsletters, flyers, stories and notices in our intranet, management meetings and several other educational materials aligned with the industry's best practices. In 2018, we issued 77 Business Conduct Compliance communications items with a global reach within the company.

Regular monitoring and audit activities are performed to verify compliance and to gauge our response capacity worldwide. Tenaris has a Compliance Line available in nine languages to allow employees, customers, suppliers and other interested parties to report, on a confidential basis, any conduct contrary to the Code of Conduct or its principles. The Compliance Line operates according to the procedures designed by our Internal Audit function under the direct supervision of our Audit Committee. Online access to our Compliance Line is available at [www.tenaris.com/en/AboutUs/ComplianceLine.aspx](http://www.tenaris.com/en/AboutUs/ComplianceLine.aspx)

## Human Rights

Tenaris is committed to conducting its operations in a manner that is consistent with human rights principles that are applicable to business and with the Universal Declaration of Human Rights.

We have a Human Rights Policy that was introduced in 2009 and amended in 2018. It also states that Tenaris acts in compliance with the principles established by the ILO (International Labor Organization) Declaration of Fundamental Principles and Rights at Work.

Much of the information included in this report expresses our commitment to help our employees and business partners understand and carry out our activities in accordance with these principles.

In 2018, in line with the Code of Conduct update, Tenaris launched the Personal Data Protection Policy introducing rules for processing, use, access, storage and transfer of data available to Tenaris and belonging to natural persons.

Tenaris is subject to the UK Modern Slavery Act 2015. In February 2019, the board of directors approved the company's Slavery and Human Trafficking Statement, available at [ir.tenaris.com](http://ir.tenaris.com).

## Suppliers

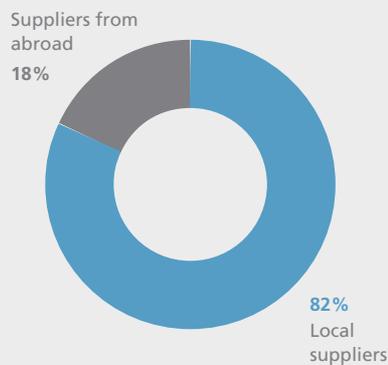
Building lasting relationships with our suppliers and contractors, and strengthening the industry value chain (suppliers and customers) through support for small and medium enterprises, is a salient part of our objectives and relevant to our performance.

## SUPPLIER INDICATORS

### Tenaris suppliers by country

Country	Local suppliers	Suppliers from abroad	Total suppliers
Argentina	1,624	299	1,923
Brazil	847	79	926
Canada	382	132	514
China	139	8	147
Colombia	383	121	504
Indonesia	172	55	227
Italy	907	174	1,081
Japan	164	8	172
Kazakhstan	-	4	4
Mexico	1,104	350	1,454
Nigeria	123	37	160
Romania	697	293	990
Saudi Arabia	-	3	3
Uruguay	4	3	7
USA	1,002	119	1,121
<b>Total</b>	<b>7,548</b>	<b>1,685</b>	<b>9,233</b>

### Tenaris suppliers



Tenaris purchases most of its supplies through Exiros, a specialized procurement company whose ownership we share with our sister company, Ternium. By December 2018, Exiros had a total of 48,440 registered suppliers, of which 14,109 were active during the year, with 9,233 supplying Tenaris. Exiros has a quality system certified under ISO-9001 standards.

All suppliers undergo a rigorous selection process to ensure adequate standards are met, in line with applicable laws and regulations and in accordance with our QHSE policy and Code of Conduct. We have adopted a Code of Conduct for Suppliers governing to ethical behavior, compliance with law, health, safety and environment.

We have categorized our service suppliers, according to the HSE risk level of their activities. Since 2012, we audited around 70% of the 1,290 active service suppliers classified as high HSE risk suppliers before awarding the service contract award or during performance of their services, and another 700 not high risk suppliers were also audited on HSE risk. Audits are performed against the standard self-assessment required for any service supplier willing to provide services to Tenaris. During 2018, 490 new audits were performed, and improvement plans conducted when gaps were detected.

The table included in this section summarizes the number of our suppliers by country.

## STRENGTHENING THE VALUE CHAIN



### ProPymes

For many years, in association with our sister companies, Ternium and Tecpetrol, we have sponsored a program, called ProPymes, to support small and medium enterprises (SMEs) in our value chain primarily in Argentina build operations that can be globally competitive through technical assistance, training programs, financial support and providing access to our global network.

Through ProPymes, we support more than 900 enterprises in Argentina. Training programs, which are based on knowledge sharing and exchange of best practices, are continuously updated to respond to the growing needs of SME managers and employees, and, in 2018, were delivered to 4,064 persons, reaching a record in ProPymes. Industrial assistance programs range from the use of automation technology and optimization of industrial facilities to the implementation of health, safety and environment protocols and the management of human resources, and 262 programs were delivered in 2018; totalizing 1,572 programs since ProPymes started in 2002.

Seeking to contribute to the development of technical secondary education, we guide SMEs in working together with secondary schools in their regions to support them with infrastructure and equipment, teacher training, school management and on-the-job training internships. During 2018, ProPymes Technical Gene reached 29 cities in Argentina and gave support to 32 secondary schools.

The institutional assistance program helps SMEs develop strategies aimed at ensuring a level playing field in their local markets. Commercial and financial assistance includes using our network to put SMEs in touch with potential customers worldwide and fostering investments to enhance productivity and increase capacity making use of low-cost financing programs. During 2018, ProPymes launched a new program in Argentina called #ProPymes Exporta with the objective of increasing the exports of the participating SMEs from \$120 million to \$410 million.



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