

# Pacto Global. Comunicación sobre el Progreso

Dear Mr. Secretary-General,

I am pleased to confirm that TENARIS supports the ten principles of the Global Compact with respect to human rights, labor, environment and anti-corruption. With this communication, we express our intent to advance with these principles within our sphere of influence. We commit ourselves to include the Global Compact and its principles as a part of our company's strategy, culture and day-to-day operations. TENARIS will make a clear statement of this commitment to its stakeholders and general public.

We recognize that a key requirement to participate in the Global Compact is the annual submission to the Communication on Progress (COP) that describes our company's efforts to implement the ten principles. We support public accountability and transparency, and therefore commit to report on progress every year according to the Global Compact COP policy.

Tenaris is a leading supplier of tubes and related services for the world's energy industry and certain other industrial applications. It has manufacturing facilities in Argentina, Brazil, Canada, Colombia, Indonesia, Italy, Japan, Mexico, Romania and the United States, a proprietary global service along with a worldwide distribution network.

Sincerely yours,



Paolo Rocca  
CEO  
Tenaris

# Sustainability Report 2016

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# Introduction

## Our approach to sustainability

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 and have a direct presence in most major oil and gas markets.

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

Safety, quality and transparency are the core values that guide our everyday activity. This report shows how those values are reflected in concrete indicators. This is the third annual Sustainability Report that we publish, but we started reporting on our work in this field with the predecessor to this publication, the Health, Safety and Environment (HSE) report, that we first issued in 2009 reporting on five years of data dating back to 2004.

Tenaris is a long-term industrial project that goes back more than six decades since our first mill in Campana, Argentina, came into operation in the mid-1950s. We have grown globally over the years expanding the scope and extent of our activities. Our prime objective is to develop a long-term sustainable business, providing opportunities for our employees and contributing to the development of the communities where we operate, and committed to minimizing the footprint of our activities and also that of our products and services, as stated in our QHSE Policy.

In October 2016, Tenaris extended its participation in the United Nations Global Compact to the entire organization, as in previous years it had participated through Siderca, its principal Argentine subsidiary. The Global Compact is a commitment to translate Ten Principles deriving from the Universal Declaration of Human Rights into daily business activity. Within the World Steel Association (worldsteel), Tenaris is a signatory of the Sustainability Policy and the Sustainability Charter.

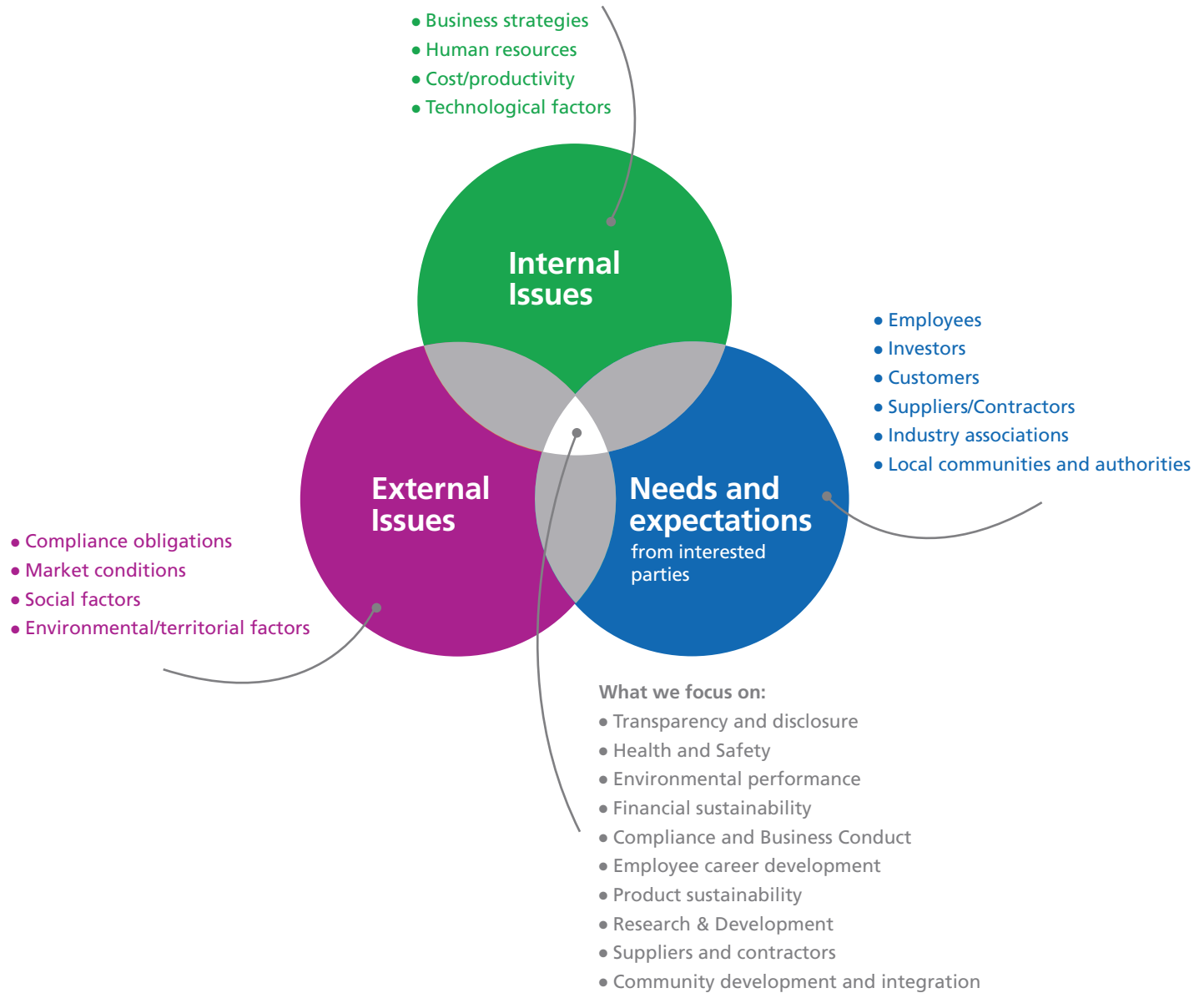
Our HSE Management System is designed according to ISO 14001 and OHSAS 18001 Standards. Today almost all of our production sites are working under management systems that are certified according to these standards. We obtained a multisite certification for the environmental management system, and we are now in the process of integrating our HSE and Quality management systems to leverage on the possible synergies. We are also on the transition process for the new version of ISO 14001 standard.

## Our reporting, in context

Tenaris is committed to building a culture of transparency and integrity, based on ethical behavior and compliance with the law. We believe this is essential for the sustainability of our activities.

This publication reports on the issues that can affect, either positively or negatively, our stakeholders within and outside the company. You will find our main performance indicators in the areas of Governance, Compliance, Economics, Health and Safety, Environment, Innovation, Human Resources and Community Development.

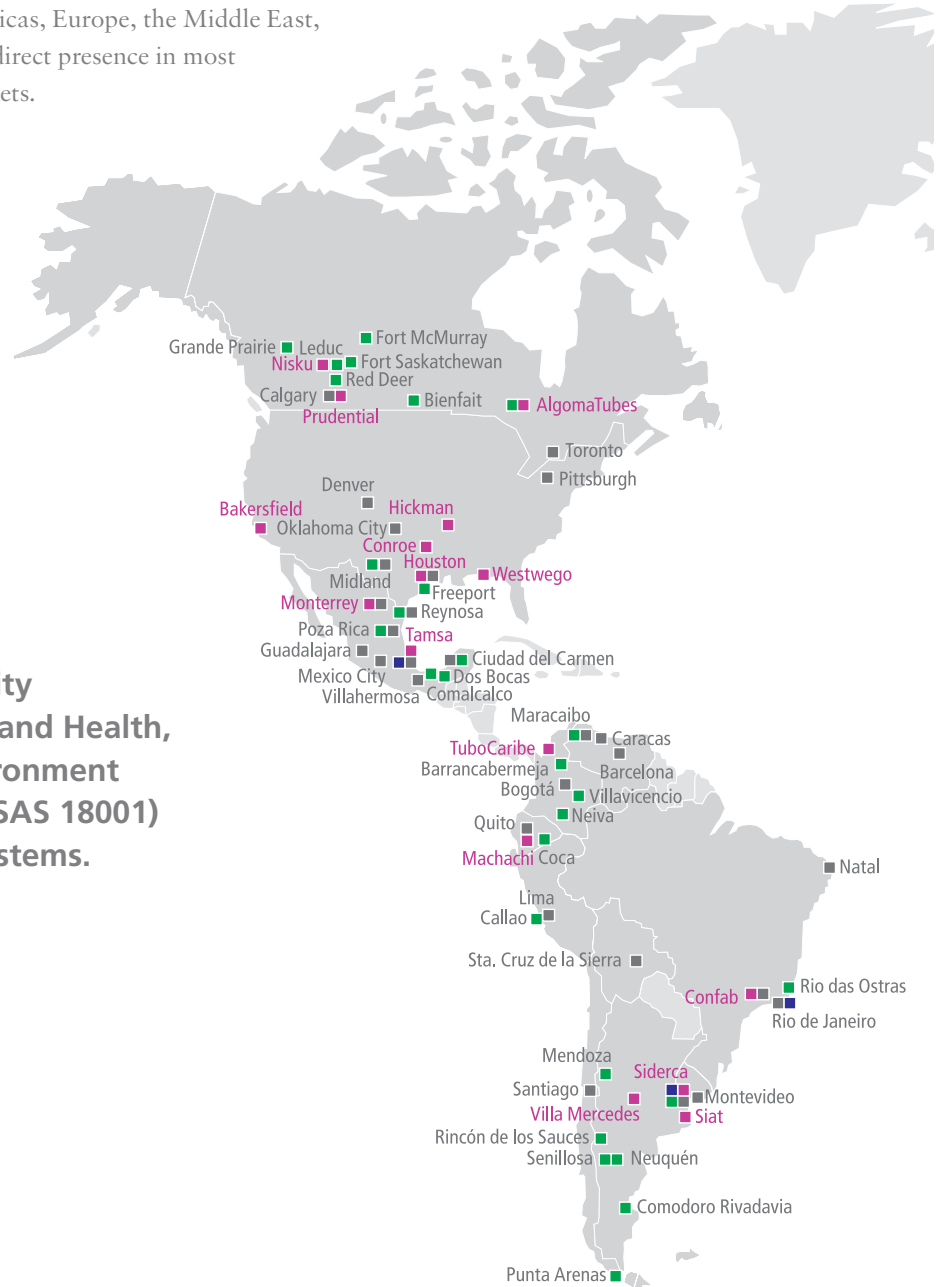
In 2016 we formalized an integrated risk-based methodology to better identify, evaluate and prioritize the sustainability challenges that can impact our ability to achieve our goals and our relationship with our stakeholders. The graph on this page shows the rationale that led us to inform on the issues listed on this report.



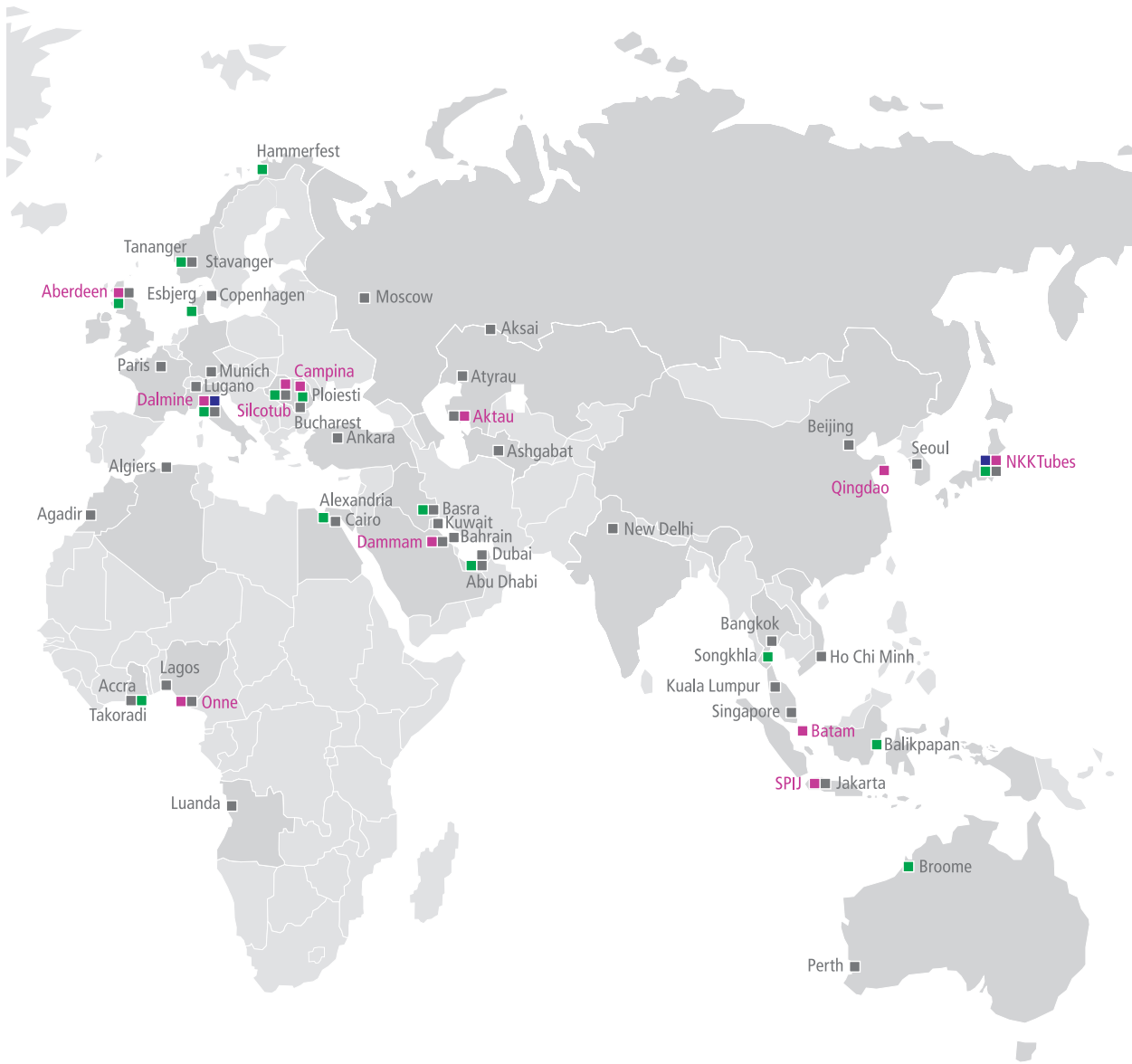
# Tenaris

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, the Middle East, Asia and Africa and a direct presence in most major oil and gas markets.

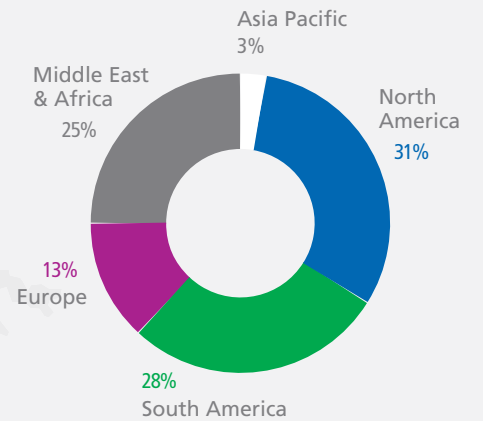


**Integrated Quality (ISO 9001:2008) and Health, Safety and Environment (ISO 14001 - OHSAS 18001) management systems.**



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

## Sales by Region



## 30 Countries

Services and distribution network

## 4 Countries

Stock exchange listings

- New York
- Buenos Aires
- Italy
- Mexico

## Top customers

- Aramco
- Chevron
- ConocoPhillips
- Continental
- ENI
- KOC
- Noble
- PAE
- Pemex
- Petrobras
- Pioneer
- Shell
- Statoil
- Total
- YPF

# Chairman's Letter

2016 was a very difficult year for Tenaris, the second of a severe downturn which has had a profound impact on the oil and gas industry and its suppliers. Even as a recovery in drilling activity now unfolds in North America, our customers around the world remain focused on reducing costs and rebuilding their balance sheets.

Tenaris weathered the downturn exceptionally well and I am proud of the way our employees have responded to the changes in market conditions and the circumstances of the company.

In two years, our sales fell 57% to \$4.3 billion. We had to adjust our costs rapidly, reducing our fixed cost structure and maintaining efficiency in our industrial system in the face of plunging production levels. As we did so, we focused on cash flow management and were able to continue to invest in our strategic projects, in our Bay City mill in the US, in R&D, in our communities, and to pay dividends to our shareholders.

Our investment in Bay City will transform our position in the North American market. The new mill, which is starting up this year, will be the most modern, automated and environmentally efficient mill in our industrial system and throughout North America. Located close to major shale plays, it will become the heart of our US Rig Direct™ operations.

Through our Rig Direct™ service, we synchronize mill production and customer drilling plans, shorten the supply chain, simplify operating processes and deliver sustainable cost benefits combined with professional Quality and HSE management. The cost and environmental benefits of the service are increasingly appreciated by customers around the world. We currently supply over 50% of our OCTG products with Rig Direct™ service.

As a leading industrial company, outstanding QHSE performance is essential for competitive differentiation and long-term sustainability. We constantly seek to improve our QHSE performance, embedding QHSE management principles throughout our operations. In 2016, we completed the certification of our HSE management system under the ISO 14001 and OSHAS 18001 standards and are now transitioning to the new version of ISO 14001. Our new mill in Bay City, which has been qualified as a minor source of emissions, embodies our commitment to incorporating technologies that can reduce the environmental impact of our operations as well as improving product quality and safety conditions.

We have focused for many years on improving our safety performance, introducing and strengthening safety management routines and tools, challenging attitudes and behavior and installing an agenda of continuous improvements. Our safety indicators have improved over these years and 2016 was no exception. However, despite this growing dedication and commitment, in the first months of 2017, we had three fatal accidents in different locations. All our team deeply regret the pain and suffering caused by these accidents to the families and communities affected. Safety is, and always will be, an absolute priority in every aspect of our activities and these tragic events strengthen our commitment.



To better prepare the company for the challenges ahead, we are renewing our agenda at TenarisUniversity. For more than 10 years our corporate university has played a key role in unifying knowledge and values across our global organization, providing a common curriculum and extensive training for our employees and stakeholders at all levels. TenarisUniversity will retain its core management and leadership development programs, but will now increasingly focus on inspiring employees to seek excellence in knowledge, encouraging them to customize their training in accordance with specific interests and creating high-quality networking opportunities.

The worst downturn of the past thirty years has undoubtedly left its mark on our employees and the communities where we work. We have made many difficult decisions to secure the future growth and competitiveness of the company. Now we have a more positive agenda ahead of us and we need to show a path to renewed growth.

Our differentiation depends on the excellence and engagement of our employees. We have worked hard to improve our fundamental processes for performance management, career development and understanding the concerns of our people. We aim for a Tenaris where everyone can be proud of their work, where excellence in everything that we do is a constant benchmark, where there are always opportunities for new challenges and growth, and where we can contribute to the sustainable development of our communities.

This report provides a transparent picture of the way we do things through a series of performance indicators. We work every day to improve these indicators and make our business activity more sustainable.

Sincerely,



Paolo Rocca

# Quality, Health, Safety and Environment Policy

Tenaris aims to achieve the highest standards of Quality, Health, Safety and Environment, incorporating the principles of sustainable development throughout its worldwide business.

Tenaris identifies the health and safety of its employees, contractors and visitors, the satisfaction of its customers, the protection of the environment and the development of the communities where it has its operations as integrated key drivers of its business; the entire organization is oriented towards achieving these goals openly and transparently.

Quality, Health, Safety and Environment management and risk assessment fundamentals are integrated in all business processes.

Management is responsible and accountable for achieving excellence in Quality, Health, Safety and Environmental performance for successful business results.

Tenaris is committed to training all its employees in the appropriate use of its Quality, Health, Safety and Environment management systems, strengthening its management through updating of professional and managerial skills, fostering diversity, emphasizing employee evaluation and motivation and complying with the ethical principles established in its Code of Conduct.

**Nothing is more important than the health and safety of everyone who works for us and uses our products**

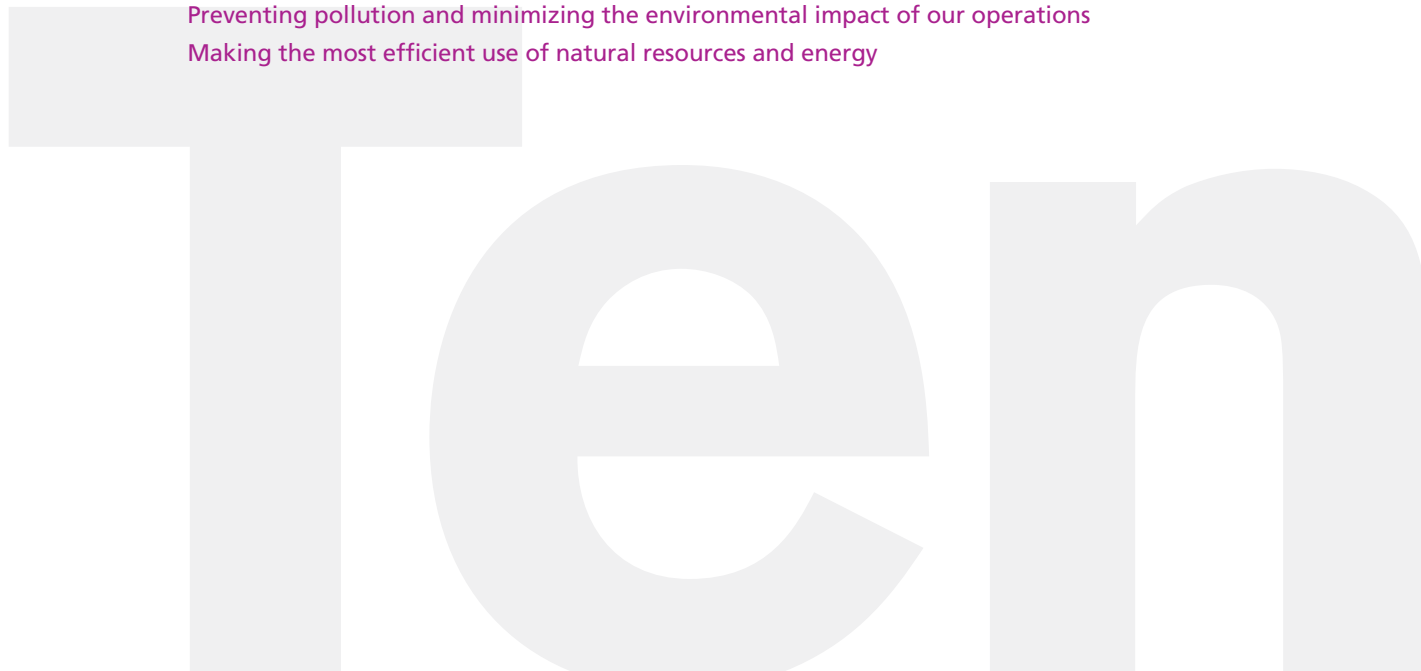
All injuries and work-related illnesses can and must be prevented  
Working safely is a condition of employment

**Quality is our main competitive advantage**

Requirements and expectations of our customers must be satisfied  
Differentiation is achieved through operational excellence and development of innovative and reliable products and services

**We are committed to developing a long-term sustainable business**

Preventing pollution and minimizing the environmental impact of our operations  
Making the most efficient use of natural resources and energy



Tenaris recognizes the importance of implementing this policy throughout its Quality, Health, Safety and Environment management systems, covering the entire supply chain from suppliers to customers and the proper and efficient use of its products in accordance with their agreed specifications. Tenaris commits to comply with applicable legal requirements and all other requirements relating to quality, health, safety and environment issues to which it subscribes.

Tenaris communicates this policy throughout its organization, trains its employees in the appropriate use of its Quality, Health, Safety and Environmental management systems and engages them in the regular setting, measuring and revision of objectives.

Tenaris undertakes to keep this policy updated, to implement and maintain its management system, and continuously improve its Quality, Health, Safety and Environment performance.

July 2014



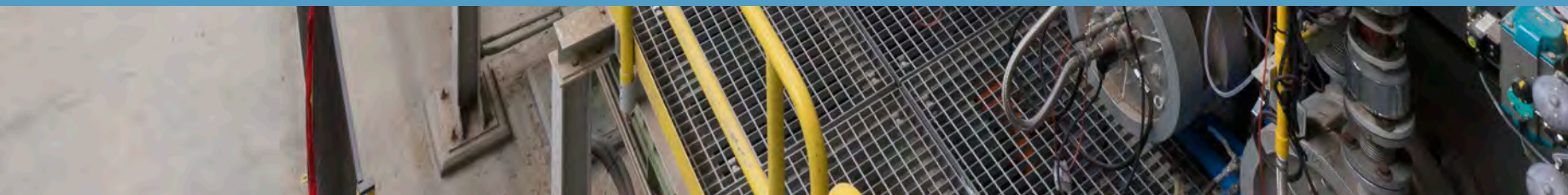
Paolo Rocca  
Chief Executive Officer







# Governance, Compliance and Economic Indicators





# Governance, Compliance and Economic Indicators



Our capital expenditure

## USD 4.5 Billion

between 2012 and 2016

Tenaris is a company established in 2001 in Luxembourg to consolidate the pipe and tubes business of the Techint Group. In addition to its controlling 60% of the shares in Tenaris, the Techint Group has controlling interests in Ternium, a leading Latin American producer of flat and long steel products; 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 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 ten directors, of whom three are independent of the Techint Group and company management. 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 consisting of three independent members. The charter of the audit committee sets forth, among other things, the audit committee's purpose and responsibilities, which includes the responsibility 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.

The audit committee reports to the board of directors on its activities, and on the adequacy of the systems of internal control over financial reporting. For further details of our board of directors, senior management and corporate governance please refer to our website ([www.tenaris.com](http://www.tenaris.com)).

### Business Conduct: our commitment to Compliance

Tenaris is committed to building a corporate culture of transparency and integrity based on ethical behavior and compliance with law. For this purpose, we appointed in 2010 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.

The Business Conduct Compliance Program develops a variety of preventive actions along 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.

Since 2009, Tenaris has regularly issued, renewed and validated its codes, policies, procedures and standards aimed at ensuring anti-bribery compliance. Tenaris's normative framework includes a Code of Conduct, a Policy on Business Conduct, and a Code of Conduct for Suppliers, among other norms designed to follow national laws against corruption and bribery, and other international laws such as the US Foreign Corrupt Practices Act (FCPA) and the UK Bribery Act.

During 2016, Tenaris has issued, reviewed or updated 17 anti-bribery related norms, trained in person 778 employees in Argentina, Brazil, Colombia, Ecuador, Mexico, Netherlands, Uruguay and USA, and also 211 employees of 126 third parties from Brazil, China, Iran, Iraq, Mexico, among other countries. In addition, we developed a new global online training on Anti-Bribery Compliance that has been completed by almost 5,000 Tenaris employees.

### Economic value generated and distributed

(2016, in USD)



### Financial Indicators

	2012	2013	2014	2015	2016
<i>Millions USD</i> <i>(except otherwise stated)</i>					
Net sales	10,648	10,424	10,141	6,903	4,294
Operating income	2,344	2,176	1,881	166	(59)
EBITDA	2,856	2,780	2,696	1,219	598
Shareholders net income	1,699	1,551	1,159	(80)	55
Shareholders equity	11,328	12,290	12,654	11,713	11,287
Cash flow from operations	1,856	2,377	2,044	2,215	864
Dividends	508	508	531	531	484
Net cash/ (debt)	(271)	911	1,257	1,849	1,441
EBITDA margin %	27%	27%	27%	18%	14%
ROE %	16%	13%	9%	-1%	0%
ROCE %	22%	19%	17%	2%	-1%
FCF / Net income %	63%	103%	81%	N/A	N/A

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

We have implemented 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. Tenaris also has an internal authorization manual that establishes the due process and authorization levels required to approve charitable contributions, social development programs and other non-profit activities.

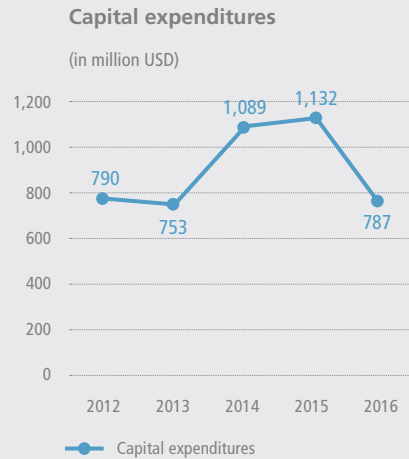
The Company regulates and standardizes the form to evaluate, select and hire representatives or associated persons such as commercial intermediaries, customs agents, permitting assistants, advisors and/or law firms. Procedures include the regulation of due diligence processes, internal authorization controls and standard provisions to ensure third parties' commitment to follow Tenaris's anti-corruption policies.

As part of the Business Conduct Compliance Program, Tenaris promotes awareness and communicates 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 2016, we issued seventy Business Conduct Compliance communications items with a global reach within the company.

Although, the Business Conduct Compliance Program is risk-focused, Tenaris strongly believes in the incorporation of the business conduct compliance and awareness culture inside each employee's function and daily

## Capital

## Expenditures



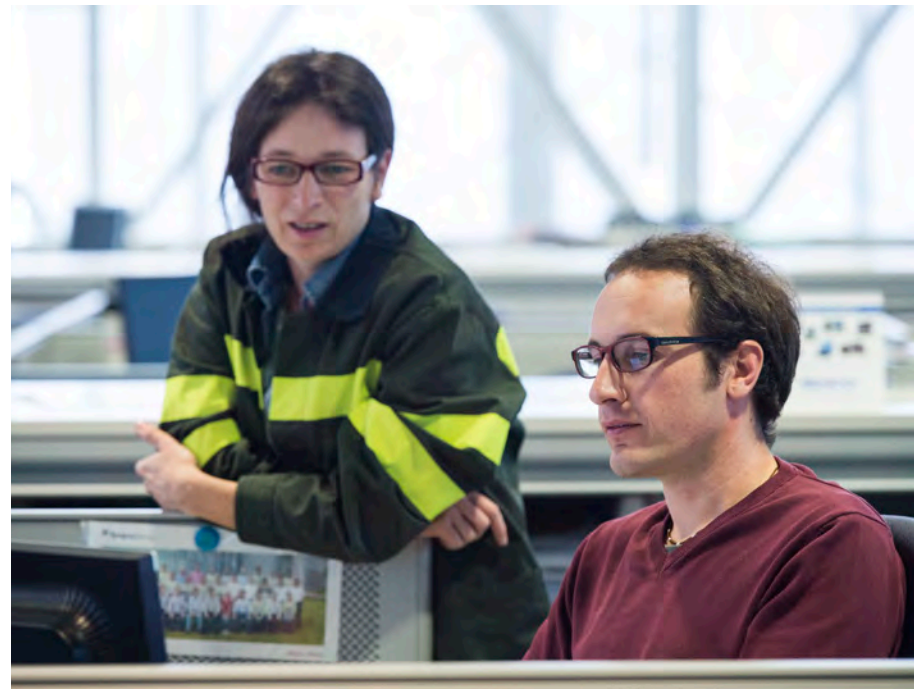
work. Regular monitoring and audits activities are performed to verify compliance and to gauge our response capacity worldwide.

Tenaris has in place 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.

### Suppliers

Building lasting relationships with our suppliers and contractors is part of our values but also relevant to our performance. Tenaris purchases most of its supplies through Exiros, a specialized procurement company whose ownership we share with our sister company Ternium. Exiros has a total of 39.516 registered suppliers, of which 10.587 were active in 2016. Exiros has a quality system certified under ISO-9001 standards. All suppliers undergo a rigorous process of selection to ensure adequate standards are in place, in line with applicable laws and regulations and in accordance with our QHSE policy and Code of Conduct. We have developed a Code of Conduct for Suppliers to be applied in any case covering all aspects related to ethical behavior, compliance with law, health, safety and environment.

Regarding health, safety and environment (HSE), we have a process implemented to qualify and verify our service suppliers, which are categorized according to the HSE risk level of their activities. Since we started with this project in 2012, around 56 percent of the 1,699 active service suppliers in a higher HSE risk category have already been audited before contract award or during their activities, and another 500 were audited on HSE even if not classified as high risk.





Audits are performed against a standard self-assessment that is required for any service supplier willing to work for Tenaris. During 2016, 565 new audits were performed, and improvement plans conducted when gaps are detected.

We are committed to the involvement and integration of our contractors in our HSE management system through different ways, including induction courses, regular meetings and training for awareness, as well as their participation in our Safe Hour program and other engagement activities.

#### **Economic Indicators**

We report on our operational and financial performance in our annual report (<http://ir.tenaris.com/reports.cfm>). Here we have included our main economic indicators and the distribution of economic value generated. Our performance over the past two years has been affected by the severity of the cyclical downturn in our sector, during which the market for our principal line of products has collapsed to half of what it was in 2014.

Our cash flow, however, has been sufficient to continue our investments in strategic projects to strengthen our market position and develop our employees and communities, to make dividend payments to shareholders and to maintain a strong financial position. This economic performance leaves us well placed to strengthen our market position during the recovery.

#### **Capital Expenditure**

Over the past two years, notwithstanding the market downturn, we have maintained a high level of capital expenditure as we decided to continue with the construction of our Bay City mill in the USA and other strategic investments in course. We have also made a number of investments to increase local content and support our Rig Direct™ service strategy around the world.

We expect to start up our new seamless pipe mill in Bay City during 2017. The new mill will become the heart of our US Rig Direct™ service strategy, further shortening the supply chain to our customers in the main shale plays, increasing flexibility to respond to well design changes even with reduced inventory levels. The mill has already received its quality certification from API and its ISO certifications for safety and environment and we expect it will establish new standards for productivity and environmental performance within our industrial system.

Other investments during 2016 include: completion of new premium threading lines in Kazakhstan, new threading and heat treatment lines in our Tamsa mill, an airbag component center in China, completion of new heat treatment and threading facilities and construction of a new center for couplings production in Colombia, new service yards in USA and Argentina, and the construction of a new sucker rods mill in the USA.



# Safety and Health

# Safety and Health



**Our Injury Frequency Rate**  
has improved by

**40%**

between 2012 and 2016

## Our Number One Priority

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 focused on achieving the goal of zero accidents in a transparent manner.

As stated in our QHSE Policy, we believe that all accidents and work-related injuries can and must be prevented. We seek to achieve this by building a strong safety-oriented culture.

We continue to implement initiatives to strengthen awareness, achieve full compliance with our procedures, and standardize practices and technologies in order to minimize exposure to safety risks. While our main safety indicators have been improving, they remain stubbornly high; we are therefore constantly re-evaluating the effectiveness of our safety programs and how to improve them.

We participate, along with leading steel-producing companies, in the World Steel Association's safety groups in an effort to define common guidelines on different topics concerning safety management. Last year we participated actively in the Health & Safety Task Force for Process Safety, which aims to provide worldsteel members with knowledge and materials that will help them to set up or improve their current process safety management systems.

In order to detect and prevent unexpected events that could adversely affect our people, our mills or the environment, we have worked to complete an analysis of risks by process, focusing on the design and engineering of our facilities, equipment maintenance, effective alarms and control points, procedures and training.

Special task forces per process area have continued to work this year to improve our management on different topics, such as safety control on electric arc furnaces and safe storage of steel coils.

### Behavioral change

We are placing a great deal of effort on behavior management. Since January 2016, the "Zero Tolerance" program has been effective at all Tenaris sites. The program seeks to identify and discourage dangerous behaviors by establishing sanctions for deviations that could potentially lead to a fatal outcome.

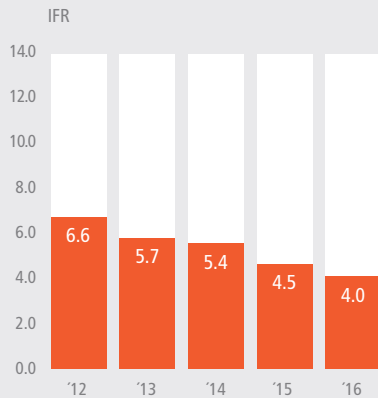
This focus on behavior builds on our Safe Hour program. The Safe Hour, established in February 2012, is a routine one-hour walk twice a week through the mills by top and middle management of the operative areas. It seeks to engage workers in constructive dialogue on safety issues and discuss any safe or unsafe issues and conditions.

After four years, the Safe Hour project was re-launched in February 2016 as Safe Hour 2.0. The driver behind this upgrade of the program was to make the rounds more effective and results-oriented: planning the Safe Hour inspections, improving quality in terms of outcomes and reviewing the topics to consider when the inspection is

# Safety

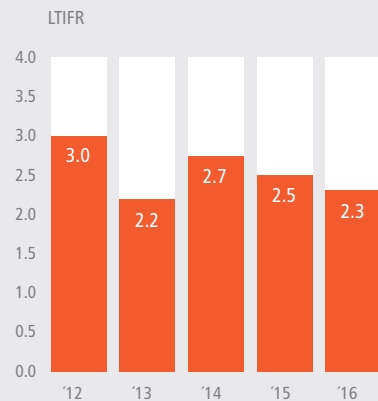
## Indicators

### Injury Frequency Rate



**Methodology:** Number of accidents with and without lost days (not including First Aid) per million hours worked. Values refer to own personnel plus contractors from 2007 onwards

### Lost Time Injury Frequency Rate



**Methodology:** Number of accidents with lost days per million hours worked. Values refer to own personnel plus contractors from 2007 onwards.

performed. In 2016, a total 49,600 Safe Hour routines were performed. And as a result of the on-site conversations during the routines, 15,166 observations were recorded, 35,187 positive feedbacks given to workers and 25,279 improvement commitments obtained.

In 2016 we continued with the project to review the health, safety and environment training of our main operative functions. Based on a definition of the minimum required skills, we reviewed and designed new training materials both for new employees and to help employees catch up when gaps are detected. We also implemented a safety leadership training hosted by Saipem in Dalmine to teach peer-to-peer detection and control of unsafe behaviors.

We will continue to concentrate on improving our safety. We are convinced that the measures we are implementing, combined with increased employee awareness, will be reflected in the continuing improvement of our indicators.

## Health

Tenaris has enforced a comprehensive occupational health and hygiene program aimed at creating a healthy workplace.

We have continued with the development of a Health Management System in order to identify, evaluate and control chemical, physical, biological and ergonomics factors arising from our activities that could affect the health of our employees.

We are implementing the Tenaris Health Surveillance Program to 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.

We are working to increase the level of prevention by sustaining and increasing the interaction between our Occupational Medicine and Industrial Hygiene departments.

In collaboration with Modena University, we conducted a study using a process simulation tool to optimize the design of a quality control workstation and to define the minimum requirements. Our main goal is to standardize practices and technologies and to minimize ergonomics risks. We have also designed a new KPI called “Ergonomics Total Injury Frequency Rate” to measure the ergonomics performances of our activity and workspaces.

Radiation Control is an important issue in steel mills. In 2016, in collaboration with Pavia University and other companies, we defined the minimum requirements for tools and control methods in the steel process. We have also studied and implemented new instruments to permanently monitor scrap.

We have designed courses on health and hygiene topics for managers and operations and maintenance technicians to become more knowledgeable about these issues.





# Environment

# Environment



**100%**

of Electric Arc Furnace (EAF)  
steel production

Tenaris is committed to minimizing the environmental footprint of its operations and products.

The market downturn that continued in 2016 had a significant impact on our level of activity. This impact naturally shows in our environmental performance results, reducing overall levels of consumption, emissions and waste but affecting efficiency, mainly in terms of energy consumption.

We continue to work on research and development projects to improve our environmental performance. In the last five years, we allocated USD 6.5 million of our overall R&D budget to environmental projects that involved switching to materials with a lower environmental and CO<sub>2</sub> footprint; finding innovative ways to replace raw materials through internal recycling alternatives; and finding specific solutions for emissions and waste-water treatment and consumption.

Tenaris is well positioned in the effort to minimize environmental impact, as we apply the best available technologies on our sites and our investments in new facilities build in best practice in the design phase. Our production technology is 100% Electric Arc Furnace for steel production and natural gas-based Direct Reduction for iron making. In 2012, our third rolling mill at Tamsa became the first industrial facility of its type to obtain certification under the LEED Leadership in Environment and Energy Certification program of the US Green Building Council and our new Bay City mill is seeking to achieve the same certification.

In Bay City, where the heat treatment line is already in operation, we have included selective catalyst reduction systems to reduce nitrogen oxide emissions; the most advanced

technology on burners to maximize energy efficiency; water-based varnish for coating operations; and a water system designed to have the lowest impact on local water resources. Emission control and abatement system will be the same for the rolling mill. These control measures to minimize air emissions allowed the project to be classified as a minor source of emissions, according to US regulations, something unprecedented for a mill of this size. Particular attention is being placed on the plant's design in order to control the health hazards common in the steel industry, such as ergonomics, noise, emissions and heat stress.

We have begun to develop life-cycle analyses for some of our products. During 2015 our mill in Italy, Dalmine, published two Environmental Product Declarations (EPDs): one for line pipe for onshore and offshore use, and another one for pipes for mechanical uses. We have continued with this work in 2016 involving other products and we also performed a limited life cycle study, to evaluate the environmental benefits of our Dopeless® technology versus standard storage compounds for OCTG offshore drilling operations.

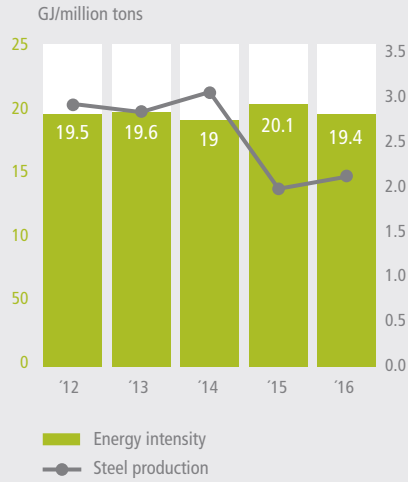
This study shows that the use of Dopeless® technology saves an average of 0.4 kilograms of CO<sub>2</sub> per connection compared to the use of standard storage compounds. Standard connections also use between 12 and 19 liters of water (depending on diameters) while the Dopeless® connections analyzed required no water.

Within the World Steel Association (worldsteel), Tenaris is a signatory of the Sustainability Policy and the Sustainability Charter.

# Environmental

## Indicators

### Steel Mills Energy Intensity



**Methodology:** measured in GJ/ ton steel worldsteel methodology.  
**Boundaries:** steelmaking mills, including all other processes on site.  
**Facilities included:** Siderca, Silcotub Steel Shop, Tamsa, Dalmine.

### CO<sub>2</sub> Emissions Steel Mills



**Methodology:** measured in ton CO<sub>2</sub>/ ton steel worldsteel methodology.  
**Direct emissions:** CO<sub>2</sub> emissions related to steel production and other processes included at the site.  
**Purchased electricity:** upstream CO<sub>2</sub> emissions related to electricity production, using a world average emission factor of CO<sub>2</sub>/MWh generated.  
**Indirect emissions:** other upstream CO<sub>2</sub> emissions related to production of raw materials and fuels.  
**Boundaries:** steel mill and other processes on site, including power generation at steelmaking sites only.  
**Facilities included:** Siderca, Silcotub Steel Shop, Tamsa, Dalmine.

### Tenaris Energy Intensity



**Methodology:** measured in GJ/ ton product based on electricity and gas consumption at each site.  
**Boundaries:** Tenaris steel and pipe production sites.  
**Facilities included:** Siderca, Silcotub Steel Shop, Tamsa, Dalmine SPA, Siat VA; Siat VC; Confab Tubes, Hickman, Conroe, Republic Conduit, Algoma, Prudential, TuboCaribe, NKKTubes, SPII, Silcotub

### CO<sub>2</sub> Emissions Tenaris Sites



**Methodology:** measured in tn CO<sub>2</sub>/ tn product.  
**Direct emissions:** CO<sub>2</sub> emissions related to steel production and/or other processes included at the site.  
**Purchased electricity:** upstream CO<sub>2</sub> emissions related to electricity production, using a world average emission factor of CO<sub>2</sub>/MWh generated.  
**Boundaries:** All tube and steelmaking sites. For sites without steelmaking processes, gas and electricity consumption contributes to the indicator.  
**Facilities included:** Siderca, Silcotub Steel Shop, Tamsa, Dalmine SPA, Siat VA; Siat VC; Confab Tubes, Hickman, Conroe, Republic Conduit, Algoma, Prudential, TuboCaribe, NKKTubes, SPII, Silcotub.



### Energy & Climate

We acknowledge that the CO<sub>2</sub> emission level of our industry, global steel production, accounts for nearly 7% of GHG man-made emissions. But steel is also essential for our daily life, as it is one of the most versatile materials and can be infinitely recycled. Over the past 50 years, the steel industry has reduced its energy consumption per ton of steel by 60%, according to the World Steel Association.

Tenaris continues to work on improving its energy efficiency, as part of our overall continuous improvement drive. The energy intensity rate at our steelmaking sites showed a slight improvement this year, and is starting to gradually resume the downward trend we had before the market downturn. The 5% increase in electricity and natural gas combustion intensity for Tenaris as a whole in 2016 was related to the reduced level of activity, down 45% compared to 2014 in pipe production mills. Following a similar pattern, CO<sub>2</sub> emission intensity for steel mills decreased slightly but increased when all main sites are included. But absolute emissions, both direct and indirect due to electricity use, decreased by 1,000,000 tons of CO<sub>2</sub> in 2015 and an extra 100,000 tons in 2016.

We participate in worldsteel's Climate Action Program, and have been recognized for the last six years for complying with CO<sub>2</sub> emissions reporting requirements, 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.

After the agreement reached at the United Nations Climate Change Conference (COP21), we are committed to work and cooperate with the governments of the countries where we have our main production sites in order to implement rational policies that help to achieve the objectives established in the accord.

### Steel recycling

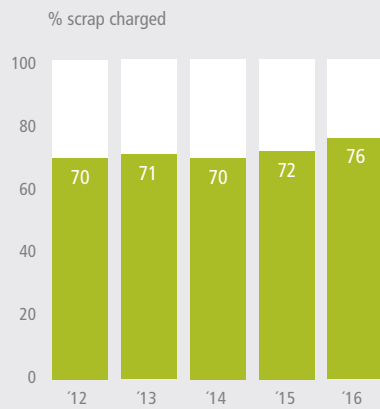
Steel can be recycled infinitely without losing any of its properties. It is the most recycled material in the world: 650 million tons of steel are recycled every year. Recycling steel also saves iron, energy, coal and other materials, produce less CO<sub>2</sub> emissions and prevent useful material from ending up in landfill as waste. According to worldsteel, since the turn of the 20<sup>th</sup> Century, the global steel industry has recycled over 22 billion tons of steel, which reduced iron ore consumption by around 28 billion tons and coal consumption by 14 billion tons.

Tenaris uses electric arc furnaces and gas-based direct reduction processes to produce steel, which are considered efficient means of production with lower levels of CO<sub>2</sub> emissions. The scrap use rate in our steelmaking process has stayed in average at just above 70% in recent years. This year it climbed to 76%, due to a special market situation in Siderca, our mill in Argentina, that led to a higher scrap use rate. Our sites recycle around 2 million tons of scrap per year: all scrap from steel and downstream pipe production is collected and reused, as well as post-consumer scrap.

Scrap recycling is one way to minimize the environmental footprint of our operations, and an important opportunity for the steel industry to contribute to the emissions reduction. The industry's effort also depends on the support of governments, as steel recycling rates differ from country to country.

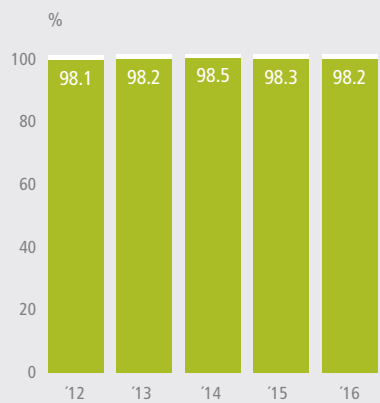
# Environmental Indicators

## Tenaris recycled steel use



**Methodology:** Values are calculated as tons of scrap present in the metallic load.  
**Facilities included:** Siderca, Silcotub Steel Shop, Tamsa, Dalmine.

## Tenaris material efficiency



**Methodology:** (liquid steel produced + by-products) / (liquid steel produced + by-products + waste). worldsteel methodology.  
**Waste:** all material sent to landfill and incineration.  
**By-product:** all material sent to reuse or recycling processes.  
**Boundaries:** steel mill and other processes on site including power plants.  
**Facilities included:** Siderca, Silcotub Steel Shop, Tamsa, Dalmine.

## Air emissions

Reducing air emissions is a priority for our Environmental Management System, as its potential impact is a primary environmental concern for our communities.

Among our activities, steelmaking is one of the most relevant processes in terms of air emissions, especially concerning particulate material. Two of our steel mills, Siderca and Tamsa, are conducting studies to define the engineering required for further improvements in the capacity of the fume collection and treatment systems.

NOx emission reduction is also part of our improvement plans, mostly by implementing changes in our furnaces through the use of low NOx burners, which allow for lower emission levels, better combustion and improved gas consumption efficiency. Our new heat treatment plant in Cartagena, Colombia, has improved emission levels by avoiding the use of old, less efficient heat-treatment facilities. The Bay City mill in the US, which is starting the heat-treatment line in the first months of 2017, will minimize NOx emissions by using the best technology in terms of emissions, and also selective catalytic reduction to achieve even better results.

**Residues, by-products and materials management**

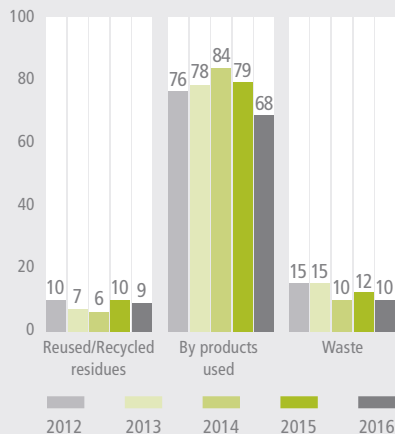
Steelmaking is a resource-intensive process that generates large volumes of residues and by-products. We follow up the use of materials at all our sites, as well as residue streams and by-products that result from our processes, in order to reduce generation, reuse or recycling of materials.

We are continually looking for effective ways to introduce more sustainable material management, investing in R&D projects to minimize residue generation or implement recycling practices with, for example, refractories, slag or mill scale from our water treatment facilities. Calarasi in Romania and Siderca in Argentina are already reusing refractories in the steel process, which means 700 tons less sent to landfills and savings in lime addition. Dalmine and Tamsa have meanwhile implemented external recycling. All our sites have been working to certify slag under specific standards of usage according to local requirements. This allows our most relevant by-product in terms of quantity to be recognized and accepted under defined standards. Many other initiatives in different mills are ongoing, including alumina recycling, wood reuse as biomass, plastics, etc.

The material efficiency indicator, calculated with worldsteel methodology, shows that the recycling rate at our steelmaking sites is almost 100%, as by-products are mostly reused or recycled, consistent with the trend from previous years.

# Environmental Indicators

Tenaris residues and by-products



**Methodology:**

**Residues:** includes all residues produced at the site, including hazardous ones. For reused/ recycled, we include any internal or external process for reuse or recycling the material.  
**By-products:** Steelmaking residues that are re-used or recycled, internally or externally. Includes mill scale, slag, DRI fines and sludge and electric arc furnace dust. Internal scrap not included. All percentages are calculated comparing tons reused/ recycled to tons generated in the same categories and sites.  
**Facilities included:** Siderca, Silcotub Steel Shop, Tamsa, Dalmine, Siat VA, Siat VC, Confab, Hickman, Conroe, Republic Conduit, Mc Carty, Texas Arai, Algoma, Prudential, Tubocaribe, NKKTubes, Silcotub.

Looking at Tenaris as a whole, by-products recycled went down in 2016 due to local market considerations. The five-year trend shows that most of our residues (nearly 80%) are materials used and recycled in other processes, and that landfill disposal is now at about 10-15% of the total. Our objective is to continue reducing waste while increasing its use as a product.

#### Water Management

Water is another environmental challenge that the steel industry needs to address, since water risks associated with climate change are becoming more and more relevant.

In our steel-making and seamless tube production facilities, water management is a significant issue in terms of use and consumption. Water is mainly used for cooling processes in the steelmaking mills and seamless tube mills. Welded pipe facilities have much lower water use rates.

We have assessed our main sites to evaluate the overall water risk exposure. The assessment took different factors into account, including availability and the risk of flooding, among others, and the level of water demand each site has. Based on this evaluation, we defined priorities, also considering that our higher water-consumption sites are all located in low/medium water risk area. Only two of our sites are in high-risk areas, but given their processes they have very low demand. Although we carry out actions to maximize efficiency in the use of water in all of our sites, we place special attention on those with higher demand and located in medium risk areas.

Our sites have different industrial water systems, which result in noticeable differences in the amount of water withdraw per ton of product produced, absolute cubic meters used and also the source of the water. The situation of each site depends on the amount and quality of water available and on local regulations.

Our main mill in Argentina, Siderca, has by far the largest rate of surface water use since it was designed based on abundant availability, with an open water system, which is used mainly for cooling purposes in the steel and rolling processes. We have begun investments to change the way water is managed at the rolling mill. The project allows the reuse of water, improving its overall management. The complete program will also include steps for the management of storm water and the revamping of treatment plants in the mill.

An evaluation of the use of water in Dalmine, Italy, reduced losses and led to a 13% reduction in water intake. Similarly, our seamless mill in Romania, Silcotub, managed a reduction of water intake thanks to improved operational control and the use of rainfall for processes requiring less water quality. Tamsa also identified possibilities to reduce the use of water in one of its rolling mills and achieved a 30% reduction. It also obtained savings in the steel shop by cascading water to processes needing less quality.

Our new line in TuboCaribe, Colombia, an area with water scarcity, was designed to recycle all the water it uses; even wastewater from sanitary services are, after treatment, used for watering the green areas of the new site. The Bay City mill, meanwhile, is designed to recycle more than 95% of the water it will use, while wastewater after treatment will be sent to a local treatment facility.

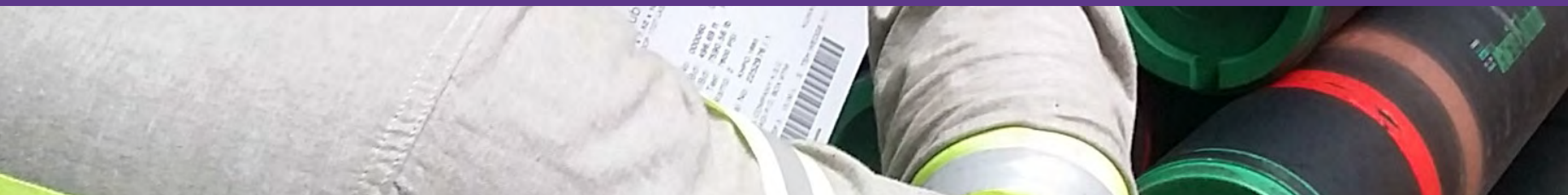
#### Reducing noise

Many of our sites are located near residential areas. The communities historically grew around the mills, as they are sources of employment and activity. We are now working on many of our sites to minimize noise levels at the sources. This has a positive impact both on our employees' occupational health and on the daily lives of our neighbors. We have managed improvements in Dalmine in Italy; and TuboCaribe, Colombia. Other sites are also working in internal assessments to define the best areas to seek improvements. The Bay City mill has been designed with a completely different approach in terms of pipe handling and movement to avoid high noise levels at the source.





# Innovation



# Innovation



We invested in Research & Development

**USD 454 Million**

over the last five years

## Quality and product development

Over the years, we have established a strong reputation for the quality of our products and services which, together with our global reach and presence, positions us as a leading supplier of tubular products for the oil and gas industry worldwide.

We operate all the facilities in our global industrial system under a single quality management system, whose aim is to guarantee that all the products that come out of our mills are produced to the same exacting quality standards. All our products are manufactured in accordance with the highest industrial standards and 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.

Our value proposition focuses on industrial excellence, product development and a comprehensive portfolio of high quality products, and a strong logistics and technical service component, and is exemplified by our Rig Direct™ service (see below).

We invest significant amounts in the development and testing of new products for a wide range of applications and in research for industrial process improvements. In 2016, we invested USD 69 million in our R&D projects, roughly 20 percent less than the year before. This reduction reflects changing market

requirements with less testing required for specific customer projects and the fact that Tenaris already has an extensive range of high performance products for the most demanding applications.

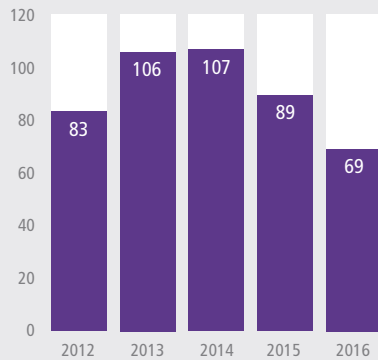
In the past few years, we have developed a large number of industry-leading products. These include: the TenarisHydril BlueDock® range of connectors for offshore conductor and surface casing applications; the TenarisHydril Wedge 623® connections for deepwater applications; the TenarisHydril Blue® Max connection for high pressure high temperature (HPHT) applications; the TenarisHydril Wedge XPT™ connection for shale applications; the Thor™ 115 steel grade for combined cycle gas and steam turbines; the BlueCoil® range of coiled tubing products; and the AlphaRod™ range of sucker rod products.

We carry out our Research & Development activities with a global team of some 360 people and R&D centers in Argentina, Brazil, Italy, Japan and Mexico. Our product development engineers and researchers work closely with our technical sales team, who are in permanent contact with our customers around the world to understand their needs and identify possible solutions.

## Research and Development

### Investment in R&D

(in million USD)



### Rig Direct™: towards a more sustainable supply chain

Today, we supply more than 50% of our OCTG products with our Rig Direct™ service model. We originally introduced this model many years ago in Mexico and Argentina where we have a strong industrial presence and unique capabilities to serve the local market. Over the years, we have enhanced the model, in particular by integrating technical services, and extended it to other regions around the world.

More recently, we extended our Rig Direct™ model to USA and Canada and, over the past two years, we have been able to convince many customers of its advantages over the traditional distributor-led model that prevailed in these countries. We also introduced Rig Direct™ to the Asia-Pacific region where we are serving Chevron's operations in Thailand.

With Rig Direct™, we synchronize deliveries from our mills and manage the supply of pipes and accessories directly to the rig, or point of use, under one quality and HSE management system. When matched with local production capabilities, this makes for a shorter and more flexible supply chain. The system contributes to a more sustainable, cost-efficient operation, reducing inventories and material obsolescence, as well as simplifying operating procedures.



Throughout the process, our technical experts work with customers, offering advice on material selection and assisting with the use of products in the field, helping them to achieve the greatest efficiency in their operations.

Based on the quality of the products we deliver and the integrated work with our customers, the service not only reduces the total cost of operations by streamlining the supply chain but also improves product reliability, maximizes safety, minimizes the environmental impact of the operations at the rig and extends the service life of materials.

In 2016 we also opened our Rig Direct™ Academy, a training and testing center located in Veracruz, Mexico, opposite our Tamsa Industrial Center. The test rig facility acts as a live training center for our field service experts and allows customers from around the world to witness how Tenaris products perform in different applications.



# Human Resources

# Human Resources



Number of employees

(Dec. 2016)

**19,399**

## Adapting to a new environment

The commitment and professionalism of our employees are the most important aspect of our competitive strength. Tenaris has grown to become a global leader thanks to the hard work, performance capacity and innovative character of its diverse workforce.

As the company gears up to become the protagonist of a new cycle of expansion in the world energy market, the motivation and drive of our people will be defining factors for our business worldwide.

With the oil and gas market downturn in the last two years, Tenaris had to take very difficult staffing decisions. We had to downsize in order to adapt to the new market circumstances, reducing the number of employees from 27,700 two years ago to 19,400 in December 2016. The adjustment in activity and downsizing in structure were conducted so as not to affect the values and management principles that have guided us through the years, while also seeking to be innovative and creative in order to be ready for the market recovery.

We have continued to introduce changes and upgrades in our tools to help our employees develop their careers, both through traditional and new training tools, performance management processes and career development. Over a decade after its foundation, our corporate university, TenarisUniversity, is launching a new model to adapt to the changing nature of learning in this social media era and better prepare the company for the challenges ahead.

### TenarisUniversity reinvents itself

As we seek to increase the service component of our value proposition, the training and development of our people becomes increasingly crucial for Tenaris. The diversity of our multi-local team is an important asset in the establishment of the culture required to accompany the global deployment of our Rig Direct™ service model, which requires proximity and understanding of our customers and the reality that surrounds them.

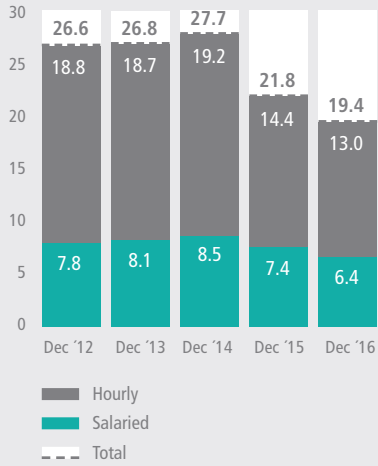
For more than a decade, TenarisUniversity has played a key role in integrating, aligning and disseminating knowledge, expertise and values across the organization, by providing a common curriculum and base training for our employees at all levels. TenarisUniversity, which turned 10 in 2015, has 15 regional centers and is organized in three schools, covering the different areas of know-how in our business. It provides on average one million hours of training per year.

Under the new model we are launching, TenarisUniversity will continue to deliver its core management and leadership programs which includes an induction camp (the TUIC) for young professionals, the Management Development Program (MDP) for potential managers, the Advanced Management Program (AMP) for middle managers and a Leadership Program (LP) for top managers. In 2016, with less new hires joining the company as a result of the adjustment, we focused on the training of the would-be managers attending the MDP, as we seek to help our people grow in the organization. The AMP did not run this year but is restarting in 2017.

## Human Resources Indicators

### Total hourly and salaried employees

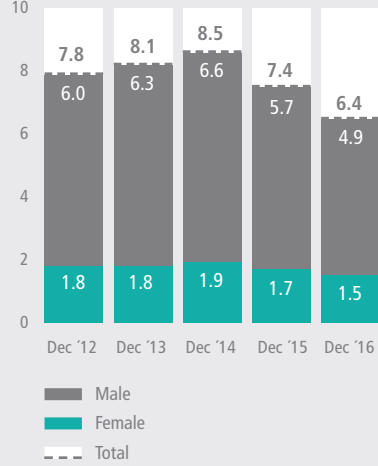
In thousands of people



## Human Resources Indicators

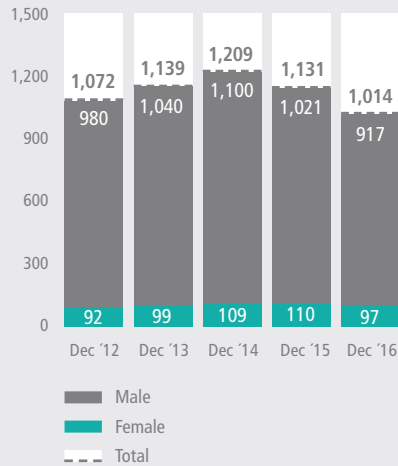
### Salaried employees by gender

In thousands of people



### Managers by gender

In number of people



Due to the reduced activity and the transition to the new TenarisUniversity model, total annual training per salaried employee fell this year to 39 hours, total training for hourly employees also decreased but to a lesser degree, to 71 hours a year.

The new TenarisUniversity model, meanwhile, will seek to be more employee-centered. With the company having reached a good level of knowledge integration over the years, the new TenarisUniversity model establishes the minimum mandatory training required for employees to perform their job, but opens an ample and flexible array of options for training, using material from both inside and outside the company. Our goal is to empower our employees and guarantee an agile system of training for their development, tailored to their interests as well as the company's business needs.

Our company constantly generates knowledge and we believe this new model, which will adapt our accumulated content to the Degreed platform and place greater emphasis on employee-generated interest and information, will be the best way to bring it together and maximize it.

### Performance management

The performance management process is a pillar of our Human Resources policy, as it seeks to guide career development, enhance supervisor-employee relations and align the company's business objectives with our people's career expectations. The process seeks to ensure fairness and the highest possible level of internal equity in the evaluations of all salaried employees.

The process includes a definition of individual and group goals at the beginning of the budget year and a mid-term review of those goals to adjust them to a changing reality.

In 2012 we introduced an upward feedback stage to our performance evaluation process, so that supervisors could have a broader perspective on their work. Last year confirmed that the system has gained credibility among our employees, as 90 percent provided upward feedback – meaning that 96 percent of the supervisors received the feedback.



# Human Resources

## Indicators

### Employee participation in TUIC, MDP and AMP courses

Participants per course

Year	AMP	MDP	TUIC
2012	47	119	170
2013	81	176	241
2014	79	255	233
2015	52	56	180
2016	-	123	145

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

### Tenaris Salaried Employees

Year	% approved workplans	% approved IDP
2012	86	42
2013	89	51
2014	98	76
2015	98	78
2016	82	42

IDP: Individual Development Plan

### Upward Feedback

Year	% of supervisors that received UF	% of employees who provided UF
2012	66	40
2013	76	53
2014	81	56
2015	96	90
2016	96	89

### 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

\* Mid-Cycle Survey





In 2016 we inaugurated our Rig Direct™ Academy, a training and testing center located in Veracruz, Mexico opposite our Tamsa Industrial Center. The test rig facility acts as a live training center for our field service experts and allows customers from around the world to witness how Tenaris products perform in different applications.

**Diversity integrates further**

Tenaris is an equal opportunity employer and aims to foster a work environment that attracts and develops talents across all genders, nationalities, generations, cultures and backgrounds.

Diversity is a major driver of our Human Resources policy. Born in the early 2000s from an alliance of three companies in Argentina, Italy and Mexico, Tenaris has grown to become a truly global company, with 66 nationalities represented among our staff. Our managers also continue to grow in diversity, with 33 nationalities among them.

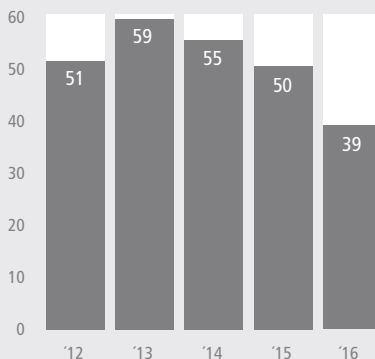
We launched a specific program in 2008 to improve the level of diversity within the company with a focus on gender. Over the years, it has expanded its scope to include cultural and other forms of diversity (Diversity+). In order to consolidate this approach, in 2016 we created the Diversity & Inclusion corporate area under the Human Resources department.

TenarisUniversity courses are one of the tools we use to encourage employee commitment to diversity. In 2016 we launched a series of courses and seminars designed to better manage cultural, age and gender mix: Introduction to Diversity, Leading Diversity, Managing Cultural Mix, Managing Gender Mix, Managing Generation Gap, Managing in a Global Workplace, Scaling Diversity Up. Thirty-six editions of these courses were delivered, totaling 232 hours of training and involving 465 people. We also included a diversity and inclusion angle to other existing management courses.

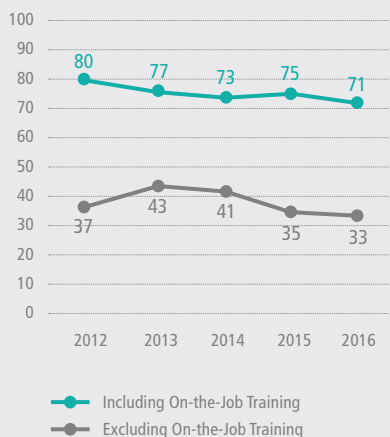
# Human Resources

## Indicators

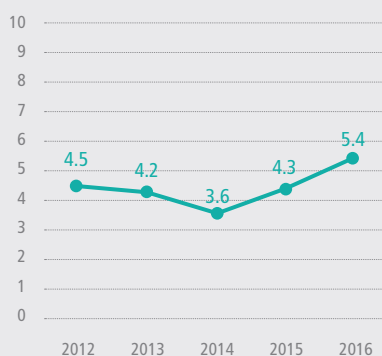
**Total training hours per salaried employee**



**Total training hours per hourly employee**



**Resignation Rate**



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



Another employee awareness tool is our Diversity+ site, launched in 2015. It includes the periodic publication of metrics on the company's progress on the three pillars of the program: gender, multiculturalism and generations.

The Diversity program also includes a flexible work program introduced globally and adapted to each country's reality, an ambassador program to support the recruitment of a more diverse workforce, and upgrades in infrastructure in our facilities to improve working conditions for female employees. Besides our internal job-posting site providing visibility on career opportunities within the company, the performance management process mentioned above, and our periodical Employee Opinion Survey are important tools to support a work environment where diversity can grow.

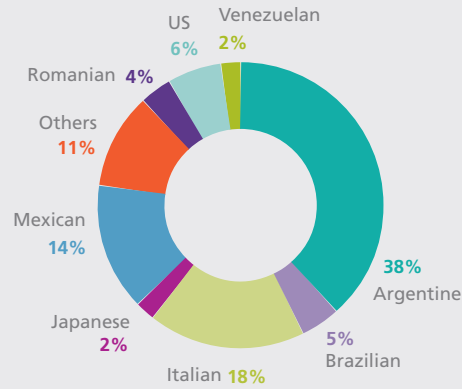
## Human Resources

### Indicators

Employees by nationality

Argentina	4,942
Brazil	1,163
Canada	423
Colombia	743
Indonesia	505
Italy	1,977
Japan	458
Mexico	5,042
Romania	1,641
United States	1,014
Others	1,491

Managers by nationality





# Community Development



# Community Development



**Investment**  
in Community projects

**USD 85.9 Million**

over the last five years

## Education and culture, our focus

Our community programs follow the values and heritage of our parent organization, the Techint Group, which has more than seven decades of industrial tradition.

We believe that an industrial project like ours can only succeed if it grows together with the communities around it. This fundamental principle has guided our work with the community through the decades.

Over the last few years, we have concentrated our community action in two main areas: education and culture. We have made progress in focusing our work on a handful of meaningful programs that are designed globally and implemented locally, respecting the particularities of the diverse target communities where we operate.

In 2016, we invested 54 percent of our USD 9.5-million community budget in education programs, as we believe education is the main vehicle for social inclusion and upward mobility. Being a multi-cultural and multi-language organization, the promotion of culture is also an important part of our focus, as we seek to encourage diversity and integration.

Our budget this period went down compared to the previous year, in line with the market downturn that hit its lowest point in 2016, and we streamlined the use of our resources to keep all of our programs running.

### Technical school network expands

Our focus on education continued to make important progress in the last years with the start of our own network of technical schools, called Roberto Rocca after one of the founders of our organization and a promoter of industrial culture and technical education. Tenaris inaugurated the first school of the network in the town of Campana, Argentina, in 2013. The Campana School had 227 students in 2016, and is expected to have 420 students once at full capacity.

This year our sister company Ternium inaugurated the second school in the town of Pesquería, Nuevo León, Mexico, a region where Ternium is leading industrial development. On August 8, 2016, 128 students aged 14 and 15 attended their first day of preparatory in the new school in Pesquería, a modern building equipped with the latest technology in technical education that, once at full capacity, will teach 384 students.

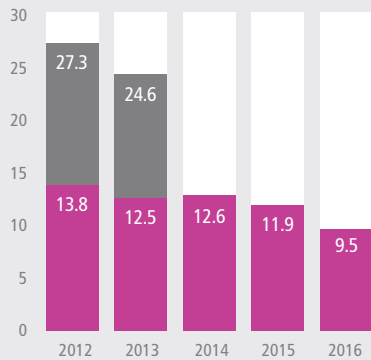
The first cohort of students will graduate from both schools in 2019, as technical, higher school education lasts for six years in Argentina and three in Mexico. In both schools, all students have different levels of scholarships, depending on their socio-economic background.

The expertise gained during three years of school management in Campana is serving as a platform for the school in Pesquería. In Campana, we implemented for the first time the teacher performance evaluation system we created in 2015 with the support of Phd. Alejandro Ganimian, a Harvard graduate and member of the Gates Foundation Measures of Effective Teaching (MET) project. The system consists of opinion surveys and standardized tests 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.

# Community Indicators

## Investment in the Community

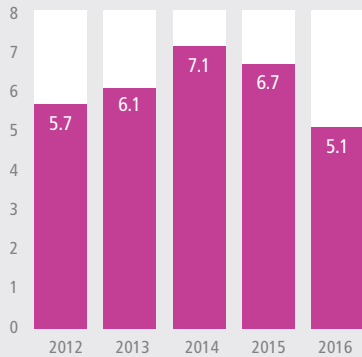
(in million USD)



Note: 2012 and 2013 include the one-time investment of USD 13.9 and 12.1 million respectively on the construction of the Roberto Rocca Technical School in Campana, Argentina.

## Investment in Education

(in million USD)



The school in Campana is becoming a hub for technical education in the region. In August 2016 the school hosted 300 students from four other technical schools in the region for a “Techno-Adventure” day in which they put their knowledge to concrete action. The activity consisted of a competition to build a set of lighting based on solar energy. The outcome of their projects was donated to the community through the Campana municipality.

In 2016, our program called Technical Gene reached its first decade. 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 number of students covered by the program continued to grow in 2016, reaching 2,469 from 2,002 the year before. In 2016, we introduced Project-Based Learning (PBL) methodology into the program in Veracruz. We are analyzing the results of the pilot to better transfer the experience to other locations.

### Support from elementary to higher education

Our education programs cover the entire schooling cycle, from elementary to higher education. Our industry employs skilled employees that need solid education, both at elementary, middle and higher levels. Our work in education seeks to contribute to bridging an education gap that exists in many of the communities where we work.

The After-School program has seen important growth over the last few years. It offers three extra hours of non-formal education, four days a week, to the four hours of formal schooling these children have. Last year, 846 children enrolled in five countries where the program was conducted, a slight decrease from the 928 enrolled the previous year. Although attendance varies from country to country, 70 percent of the students that enroll reach the standard 70-percent attendance target that the program has established.



Launched in 1959, the Merit Award is the oldest of our community programs. Initially designed to benefit the children of our employees, since 2007 it is open for the entire community and focuses on encouraging good academic performance of high-school students. In 2016 we gave 1,164 awards as part of this program.

We also continued to award fellowships and scholarships under the Roberto Rocca Education Program, which started in 2005 and seeks 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 2016, the program funded 15 fellowships for students pursuing PdDs at universities outside their country and 468 scholarships for undergraduate students at universities in their home country.

#### Volunteers in action

We continued to encourage our employees to participate in volunteering activities in the

communities. In 2016, a total of 1,080 employees participated with their time and work in an assortment of volunteering actions.

To name some examples; in Campana, Argentina, the volunteers joined a weekend-long activity to repaint and refurbish a primary school. In Bay City, Texas, our employees joined a Matagorda countrywide drive called “Day of Caring,” where volunteers conducted minor repairs and yard work for local residents in need. In Canada, employees helped students get ready for robotic competitions.

#### Promoting culture for identity and diversity

In 2016 we allocated 38 percent of our community budget to cultural activities. We seek the promotion of identity and diversity with a focus on excellence and creativity.

Our cultural work is concentrated in two programs that have been growing over the last few years: the film festivals and the

### The Roberto Rocca Education Program

#### Active scholarships and fellowships during the period

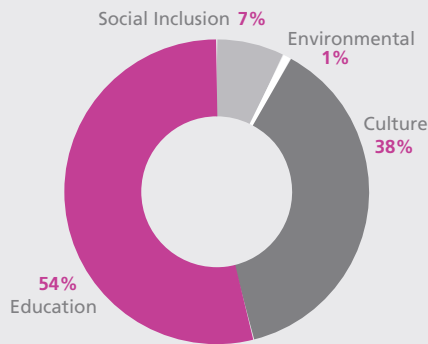
	2012	2013	2014	2015	2016
<b>Fellowships</b>					
Global	28	27	26	25	15
<b>Scholarships</b>					
Argentina	261	210	214	182	157
Brazil	40	39	39	27	20
Canada	15	18	15	11	5
Colombia	22	27	31	32	16
China	18	18	15	19	10
Ecuador				5	1
Ghana	3	4	4		0
Guatemala	5	5	5	5	4
Indonesia		6	6	6	0
Italy	45	45	45	45	32
Japan	7	8	9	8	8
Mexico	168	166	166	173	139
Nigeria	0	0	0	0	0
Romania	40	40	40	41	40
UK	2	2	6	2	1
Uruguay	0	3	3	6	4
USA	19	25	26	34	31
Venezuela	10	5	5	0	0
<b>Total</b>	<b>655</b>	<b>621</b>	<b>629</b>	<b>596</b>	<b>468</b>

# Community

## Indicators

### Investment by area

2015



### AfterSchool program, students by country

Community	Students			
	2013	2014	2015	2016
Cartagena, Colombia	-	-	68	170
Montevideo, Uruguay	-	-	-	56
Pindamonhangaba, Brazil	-	38	104	107
Veracruz, Mexico	137	321	404	306
Zalau, Rumania	-	113	182	-
Zárate, Campana, Argentina	137	109	170	208
<b>Total</b>	<b>274</b>	<b>581</b>	<b>928</b>	<b>847</b>

Note: The After School enrollment numbers reported in previous years have been revised upwards, as we introduced a new database to have more precise information.

### Merit Awards by country

Country	2013	2014	2015	2016
Argentina	321	296	296	230
Brazil	200	200	200	200
Canada	50	60	60	60
Colombia	-	50	50	-
Indonesia	-	198	207	135
Italy	45	78	68	80
Mexico	-	-	101	140
Nigeria	-	-	20	24
Romania	222	297	331	271
USA	-	-	25	24
<b>Total</b>	<b>888</b>	<b>1,179</b>	<b>1,358</b>	<b>1,315</b>

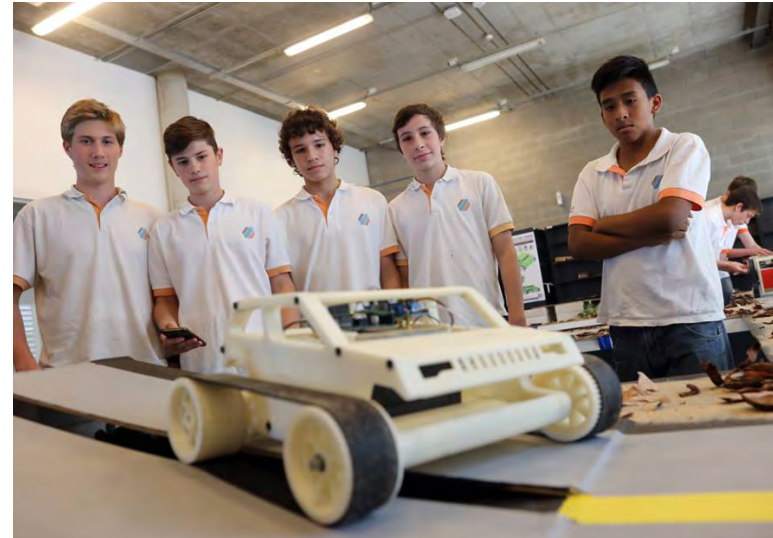


photo libraries. In this period, we organized Latin American film festivals in Argentina, Colombia, Italy, Romania and the United States. A total 11,200 people attended them.

Another cornerstone project are the photo libraries, which under the guidance of the PROA Foundation seek to collect and preserve the photographic memory of the locations where we operate. We have so far photo libraries in Campana, Argentina; Pindamonhangaba, Brazil; Veracruz, Mexico; and Montevideo, Uruguay. Apart from the work they do in managing the image heritage of these towns, the libraries interact with the communities and become important cultural hubs. In Campana, the photo library worked with the local municipality to hold a public event in the city's main park featuring a selection of the pictures and other cultural activities. A website for the Campana photo library was launched this year. The library in Veracruz holds periodical exhibits and conferences. It has also made computers available for the public to look at its archive of some 3,000 images of the city, and received over 38,000 visitors.

Our Fondazione Dalmine (Dalmine Foundation), which opened in 1999 next to our mill in Bergamo, is tasked with compiling and preserving the historic heritage of our industrial facilities and our organization 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 opens the Foundation's premises for photo exhibitions and other cultural events.

It also engages the community via its "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 for elementary and high school students. Last year over 3,600 students participated in these workshops. The Fondazione also has a teachers' training program.

We understand culture as a source of innovation in our communities. Tenaris and its sister companies in the Techint Group sponsor Fundación PROA in the neighbourhood of La Boca in Buenos Aires, Argentina, a major hub for contemporary and modern art; and Galleria d'Arte Moderna e Contemporanea (GAMeC) in Bergamo, Italy.

PROA marked its 20th anniversary this year with a major exhibit on the neighbourhood of La Boca, a traditional and iconic former port area in the Argentine capital. PROA features exhibits of international standing and receives some 100,000 visitors a year. In 2016 it presented for the first time in Latin America the works of the Russian artist Kazimir Malevich.

PROA also conducts educational programs for schools based on the shows on exhibit and also workshops and other open-door activities for the community. In April 2016, PROA made an agreement with the Walt Disney Company to show 200 Disney films for free in the PROA theatre. More than 3,000 children watched the films.

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