(Translation from the Italian original which remains the definitive version)

2017 Sustainability profile

2017 consolidated non-financial statement

ASTALDI

Dear readers,

Here is our sustainability profile, our calling card that presents our group's daily commitment to save the environment, protect our workers, innovate and dialogue with our stakeholders.

We are aware that the construction sector has always been a driving force for the economy and the generation of well-being. We "construct" with great responsibility as we know the potential impacts our activities can have on the surrounding area.

The world is looking to a new social, economic and environmental development model. Two important testimonies are the United Nations' approval of the Agenda for Sustainable Development and the related goals to be achieved by 2030 and the circular economy as a proactive answer to the crisis of the linear economic system.

Though there are still political, economic and social barriers to fully reaching these ambitious goals, Astaldi is ready to embrace this challenge as we are certain that sustainability will play an ever more significant role in construction in coming years. This sector has always been tied to the ability of its players to manage and convert certain global challenges, including urbanisation, climate change and the increasingly pressing shortage of material, energy and water resources, into potential opportunities, including new market share.

By integrating sustainability into our business, we get a better insight into our industry, thus boosting our ability to grasp new market challenges. We have no doubt that competition between top international players will continue to heighten and a pivotal factor will lie in each company's ability to thoroughly diversify its products, drive ahead on innovation and draw in the expert and talented people needed to execute large technologically-advanced projects.

Diligent management of the social and environmental sustainability of our works coupled with innovation generates value for all our stakeholders. In a world where attracting new investment is essential for growth, the ability to build partnerships with public authorities, multilateral financing institutions and investors will also play a fundamental role, aimed at procuring innovative forms of financing throughout the entire spectrum of solutions, from consumer pricing (the infrastructure user's monetary contribution to the construction/operating costs of the work) to project financing, a public-private partnership model already in wide use. Furthermore, the ability to attract new talent and safeguard the health and safety of our workers will always be a vital driver for our group's growth and competitiveness. Over time, this has been rendered into recruiting and training professional figures with varied technical skills.

However, in the construction industry, sustainability is not just a need dictated by macro-structural trends; it is also a current linked to legislative transformations with regard to environmental reporting and regulations, the gradual evolution of corporate culture towards heightened responsibility to stakeholders and the demand for transparency by investors, citizens and communities. Specifically, we cannot ignore the growing attention of public authorities and multilateral financing institutions, especially in developing economies, to specific socio-environmental and governance requirements for infrastructural works, ever more often included in the terms of calls to tender.

The current situation underlines the importance of viewing sustainability from two perspectives: as an innovation challenge and as a strategic and competitive lever for building long-term growth.

The scope of this report is to continue strengthening an approach aimed at integrating our strategy with social and environmental sustainability in a tangible and measurable manner, in line with the pragmatism and stability that have always been ingrained in the group's mission.

This is an important challenge that is the logical expression of a culture rooted for years in our people and clearly spelt out in our code of ethics, where sustainability is one of the group's core principles.

Throughout its over ninety-year history, our group has proved its ability to adapt to change, pre-empting it and learning to swiftly find its bearings in constantly-mutating situations. We are convinced that the group will successfully maintain its ability to innovate and transform to contribute - as set out in our mission - to leveraging economic and social progress at national and international level. The promotion of sustainability will play a fundamental role in all this.

Our history has hinged on the pursuit of talent, i.e., the human capital that drives the group's activities. It is also a strategic asset at all levels that creates a positive working environment, built around the individual, skills and growth and training programmes, which are ever more important and, above all, also use the experience of the surrounding areas. Therefore, we rely heavily on our ability to attract new talent and hire recent graduates and professionals with great potential to progressively enrich our group.

Astaldi is the ensemble of the men and women who work together every day to execute extensive technologically-advanced projects.

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METHODOLOGY FOR REPORTING NON-FINANCIAL INFORMATION

The Astaldi Group's 2017 sustainability profile comprises its "2017 consolidated non-financial statement" prepared in accordance with article 4 of Legislative decree no. 254 of 30 December 2016. This summarises the group's strategic implementation of integrated practices of economic, social, environmental and governance issues through a selection of significant indicators representing the most relevant and important issues to gradually use as the basis for the group's sustainability planning, reporting and communication. The statement was prepared in accordance with articles 3 and 4 of the above-mentioned decree and the G4 Sustainability Reporting Guidelines defined in 2013 by GRI which have been the global reference body for sustainability reporting since 1997.

"In accordance" option

The content of the 2017 sustainability profile was drafted using the "comprehensive" option of GRI-G4, in order to cover all material aspects identified in the materiality matrix. The statement also includes other issues deemed significant to best trace the group's sustainability performance with regard to the sector.

Reporting period

Given the characteristics of Astaldi's business and in line with the principles of comparability, accuracy and reliability issued by GRI and with international best practices, the group decided to focus on the 2015-2017 three-year period, also reporting significant events occurring in early 2018.

Scope

Reference should be made to paragraph § *Reporting scope* for information on the reporting scope.

Stakeholders

The stakeholders were mapped with the direct involvement of management in order to determine the relationship linking each stakeholder identified by Astaldi to the group, assessing their level of influence and interest.

Materiality

The materiality of economic, environmental and social aspects proposed by GRI-G4 was assessed via the combined analysis of two parameters: "Relevance for the group" and "Relevance for the stakeholders", the latter meant as how the group sees its role in society. These parameters also consider the importance of comparing data and information provided at industry level.

Calculation methods

Data and information were processed and consolidated via precise calculations/measurements and, where necessary or explicitly indicated, via estimates and models. The various methods used to calculate indicators are reported and described in the statement via specific notes.

The statement is divided into four sections:

- Astaldi Group- who is Astaldi, where does it operate and what does it do, historical information, values and mission that have driven the group's growth;
- Stability, looking to the future - the foundations of Astaldi's business, its business model, innovative drive and relationships with partners and suppliers;
- Focus on individuals - developing, training and safeguarding the health and safety of individuals;
- Contributing to progress, one project at a time - Astaldi's role in the community and surrounding area, its contribution to competitiveness and improving quality of life through its projects, while respecting the community and the environment.

REPORTING SCOPE

The scope of this statement includes the data of the parent, Astaldi S.p.A., and the companies included in the consolidation scope, "to the extent necessary to ensure understanding of the group's operations, performance, results and the impact thereof". The materiality principle expressly referenced by Legislative decree no. 254/2016 was used to select the consolidated companies to be included in this non-financial statement from among the in-scope consolidated companies with regard to financial information.

Specifically, using the group projects/companies included in the consolidation scope identified in the 2017 consolidated financial statements as a basis, the reporting scope was defined on the basis of the materiality of each project for the group's business for the purposes of non-financial information.

Depending on the case, the information included in this statement refers to the Astaldi Group or Astaldi S.p.A. (including its headquarters, branches material in terms of their size or operations and material projects with direct contract), subsidiaries and companies (e.g., consortia and joint ventures) that manage contracts with Astaldi S.p.A. as leading partner.[1]

The statement explicitly indicates to which companies the data and information refer and whether there are particular limitations, acting as a report on disclosure.

The reporting scope excludes consolidated companies in which Astaldi S.p.A. is not a leading partner and/or the fully-consolidated companies/production units whose contribution to non-financial reporting is not material.

Considering the nature and size of the group's projects, information is grouped by project rather than by company in order to give a uniform view of value distributed at group level in the areas where the works are executed.

To this end and to give a clearer view, the reporting scope identified as per the above-mentioned criteria is set out as follows, showing the works executed under "Contract" and the group company or companies involved in the works under "Company".

[1] Meaning material contracts where Astaldi S.p.A. has substantial operating leadership

Group company	Country
Astaldi S.p.A.	Italy with foreign branches
Astaldi Concessioni S.p.A.	
NBI S.p.A.	
3E System S.r.l.	Italy
Consorzio Stabile Busi	
Sartori Tecnologie Industriali S.r.l.	
GE. SAT S.c.a.r.l.	
Veneta Sanitaria Finanza di Progetto S.p.A. - V.S.F.P. S.p.A.	
Mondial Milas - Bodrum Havalimani Uluslararasi Terminal Isletmeciligi Ve Yatirim A.S.	Turkey
nBI Elektrik Elektromekanik Tesisat Insaat Sanayi Ve Ticaret L.S.	
Astur Construction and Trade S.A.	
S.C. Astalrom S.A.	Romania
Astaldi Polska Sp. z o.o.	Poland
Astaldi Canada Design & Construcion Inc.	Canada
Astaldi Canada Enterprises Inc.	
T.E.Q. Construction Enterprise Inc.	
Astaldi Construction Corp.	USA
Astaldi Algerie Eurl	Algeria

Contract	Company involved in the project	Country
Line C of the Rome metro	Metro C S.c.p.a.	Italy
Line 5 of the Milan metro	Astaldi S.p.A.	
Line 4 of the Milan metro	Metro Blu S.c.r.l.	
San Pasquale Station – Line 6 of the Naples metro	AS. M. S.c.r.l.	
Capodichino Station – Line 6 of the Naples metro	Capodichino AS.M S.c.r.l	
High speed Naples-Afragola Station	Afragola FS Società consortile a Responsabilità Limitata	
Remediation of Porto Torres industrial area	Progetto Nuraghe S.c.r.l.	
Port of Taranto - Extension of V pier	Astaldi S.p.A.	
Nieddu dam	Astaldi S.p.A.	
Head office of the pharmaceutical group Angelini	Astaldi S.p.A.	
Ospedale del Mare, Naples	Partenopea Finanza di Progetto S.c.p.A.	
Lot “Mules 2-3” of Brennero Base Tunnel	Brennero Tunnel Construction Società Consortile a Responsabilità Limitata - BTC SCARL	
Quadrilatero Marche-Umbria road system (maxi lot 2)	Consorzio Stabile Operae Dirpa 2 S.c.ar.l. Astaldi S.p.A.	
Monte Sant’Angelo railway connector	Infraflegrea Progetto S.p.A. Astaldi S.p.A.	
Gebze-Izmir motorway	Astaldi S.p.A. - Turkish branch Astur Construction and Trade A.S.	Turkey
Etlik Integrated Health Campus, Ankara	Etlik Hastane PA S.r.l.	

Contract	Company involved in the project	Country
Line 5 of the Bucharest metro	Asocierea Astaldi - FCC - Delta ACM- AB Construct Asocierea ASTALDI-FCC-UTI-ACTIV (Metro 5)	Romania
Line 4 of the Bucharest metro	Astaldi S.p.A. - Romanian branch Asocierii Astaldi SpA, Sc Somet sa, sc Tiab sa, sc Uti grup sa (Line 4 Bucharest)	
Upgrading of Piazza Sudului	Piata Sudului	
Mihai Flamaropol ice-skating rink	Asocierea Uti Grup S.A. - Astaldi S.p.A. (Ice-skating rink)	
Brasov-Targu Mures-Cluj-Oradea motorway, Section 2A: Ogra-Campia Turzii Lot 2	Asocierea Astaldi S.p.A. – Max Boegl Romania S.r.l. – Astalrom Sa – Consitrans S.R.L. (Ogra-Campia Turzii)	
Curtici-Simeria railway line - Lot 2A and Lot 2B	Asocierea Astaldi – FCC – Salcef – Thales, Lot 2a Asocierea Astaldi – FCC – Salcef – Thales, Lot 2b	
Line 2 of the Warsaw metro	Astaldi S.p.A. - Polish branch	Poland
S-8 expressway Breslavia-Byalstok (Lots: Wisniewo-Mezenin, Mezenin-Jezewo and Kobyłka-Radzymin Południe)	Astaldi S.p.A. - Polish branch Astadim S.C.	
S-5 expressway Wrocław-Poznan (Lot 3, Korzensko-Widawa section)	Astaldi S.p.A. - Polish branch	
S-7 expressway Naprawa-Skomielna Biała	Astaldi S.p.A. - Polish branch	
S-2 expressway Warsaw Southern Bypass - Lot A	Astaldi S.p.A. - Polish branch	
N-7 railway line – Deblin – Lublin (Lot C)	Consorzio Lublino (Astaldi - PBDIM)	
E-59 railway line - Rawicz - Leszno (Lot IV)	Astaldi S.p.A. - Polish branch	
Saida-Tiaret railway line	Astaldi S.p.A. - Algerian branch	Algeria
Saida-Moulay Slissen railway line	Astaldi S.p.A. - Algerian branch	
Muskrat Falls hydroelectric project	Astaldi Canada Inc.	Canada
H20/13- I-95 & Spanish River Interchange DB	Astaldi Construction Corporation	USA
H22/15 - I-75 from Charlotte/Sarasota County Lines to Toledo Blade	Astaldi Construction Corporation	
H23/16 - SR-528 BeachLine Expressway	Astaldi Construction Corporation	
H25/16 - CR 490A (Halls River) from West of Hall Rivers to East of Halls River	Astaldi Construction Corporation	
H24/17 Bull Frog	Astaldi Construction Corporation	
Proyecto El Cajón – "Francisco Morazán" hydroelectric power plant (MOS)	Astaldi S.p.A. - Honduran branch	Honduras
Expansion and improvement of "La Esperanza-Camasca" road	Astaldi S.p.A. - Honduran branch	
CA-1 road, section 1 Jicaro Galán – Desvío El Transito (puente Los Corrales) and section 2 Jicaro Galán – Santa Elena (Desvío a Cedeño)	Astaldi S.p.A. - Honduran branch	
Improvement of "Camino Pantasma – Wiwilí"	Astaldi S.p.A. - Nicaraguan branch	Nicaragua
Improvement of "El Comejen-Waslala" road	Astaldi S.p.A. - Nicaraguan branch	
Cerro Del Aguila hydroelectric project	Consorcio Rio Mantaro	Peru
Impulsion line and pumping system "Chilota-Chincune"	Concorcio Obrainsa - Astaldi	
"Alto Piura" hydroelectric power plant	Concorcio Obrainsa - Astaldi	
Chuquicamata mining project	Astaldi S.p.A. - Chilean branch	Chile
New West Metropolitan Hospital in Santiago "Felix Bulnes"	Astaldi S.p.A. - Chilean branch Sociedad Austral Mantenciones y Operaciones S.p.A.	
"La Punilla" hydroelectric power plant	Astaldi S.p.A. - Chilean branch Sociedad Concesionaria Aguas de Punilla S.A.	
E-ELT "European Extremely Large Telescope"	DMS DESIGN CONSORTIUM s.c.r.l. Astaldi S.p.A. - Chilean branch	

HIGHLIGHTS

€ 3.1 bn
total revenues

100 project
in **30** Countries

>1,600
Qualified suppliers and subcontractos

>13,400
Employees worldwide
(Average workforce)

>181,000
Training hours on direct employees

81%
of the training in matter of HSE

-23%
Frequency of lost time injuries vs 2016

62.3%
Reuse of exavation materials

THE ASTALDI GROUP

VISION

"building for progress and development in the countries where we operate"

MISSION

contribute towards the development and well-being of the countries where it operates, through its own style in which the design, construction, and operation of major infrastructure go hand in hand with integration into the territory and the technical and managerial training of the people involved. Astaldi translates ideas into concrete reality, satisfying its customers' needs while opening new paths to progress, by carrying out distinctive, cutting-edge works capable of bringing function and aesthetics together. Astaldi means Italian-made quality in Infrastructure. For years, it has exported technology, know-how, and innovative solutions for customers worldwide, with an approach to dialogue that results in forging real partnerships with its clientele. In other words, it helps affirm our country's excellence in the world, cultivating talent and giving value to ingenuity, in a constant process of creation in Italy and abroad.

GENERAL PRINCIPLES

Fairness

Transparency

Safeguarding assets

Professionalism

Protection of Human Resources

Sustainability

LARGE WORKS AROUND THE WORLD

The Astaldi Group operates internationally in constructing large works with strong leadership in Italy and abroad, where it operates in four continents. It designs, constructs and operates avant-garde works in the transportation infrastructure, energy generation plants, civil and industrial construction, plant engineering and O&M business segments. It is one of the top 30 contractors in Europe.

The group recorded revenue of approximately €3.1 billion and has an order backlog worth over €24 billion in 2017, with more than 13,400 employees working on 100 work sites in over 30 countries all over the world.

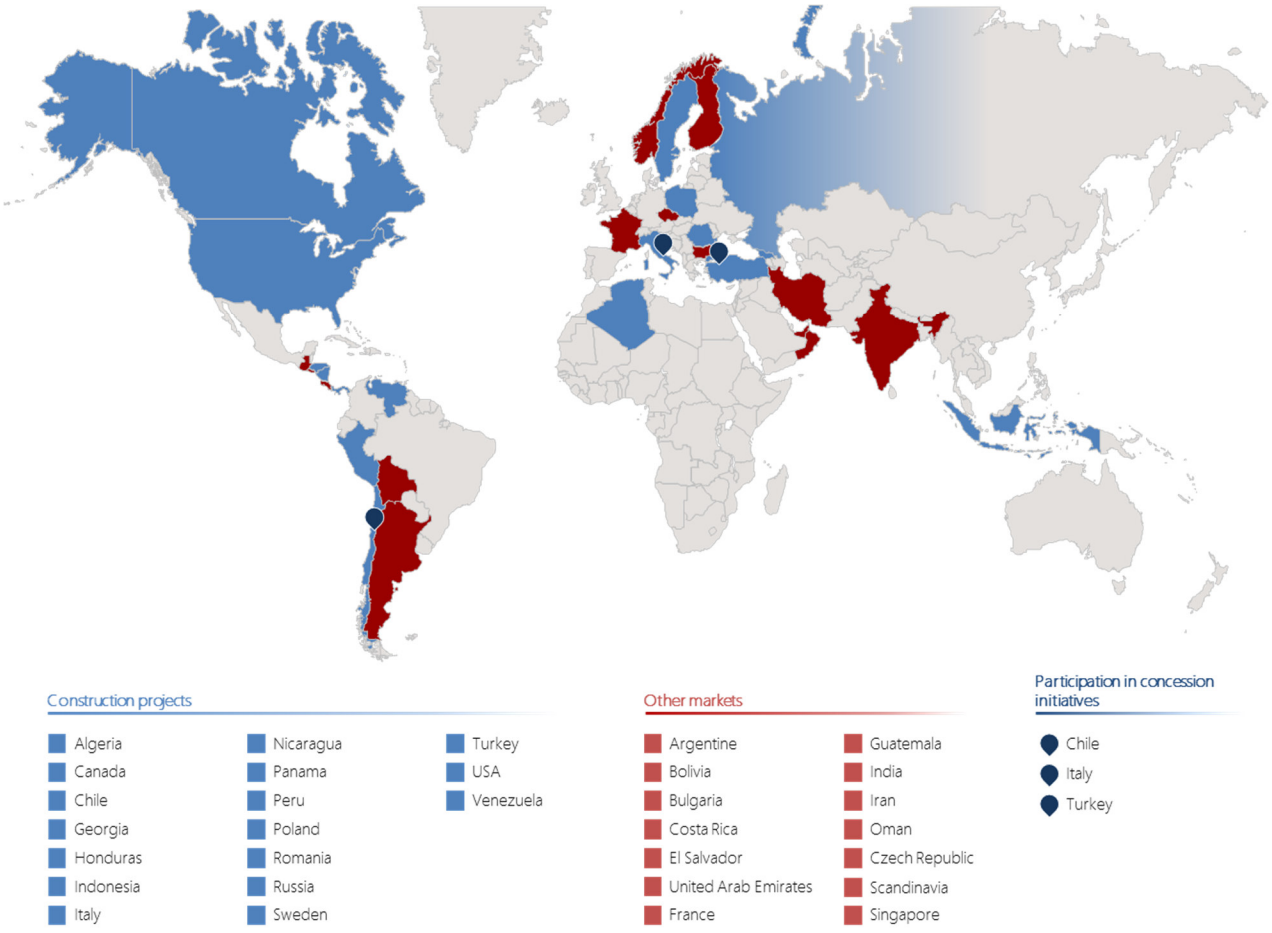


Figure 1: the Astaldi Group in the world

Astaldi stands for "Italian-made quality in infrastructure". It exports technology and know-how, offering its customers technical expertise, operating and management abilities and creativity with the construction of distinctive works that merge functionality and aesthetic beauty.

The international scope of operations has always been a distinctive feature of the Astaldi Group. In 2017, 76% of revenue was generated abroad. Outside Italy, its largest areas of stronghold are central Europe (Poland, Romania, Russia, Sweden), Turkey, Maghreb (Algeria), Latin America (basically Chile, Peru and Central America), North America (Canada, USA). More recently, the group has embarked on new markets, such as Georgia, and is developing additional commercial activities in Argentina, Bolivia, Portugal, the Czech Republic, Scandinavia and the Far East (Indonesia and Singapore).

The development model underlying the guidelines of geographical diversification aims to consolidate countries where the group has historically been present, which guarantee clear long-term infrastructural investment programmes, and look to additional areas characterised by a low risk profile while offering interesting development opportunities.

Some of the group's most recent works of international renown include the Third Bosphorus Bridge (the world's longest and widest hybrid bridge) and the Izmit Bay Bridge (the world's fourth longest suspension bridge) in Turkey, the Western High Speed Diameter crossing the bay of St. Petersburg, Line 2 of the Warsaw metro in Poland (one of Europe's most modern metros, built using the innovative ground freezing technique to ensure the stability of the ground during the excavation stage) and the Toledo Station of the Naples metro in Italy (proclaimed the most beautiful station in Europe multiple times and winner of the 2015 ITA Award).

The group is currently working on building a tunnel under the Brennero, which will be the world's longest underground railway tunnel, the world's largest optic telescope (ELT – Extremely Large Telescope) in Chile, the most important hydroelectric project currently underway in North America (Muskrat Falls, Canada), the largest healthcare facility being built in Europe Europa (Etlik Integrated Health Campus in Ankara, Turkey), as well as the transformation of the largest open-pit copper mine in the world into an underground mine (Chuquicamata) and the construction and operation of one of South America's main airports (Arturo Merino Benìtez International Airport of Santiago, Chile).

OVER 90 YEARS OF HISTORY

1920s-1930s: Astaldi Costruzioni e Lavori Pubblici S.p.A. was set up. The company worked mainly in Italy and some African countries in the construction of railways, aqueducts, ports and state buildings. Some of its early works included the Rome-Naples and Bologna-Florence fast railway lines (Italy) and the road from Addis Abeba to the Great Lakes (Ethiopia).

1940s-1950s: Astaldi extended its sphere of activity to eastern Africa (Kenya, Uganda) and other parts of Africa (Zaire, Ghana, Sierra Leone, Nigeria, Burundi, Rwanda, Mozambique), focusing on road construction. In Italy, the company was involved in post-war reconstruction, especially hydraulic plants (S. Massenza and Cimego) and railways (Milan-Venice). In 1950, Astaldi Estero S.p.A. was set up. Astaldi worked on rebuilding the banks of the River Po in Occhiobello. In 1953, the company completed the construction of the Namanga-Taveta road in Tanzania (228 km) and a year later began constructing 115 km of railway in Uganda, a milestone that helped drive economic development in central Africa.

1960s-1970s: In the late 1950s, Astaldi continued its expansion into Africa (Somalia, Zambia, former Zaire, Guinea, the Ivory Coast, Libya, Gabon, Angola, Uganda) and undertook new projects in Europe (former East Germany and the Soviet Union), the Middle East (Lebanon and Saudi Arabia), Central America (Venezuela, Honduras) and Asia (Pakistan, Thailand). Astaldi opened the Rome-Bologna section of the Autostrada del Sole, a symbol of the economic boom. In the 1970s, it contributed to the construction of the Rome-Florence Fast Railway, the first high-speed railway line in Europe. Astaldi consolidated its presence abroad: the Tarbela dam (Pakistan), the Inga hydroelectric power plant (Congo) - one of the largest in the world which led to Astaldi winning the Ingersoll-Rand Award - and the Caracas metro (Venezuela).

1980s-1990s: The reorganisation process culminated in the merger of Impresa Astaldi Estero and Impresa Astaldi Costruzioni e Lavori Pubblici. Astaldi took part in the construction of the Brasimone and Montalto di Castro nuclear power plants and augmented its experience with its involvement in CERN's LEP Project (Laboratorie Electron et Ponitron) in Geneva. In Italy, Line 3 of the Milan metro and Line 1 of the Naples metro were built and, in Turkey, Astaldi acted as general contractor for the first time in constructing the Anatolia motorway. The Concepción dam (Honduras) was esteemed for the innovative Roller Compacted Concrete technique used, which won the company the Ingersoll-Rand Award for civil and project innovation. During the 1990s, Astaldi entered Algeria (Taksebt dam), Indonesia (RCC dam in Balambano), Romania (Bucharest airport) and the USA (eastern beltway in Orlando). During the same period, Astaldi entered the concessions segment, building and subsequently operating car parks in Bologna and Turin and securing new projects in the water sector in Honduras. With the acquisition of two leading companies in the sector (Italstrade and Dipenta), Astaldi became the number two Italian general construction firm.

2000-2016: In June 2002, Astaldi was listed on the STAR segment of the Milan Stock Exchange. Astaldi continued to achieve important results. These included the new exhibition centre in Milan, built in just three years at a rate of one square metre per minute, and the high speed Rome-Naples railway line. Aerospace technology generated the completely automated driverless system, adopted for the first time for the Copenhagen metro (and subsequently on Line 5 of the Milan metro and Line C of the Rome metro). Astaldi executed important building works such as the Mestre hospital, the first major project finance initiative in Italy. Among the hydraulic works stand out the hydroelectric power plant of Pont Ventoux in Piedmont and the run-of-river hydroelectric power plant at Chacayes, Chile. In recent years, Astaldi also entered the oil and gas segment by building the Gtl-Oryx plant (Qatar), the first in the world to convert natural gas into purified gasoline and naptha. During these years, Astaldi built internationally prestigious works such as the longest and widest hybrid bridge in the world (the Third Bosphorus Bridge) and the fourth longest suspension bridge in the world (the Ismit Bay Bridge) in Turkey, the Western High Speed Diameter crossing the bay of St. Petersburg and Line 2 of the Warsaw metro in Poland (one of the most modern metros in Europe).

2017: 2017 sees the group working on building the most important hydroelectric project in North America (Muskrat Falls, Canada) and the largest healthcare facility in Europe (Etlik Integrated Health Campus in Ankara, Turkey), as well as the transformation of the largest open-pit copper mine in the world into an underground mine (Chuquicamata). The group is strengthening its presence in areas of strategic interest for future development. Work is beginning on the world's largest optic telescope (ELT – Extremely Large Telescope) in Chile. In the United States, activities are getting underway on the I-405 highway in California. The group is also continuing to de-risk its global portfolio by gradually downsizing activities in the Middle East and sterilising operations in Venezuela, while simultaneously opening new areas such as Scandinavia, western and central eastern Europe and the Far East. The group has developed a new approach to the concessions segment this year, confirming its supporting role to the group's planned growth by following an asset rotation logic and a capital light investment model, which prioritises the group's presence in construction and cuts back on capital injections into operator SPVs. Also as part of the group's de-risking, it continued the asset disposal plan during the year by disposing of investments in projects under concession and simultaneously enhancing the O&M activities linked to the projects.

A GOVERNANCE SYSTEM FOCUSED ON EXCELLENCE

Astaldi S.p.A. – incorporated under Italian law, the company is listed on the Italian Stock Exchange and its bonds are traded on the Luxembourg and Vienna Stock Exchanges. Its governance structure is based on a traditional administration and control model. The company has shareholders, a board of directors and a board of statutory auditors, as well as independent auditors and a supervisory body as per Legislative decree no. 231/2001.

Furthermore, as it is listed on the STAR segment, Astaldi S.p.A. adheres to the Code of conduct for listed companies and has set up an appointments and remuneration committee to comply with relevant recommendations. The governance model adopted by Astaldi S.p.A. is in line with international standards and best practices.

COMPANY BODIES

BOARD OF DIRECTORS[2]

Chairman
Paolo Astaldi

Deputy chairman
Ernesto Monti
Michele Valensise

Chief Executive Officer
Filippo Stinellis

Directors
Caterina Astaldi
Paolo Cuccia
Piero Gnudi
Chiara Mancini
Nicoletta Mincato

HONORARY CHAIRMAN

Vittorio Di Paola

BOARD OF STATUTORY AUDITORS[3]

Paolo Fumagalli (*Chairman*)[4]

Standing statutory auditors
Anna Rosa Adiutori
Lelio Fornabaio

Alternate statutory auditors
Andrea Lorenzatti[5]
Giulia De Martino
Francesco Follina

CONTROL AND RISKS COMMITTEE

Nicoletta Mincato (*Chairwoman*)
Ernesto Monti
Paolo Cuccia

GENERAL MANAGEMENT

Paolo Citterio (*Administration and finance*)
Marco Foti (*Italy*)
Cesare Bernardini (*Abroad*)
Francesco Maria Rotundi (*Abroad*)
Fabio Giannelli (*Abroad*)
Mario Lanciani (*Industrial services*)

APPOINTMENTS AND REMUNERATION COMMITTEE

Piero Gnudi (*Chairman*)
Paolo Cuccia
Ernesto Monti

RELATED PARTIES COMMITTEE

Chiara Mancini (*Chairwoman*)
Nicoletta Mincato
Paolo Cuccia

Independent auditors

KPMG S.p.A.

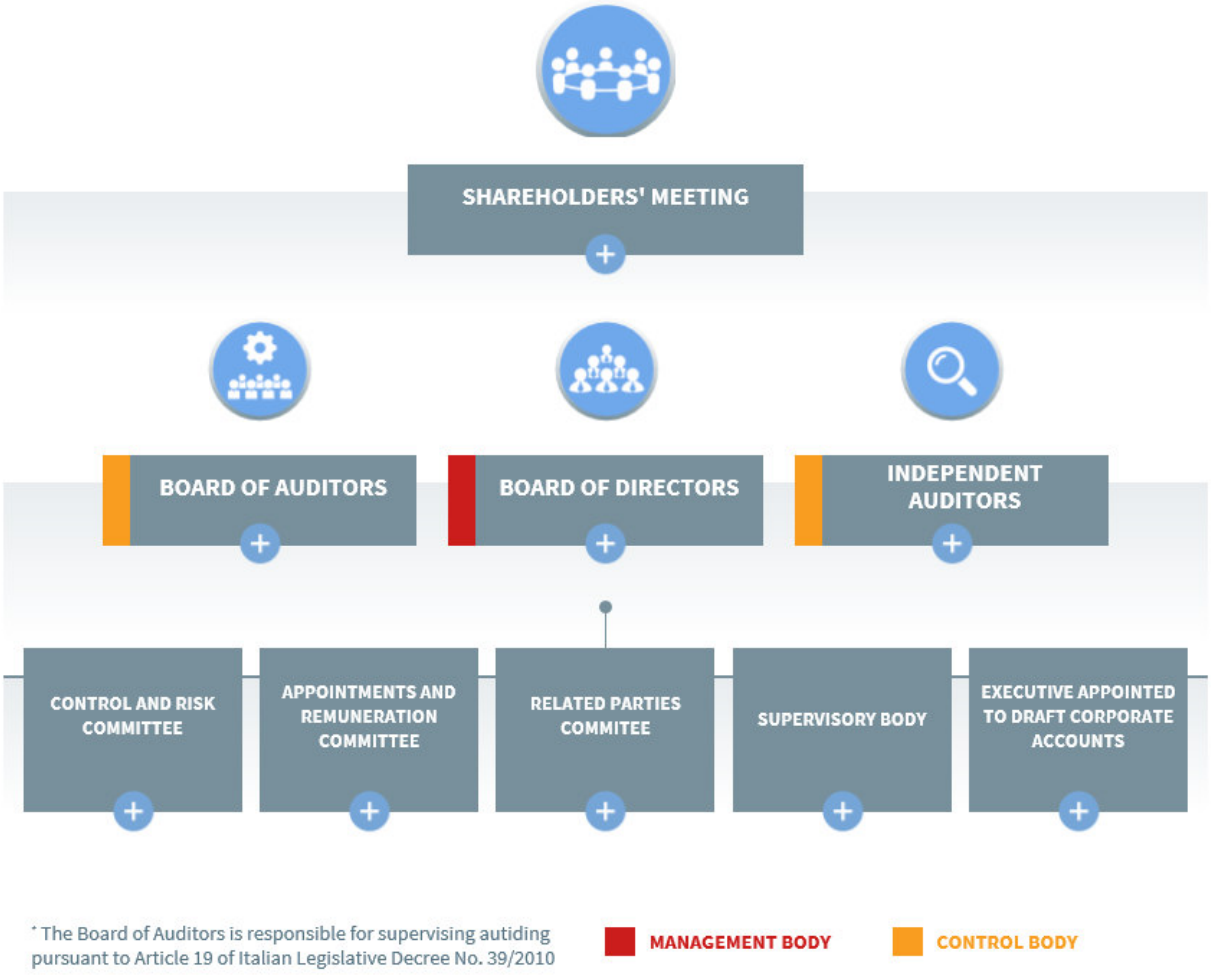
[2] Board of directors appointed on 20 April 2016 for 2016/2018

[3] Board of statutory auditors appointed on 23 April 2015 for 2015/2017

[4] Statutory auditor appointed from the lists presented by the non-controlling investors

[5] Statutory auditor appointed from the lists presented by the non-controlling investors

ORGANISATIONAL STRUCTURE



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Its correct application of primary and secondary legislation and self-regulatory standards means that Astaldi's governance is in line with best practices, including with regard to the prevention and management of conflicts of interest. In relation to the assumption that directors have interests, on their own behalf and on behalf of third parties, the company's board of directors makes the most appropriate decisions on a case-by-case-basis (e.g., directors abstaining from voting or temporarily leaving the meeting). With regard to the composition of the board of directors, the presence of highly experienced directors, many of whom are independent, ensures balanced discussions in the board's decision-making processes.

Furthermore, set up to provide advice and make recommendations to the board, the committees add specific expertise, perform ad-hoc investigations and, in certain cases, add weight to resolutions where there is a higher risk of potential conflicts of interest (remuneration of managers and related party transactions).

In this regard, the components of directors' fees not resolved at shareholders' meetings are defined via proposal by the appointments and remuneration committee. In accordance with the self-regulatory standards and primary and regulatory legislation, the board of directors approves a "Remuneration report" every year as proposed by the above committee. The report is divided into two sections. The first sets out the remuneration policy for members of the company's board of directors, board of statutory auditors and key management personnel, which is submitted to the shareholders who vote thereon at their meeting. The results of the vote are published, in accordance with the law, within five

days of the shareholders' meeting. The second section sets out the remuneration paid in the previous year to the company's board of directors, board of statutory auditors and key management personnel.

With regard to related party transactions, in accordance with Consob (the Italian Commission for Listed Companies and the Stock Exchange) regulations, the company has adopted a procedure for identifying, approving and carrying out transactions by Astaldi S.p.A. - directly or through its subsidiaries - with related parties. The company has also set up an ad-hoc internal board committee (related parties committee) comprised exclusively of independent directors which is called to express an opinion on such transactions before they are carried out. The company also has procedural rules in place which ensure that any relations with third parties is identified in advance (e.g., when signing contracts, consultancies, etc.).

In order to formulate diversity policies for the company's board of directors and board of statutory auditors, Astaldi launched an analytical process aimed at assessing the profiles and parameters to consider in preparing "Diversity policies" in compliance with the law. After surveying legislation and self-regulatory standards along with the clauses of Astaldi S.p.A.'s bylaws, the company deemed the organisational solutions in place to be in full compliance with legislative requirements and recommendations. The drafting of the "Diversity policies" was further defined by considering indexes such as Astaldi S.p.A.'s business type, international range and operation on specific markets, as well as analysing the composition of the company bodies of Astaldi's main Italian and foreign competitors. Following the prior endorsement of the appointments and remuneration committee, the board of directors approved the "Diversity policy of Astaldi S.p.A.'s board of directors and board of statutory auditors" [6] on 14 November 2017.

ETHICS AND COMPLIANCE

Corporate ethics is a key value for the group. The code of ethics applies to all directly and indirectly controlled companies and regulates the behaviour of company bodes, managers, employees and consultants. In addition, Astaldi requests commercial and financial partners, its main suppliers, contractors and independent contractors to act in line with the general principles of the code of ethics, undertaking to promote compliance with the rules in the associations it is involved with.

The group decided to adopt an Organisational, management and control model - the 231 Model - in order to ensure fairness and transparency in its business and operations. The model is constantly updated to reflect the main developments in the issue. In order to ensure it is effectively applied and that it complies with the code of ethics, the supervisory body prepares an annual supervisory plan with specific audit activities on at-risk processes. Actions plans are then activated to resolve any situations of non-compliance detected. The supervisory body reports to the board of directors thereon on a weekly basis.

Following the checks performed in 2017, the supervisory body ruled Astaldi's operations to be compliant, while setting out some areas for improvement and making specific recommendations to management.

The group has defined an internal control and risk management system in line with the Code of conduct for listed companies. This is a set of directives, regulations and procedures to aid identifying, preventing and managing company risks. Every year, the Internal audit department formulates an audit plan approved by the board of directors and reports thereto on the relevant progress on a weekly basis.

The results of the 2017 checks related to the audit and follow-up activities at the group headquarters, country head offices, direct work sites and investees in Italy and abroad. Overall, results were positive with recommendations and remedial actions required in some cases.

[6] In line with the incorporation by reference principle, reference should be made to the "Report on corporate governance and ownership structure" for a survey of its content.

ORGANISATION, EXPERTISE AND PERFORMANCE

One of the key requirements of the group's 2016-2020 business plan is the strengthening of the organisational structure to support the significant growth in the value, size and importance of its business.

Astaldi has adopted a matrix organisational model that ensures functionality and integration between the headquarters, countries and projects, based on criteria formulated to efficiently and synergically develop central and peripheral organisational structures.

Astaldi's organisational structure is summarised as follows:

- Chairman of the board of directors, who has powers to represent the company and define company strategies to submit to the board of directors, mainly the annual budget and business plan;
- Deputy chairman, who, together with the chairman and the chief executive officer, identifies company development strategies to submit to the board of directors;
- Chief executive officer, who, supported by their staff departments, implements the sustainable development policies and strategies for the group's operations by defining policies for acquiring, managing and using resources and coordinating the organisational structure;
- Administration and finance general management, which is charged with supervising all of the company's administrative, tax, financial, etc. activities, in addition to providing support and services to the domestic general management and international general management;
- Domestic general management and international general management, which are charged with acquiring and managing contracts (each for their relevant geographical segment), depending on the goals set in the annual budget and business plan;
- Industrial services general management, which coordinates and monitors "industrial" aspects in order to boost the degree of control and management over operating processes as part of project management, aiding and supporting the domestic general management and international general management.

In addition to the deputy general management and central management which supervise and control their respective geographical segment, in both acquisition and operating stages, domestic general management and international general management also involve:

- Country management, in charge of acquisition and operating management in their respective countries;
- Project managers, who supervise contracts and reaching the set cost, quality and time objectives.

Astaldi continued to develop its organisational structure in 2017 in order to further improve controls over the geographical segments and ongoing projects and to ensure the centralisation of development and capitalisation of the group's know-how. The following activities continued during the year:

- the gradual introduction of coordinators to supervise similar business segments (who report to the general managers) and ensure standardised, integrated methods for procurement, HR and sustainability, organisation and management;
- the creation of a specific supervisory and monitoring unit within the administration and finance department as an additional safeguard that the financial planning and reporting guidelines are adhered to;
- allocation of resources to the integrated sustainability and management department, with the resulting synergies;

- development by Astaldi Concessioni of the O&M business segment, identified as one of the key drivers of development in the guidelines defined in the 2016-2020 business plan.

Industrial services general management

Industrial services general management coordinates and monitors industrial services, thus bolstering controls and monitoring over operating processes, which aids and supports domestic general management and international general management.

The activities of industrial services general management are based on three pillars:

- standardising conduct in relevant processes;
- enhancing scale economies and group-level experience, also by consolidating the group's industrial know-how;
- increasing the quality and reliability of human resources working in the relevant areas.

The following areas fall under the scope of the industrial services general management's direction, supervision and validation, in addition to sharing the decision-making process by the line manager:

- Project management
- Bids for tenders and prequalifications
- Engineering and innovation
- Procurement
- Project control
- Project quality
- Project safety and environment

Astaldi project management

The organisation approaches contracts using a project management logic aimed at efficiently planning and controlling the resources necessary to achieve the set results or constructing the works in line with the requirements of the stakeholders.

The interface between the central structure (industrial services general management) and country and/or project managers is ensured by the PMO (project management officer) whose task is to coordinate all aspects of project management - starting from the tender stage - so that the assumptions made during the bidding stage are correctly interpreted and transferred to the project team, ensuring that units in charge of industrial areas are temporarily covered, if needed.

With this system, Astaldi's project management acts as an industrial area and, accordingly, is a factor that can multiple the creation of value within contracts.

RISK MANAGEMENT

Given the nature of its business and reference sector, the Astaldi Group is exposed to different types of risks both at company and project level.

It has a risk management system, which analyses, measures, monitors and manages the main risk sources identified, to mitigate its exposure to these risks. The system's main priority is to ensure timely, efficient and effective responses to any uncertain event that could have a positive or negative impact on attaining the group's objectives.

The aim of the ERM Enterprise Risk Management model introduced over several years and now fully functional is to meet the board of directors' need to define guidelines for the internal controls and risk management system and the nature and level of risk compatible with the group's strategic objectives, after consulting the control and risks committee as required by Borsa Italiana's Code of conduct for listed companies.

The risk categories identified by the group as the main critical sources that could impact achievement of the strategic plan objectives are:

- Sustainability
- Financial structure
- Human resources
- Partnerships
- Reference scenario

The group has set up dedicated intradepartmental teams composed of managers to regularly analyse, check and monitor risks, especially those listed above. The teams meet frequently to, inter alia:

- ensure implementation of the appropriate risk management and mitigation actions (risk response) defined after analyses of the specific key risk indicators;
- guarantee compliance with the guidelines set out in the group's risk appetite statement[7] approved by the board of directors, which establish the maximum risk level the group is willing to take on when carrying out its business (related to the main risk categories).

Sustainability risks: Astaldi S.p.A. has a management system strongly focused on the inclusion of social and environmental objectives in its business as it is aware that a well-defined integrated corporate social responsibility (CSR) strategy has a positive impact on institutional investors' investment choices and also increases the value generated by the group. The QHSE system is certified by an independent expert in line with international standards. The end purpose is to limit reputation risks due to non-achievement of CSR objectives. This is advantageous to the group in terms of its competitive edge as there are markets that exclude companies with negative track records due to incidents and/or violations of QHSE standards. The risk appetite statement reiterates the "zero tolerance" approach to risks related to CSR.

Financial risks: This category mainly consists of risks related to lending agreements with the group's banks (financial covenants) and the related possibility that the group may not be able to meet its financial commitments assumed with the related implications for its ability to continue as a going concern. Governance of these risks related to the parameters defined with banks, along with interest rate, current and commodity risks, is performed directly by dedicated internal committees, the competent departments and specific interdepartmental teams, which define the most suitable strategies to be implemented in line with the group's procedures and policies. In particular, interest rate risk is

[7] Risk appetite is the maximum level of risk that a company is willing to assume in carrying out its business in relation to main sources of critical issues (or "over the top" risks) in order to meet its strategic objectives, identified by company management as typical and recurring.

regulated by a policy designed to ensure ongoing monitoring and the use of non-speculative derivatives (cash flow hedges). With respect to interest rate risk affecting the parent, whenever the floating rate applicable to loans and borrowings exceeds a set threshold, the group immediately takes steps to bring it back below the agreed limits. Internal procedures for currency risk provide for three level of hedging:

1. protection of the "economic value" (pre-negotiation) - during the call to tender/bidding stage;
2. protection of the "monetary value" (transaction) of the exposure to risk, the drivers of which are market volatility and analysis of the forward curves, trends and forecasts of exchange rates;
3. translation risk - tied to the effects of the transfer of the risk to the group's equity and possible negative effects on the existing financial covenants.

The hedging strategy for commodity risk often includes proxy hedges, with the hedging of a different underlying to that which has generated the risk exposure.

With specific respect to the group's ability to continue as a going concern in 2017, the group decided to impair a large portion of its receivables in Venezuela. This decision was based on the steady decline in the South American country's social and political situation from the end of August to October 2017.

The group had already stepped up the measures to free up slow-moving items in its working capital as part of its project to rationalise its cash flows. In fact, management forecasts that additional cash inflows will be generated in 2018 in addition to its normal cash flows from operating activities. The group has also continued its asset disposal plan involving the concessions segment, specifically, the assets used to build and operate the Third Bosphorus Bridge for which negotiations are at an advanced stage and that management is reasonably sure will be sold by the end of June 2018 based on the expressions of interest received.

The parent has also launched a project to strengthen its capital and finances as announced to the market in its press release of 14 November 2017. It negotiated the redefinition of the covenants at 31 December 2017 with the bank syndicate, agreeing new parameters with sufficient headroom to cover the effects of the impairment losses recognised on the group's exposure with Venezuela.

This project entails recapitalisation due to the effects of the impairment losses recognised on the Venezuelan receivables in the consolidated financial statements at 31 December 2017 (to which reference should be made for more information) and to give the group the necessary resources to carry out its strategic plan. It also aims to put the group in the best possible position to renegotiate the refinancing of its long-term debt, extending the repayment dates to after 2022 and, in line with market conditions, cutting the cost of debt.

After the analyses performed in recent months with the banks and advisors, the parent redefined the terms of the capital and financial strengthening project. It increased the capital increase to approximately €300,000 thousand and concurrently applied to the group's main lending banks for their assistance in supporting the group's industrial and commercial activities.

The parent plans to call a board of directors' meeting before the end of April 2018 and before the shareholders are called to approve the financial statements. The directors will be asked to approve the definitive capital and financial strengthening project and the new 2018-2022 business plan.

Although material uncertainty exists about the achievement of the above actions (capital strengthening and disposal of assets), which could cast significant doubts as to the parent's ability to continue as a going concern, based on the group's current sale plan (which includes the sale of the above assets and the realistic possibility of completing the asset and financial strengthening project in a reasonably short time frame), the directors deemed that the conditions for preparing the consolidated and separate financial statements at 31 December 2017 on a going concern basis existed. The financial indicators included in the Astaldi Group's non-financial statement are based on data and information taken from such financial statements.

Human resources risks: The main difficulty with respect to human resources is the recruitment of professionals with the relevant technical and specialist skills needed to fill positions in the group, especially with regard to key positions. The group regularly analyses key risk indicators that include

suitability for the key positions, the turnover rate and the internal service level agreement that measures the group's ability to find the required resources in the necessary time frame with the requested profiles. Given the tough competition on the internal and international labour markets and the group's need to employ highly qualified professionals, it pays great attention to personnel retention. It has concurrently continued the Astaldi Corporate Academy which is its internal school set up to develop and hone managerial skills, so as to develop and nurture a distinctive skill-set thus generating additional value.

Partnership risks: The group has a contract management model that privileges interaction with project partners that have the appropriate technical references, especially for projects where a partnership is opportune due to the complexity of the works and/or the sharing of risks. The group also considers assessments about new countries and/or sectors and valuations of the partners' cultural and organisational integration in these countries/sectors as well as their potential ability to meet their contractual commitments. In order to monitor this risk category, the group regularly checks its partners' financial strength and solvency as well as their necessary technical, ethical and reputation requirements. It also agrees on the sharing of roles and responsibilities with the partner defined and managed through shareholder agreements.

Reference scenario risks: The group has continued to develop its foreign operations over recent years, mainly to work with countries that have smaller exposures to risks arising from economic, political and social risks (not controlled by Astaldi). This approach entails the detailed and meticulous monitoring and updating of the risk profiles of all the countries where the group operates or that it is interested in for future developments. All the group offices are involved in feeding and regularly updating an information system that provides an internal rating for country risk, based on the country's credit standing (ratings from the main rating agencies like Moody's, S&P and Fitch) and the group's ability to generate performances in line with the strategic plan objectives for those countries.

SOCIAL RESPONSIBILITY GOVERNANCE

THE SUSTAINABILITY COMMITTEE

As part of the group's planning of control and supervisory processes over its sustainability performance, it set up a sustainability committee in 2015 which governs the process to review the group's management system at corporate level.

In order to seize opportunities to grow, innovate and create value for the group, the sustainability committee was reviewed in 2017, developing its role in analysing and assessing sustainability initiatives.

Comprised of the chief executive officer, general managers and deputy general managers and the head of integrated sustainability organisation and management, the committee provides guidance about sustainability and is in charge of analysing and monitoring the group's non-financial performance, assessing the adequacy of its integrated strategy and monitoring goals and targets in line with the directions provided by the board of directors.

ASTALDI'S STAKEHOLDERS

As its operating network is complex both on a geographical and business segment level, Astaldi has relationships with numerous stakeholders with varied needs and expectations. As set out under the sustainability policy, the group considers dialogue and transparency as key elements for ongoing integration from a stakeholder's point of view and further stresses the group's commitment to creating extended value.

The aim of mapping group stakeholders is to boost awareness of the group's network while monitoring its reputation. Based on the study of some contributions from the media on the group, its main competitors and the construction industry in general, the mapping was made via meetings and interviews with top management in order to understand Astaldi's relationships with the various categories of stakeholders.

Identifying the stakeholders and thus understanding their perspective is a key component of Astaldi's sustainability strategy. The stakeholders have been classified by level of interest and level of influence. The following is a list of key stakeholders whose perspective was taken into consideration for the development of the materiality analysis described in the subsequent paragraph:

- Shareholders
- Employees
- Banks
- Customers
- Project partners
- Attestation companies - Rating companies
- Statutory auditors

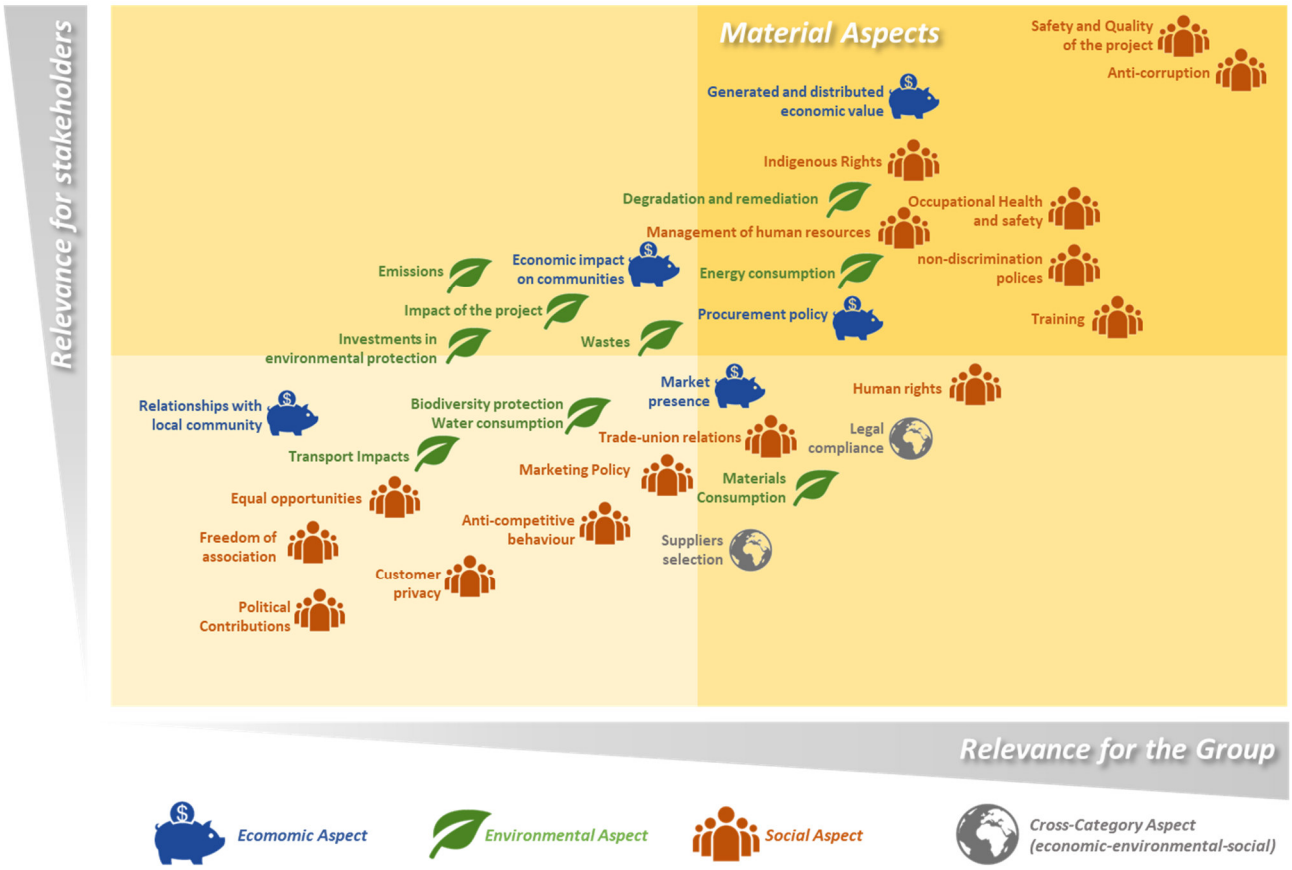
MATERIALITY ANALYSIS

Identifying material topics is the outcome of a process to identify, assess and classify in order of priority sustainability aspects that "matter" for stakeholders and that significantly impact the company's ability to create value in the short, medium and long term. In other words, it is the certainty that material topics for stakeholders are those issues that help stakeholders decide whether to invest in the company, creating value for the latter. Astaldi's materiality analysis is broken down into two stages:

- Identifying key topics for Astaldi: by studying the GRI-G4 guidelines and sector supplement on construction, the group identified 47 relevant topics to be included in the materiality analysis.
- Assessing the topics: with the help of management, the 47 topics were grouped together and assessed on the basis of two parameters: "materiality for stakeholders" and "materiality for the group",

For the purposes of understanding the group's sustainability strategy, "materiality for the group" is defined in terms of impact on strategy, reputation and financial performance, while "materiality for stakeholders" chiefly relates to the perception - made as objective as possible by combining internal and external data and information - that the company has of its role within the world where it operates over a period of time that more or less matches its strategic planning.

In this regard, the company identified 11 material topics set out in the materiality matrix below. Based on this selection, it defined the sustainability indicators aimed at establishing a relationship of credibility and transparency with society and achieving the highest level of compliance with the GRI-G4 guidelines. The sustainability committee periodically reviews the matrix.



Material topics for Astaldi

As a final analysis, in line with the group analysis described above, Astaldi's integrated management system also identifies specific topics and indicators for particular issues and related to specific expectations that are significant at local level (e.g., in given projects) and which, at local level, activates the collaboration and communication needed to pursue the goal of transparency and credibility that have been set by the group at all levels.

An association table is provided below linking the material aspects identified by the group through its materiality analysis to the aspects set out in the GRI-G4 guidelines to show the standard used in each case.

The table also explains how each aspect is significant within and/or outside the group. The full list of significant projects is available in § Methodology for reporting non-financial information.

Table 1: Association table linking the materiality matrix to GRI-G4 material aspects

Material aspects included in the sustainability profile	GRI-G4 material aspects	Materiality within the group	Materiality outside the group
Economic aspects			
Value generated and distributed	Economic performance	Astaldi Group	-
Procurement policy	Procurement practices	Corporate and significant projects	Sub-contractors and third parties in general working on significant projects
Environmental aspects			
Energy consumption	Energy	Significant projects	Sub-contractors and third parties in general working on significant projects
Degradation and remediation	Land degradation, pollution and remediation	Significant projects	Sub-contractors and third parties in general working on significant projects
Social aspects			
Human resources management	Labour practices and decent work - Employment	Corporate and significant projects	-
Occupational health and safety	Labour practices and decent work - Occupational health and safety	Corporate and significant projects	Sub-contractors working on significant projects
Training	Labour practices and decent work - Training and education	Corporate and significant projects	Sub-contractors working on significant projects
Non-discrimination policies	Human rights - Non-discrimination	Corporate and significant projects	Sub-contractors and third parties in general working on significant projects
Safeguarding indigenous rights	Human rights - Indigenous rights	Corporate and significant projects	Third parties identified in the group's code of ethics
Anti-corruption	Society - Anti-corruption	Astaldi Group	Third parties identified in the group's code of ethics and Anti-corruption system
Quality and safety of works	Society - Customer health and safety Society - Product and service labelling	Significant projects	-

STABILITY, LOOKING TO THE FUTURE

INTEGRATED BUSINESS MODEL

Astaldi's core business is construction, for which the group draws on its expertise acquired over the years. The business includes concessions and facility management, also through the contribution of companies such as Astaldi Concessioni and NBI.

Concessions and, more generally, facility management boost important growth in construction. Indeed, Astaldi's expertise in these fields means it can operate on its own, capable of both constructing and operating projects.

Astaldi is one of the world's leaders in the construction sector. The group is one of the top 30 contractors in Europe[8], mainly operating as an Engineering, Procurement and Construction Contractor, i.e., providing turnkey solutions that monitor and manage all stages of the works, from planning and procurement of the materials required to the actual construction.

Figure 2: The group's ranking by its different business segments according to "The Global Sourcebook 2017"

The group's construction portfolio is very varied. Transport infrastructure is its most important business segment, together with hydroelectric and energy generation plants and, civil and industrial construction. In recent years, Astaldi has entered into plant facility management, plant and engineering and complex system management through the strategic acquisitions of NBI S.p.A. and Sartori Tecnologie industriali S.r.l., further boosting its product portfolio.

In the concessions segment, Astaldi chiefly operates through its subsidiary Astaldi Concessioni S.p.A. in the motorway, airport, healthcare buildings and energy generation plant sectors. The works are generally built by Astaldi, implementing a development model where concessions prime the growth of the traditional construction business, with an additional contribution made by the O&M business segment.

[8] Source: The Global Sourcebook 2017, of ENR Engineering News Record, December 2017 – classifications based on 2016 turnover

2017, A COMPLEX YEAR LAYING SOLID FOUNDATIONS FOR THE FUTURE

2017 was a decidedly complex year from various points of view. The group tackled the situation by fielding all of its management's know-how and experience, succeeding in achieving notable operating results despite the difficult situation of its sector and related international instability.

The group has attained many industrial goals in the past 18 months, including the roll out of the Third Bosphorus Bridge in Turkey (the longest and widest hybrid bridge in the world), the Western High Speed Diameter of St. Petersburg, Russia, the Cerro del Àguila hydroelectric power plant in Peru, the Łodz-Fabricyzna Station in Poland, the Saida-Moulay Slissen railway line in Algeria and the high speed/capacity Naples-Afragola Station (stage 1).

The group implemented a strong commercial drive which led to new orders worth over €3.6 billion and launched the group into new areas such as Sweden, Georgia and the Far East. Given the current order backlog, this leads to optimism for future revenue which is more than 70% covered by contracts that have already been signed. Public and private contractors increasingly see the group as an international player of reference able to develop complex projects within the set costs and deadlines to high standards of quality.

Moreover, in 2017, the group implemented the O&M business segment which generated revenue of roughly €86 million and will drive the group's sustainable growth in the near future. The asset disposal plan continued successfully with the disposal of shares in the SPVs[9] for the contracts in Chile (Chacayes hydroelectric power plant and Felix-Bulnes hospital) and in Italy (Line 5 of the Milan metro and the four Tuscan hospitals).

In addition to these operating and ordinary results, the group recorded the non-recurring impairment of receivables in Venezuela which impacted the statement of profit and loss for the year. Total revenue for 2017 came to approximately €3.1 billion, up 2% on 2016 and more or less in line with forecasts.

EBITDA[10] amounts to €366 million with an EBITDA margin of 12%, significantly better than the results of other international players. EBIT[11] was impacted by the impairment loss on Venezuelan receivables and amounts to €76 million (net of the impairment loss, it would have amounted to €306 million, thus over 10% of revenue). The group's loss for the year is approximately €101 million (net of the impairment loss, it would have been a profit of roughly €104 million which shows the group's good profitability rate).

[9] SPV = special purpose vehicle

[10] EBITDA is calculated by deducting operating costs, personnel expense and other operating costs from revenue. It includes the group's share of the profits or losses of joint ventures and SPVs active in the group's core business.

[11] EBIT (net operating profit (loss)). It is calculated by deducting amortisation, depreciation, impairment losses and provisions as well as capitalised internal costs from EBITDA.

THE GROUP'S FINANCIAL HIGHLIGHTS

Table2: Key statement of profit or loss figures

€/000	2017	% of revenue	2016	% of revenue	Variation (%)
Total revenue	3,060,733	100.0%	3,004,255	100.0%	1.9%
EBITDA	366,376	12.0%	379,858	12.6%	-3.5%
Impairment (*)	(235,529)	-7.7%	(676)	0.0%	n.s.
EBIT	76,345	2.5%	316,973	10.6%	-75.9%
Profit (loss) attributable to the owners of the parent	**(101,175)**	**-3.3%**	**72,457**	**2.4%**	**n.s.**

(*) Figures including the effects arising from impairment of the financial assets in Venezuela - see the "Introduction" section of the Directors' report for more information

Table3: Key statement of financial position figures

€/000	2017	2016
Total net non-current assets	1,292,154	1,007,371
Operating working capital	553,262	804,861
Total provisions	(28,925)	(21,215)
Net invested capital	1,816,490	1,791,017
Total bank loans and borrowings/loan assets (**)	(1,267,049)	(1,092,532)
Equity attributable to the owners of the parent	518,740	692,384
Total equity	549,442	698,485

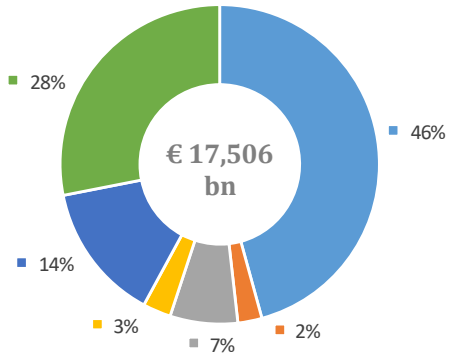
(**) Figures gross of treasury shares in portfolio equal to €3.1 million and €3.9 million at 31 December 2017 and 2016, respectively.

The strategy to diversify the group's geographical and business segments (greater focus on EPC[12] projects) is seen in the composition of the order backlog amounting to €17.5 billion thanks to new acquisitions worth roughly €3.6 billion. In addition, the group has potential orders[13] worth an additional €6.8 billion, which gives total orders of over €24 billion.

Results by business segment and geographical segment confirm the growth trends described above. The construction segment contributes over 97% of operating revenue (€2.8 billion, basically unchanged on 2016), while the remaining 3% (€86 million) is generating by the O&M business segment.

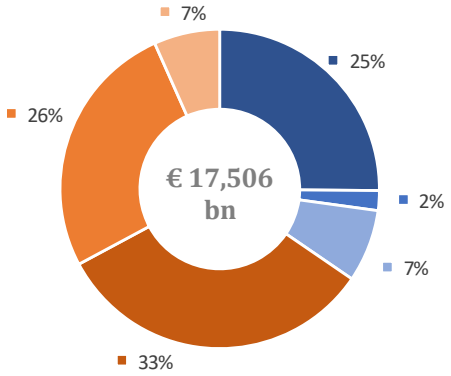
[12] EPC: Engineering, Procurement, Construction

[13] contracts acquired but for which conditions precedent have to be met (finalisation of financing, approval from various bodies, etc.) and, therefore, they cannot be recognised in the order backlog until the conditions are met.



Order backlog in execution by business line (€ Bn.)

	31/12/2017	31/12/2016	31/12/2015
Transport Infrastructures	8,009	7,740	7,665
Energy Production Plants	428	727	664
Civil and Industrial Construction	1,199	835	561
Plant Engineering	495	649	328
O&M	2,454	1,866	-
Concession	4,921	7,686	8,631
Order backlog in execution	**17,506**	**19,503**	**17,849**



Order backlog in execution by geographical area (€ Bn.)

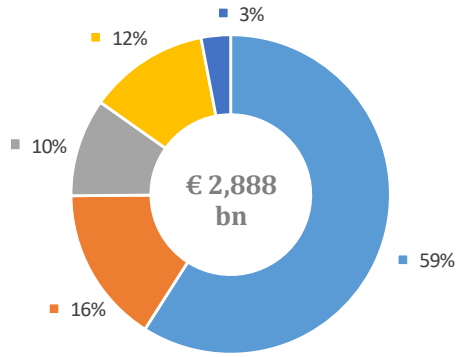
	31/12/2017	31/12/2016	31/12/2015
Italy - Construction	4,406	4,415	3,650
Italy - Concession	353	1,049	1,594
Italy - O&M	1,282	516	-
International - Construction	5,725	5,536	5,568
International - Concession	4,568	6,637	7,037
International - O&M	1,172	1,350	-
Order backlog in execution	**17,506**	**19,503**	**17,849**

Figure 3: Order backlog by business line and geographical area

This is due to the good results recorded in Italy on Line 4 of the Milan metro, the Brenner Base Tunnel, maxi lot 2 of the Qaudrilatero Marche-Umbria road network and the container terminal in the port of Taranto as well as the O&M activities for the Ospedale del Angelo in Venezia-Mestre and the four Tuscan hospitals, and abroad thanks to the speeding up of work in Canada (for the Muskrat Falls hydroelectric project after the agreements signed in November 2016 as well as the operations of TEQ Construction Enterprise), in addition to the positive contribution of its projects, specifically in Chile (the Arturo Merino Benítez International Airport in Santiago, where the first stone of the new terminal was laid in September, and the Chuquicamata mining project, partly as a result of the boost given by the review of the related contractual agreements in November 2016).

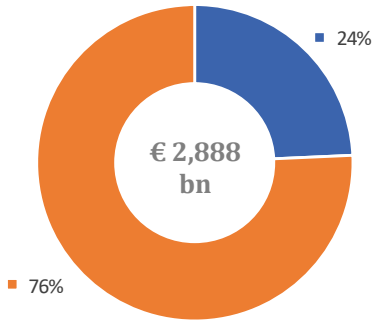
The construction sector generated revenue of €2.8 billion, driven by transportation infrastructure which accounts for 59% of operating volumes, followed by energy generation plants (€458 million or 16% of operating revenue), facility management and plant and engineering (€353 million or 12% of operating revenue), civil and industrial construction (€286 million or 10% of operating revenue) and O&M (€86 million or 3% of operating revenue).

The group's international vocation was confirmed in 2017. Indeed, its projects abroad account for roughly 76% of operating revenue (€2.2 billion), especially thanks to the positive performance of works in Europe and America. Moreover, operations in Italy are showing signs of revival, contributing roughly €700 million to operating revenue in 2017 compared to €450 million in the previous year.



Revenue by Business line (€ Bn.)

	31/12/2017	31/12/2016	31/12/2015
Transport Infrastructures	1,705	1,799	1,875
Energy Production Plants	458	406	425
Civil and Industrial Construction	286	283	240
Plant Engineering	353	344	166
O&M	86	20	24
Revenue	**2,888**	**2,852**	**2,730**



Revenue by geographical area (€ Bn.)

	31/12/2017	31/12/2016	31/12/2015
Italy	700	452	468
International	2,188	2,400	2,262
Revenue	**2,888**	**2,852**	**2,730**

Figure 4: Operating revenue by business line and geographical area

VALUE GENERATED AND DISTRIBUTED TO STAKEHOLDERS

The economic value generated and distributed is the measure of the wealth generated by the group during the year.

G4-EC1

ECONOMIC VALUE GENERATED AND DISTRIBUTED	In	2017	2016	2015
Economic value generated	**€/000**	**2,884,357**	**3,071,221**	**2,918,659**
Economic value distributed				
Remuneration of suppliers	€/000	(2,147,820)	(2,131,530)	(2,027,959)
Remuneration of venture capital	€/000	-	(20,003)	(19,671)
Remuneration of personnel	€/000	(637,800)	(620,173)	(552,111)
Remuneration of debt capital	€/000	(154,772)	(141,461)	(135,289)
Remuneration of government	€/000	(16,728)	(59,534)	(46,598)
Economic value kept at the group	**€/000**	**72,764**	**(98,521)**	**(137,031)**

In order to provide an ever-broader view of the group's economic effect - or rather, in economic terms - on the stakeholders that participate in distributing economic value, its financial figures have been reclassified according to criteria based on the standards for social reporting set by the study group for social reporting standards (GBS).

VALUE ADDED GENERATED	In	2017	2016	2015
A) Operating revenue				
Revenue	€/000	2,888,319	2,851,826	2,730,024
Other operating revenue	€/000	172,414	152,429	124,925
B) Operating cost				
Raw materials, consumables, supplies and goods	€/000	(369,803)	(449,134)	(456,635)
Services	€/000	(1,623,651)	(1,534,633)	(1,456,039)
Use of third party assets	€/000	(75,592)	(66,517)	(51,968)
Provision for risks	€/000	(5,097)	(3,999)	(4,060)
Other operating costs	€/000	(29,410)	(30,138)	(24,157)
Share of the profits of joint ventures, SPVs and associates	€/000	47,196	87,760	52,911
Gross core added value	**€/000**	**1,004,377**	**1,007,595**	**915,001**
Net exchange rate losses	€/000	(41,112)	(31,587)	(25,506)
Other financial income (expense)	€/000	3,704	(19,775)	(3,963)
Profit (loss) from discontinued operations	€/000	-	(19,865)	1,220
C) Net non-core and non-recurring expense	€/000	(37,408)	(71,227)	(28,249)
Gross total added value	**€/000**	**966,969**	**936,368**	**886,753**
Amortisation, depreciation and impairment losses	€/000	(284,933)	(58,885)	(74,897)
Net total added value	**€/000**	**682,036**	**877,482**	**811,856**

VALUE ADDED DISTRIBUTED	In	2017	2016	2015
A) Remuneration of personnel	€/000	637,800	620,173	552,111
B) Remuneration of government	€/000	(12,809)	43,217	44,951
of which current taxes	*€/000*	*16,728*	*59,534*	*46,598*
of which deferred taxes	*€/000*	*(29,537)*	*(16,317)*	*(1,648)*
C) Remuneration of debt capital	€/000	154,772	141,461	135,289
D) Remuneration of venture capital[14]	€/000	-	20,003	19,671
E) Remuneration of the company	€/000	(97,727)	52,628	59,835
F) Charitable donations	€/000	-	-	-
Value added distributed	**€/000**	**682,036**	**877,482**	**811,856**

[14] Dividends distributed to Astaldi shareholders and third parties - for the portion of dividends of Astaldi S.p.A.. The amount shown refers to that resolved by the shareholders at their meeting held to approve the financial statements for various years

THE DRIVERS OF OUR GROWTH

RELATIONSHIPS OF TRUST WITH PARTNERS AND SUPPLIERS

The Astaldi Group contributes to creating value, advancing specialist ideas and expertise also through its network of partners and suppliers. In managing its relationships with these parties, Astaldi draws on the principles set out in the code of ethics and requests conduct in line with its principles, in more serious cases punishing any violations by activating the withdrawal clause.

In both Italy and foreign countries, the group often operates through partnerships with other industry players who are chosen with the objective of ensuring maximum competitiveness on the various markets it intends to operate on.

In selecting its partners, the group screens the characteristics of possible candidates on the basis of their reputation, industrial criteria (technical abilities, experience in the relevant business, qualifications held, etc.), performance (revenue recorded in recent years, proven by their financial statements, etc.) and, finally, financial aspects (financial solvency, etc.). Partnership proposals are approved by top management before definitively choosing partners.

The group's main partnerships are:

- Italy: Salini-Impregilo, Ansaldo STS, Ghella
- USA: OHL - Obrascón Huarte Lain
- Chile: Vinci Grand Projets
- Peru: Obrainsa
- Poland: Gulermak
- Romania: FCC Construcción, Max Bögl
- Turkey: IC İçtaş, Nurol, Gocay, Ozaltin, Makyol, Turkerler, Kalyon

Just like partners, Astaldi's suppliers and independent contractors are valued allies in the group's growth. Astaldi has over 1,600 suppliers and independent contractors in its vendor list, in addition to approximately 1,400 suppliers and independent contractors which have applied to qualify. In 2017, orders[15] worth over €720 million were issued.

SUPPLIER BREAKDOWN AS PER E-PROCUREMENT PORTAL AT 31/12/2017

	Independent contractors	Supplies	Engineering	Logistics	**Total**
Authorised suppliers	600	491	237	54	**1,382**
New-cos	91	58	51	6	**206**
Not qualified	2	36	24	0	**62**
Qualified	523	302	34	10	**869**
Qualified with conditions	227	224	79	7	**537**
Total	**1,443**	**1,111**	**425**	**77**	**3,056**

[15] Total amount at group level

E-procurement at Astaldi

Astaldi's management of its register of suppliers via the e-procurement portal is based on two main processes:

- qualification (estimated rating): this consists in assessing, on the basis of a series of pre-defined criteria (financial data, quality certificates, safety and environment indexes and certificates, code of ethics, references, etc.), a supplier's potential, expertise and prior experience using information and documents provided as part of the qualification survey specifically prepared by Astaldi and found in the databases of business information agencies.
- performance assessment (actual rating): this consists in examining, on the basis of a series of pre-defined criteria, of the qualitative and temporary performances of the main suppliers that have provided services/carried out works or supplied materials/plant/machinery. The performance assessment is carried out via the supplier and independent contractor monitoring form (EFSM) compiled by the manager in charge of the project involving the supplier.

Depending on the results of the qualification and/or the performance assessment, each supplier included in the register is allocated a rating (from 0 to 100) and classified as follows:

- qualified (score of 60-100);
- qualified with conditions (score of 40-59);
- not qualified (score of 0-39).

The health and safety of employees and consultants and the protection of the environment are of fundamental importance for Astaldi. Therefore, anyone working for the group must meet strict HSE standards. Working with suppliers in line with group standards is a primary objective for Astaldi and it is a selection criterion applied right from the qualification and selection stage. To this end, within the qualification surveys, the sections linked to safety and the environment overall account for 35% of the estimated rating assigned and mainly relate to:

- having ISO 14001 and OHSAS 18001 certificates for environment and safety in the workplace, respectively;
- having any HSE disputes underway;
- injury rates in terms of frequency and seriousness of injuries;
- internal organisation and number of workers employed in the health and safety and environmental departments;
- the amount of fines incurred by the supplier in relation to health and safety and the environment (over the past three years);
- number of serious and fatal accidents (over the past three years);
- implementation of organisational and management tools (such as improvements and training on health and safety and the environment).

In this regard, the possibility to build relationships of trust with solid, transparent counterparties is considered a priority. The suppliers and independent contractors are selected by assessing their financial statements, with particular focus on their financial soundness, expertise and experience in their specific business market, in order to check that they meet the requirements in terms of managerial ability, technical skills and ability to fulfil commitment undertaken. The current system uses an e-procurement portal which is used to manage the supplier register, along with the supplier qualification process, performance assessment and rating.

Selecting partners and suppliers G4-EC9

The group's commercial partners, main suppliers, contractors and independent contractors must act in line with the general principles of the code of ethics and the Integrated policy, as well as complying with specific cultural and social aspects of the countries where the Astaldi Group operates.

Astaldi uses a system to manage suppliers and independent contractors who are selected via a pre-selection and assessment process (described in § E-procurement at Astaldi) based on parameters of expertise, experience and financial soundness. The aim of this process is to check that they meet Astaldi's minimum requirements in relation to managerial, technical and practical skills, financial soundness and experience gained with the Astaldi Group and the market in general. Signing the code of ethics is a mandatory condition in agreeing contracts, as is compliance with general and specific standards related to health and safety and environmental requirements adopted by Astaldi S.p.A..

In line with its mission, the Astaldi Group strives to satisfy and exceed its customers' expectations, also contributing to the well-being of the countries where it operates. In this regard, Astaldi has grouped procurement categories into two macro-groups called "global categories" and "local categories". The latter group refers to those for which Astaldi tends to favour commercial relations with local companies from where the works are being carried out, also based on the composition of the local supply market and the characteristics of the goods to be purchased.

Local acquisitions - 2017 G4-EC9

	% of procurement
Italy	98.8%
Poland	83.6%
Romania	97.3%
Turkey	98.4%
Algeria	90.0%
USA	100.0%
Canada	99.0%
Central America	93.2%
Chile	98.6%
Peru	93.6%
Total	**96.6%**

INNOVATION

Innovation is a distinctive trait. Astaldi promotes research programmes, also in partnerships, aimed at fine-tuning and upgrading group techniques and processes. Astaldi believes that progress is not only dictated by economic factors, but also by culture and knowledge. Sharing the expertise that makes Astaldi and Italy points of reference in the field of engineering, in all of the countries where the group operates, is a fundamental value. The group has always worked hard at finding engineering and managerial solutions that promote the social fabric of the countries where it operates, passing on innovative construction and processing techniques to its local partners which they can then apply to planning and executing other works, even those not managed directly by Astaldi.

Astaldi's engineering segment is the group's promoter and point of reference in collecting and centralising know-how. This means it is able to identify potential technical or application methods, products and process of interest, searching for innovative solutions to use in individual projects. Its collaborations with universities are detailed below.

Research programmes with universities

La Sapienza University, Rome (Structural and geotechnical engineering department)

The scope is researching and experimenting with conditioning agents in tunnelling with TBMs[16] with EPB[17] method. In tunnelling with the machine, the purpose of using foams to condition the ground is to facilitate tunnelling in soft, permeable ground, to avoid the earth turning into paste, keeping the shield and excavation chamber free. During the tunnelling, the foam reduces friction between particles to be removed from the front and carried away by the screw conveyor to the belt conveyor and acts as lubricant between the soil and the shield's metal parts and excavating tools, improving the performance of the machine and reducing wear and tear of the metal parts. The research examines the main foam manufacturers, comparing them with the excavation earth to establish the best usage ratio and thus deduce the costs and benefits on the contract. In 2017, the scope of the collaboration was expanded by introducing strictly environmental issues, such as the foam's decomposition time in the tunnelling site and the environmental effects of the residues.

Tor Vergata University (Materials and concrete laboratory)

Astaldi commenced a collaboration with the Tor Vergata University aimed at acquiring know-how about steel fibre reinforced prefabricated segments for TBM tunnel cladding. Though such technology is being used with increasing frequency in certain geographical areas (especially the UK and the Middle East), it has not yet been applied in Italy. Therefore, an essential part of the collaboration is obtaining authorisation from the Superior Council of Public Works to use the technology to build Line C of the Rome metro.

Also as part of its innovation focus, Astaldi supports postgraduate masters courses via financial sponsorships, didactic contributions, logistical support (opportunities to visit work sites) and internships for masters students. The group's current collaborations are the following:

- La Sapienza University, Rome - Masters in Geotechnical planning (II level university masters coordinated by Salvatore Miliziano - Structural and geotechnical engineering department). This collaboration has now reached its sixth consecutive year. The results achieved include the employment of numerous masters graduates by Astaldi.
- Università degli studi, Turin - Tunnelling And Tunnel Boring Machines (postgraduate masters directed by Daniele Peila). This collaboration begun in 2017 and will continue into 2018.

[16] Tunnel Boring Machine

[17] Earth Pressure Balance

Among the innovations already present on the market, the Building Information Modelling (BIM) project plays a strategically important role. BIM is a method used to manage the life cycle of a project, from design to construction to usage, which uses innovative IT tools for 3D and 4D modelling. The tool enables users to simulate the construction and operational stages, thus making adjustments and improvements in advance. It also gradually collects all the information relevant to the project in a single database as it progresses.

The BIM methodology

The Astaldi Group has been systematically applying BIM methodology to manage numerous projects all over the world for the past few years.

The main uses of BIM are listed as follows:

a) 3D design development: an essential part of a BIM project where a 3D model of the project is created. Each 3D object comprising the model is fitted with an information store containing all of its characteristic technical data.
b) Animations: the BIM model can be imported into virtual reality software that creates realistic pathways inside and outside the work.
c) Design coordination: using clash detection tools to automatically detect collisions.
d) Engineering analysis: using 3D models as the basis for energy, structural, lighting, etc. analyses.
e) 4D simulation of construction sequences: 3D animations can be made of construction sequences by importing a time schedule into a simulation software.
f) Virtual work site: by introducing 3D objects such as provisional works, safety systems, pollution reduction works, equipment and machinery, scenes are simulated in order to fine-tune and optimise processes linked to site activities.
g) Quantity take-off: the computerised 3D model is tested to deduce the quantity of components and materials needed, e.g., for procurement or project control purposes.
h) Facility management: the components of the 3D model are computerised with data that are useful for carrying out operational and, especially, maintenance activities. The model can be imported into software platforms for the operation/maintenance of the buildings.

By implementing the BIM, Astaldi aims to innovate its organisation and relevant operational processes and make them fully effective. To this end, in early 2018 a guide to implementing a BIM Execution Plan was uploaded onto the group's infranet, along with a procedure containing criteria for measuring the progress of project planning made using the BIM method.

Again with the aim of sharing and spreading know-how and expertise, the group has agreed collaborations with top Italian universities (La Sapienza University, Rome; Federico II University, Naples; Milan Politecnico) providing internships for BIM management masters students at Astaldi.

The integration of technologically innovative tools, aimed - also as part of the 4.0 industry - at further improving productivity and working conditions, in addition to the quality of projects, led the group to launch a review in 2017 of industrial processes by applying BIM methodology to both operating and support processes (e.g., construction management, project control, procurement, engineering, HSE management).

In closing, the group actively participates in the SMaRT project, a unique four-year training and interdisciplinary and cross-sector research programme that tackles the mitigation of sand around railway tracks in arid regions all over the world. The aim of the project is to develop standardised techniques for assessing the risks related to sand for railway tracks, conceive new and effective measures to mitigate sand and assess their performance by using innovative computerised simulations

and field testing. This project has received funding from the European Union's Horizon 2020 research and innovation programme under the Marie Sklodowska-Curie Actions grant no. 721798.

The SMaRT project

A multidisciplinary and cross-sector team from two top research universities (Turin Politecnico and the University of Oxford) and a highly-qualified consultancy firm (Optiflow) are involved in the SMaRT project.

Innovative motivations: in the last decade, a growing number of railways and other civil and industrial infrastructure has been designed and/or built in arid regions worldwide. Significant investments are being made: middle-eastern countries have allocated approximately USD259 billion to build 40,000 km of railway tracks up to 2030. An increasing demand for designing, building and maintaining such railway networks is expected for the next 20 to 30 years and the European industry offers top global experience in designing railway lines thanks to its long-term engineering tradition and experience.

In arid environmental conditions, windblown sand can have significant undesired effects in terms of safety (sand accumulating on the railway tracks can lead to unmoving trains being trapped or moving trains being derailed) and maintenance of the railway infrastructure, thus increasing costs.

Objectives: SMaRT aims to innovate the field of research on sand mitigation, by:

- developing knowledge in the main scientific sectors involved (fluid and granular mechanics, wind engineering, wind geomorphology) and converging it in a multidisciplinary approach for planning and analysis;
- generating a computational engineering approach to planning sand mitigation measures;
- developing a new approach to modelling and simulating the multiphase wind-sand interaction system;
- designing operating procedures and standard skills for operating design, assessing sand mitigation measures and performing field tests thereon.

National patent application: on 13 May 2015, Turin Politecnico filed an international patent application via the PCT procedure[18]. On 8 March 2016, the International Searching Authority provided the Politecnico with the PCT international search report. The "national phase" of the patent begun on 13 November 2017. The Turin Politecnico and Astaldi announced their intention to apply for patents in one or more PCT contracting states; specifically, the patent is valid until 13 November 2019 in Algeria, Iran, Namibia, United Arab Emirates, Saudi Arabia, Qatar, Oman and Kuwait.

CONTINUOUS PERFORMANCE IMPROVEMENT

Astaldi has adopted an integrated QHSE management system certified for all activities right from the planning stage. To ensure compliance with group standards and the highest international standards, Astaldi assigns roles and responsibilities to personnel with adequate expertise and training who manage all stages and aspects of the project, especially focusing on the organisational, operating, decision-making and control stages.

Once more in 2017 the group worked on continuously improving its management system, focused on excellence and responsibility. Like every year, it set improvement objectives in relation to quality, health, safety and the environment via projects and initiatives developed at both contract and corporate level. Audit activities performed on the group's integrated management system by a third-party independent international body confirmed the validity of its certificates of compliance with ISO 9001, ISO 14001 and OHSAS 18001 standards.

The operating and support processes of the contracts are formulated using project management methods (§ Organisation, expertise and performance), ensuring compliance with project deadlines,

[18] priority number 2015WO-IT00129 - title "A deflecting module for an anti-sand barrier, a barrier thus obtained and a protection method from windblown sand"

costs and quality. This ensures that large works are completed in a manner that not only satisfies the customers, but all stakeholders including the end users.

Indeed, Astaldi guarantees steady, ongoing interaction with customers[19] over the entire life cycle of the projects, protecting their interests through performance quality, technical support in planning and implementing projects, the availability of high-level technical and constructing skills and meeting deadlines.

The importance of service quality in the concessions segment G4-PR4

The service quality of Astaldi Group's concessions takes on a prominent role in the healthcare sector in terms of both the extent of value distributed in the area and the significant of activities performed. Such activities comprise providing (both hard and soft) technical and support services for healthcare activities performed by the public health service.

The group companies that develop these activities through the subsidiary Astaldi Concessioni S.p.A. operate according to high operating standards in order to support an optimal level of service supplied by the public health system and ensure expected health-related results are obtained.

Thanks to the integrated management system compliant with ISO 9001 quality standards, group companies can identify both risks (supplying non-compliant and/or inadequate services, health and safety or environmental incidents) and opportunities (improving service quality, high level of customer satisfaction) associated with activities performed and interlinked with the local area where the service is being provided.

The strict procedures implemented enable the group to manage risks and seize opportunities using an approach that is essentially broken down into two branches:

- Quality control – via a dashboard of indicators and related operating thresholds – of the operating and support processes related to the activities carried out under concession, enabling the group to pre-empt the impact of the services provided in a timely manner
- Customer satisfaction surveys, also distributed through providers, consolidating the results for the purposes of periodic review and adopting relevant actions to improve the group's quality management system.

This approach creates a communication interface focused on fair and transparent dealings with the customer and the end user, whose satisfaction is the end goal of the health service.

[19] Astaldi's customers are mostly public or public-sector bodies (Ministers of Infrastructure and Transport, local and regional health units, municipally-owned companies, other local and public bodies), in addition to private bodies (infrastructure sector operators and public-private partnerships)

FOCUS ON INDIVIDUALS

WORKER PROFILE

Employees and workers are one of Astaldi's assets. The group's aim is to establish a positive environment centred on the individual, directed at attracting the best talent and helping them grow in a dynamic and efficient work environment, by watching over the health and safety of workers and implementing widespread career development and training programmes.

Average workforce[20] **G4-10**

	In	2017	2016	2015
Breakdown by geographical segment				
Italy	**no.**	**1,509**	**1,404**	**1,400**
Abroad,[21] of which:	**no.**	**11,964**	**13,526**	**13,125**
Poland	no.	700	597	539
Romania	no.	771	758	913
Turkey	no.	1,319	1,565	1,780
Algeria	no.	639	1,120	1,395
USA	no.	262	303	250
Canada	no.	1,876	1,793	1,478
Central America[22]	no.	1,036	601	679
Chile	no.	2,046	2,567	1,693
Peru	no.	714	976	2,118
Breakdown by employee category				
Managers	no.	346	366	360
Middle managers (only Italy and expatriates)	no.	268	250	229
Staff employees (white collars)	no.	4,505	4,868	4,356
Craft employees (blue collars)	no.	8,354	9,446	9,580
Breakdown by contract				
Local personnel – Italy	no.	1,509	1,404	1,400
Expatriated personnel	no.	418	420	407
Local personnel – abroad	no.	11,546	13,106	12,718
Total workforce	**no.**	**13,473**	**14,930**	**14,525**

The average number of Astaldi group employees was 13,473 in 2017, with 90% employed in foreign countries. The slight decrease on the previous year is chiefly due to the drop in craft employees following new contracts requiring less direct labour. The qualitative change in the workforce of corporate departments continued with an overall turnover rate of 18.9%, leading to a total 73.5% change combined with the previous two years.

The group keeps two basic objectives in mind when selecting and assigning employees for projects:

[20] In accordance with the principle of substance over form, considering the irregular trends of site work, the average number of employees of group companies is provided, though not required by GRI-G4 guidelines. Furthermore, in order to best represent social and environmental trends, the figure includes the entire workforce of the group company even when it is not fully consolidated and, therefore, does not match the consolidated financial statements figure despite referring to the same companies.

[21] The number of foreign personnel also includes those from out-of-scope geographical segments.

[22] Central America includes in-scope countries (§ Reporting scope)

1. Ensuring that a portion of employees belong to the local communities, thus generating benefits for the economy of the region (or entire country) where the group is operating, and simultaneously ensuring an indirect positive impact on the economy which is vital for the group's economic influence from a sustainable development point of view.
2. Ensuring the spread of the Astaldi Group's values and knowledge along with its integrated management approach to business, a distinctive feature of the Astaldi trademark worldwide, by sending employees to work abroad.

Breakdown of personnel by contract and gender (at 31/12/2017) **G4-10**

	Employees at 31/12/2017	Contract type (%)			Gender (%)	
	(no.)	Permanent	Temporary	Other types	Men	Women
Italy	1,496	94%	6%	~0%	87%	13%
Poland	867	20%	79%	1%	70%	30%
Romania	745	64%	36%	0%	80%	20%
Turkey	540	99%	0%	1%	86%	14%
Algeria	433	5%	95%	0%	97%	3%
USA	207	100%	0%	0%	85%	15%
Canada	797	99%	1%	0%	86%	14%
Central America	1,191	78%	21%	1%	91%	9%
Chile	3,981	81%	17%	2%	95%	5%
Peru	977	3%	6%	91%	95%	5%
Total	**11,234**	**69%**	**22%**	**9%**	**89%**	**11%**

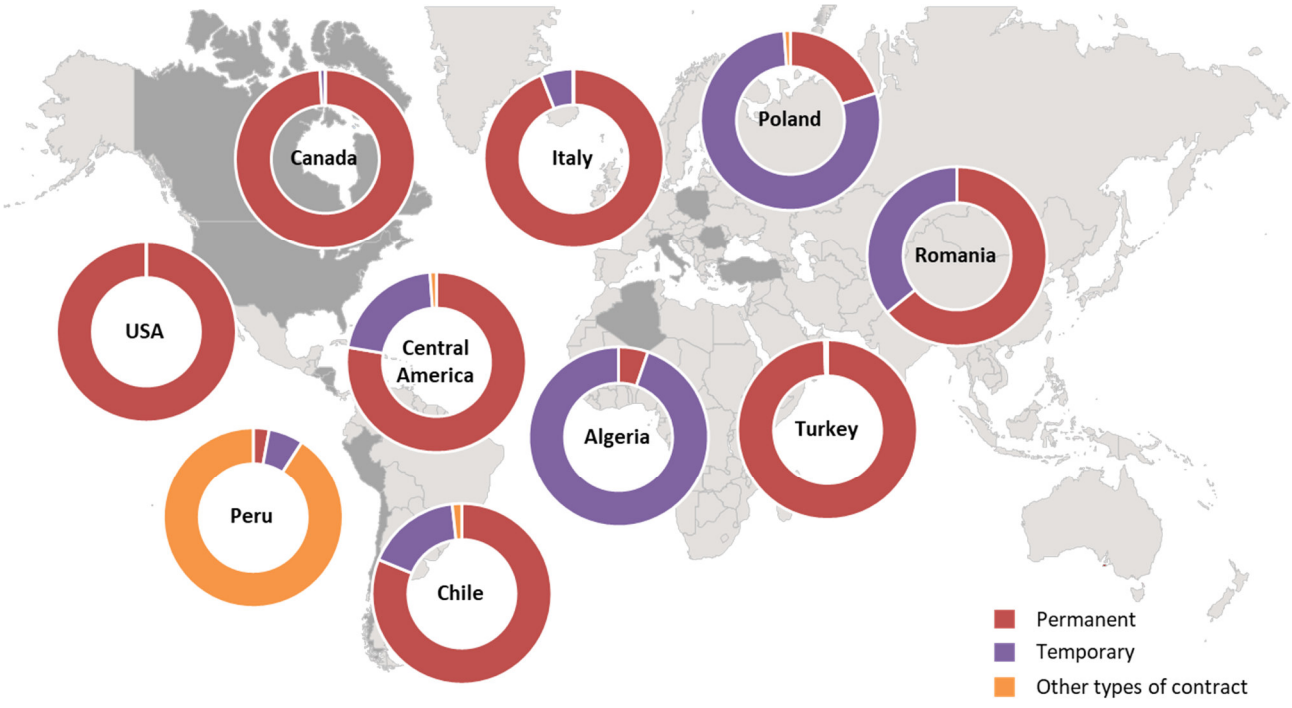


Figure 5: Employees by type of contract (at 31 December 2017)

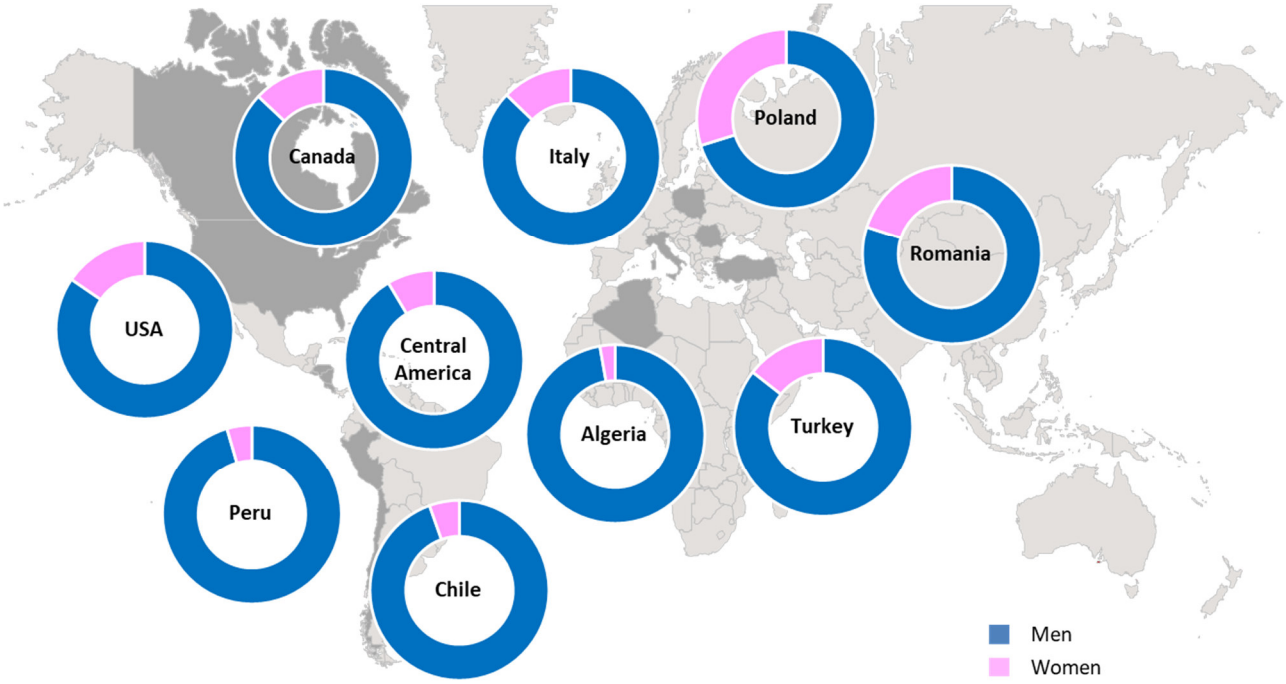


Figure 6: Total employees (expatriates and locals) by gender (at 31 December 2017)

In terms of gender, the construction segment typically employs a low percentage of female personnel compared to other segments. Astaldi considers this trend to be mainly due to the geographical location of its projects and the socio-cultural context in the countries where the group operates. With regard to the workforce as at 31 December 2017, the total percentage of women was roughly 11%.

Considering the individual areas (also including expatriated personnel), countries with the highest percentage of female personnel in the workforce are Poland (30% of the workforce), Romania (20% of the workforce) and the USA (15% of the workforce).

Breakdown of personnel by employee category (at 31/12/2017)

	Managers	Middle managers / staff employees	Craft employees
Number of employees	246	3,973	7,015

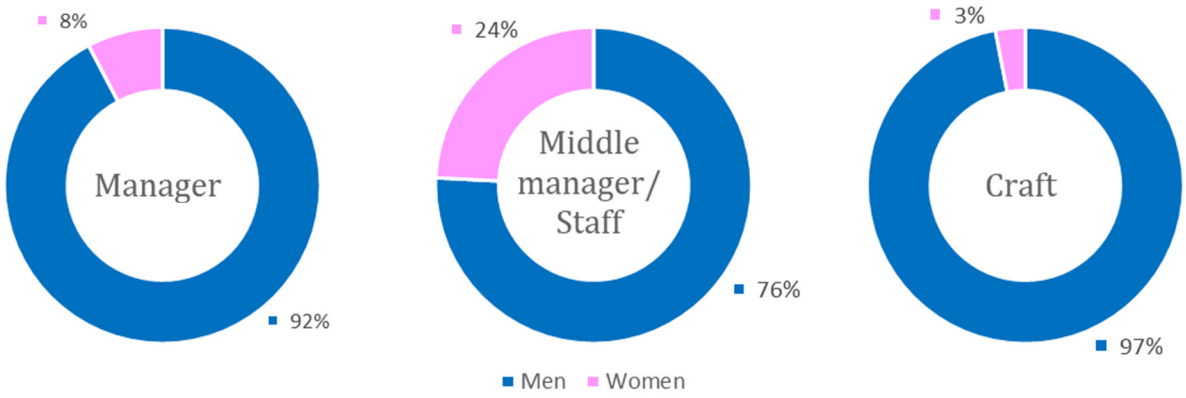


Figure 7: employee categories by gender (at 31 December 2017)

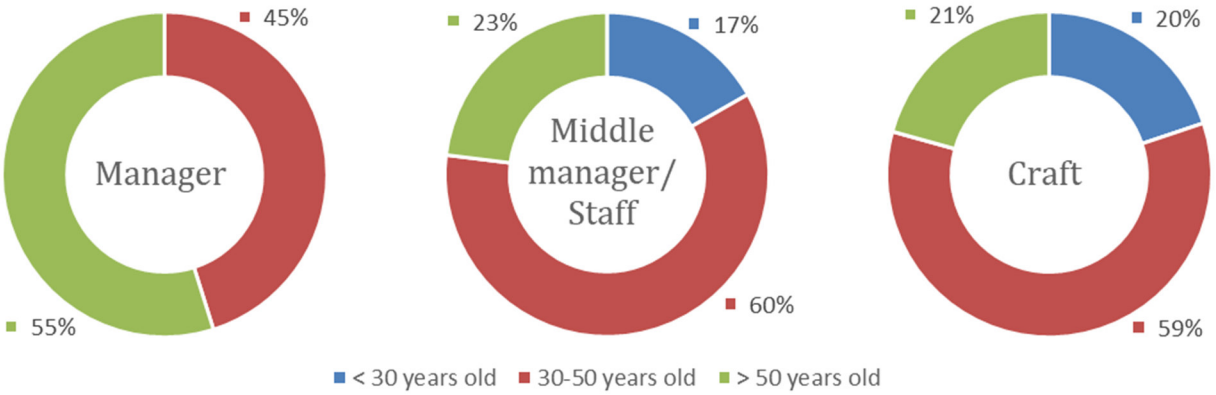


Figure 8: Employee categories by age group (at 31 December 2017)[23]

Welfare of workers G4-LA2

Astaldi implements an internal welfare system that provides for various types of benefits and services in order to support employees beyond the professional sphere.

Accommodation: contract workers who do not live within 25 km of the municipality of the work site are guaranteed accommodation in the housing at the base camps. If there is no such housing, they are assigned accommodation at private residences and houses. For employees of corporate offices, accommodation is only assigned in particular cases and for limited periods of time.

Food: a canteen service is guaranteed for all personnel, favouring the direct supply of meals at logistics camps or corporate offices. Where this is not possible, the supply of food is guaranteed through special agreements with public catering businesses or the distribution of meal vouchers.

Cars: company cars for personal and business use are assigned to employees on the basis of their category and position according to a formalised assignment policy.

Death and permanent disability insurance: managers are guaranteed coverage by an insurance policy that pays out an amount defined by the relevant national labour contract in the event of death or permanent disability (for causes other than injury or occupational disease). Moreover, further to the provisions of the national labour contracts, there is an additional policy in place that supplements the amount set by such contract in the event of death.

Occupational and non-occupational injury insurance: expatriated personnel and managers, middle managers and staff employees employed in Italy are covered by an insurance policy against occupational and non-occupational injuries that ensure pay-out in the event of partial or total permanent disability.

Health insurance: middle managers and staff employees employed in Italy are covered by a health insurance policy that ensures a health assistance programme, different for each category, with reimbursement of expenses incurred within the set maximums.

Health insurance for expatriated personnel: expatriated personnel are covered by an international health insurance policy that ensures reimbursements of expenses incurred all over the world, medical evacuation, medical repatriation and hospitalisation in cases of emergency.

[23] Figures do not include a breakdown of local US personnel by age bracket in accordance with the standards of the U.S. Equal Employment Opportunity Commission and the assessments supporting the published data were performed excluding such information.

Parental leave (at 31/12/2017) G4-LA3

	Number of employees	Men (%)	Women (%)
Personnel who took the parental leave	177	78%	22%
Personnel who returned to work after the parental leave ended	162	83%	17%
Personnel who were still employed 12 months after its return to work	67	66%	34%

	Overall	Men	Women
Return to work rate	97.0%	99.3%	87.1%
Retention rate	35.8%	27.0%	95.8%

HEALTH AND SAFETY: APPROACH, OBJECTIVES AND RESULTS

Protecting human resources is one of the basic principles of the group's code of ethics. The safety, health and well-being of employees and all the people who work for Astaldi in any capacity are fundamental values of Astaldi's mission. Accordingly, carefully planning activities and implementing adequate prevention measures are key components in achieving the goal of "zero accidents".

In this regard, a shared "safety culture" is built by developing awareness and promoting responsible behaviour. All health and safety processes are thus directed at identifying and defining the following:

- risks for workers linked to their specific activities;
- standards and operating instructions for prevention and protection;
- training requirements on safety issues and relevant training methods;
- timeframes, roles and responsibilities for periodic inspections and supervision;
- monitoring and review mechanisms.

Employee awareness of and participation in day-to-day health and safety management is one of the prerequisites for implementing the principles of the sustainability policy. This is attained through an ongoing effort of informing, training [24]and involving individuals, awarding those who effectively implement measures to reduce risks and improve performance in relation to health and safety in the workplace.

Promoting safety at all levels

Health and safety in the workplace are crucial values for Astaldi that considers them strategic and an integral part of business. The spotlight is constantly shone on these values so that everyone is focused and determined to reach the group's objectives.

When this occurs, the success of each production unit reflects on the value, image and reputation of the entire company.

This is why group top management also rewards those who strive to reach excellent results, presenting an award and plaque each year to the project teams that achieve the top performances in health and safety in the workplace during the year.

Periodic checks of the correct implementation of these processes detect any deviations from the group's principles and policies and enable the group to activate suitable remedial and preventive actions to manage any such deviations. Indeed, the concept of ongoing improvement is based on the assumption that all processes can be improved and the linchpin of Astaldi's management system is carrying out constant checks and reviews to improve performance overall.

[24] Reference should be made to § "Personnel development" for information on training in health and safety

Monitoring third parties' HSE performance

Checks on third-party companies working on Astaldi group projects in any capacity comprise daily safety walk-throughs and periodic audits on a sample basis and annually planned audits depending on the critical nature and level of risk associated with the activities.

350 internal audits on HSE management were carried out on projects in 2017, with 206 focused on health and safety in the workplace, 118 on the environment and 26 were integrated (sometimes also checking the quality component of the integrated management system).

The audits comprise checking requirements, also by project HSE departments, and assessing the performance of third parties working at group sites, in order to:

- check that activities are being performed in line with the operating instructions and Astaldi operating standards;
- ensure that activities are managed in compliance with the requirements defined by the group;
- promote ongoing improvement of the supplier's performance;
- stimulate development and preservation of a safety culture by suppliers.

The criteria for assessing third parties' HSE performance are based on contractual requirements (which provide for clauses on safety and environment management) and specific operating instructions in line with the demands and specific activities of the site.

The audit results are also used as a basis for periodically assessing supplier performance which is carried out according to the methods described in § Relationships of trust with partners and suppliers. The audit results are used to define the criteria for continuing the partnership relationship and, in more serious cases of non-compliance, penalties may be incurred, activities may be suspended for a limited period of time or the supplier may be taken off the vendor list.

Prevention measures are based on the idea that unsafe behaviour is not determined solely by real conditions of danger, but even just perceived danger. This is why Astaldi is always on the lookout for on-site tools that keep attention levels high and prompt ongoing discussion on work methods and standards.

Astaldi sets, monitors and periodically updates specific targets for health and safety issues in line with the "zero accident" philosophy of every project.

Review of personnel and health and safety objectives

As proof of the integration of health and safety issues into the group's business, Astaldi's MBO system for key management personnel also includes performance indicators (KPIs) related to safety in the workplace.

These safety objectives are closely linked to injuries recorded during the year and are set annually by group management according to its ongoing improvement approach. Therefore, thanks to an MBO bonus scheme for managers, objectives related to safety in the workplace are supported by the company bonus system.

Classification of injuries G4-LA6

		Direct personnel			Third-party personnel		
	In	2017	2016	2015	2017	2016	2015
Breakdown of injuries at work by type							
Work-related fatalities	no.	0	2	1	3	1	5
Lost time injuries	no.	75	144	234	186	154	70
Injuries - medications	no.	222	413	813	357	224	65
Total number of injuries	**no.**	**297**	**559**	**1,048**	**546**	**379**	**140**
Restricted work cases							
Total restricted work cases	no.	66	95	145	1	7	39

Communication and analysis of serious injuries

Astaldi monitors serious injuries involving all project personnel, including those of independent contractors.

In the event of serious injuries, the production units promptly activate the flow of information to the relevant corporate services and the ethics committee of Astaldi S.p.A. to be forwarded on to the supervisory body, in order to proceed with analyses and activate any disciplinary measures. In more critical cases, the analysis of the injury and implementation of remedial actions are carried out by a team who, together with the project management, directly involve certain corporate functions. The same is performed at group companies.

In order to improve the group's health and safety performance, notwithstanding its commitment to the target of zero lost days on all contracts, each year Astaldi sets itself the goal of gradually reducing the frequency and severity of injuries in the workplace, using summary performance indexes. The group's performance in terms of safety is mainly measured using indicators that highlight the frequency and severity of injuries. Such indicators are called the frequency rate F_A[25] and severity rate S_A[26]. The former calculates the rate of the number of injuries against hours worked, while the latter shows the severity of injuries by monitoring the number of days the injured person is absent from work.

In order to paint a complete picture of injury rates along the entire value chain, Astaldi extended the monitoring of these injury indicators to all individuals working on projects, including third parties working for the group in any capacity. The extension of the monitoring to third parties is also an important tool that enables the group to take action should their performance fall short of group objectives.

[25] The frequency rate is the ratio of the number of injuries causing absence from work for at least one day and restricted work cases to hours worked. The frequency rate is defined and calculated as follows

Frequency rate= [(lost time injuries + work-related fatalities + restricted work cases) x 1000 000] / hours worked

where *restricted work cases* are defined as injuries in the workplace which leads to restricted work or change of duties, but that do not imply death or days of absence from work.

[26] The severity rate is defined as the ratio of actual days of injury with inability to work at least one day or temporary change of duties to hours worked. The severity rate is defined and calculated as follows:

Severity rate = [(number of days lost + number of restricted workdays) x 1000] / hours worked

where the *number of restricted workdays* is the total number of days of restricted work or change of duties (consecutive or non-consecutive), excluding the day of the injury. Lost days and restricted work days are calculated as calendar days.

Injury indicators

G4-LA6

	Direct group personnel			Direct group personnel and third-party personnel		
	2017	2016	2015	2017	2016	2015
FREQUENCY RATE						
Astaldi Group	**6.75**	**10.86**	**16.31**	**7.45**	**9.67**	**8.73**
Italy	13.26	14.76	24.63	11.65	16.39	12.94
Poland	0.83	2.33	5.91	2.00	2.02	2.96
Romania	0.00	0.00	1.40	2.10	2.73	1.79
Turkey	8.64	1.11	5.89	11.12	6.64	3.64
Algeria	4.71	20.02	33.02	3.90	14.25	27.22
USA	12.53	16.43	29.84	9.78	12.01	2.31
Canada	14.37	22.35	28.49	13.08	21.48	7.16
Central America	6.79	7.03	16.02	6.70	6.78	14.59
Chile	2.22	5.93	4.47	7.64	7.71	3.91
Peru	2.16	6.06	10.95	1.98	6.37	6.00
SEVERITY RATE						
Astaldi Group	**0.17**	**0.26**	**0.36**	**0.17**	**0.24**	**0.22**
Italy	0.43	0.84	1.03	0.51	1.08	0.60
Poland	<0.01	0.03	0.11	0.03	0.02	0.03
Romania	0.00	0.00	0.03	0.14	0.11	0.03
Turkey	0.10	<0.01	0.03	0.13	0.04	0.06
Algeria	0.06	0.46	0.86	0.04	0.35	0.67
USA	0.11	0.07	0.23	0.09	0.05	0.01
Canada	0.35	0.27	0.57	0.32	0.26	0.18
Central America	0.08	0.10	0.06	0.07	0.08	0.06
Chile	0.15	0.27	0.11	0.16	0.24	0.09
Peru	0.07	0.22	0.21	0.06	0.19	0.15

Personnel safety and security

Astaldi has set up an emergency and crisis committee in order to protect the safety and security of its personnel abroad, promptly and suitably dealing with any emergency situations deriving from natural and/or socio-political events that may occur in the countries where the group operates.

Led by the chairman, the duty of the committee is to detect and monitor any situation changes in the areas and countries at risk, providing necessary guidelines to the national security unit on how to prepare and respond to emergencies and ensure that the security management process is correctly implemented.

PERSONNEL DEVELOPMENT

TRAINING

The group's continuous diligence to training and the career development of its workforce led to 14,624 training courses being prepared and given by the head office to corporate staff, employees on secondment and foreign local employees. The courses mostly covered managerial training (roughly 45% of the total hours) as well as courses about technical subjects, quality, the environment and safety.

Specifically, 2017 was the third year of activity of the Corporate Academy, the group's managerial training school. It provided 26 courses on project management, economics, procurement, leadership & people management and HSE management to 301 employees for a total number of 6,526 man/hours.

In addition to managerial training, the group's focus on the development of internal skills turned to the technical area, where 5,740 hours of training were organised and provided in 2017, about BaaN, HR management, IT, engineering and languages.

Another 2,358 hours of courses were held on quality, safety, the environment and internal audit subjects, as part of the group's special focus on these issues.

The Astaldi Academy and Managers of the Future

In 2014, Astaldi set up an internal Academy aimed at developing its personnel's managerial skills. The goal of the Academy is to entrench the group's existing know-how and boost it via new international project management methodologies.

Accordingly, all training programmes are designed ad hoc for the group's world, comparing international best practices with analyses of real cases at the Astaldi Group.

Set up for senior managers, as of this year the Academy boasts a special structured programme for young talent so that they can swiftly develop their managerial skills and rapidly rise to important positions.

This five-year programme tackles topics linked to project management, economics, safety, procurement and soft skills and aims to obtain PMP-PMI certification.

In addition to these intense activities at corporate level, Astaldi also makes a strong contribution at country and project level to promote its group culture in the construction segment. In 2017, approximately 166,700 training hours were provided to direct personnel at group projects and local offices.

Training of group employees

G4-LA9 / G4-HR2

	In	2017	2016	2015
Total training hours	hours	181,323	134,009	243,875
Training hours per capita[27]	man/hours	16.7	11.5	19.9

[27] Calculated considering average employees at in-scope areas in 2017.

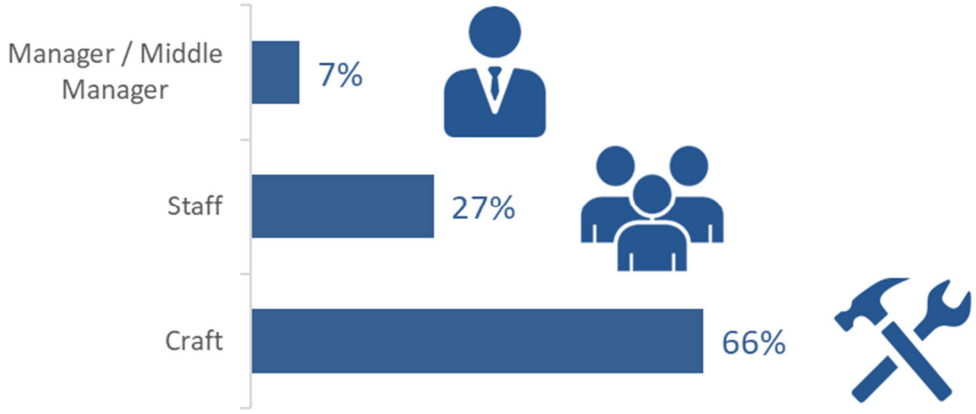


Figure 9: Training hours by employee category

The value of spreading group culture and improving human capital is also spread to the workforce of third parties who work for the group in any capacity. To achieve this, Astaldi extends its training and awareness initiatives to the employees of its partners, providing 62,054 training hours in 2017.

An analysis of training activities shows that the group paid particular attention to topics linked to managing environmental and health and safety in the workplace aspects in 2017. This awareness is reflected in the relevant training hours provided which accounted for 81% of total training hours provided to direct group personnel and almost all (98%) of those provided to third-party employees.

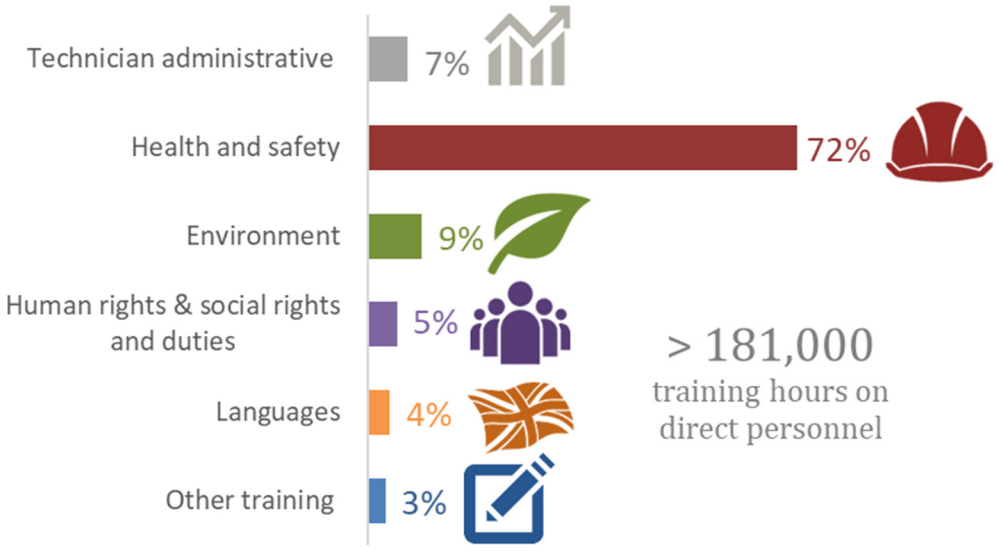


Figure 10: Training (by topic) provided to Astaldi group employees

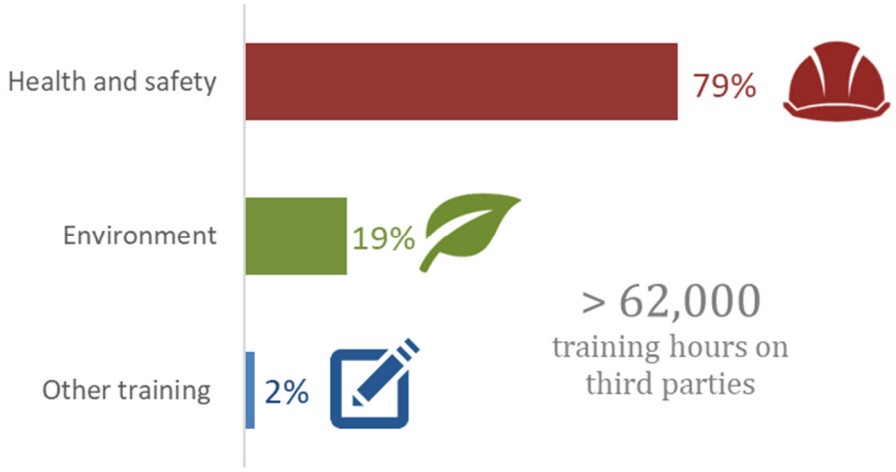


Figure 11: Training (by topic) provided to third-party employees

RECRUITMENT AND HIRING

In 2014, Astaldi launched a programme to recruit and hire young university graduates with high growth potential to fill management positions in the group production companies. These youngsters, with technical and economic degrees, who graduated with top marks and speak more than one foreign language, were selected as part of a detailed process involving individual interviews, physiological and aptitude tests and assessments. This selection process facilities identification of those candidates with the personal characteristics and skills necessary to successfully take on a challenging career, with many perspectives, such as those that typically can be experienced as part of the contracts that the group has today around the world.

In 2017, the group took on 100 graduates worldwide. Four years after its launch, this programme has led to the hiring of 48 future managers who have confirmed the expectations about them in terms of their adaptability, enthusiasm and assessments from their teams. In addition, the first 20 more senior resources hired have completed their two-year training programme and have been assigned manager roles for specific projects. In order to enhance, accelerate growth and retain the more valuable resources, the group revised its training programme to include a course of 3+2 years to obtain the PMI certification in the second two years. In 2018, the more deserving resources will be offered the option to participate in this additional training course after signing a loyalty agreement.

The group introduced a course for recent secondary school graduates similar to the Manager of the future programme in 2017 to train these new resources to hold second and third level management positions on projects (construction manager, site manager, project administration manager, quantity surveyor, etc.).

Concurrently with the hiring of high-potential resources, the group also carried an extensive recruitment programme in 2017 for project managers, design managers and project control managers. This programme was designed to furnish qualified resources to the group companies around the world who could enter the companies during the pre-tender stage to become a key reference person for the project after it had been acquired.

This "pre-emptive" policy, which gives the potential managers time to familiarise themselves with the group's culture and procedures and be ready to hold positions of responsibility in the projects, led to the hiring of 40 resources during the year. It will be continued in 2018 as part of the group's plan to expand into new interesting markets.

New employee hires and turnover (at 31/12/2017) G4-LA1

	New employee hires		Employee turnover	
	No.	**Rate (%)**	**No.**	**Rate (%)**
By country/geographical segment				
Italy	329	22.0%	168	11.2%
Poland	249	28.7%	127	14.6%
Romania	156	20.9%	143	19.2%
Turkey	161	29.8%	129	23.9%
Algeria	40	9.2%	338	78.1%
USA[28]	63	30.4%	181	87.4%
Canada[29]	1,060	133.0%	2,006	251.7%
Central America	557	46.8%	98	8.2%
Chile	1,400	35.2%	2,061	51.8%
Peru	434	44.4%	202	20.7%
Total	**4,449**	**39.6%**	**5,453**	**48.5%**

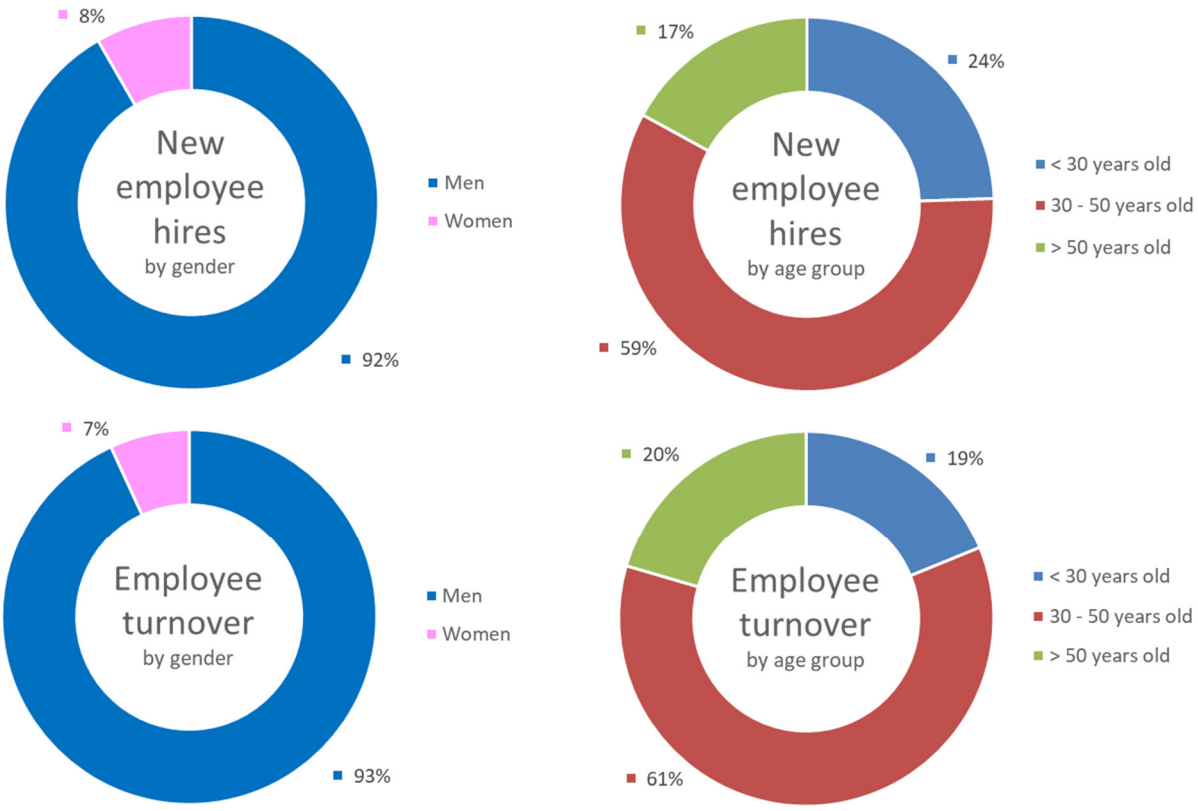


Figure 12 New employee hires and turnover by gender and age group (at 31 December 2017)

[28] Figures do not include a breakdown of local personnel by age in accordance with the standards of the U.S. Equal Employment Opportunity Commission and the assessments supporting the published data were performed excluding such information.

[29] With regard to the Muskrat Falls project, the mapping of unionised employees by age bracket was not extended to new employee hires and turnover due to the requirements of the HR protocol regarding sharing information with unions.

CONTRIBUTING TO PROGRESS, ONE PROJECT AT A TIME

PROJECTS THAT IMPROVE LIFE

Astaldi builds infrastructure that improves people's lives and boosts the area's competitiveness. It aids mobility in our cities by building state-of-the-art metro and railway lines. It makes freight and passenger transport faster and more efficient along railway lines and roads and through the ports and airports it constructs. It facilitates experimentation of innovative healthcare models via the hospitals it builds and operates. It enables energy generation, promotes public and corporate access to hydraulic and irrigation services, makes industrial production possible via innovative plants, and helps to restore polluted ecosystems by means of complex remediation works.

The group has over 100 projects in progress in the construction segment. Apart from Italy, the areas where it has the greatest foothold are Central-Eastern Europe (Poland, Russia, Romania), Turkey, Magreb (Algeria) North America (USA and Canada) and Latin America (Chile, Peru, Central America). The group has recently ventured into Sweden, Argentina, Cuba, Panama, Iran and the Far East (Indonesia, Vietnam and Singapore).

The projects where the group makes the most significant contribution to the well-being of the area include:

Line 4 of the Milan metro – Italy: a concession for the construction and long-term operation of the new Line 4 of the Milan metro. The construction contract includes the design and construction of all the civil works, including the superstructure and non-system equipment. The new infrastructure will be a light, fully automated metro along the San Cristoforo-Linate Airport line (15.2 km, 21 stations, maximum passenger capacity of 24,000 passengers/hour in both directions). The contract also includes the construction of a depot/workshop in San Cristoforo for the recovery and maintenance of rolling stock.

Brennero railway tunnel – Italy: civil works in Italy to build the Brennero Base Tunnel from Mezzaselva to the state border. This tunnel is part of the project to upgrade the Munich-Verona railway line which will become the longest underground railway line in the world once completed. Lot "Mules 2-3" includes the excavation of roughly 75 km of tunnels (an exploratory tunnel, two main line tunnels, side tunnels and other access tunnels) using traditional tunnelling methods and three TBMs. The works will last seven years and will be 50% funded by the Italian government and 50% by the Austrian government. The European Union will partly reimburse costs for the line tunnels (40%) and the exploratory tunnel (50%).

Line C of the Rome metro – Italy: the entire new line of the Rome metro (29 stations, 25.6 km) along the Monte Compatri/Pantano to Clodio/Mazzini section. The project is particularly complex due to interaction with the area's archaeological remains and particular techniques used to strengthen the earth applied during excavation. The Monte Compatri/Pantano-Lodi section (18 km, 21 stations) is operational. The next stage will be delivering the San Giovanni Station to the customer and completing the T-3 San Giovanni-Fori Imperiali/Colosseo section (3.6 km, two stations).

Chuquicamata mine – Chile: the contract is part of the project to transform the Chuquicamata mine, which is the largest open-pit copper mine in the world, into an underground mine. It provides for the construction of 79 km of tunnels (for access to the future underground mining areas) and 9.2 km of vertical excavations for ventilation shafts. The works' highly technical nature is due to the fact that they will be carried out without shutting down the mine.

Etlik Integrated Health Campus, Ankara – Turkey: the project includes the design, construction, supply of electro-medical equipment and furnishings, as well as the operation of the healthcare facility when it is up and running with 3,577 beds split over eight facilities and a hotel for a total of 1,080,000 square metres. This project is one of the largest of its kind in Europe.

Quadrilatero Marche-Umbria road system (maxi lot 2) – Italy: the project provides for the completion of the work on the Perugia-Ancona section on a general contracting basis by building the Fossato di Vico-Cancelli and Albacini-Serra San Quirico sections of the SS76 Val d'Esino state road (sub-lot 1.1), the Pianello-Valfabbrica section of SS-138 state road (sub-lot 1.2) and the relocation of the Pedemontanda delle Marche along the Fabriano-Matelica/Camerino-Muccia section (sub-lot 2.1) and the Matelica-Camerino-Sfercia section (sub-lot 2.2).

Gebze-Orhangazi-Izmir motorway – Turkey: The project relates to the BOT (Build-Operate-Transfer) contract for the design and construction on a concession basis of more than 400 km of motorway along the Gebze-Orhangazi-Bursa-Izmir section in Turkey. It also includes the building of the Izmit Bay Bridge (the fourth longest suspension bridge in the world), three tunnels, 33 viaducts, 187 bridges, hydraulic works, 26 junctions, 30 motorway toll booths, six maintenance centres and 17 service areas. The project is split into separate functional lots: Phase 1 (53 km from Gebze to Orhangazi, including the Izmit Bay Bridge), Phase 2-A (25 km from Orhangazi to Bursa) and Phase 2-B (301 km from Bursa to Izmir). Once completed, the infrastructure will connect Gebze (near Istanbul) to Izmir (on the Aegean coast), halving current driving times which exceed eight hours.

E-ELT "European Extremely Large Telescope" – Chile: the construction of the largest optical telescope in the world in the central section of the Atacama Desert 3,000 metres above sea level, the most important project undertaken to date by the ESO (European Southern Observatory). The contract includes the design and construction of the telescope's two main structures (the dome and main structure). Once built, the telescope will be able to focus at 100,000,000 times the human eye and, thanks to a main mirror with a 39.3 metre diameter, will collect more light that all the biggest telescopes with main mirrors of between 8 and 10 metre diameters currently existing on the planet.

Muskrat Falls hydroelectric project – Canada: Astaldi is involved in building one of the most important hydroelectric projects currently underway in North America: a hydroelectric power plant with a capacity of 820 MW which is part of the Lower Churchill Project funded by Nalcor Energy in the Province of Newfoundland and Labrador. The works are part of a larger-scale investment project that also includes the construction of two dams, under which Astaldi is in charge of building the powerhouse and the related intake and spillway.

Infraflegrea – Italy: the contract covers a number of activities in the urban areas of the Naples and Pozzuoli municipalities (the Flegrea area). It includes renovating and upgrading existing infrastructure in order to create an integrate transport system for the area. The works include construction of the Monte Sant'Angelo railway connector (Soccavo-Mostra d'Oltremare section, with the related stations and interchange junctions), extension and upgrading of the port of Pozzuoli, construction of a multi-storey car park and related works in Pozzuoli, upgrading of the Lungomare Sandro Pertini park and urban road system in the town of Pozzuoli. Works on the Monte Sant'Angelo railway connector are the largest part of the entire project. It is comprised of 5 km of metro lines linking up to the Circumflegrea and Cumana railways. Five new stations are being built to provide a railway link to the university town of Monte Sant'Angelo. The station was entirely designed by the Anglo-Indian artist Anish Kapoor and is set apart by its two mega sculptures at the two entrances.

WORKING TOGETHER FOR THE LOCAL AREA

Constructing and operating large public works requires building constructive and open relationships with the local communities throughout all stages of the value chain. Despite bolstering the area's attraction, infrastructure may create temporary inconveniences and alter the surrounding landscape, especially during the construction phase. This requires the group's utmost commitment to resolving any critical situations and constantly communicating the progress of works in order to fully share the value generated by the project with the community.

Bodies and associations **G4-16**

Association	Description	Involvement
Confindustria	Italy's main association of manufacturing and service entities, with membership comprising over 150 thousand companies of all sizes	Member of the General council
Assonime	The association of Italian companies limited by shares. Its object is the study and discussion of issues that directly or indirectly affect the interests or development of the Italian economy.	Deputy chairperson
Bank of Italy (Rome office)	The central bank of the Italian republic. It is a public institution regulated by Italian and EU regulations.	Member of the Council of regency
Italian stock exchange	One of Europe's main stock exchanges, it sees to the admission, suspension and exclusion of financial instruments and operators from trading. In addition, it manages and monitors trading and obligations of operators and issuers.	Member of the advisory committee and the corporate governance committee
Accademia Nazionale di Santa Cecilia	One of the world's oldest musical institutions.	Member of the board of Directors
Fédération de l'Industrie Européenne de la Construction (FIEC)	The federation represents, without discrimination, construction enterprises of all sizes (from craftspeople and SMEs to large international firms) and from all building and civil engineering specialities.	Deputy chairperson (representing ANCE)
Società Italiana Gallerie (SIG)	A cultural association that promotes, coordinates and disseminates studies and research on the field and art of constructing tunnels and large underground works.	Standing member of the Management board
Associazione Italiana Cultura Qualità (AICQ)	A non-profit association that aims to spread the culture of quality in Italy along with the methods for planning, constructing, controlling and certifying the quality of products, services, organisations and related disciplines.	Director
Associazione Nazionale Costruttori Edili (ANCE)	Technology and innovation commission of the Italian National association of construction companies as a representative of the association of large enterprises.	Standing member
International Tunnel Association (ITA)	"Underground works and the environment" work group of the International Tunnel Association (ITA) as coordinator.	Standing member
Associazione Nazionale Costruttori Edili (ANCE)	"Excavation earth and rock" work group of the Italian construction industry association as a representative of the association of large enterprises (AGI).	Standing member

Therefore, creating a positive atmosphere of trust with local communities is vital for Astaldi. The group acts as a steady, credible point of reference for the community, both at the planning stage of the works and during the construction and/or maintenance and operating phase.

Each time a new contract begin, Astaldi plans communication campaigns on the basis of the nature of the works to be carried out. Public meetings with the involvement of local institutions and communities and targeted information campaigns are just some of the activities aimed at generating approval and enhancing projects to their full value. During all construction stages, specific actions are implemented

to deal with any inconveniences deriving from the presence of work sites in order to reduce the impact on the area and the local people. In this regard, the website and project communication plans[30] are vital tools that are constantly updated to meet local needs.

Universities are also key partners for Astaldi. Indeed, the group's works are often interesting cases for the world of research, due to their design, implementation or operating complexity, thus leading to the activation of partnerships with national centres of excellence[31]. These may include university/group exchange programmes, with technical site visits, work experience and/or study grants for researching topics of interest, as well as active involvement of management at sector conferences/events.

RESULTING IMPACTS

Astaldi means to reinforce its role as springboard for growth and well-being, both in terms of its direct contribution to economic development in the areas involved, and via ventures aimed at improving the quality of life of the local people and areas where it operates.

Socio-cultural initiatives

In 2017, Astaldi was once again involved in sponsoring various cultural institutions, such as the Accademia Nazionale di Santa Cecilia in Rome and the Società del Quartetto in Milan, both historical institutions on the international music scene, as well as the Teatro dell'Opera in Rome, for which it acts as sponsor.

Furthermore, the group assists philanthropic initiatives, such as its guaranteed support toMUS.E Italia Onlus, a non-profit association whose mission is to help disadvantaged children, fostering integration via interaction with music and art, and to the scientific research programmes of Fondazione Telethon.

With regard to education, Astaldi has helped young people breach the world of work by participating in career days organised by Italian universities, setting up work experience programmes, organising technical site visits, supporting university research programmes and establishing study grants.

Puntiamo in alto!

In the eighth edition of the "*Puntiamo in alto*!" project that provides study grants to children of group employees, the group awarded roughly 30 study grants in 2017 to the most deserving students who got the highest grades at the various education levels.

The group's commitment to generating positive effects is also, and above all, focused on the areas where it constructs works. Its investments in 2017 were mainly for public use, related to the building of infrastructure and basic services, donations to culture and sport, donations to education and research, donations to social services and humanitarian solidarity and aid.

Its commitment to creating well-being for the areas where it operates also, and above all, takes the form of indirect economical effects, i.e., not directly related to financial investments. In this regard, the main impacts generated by the group on the local areas, broken down by type and location of their activities in the world, are:

- Creating jobs (hiring local people);
- Developing the professional skills of local employees;

[30] Communication plans provide for information campaigns, guided tours of work sites and meetings with the local community, often assisted by opening public information centres.

[31] See also paragraph "Innovation"

- Improving working or environmental conditions;
- Economically developing areas with a high poverty rate;
- Changing the productivity of the local organisations, sector and economy;
- Facilitating direct foreign investments (e.g., building infrastructure that promotes links);
- Changing the location of activities;
- Making products and services available to lower income individuals (e.g., medicines).

Figure 13: Positive impacts on the local communities

However, the group's construction and operating activities can also generate significant negative effects. To tackle this, the group assigns degrees of priority and identifies the best possible alternatives or actions to prevent and mitigate (real and potential) negative impacts on the local communities and on the surrounding area in general.

DIALOGUE WITH STAKEHOLDERS

The geographical diversification of its business is an intrinsic factor for the growth of the Astaldi Group and embarking on new markets is an ongoing challenge that requires particular care and dialogue with new and existing stakeholders.

The group builds its relationships with stakeholders around the general principles of its code of ethics: fairness, transparency, safeguarding assets, professionalism, protection of human resources and sustainability.

Meeting the needs and requests of the various stakeholder groups in order to make them compatible with the development of its business is the foundation of engagement activities undertaken by the group.

	Issues presented by the main stakeholders
Employees and consultants	• employment practices; • training the workforce to boost their technical qualifications and raise local personnel's level of expertise; • nurturing consultants; • company-welfare quality of life and work-life balance.
Customers and partners	• environmental monitoring of activities and accessibility; • participation and planning of works; • contract management; • contractual obligations and work issues; • economic/physical and financial progress of works and ongoing consultancy on lines of strategy to be followed; • dispute management;
Suppliers and independent contractors	• business negotiations and site management; • business opportunities; • contractual obligations and work issues; • day-to-day coordination of activities.
Committees and trade unions	• site safety, contractual conditions, activities with workers' representatives; • improvements in health, safety and security conditions at sites; • participation in injury analysis and investigation activities.
Local communities and administrations	• impact related to the construction of infrastructure (noise/dust); • medical/social support and creating logistics structures; • impacts on roads and public areas - issues linked to traffic management and road safety culture; • managing expropriations; • interference of works with the surrounding area; • setting up grievance mechanisms; • setting up agreements with training centres for promoting road safety awareness; • spreading project benefits: creating job and service opportunities for the local community; • inconveniences caused by delays in completing the works; • medical/social support needs.

Main actions undertaken

- Actions to resolve disputes and assisted negotiation procedures;
- Road safety meetings - Information guide, "travel safely" campaign;
- Partnerships with teachers from training centres;
- Mass communication (radio, flyers, posters and delivering information communications;
- Implementing grievance mechanisms;
- Periodic meetings, also on safety;
- Control and supervision of operations;
- Creating job and service opportunities for the communities;
- Professional training courses;
- Road maintenance;
- Implementation of social structures;
- Active participation in local community life;
- Creating awareness of disease prevention.

Figure 14: Stakeholders and engagement actions implemented at local level

Based on the expectations of its stakeholders, the group undertook various engagement activities in 2017, especially at project level. The main activities were:

- written and verbal communications;
- educational meetings (also on health and safety) for all personnel and external consultants;
- meetings with representatives of the local community, bodies and authorities;
- dedicated websites and social media (Youtube, Twitter and blogs);
- focus groups and round tables;
- site visits and open days;
- work experience and apprenticeship programmes for schoolgoers;
- informational posters and distribution of leaflets;
- training and educational courses for employees and third parties
- meetings, conferences and workshops;
- memoranda of understanding;
- telephone lines and email accounts dedicated to requests for information;
- creating structures to organise and interface with interest groups;
- planning coordination activities and meetings.

Nurturing the young generations

In 2017, Metro C s.c.p.a. (SPV in charge of building Line C of the Rome metro) once more took part in the apprenticeship programme for schoolgoers, one of the innovations introduced by Law no. 107 of 2015 (La Buona Scuola educational reform). Participating students (109 from schools in Rome) began a programme comprising a theory (classroom-based) and practical (on-site) training project which covers various study areas: designing, safety, the environment, quality control, structural and geotechnical monitoring, topography, material control, accounting, etc.. Over 13,000 training hours were provided in 2017.

PROTECTING THE ENVIRONMENT

Constructions are inextricably tied to their surrounding environment. Through the design, implementation and management of its projects, Astaldi promotes the environmental sustainability of its operations and undertakes to contribute to reducing the impacts generated by climate change by increasing renewable energy generation and launching "green mobility" projects.

Astaldi executed numerous projects worldwide in the field of renewable energy generation plants (hydroelectric power plants) and "green mobility" (railways and metros), contributing to clean energy generation and reducing local emissions. The main hydroelectric power plant projects are Muskrat Falls (820 MW - Canada, the leading hydroelectric project currently underway in the country), Cerro de Aguila (510 MW - Peru) and La Punilla (94 MW - Chile).

Global climate change challenges G4-EC2

DRIVERS	RISKS	OPPORTUNITIES	FINANCIAL IMPLICATIONS
Regulations and legislation	The group's business can be significantly influenced by changes in legislation on climate change. The uncertainty about such legislation is a risk that could lead to lower acquisitions. To tackle this issue, Astaldi breaks its business down into geographical segments (removing the risk of "depending" on certain areas) and constantly monitors the status of ruling legislation, including by being involved with trade committees and associations.	New possible legislation targeting the development of "low carbon" and "green energy" initiatives can represent a growth opportunity for the group's business, especially in the field of energy generation plants and "green buildings". Therefore, it is vital to constantly monitor present and future initiatives, which the group does via suitable organisational and managerial business development tools.	Higher or lower acquisitions of projects in the business segments linked to the fight against climate change: • renewable energy generation plants (hydroelectric power plants) • green mobility (railways and metros).
Changes to the climate and local area	Many countries where Astaldi operates are hit by extreme weather conditions (floods, hurricanes, etc.) which prompt uncertainty about business continuity, especially in certain periods of the year, leading to delays and spikes in energy consumption. Astaldi identifies the most adequate mitigation measures and develops suitable contingency plans through careful planning of operations and ongoing risk management activities.	Major climate change creates different needs in terms of new infrastructure and upgrading of existing structures. In addition, growing awareness of climate change issues among stakeholders has escalated the demand for "green" products. Astaldi intends to seize these opportunities via constant research focused on innovating current construction techniques and ongoing monitoring of stakeholder behaviour.	Climate change initiates extreme weather conditions that could lead to the suspension of operations, delays or damage to group assets, thus raising operating costs. Astaldi's ability to execute "green" projects enable it to carve out a slice of the market, thus giving it the possibility to boost revenue.

Global climate change challenges G4-EC2

DRIVERS	RISKS	OPPORTUNITIES	FINANCIAL IMPLICATIONS
Customer behaviour	Failure to meet market demands with regard to climate change can be a risk, especially in terms of a "negative perception" of the group. Astaldi governs this risk through transparent communication with all of its stakeholders and ongoing investment and research in green technologies (e.g., LEED certification).	The current global attitude to the battle against climate change has notably heightened stakeholders' awareness of the topic, increasing the demand for "green" products. The main changes in consumer behaviour are constantly monitored and managed at local level and for corporate innovation and development projects.	Customers' pursuit of technical solutions with a lower environmental impact leads to a surge in the "green economy". The relevant impacts for Astaldi (in terms of opportunities or risk) could be: • Higher or lower acquisitions of projects; • Entering or exclusion from new markets.

The impacts generated can include the consumption of raw materials, water and energy resources and the generation of atmospheric emissions, discharge of waste water, waste, noise and vibrations, in addition to effects related to transport to and from work sites. The actual entity of impacts recorded - often temporary and limited to the construction stage - depends on numerous factors, including the geographical location of the work and the presence of particularly vulnerable areas locally.

Based on the local characteristics, Astaldi carries out a process to analyse and assess the environmental impacts, also in compliance with ruling legislative requirements, at all its production units. The analysis considers all processes and activities, including the design stage. This process is repeated and updated at regular intervals whenever required by changes and modifications, including organisational.

Adopting emergency management systems, defining improvement goals and plans, as well as constantly monitoring production sites, are equally crucial aspects of Astaldi's approach to safeguarding the environment. These are also developed and implemented through discussions with national and local stakeholders actively involved in all processing stages.

In line with this overall approach, Astaldi has prepared an integrated management system, with its environmental component UNI EN ISO 14001 certified. The system is applied to contracts via Environmental management plans. The application of group environmental standards is checked periodically through audits. The purpose of these is also to verify that projects can ensure compliance with legislation, that stakeholders' viewpoints are properly considered in improvement plans and that the group's commitment to preventing and mitigating pollution transforms into reality.

Green protocols CRE8

When bidding for construction and road-building projects in Italy, Astaldi often proposes adopting "green" protocols on a voluntary basis, to measure and objectively assess the eco-sustainability level of the project construction and operating process. For construction projects, this chiefly implies implementing the US system for building certification LEED (Leadership in Energy and Environmental Design, developed by the US Green Building Council).

These protocols provide a set of measurement standards for assessing eco-sustainable constructions and introduce measures that are "not required" by the project which significantly improve the level of eco-sustainability of the building. For instance, adopting LEED means using recycled and "low emissions" materials from surrounding areas (in order to reduce emissions deriving from long-distance transport) and requires that pollution prevention systems be implemented via a site management plan.

The process to obtain LEED ITALY certification (from Green Building Council Italy for the design and construction of eco-sustainable buildings) started for some works in 2013. In 2017, the process continued for the Angelini Headquarters project certification (Gold expected), while the Amendola airbase project was awarded Gold certification.

Other group projects certified according to this standard are as follows:

- 2-22 Ste-Catherine East (Canada) – Certified Silver
- Head Office Commission de la construction du Québec (Canada) – Certified Silver

- Brewster Office Building (Canada) – Certified Silver
- CLSC de Rosemont - CSSS Lucille-Teasdale (Canada) – Certified Silver
- Montréal Detention Centre (Canada) – Certified Silver
- OIIQ new head office (Canada) – Ongoing Silver expected
- Stade de soccer de Montréal (Canada) – Ongoing Gold expected

ENERGY AND EMISSIONS

As well as generating an environmental impact, energy consumption also has a direct effect on operating costs which are influenced by fluctuations in the energy supply market. The choices made in relation to the energy sources used determine the Astaldi Group's carbon footprint.

Due to the type of activities carried out at work sites, the energy sources used are chiefly non-renewable fuel which, by its nature, contributes to direct greenhouse gas emissions. The following table shows trends in energy consumption in the last three years.

G4-EN3 / G4-EN4 / G4-EN5

	In	2017	2016	2015
Energy consumption[32] by direct works				
Total fuel consumption (non-renewable sources)	GJ	989,225	1,076,205	1,810,955
Indirect energy consumption - purchased (non-renewable sources)	GJ	318,844	188,493	192,730
Self-generated energy (renewable sources)	GJ	266	297	300
Total energy - direct works	**GJ**	**1,308,335**	**1,264,995**	**2,003,985**
Energy consumption by indirect third-party works				
Total fuel consumption (non-renewable sources)	GJ	1,003,799	289,374	1,884,137
Indirect energy consumption - purchased (non-renewable sources)	GJ	18,978	15,377	47,696
Total energy - third-party works	**GJ**	**1,022,777**	**304,751**	**1,931,833**
Energy intensity[33]				
Energy intensity (per €'mln revenue)	GJ/€MLN	807	550	1,441
Energy intensity (per hour worked)	kWh/hour	14.57	10.46	27.35

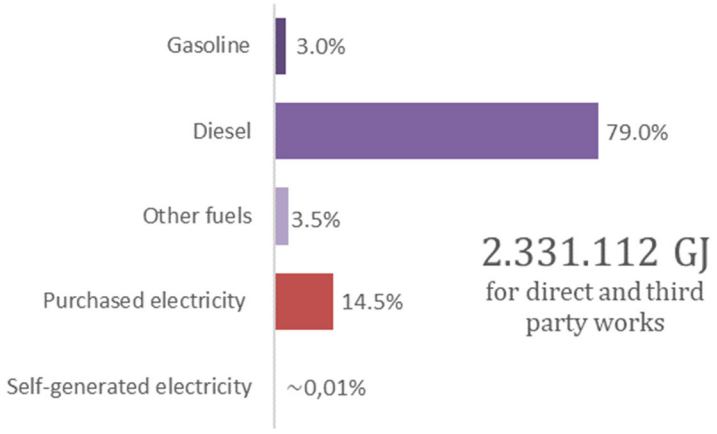


Figure 15: Energy consumption

[32] Direct consumption is calculated according to Intergovernmental Panel on Climate Change (2006 IPCC Guidelines for National Greenhouse Gas Inventories) factors to convert the quantities of petrol, diesel, kerosene, GPL and natural gas into Gigajoules. Indirect energy consumption is standardised using the 0.0036 factor that converts kWh of electricity into Gigajoules.

[33] The denominator chosen to calculate the group's energy intensity ratio is total operating revenue for the year (in millions of Euros). Energy intensity was calculated considering internal and external consumption (G4-EN3 and G4-EN4).

Energy-saving initiatives G4-EN6 / G4-EN7

In 2017, Astaldi once more worked hard on optimising its production processes to cut back on energy costs and the resulting emissions. The group contributed to mitigating local impacts by implementing the best technologies available and making production processes more efficient, also in order to reduce operating costs (including energy consumption).

The solutions to improving the group's environmental performance were applied along the value chain. The following were the best examples of energy-saving initiatives:

- connecting site plant to local electricity network in order to avoid using mobile generators;
- regular maintenance of the group's fleet of vehicles;
- replacing equipment with more efficient models;
- implementing energy-saving lighting systems;
- installing energy recycling systems;
- raising employee awareness about energy saving practices.

Electricity consumption is the most subject to technological upgrading. The group's most significant initiatives in this regard include:

- installing photovoltaic systems: Astaldi's headquarters in Rome and Astaldi Construction Corporation's offices in Florida have photovoltaic systems (capacity of 89.5 kW and 24 kW, respectively) for self-generation of energy, generating approximately 66,400 kWh in 2017.
- LED lighting: the group installed LED lighting systems at work sites involved in the Gebze-Orhangazi-Izmir project in Turkey, leading to energy savings of almost 47,000 kWh in 2017.
- maximising use of natural light: maximising use of sunlight rather than artificial light (e.g., by replacing roofing on some areas with transparent materials) led to savings of 2,600 kWh for the Etlik Integrated Health Campus project in Turkey.

Greenhouse gas emissions are the predominant contributor to climate change and are regulated by the United Nations Framework Convention on Climate Change and the Kyoto Protocol. The rise in greenhouse gases is due to two factors: direct emissions[34], chiefly generated by on-site fuel consumption (diesel, petrol, GPL, etc.), and indirect emissions[35], primarily deriving from the consumption of electricity.

In carrying out the production activities of projects, Astaldi generated total emissions in terms of CO_2 equivalent of 189,229 TCO_2-eq., of which approximately 38% were direct emissions due to the use of fossil fuel for direct works (Scope 1 emissions)[36].

[34] The emission factors published by the International Panel on Climate Change (2006 IPCC Guidelines for National Greenhouse Gas Inventories – Energy Stationary Combustion) were applied to calculate direct emissions due to fossil fuel consumption.

[35] The emission factors (in gCO_2/kWh) published by the International Energy Agency IEA (CO2 Emission from fuel combustion (2013) – CO2 emissions per kWh from electricity generation (2011), International Energy Agency) were applied to calculate indirect emissions due to electricity consumption for each country.

[36] For information on the classification of emissions (Scope 1, Scope 2 and Scope 3), reference should be made to "The Greenhouse Gas Protocol: A Corporate Accounting and Reporting Standard (Revised edition)" which defines: Scope 1 - Direct greenhouse gas emissions: direct emissions from sources that are owned or controlled by the company from combustion in boilers, furnaces, vehicles, etc. (e.g., consumption of petrol, diesel, GPL, etc.); Scope 2 - Indirect greenhouse gas emissions (electricity): emissions from the generation of purchased electricity consumed by the company; Scope 3 – Other indirect greenhouse gas emissions: other indirect emissions that are a consequence of the activities of the company, but occur from sources not owned or controlled by the company (e.g., emissions from the consumption of third-party companies operating at group sites).

Emissions of CO_2 equivalent		G4-EN15 / G4-EN16 / G4-EN17 / G4-EN-18		
	In	**2017**	**2016**	**2015**
Direct works				
Direct emissions of CO_2 equivalent (Scope 1)	Ton	72,241	79,099	136,715
Energy indirect emissions of CO_2 equivalent (Scope 2)	Ton	39,634	20,782	21,004
Emissions of CO_2 equivalent (Scope 1 + Scope 2)	**Ton**	**111,875**	**99,881**	**157,719**
Third-party works				
Direct emissions of CO_2 equivalent	Ton	73,932	21,408	139,578
Energy indirect emissions of CO_2 equivalent	Ton	3,422	2,377	10,347
Emissions of CO_2 equivalent (Scope 3)	**Ton**	**77,354**	**23,785**	**149,925**
GHG emission intensity				
Emissions of CO_2 equivalent per hours worked	**(kg/h)**	**4.26**	**2.97**	**7.70**

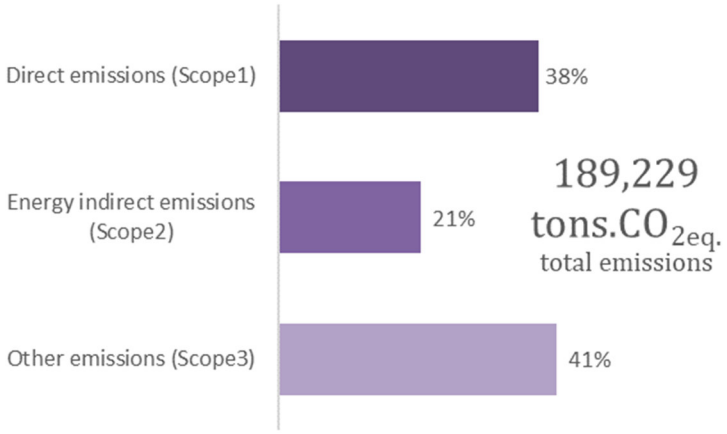


Figure 16: Emissions of CO_2-eq.

Joining the Carbon Disclosure Project (CDP)

In 2017, the group filled out the "Climate Change 2017"[37] questionnaire of the Carbon Disclosure Project (CDP), an international non-profit organisation that manages a global platform for measuring the environmental impacts of over 5,600 companies worldwide and is used by 800 investors, recording total assets of USD100,000 billion. Astaldi decided to actively contribute to the challenges set by the 2030 Agenda, including fighting climate change, supporting customers in building renewable energy generation plants and "green mobility" projects. Astaldi's corporate strategy is intertwined with the objective of reducing emissions. This includes executing "green projects", seizing market opportunities linked to integrating the environmental component of business sustainability.

Astaldi has completed and continues to execute projects all over the world for renewable energy generation plants (hydroelectric power plants) and "green mobility" (railways and metros), thus contributing to the generation of clean energy and the reduction of local emissions. The group's most important projects in building energy generation plants include Muskrat Falls (capacity of 820 MW - Canada, the leading hydroelectric project currently underway in the country), Cerro de Aguila (capacity of 510 MW - Peru) and La Punilla (capacity of 94 MW - Chile). With regard to "green mobility", the group is building multiple works all over the world, with the most significant in Italy (Line C of the Rome metro and Line 4 of the Milan metro), Algeria (Saida-Moulay Slissen railway and Saida-Tiaret railway), Poland (Line 2 of the Warsaw metro) and Romania (Line 4 of the Bucharest metro and Line 5 of the Bucharest metro - Phase 1).

[37] Astaldi filled out the "Climate Change 2017" questionnaire with a "not public" profile in 2017. The scope of the questionnaire includes some projects that are not included in the scope of this statement but deemed significant for joining the CDP.

USE OF RESOURCES

Responsible consumption of resources – another goal of the 2030 Agenda – and, consequently, curtailing waste by reusing materials or operating in a way to minimise waste production are contributing factors to the reduction of the effects of the group's operations in terms of the intensity of its use of materials. Such factors help create a more sustainable business from an environmental and social point of view, especially where specific resources are essential for the local communities.

First and foremost, water resources are considered absolute primary goods all over the globe. Monitoring water consumption is the basis of identifying and implementing efficient use.

G4-EN8 / G4-EN10

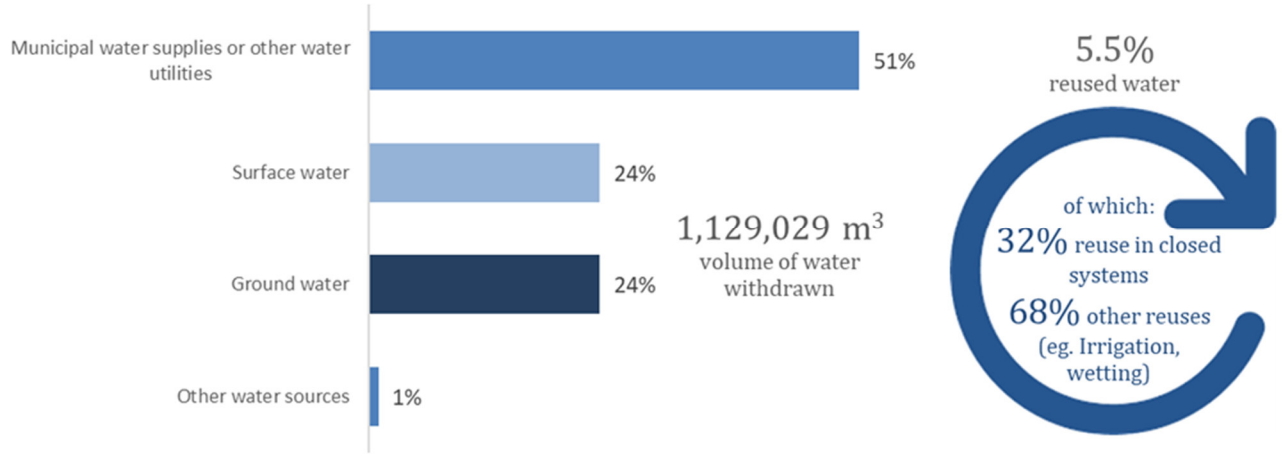
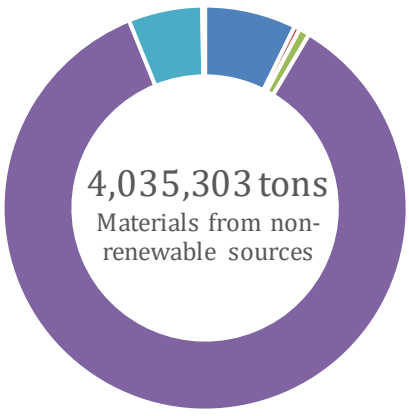


Figure 17: Water withdrawal by source and reuse

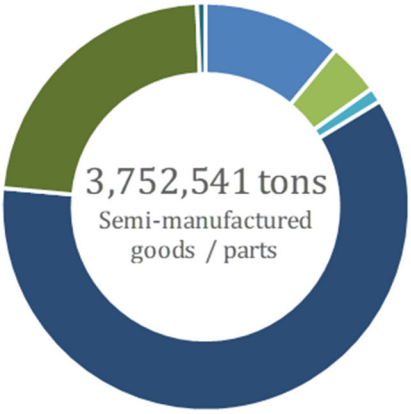
Also considering its business type, most of the materials used by the group come from non-renewable sources. Materials from renewable sources (mainly wood) comprise 0.2% of total raw materials used (excluding semi-finished products).

G4-EN1



From non-renewable sources	2017
Cement	7.3%
Additives	0.4%
Bitumen	0.9%
Aggregates	85.3%
Metal materials	5.9%
Other materials	0.2%

Figure 18: Use of non-renewable materials



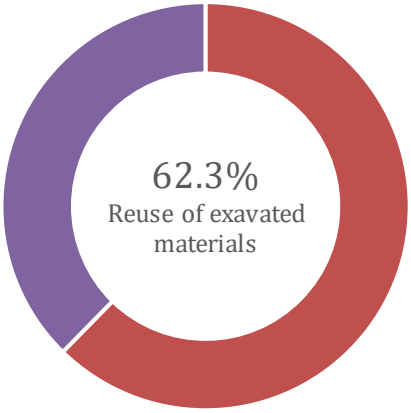
Semi-manufactured goods/parts	2017
Concrete produced on-site	11.0%
Asphalt produced on-site	4.1%
Precast concrete (purchased)	1.2%
Ready-mix concrete (purchased)	60.1%
Ready-mix asphalt (purchased)	22.9%
Other semi-manufactured	0.7%

Figure 19: Use of semi-manufactured goods/parts

Rational use of resources and materials allows cutting operating costs deriving from purchasing materials and the impact of the resulting waste generation. In this regard, embracing basic circular economy principles, Astaldi promotes reusing materials or, alternatively, salvaging/recycling waste rather than sending it to disposal plants.

In the construction segment, excavated materials make up a significant portion of materials whose reuse is an important variable in terms of the carbon footprint of group operations. Therefore, our projects apply a policy of reusing excavated materials, where necessary activating legislative tools that regulate such practice at local level by identifying and assessing local legal provisions as part of the planning stage of the contract environmental management system.

G4-EN2



Excavated materials	2017
Produced (tons)	19,752,716
Reused (tons)	12,310,706
Percentage of reuse	**62.3%**

Figure 20: Reuse of excavated materials in projects

PROTECTING HABITATS AND SAFEGUARDING BIODIVERSITY

As well as being among the 17 goals of the 2030 Agenda, safeguarding life below water and life on land is a cornerstone of Astaldi's actions. The group operates in full respect of the environment and pays particular care in areas where the works being built are near or within protected areas[38] or areas of high biodiversity value[39].

38 Protected areas: areas that are protected from any damage during operating activities and whose environment remains in its original state with a healthy functioning ecosystem. These areas are geographically defined, designated, regulated or, in any case, managed in order to achieve certain conservation goals.

39 Areas of high biodiversity value: areas not subject to legal protection but recognised by various government and non-government organisations for their significant biodiversity features. These include priority habitats (often defined in the National Biodiversity Strategies and Action Plans according to the Convention on Biological Diversity). Moreover, various international environmental protection organisations have identified specific areas of high biodiversity value.

In these cases, the group implements specific protection measures to maintain the habitats. Even though, by nature, constructing large works leads to significant changes and alterations to the surrounding areas, the group is committed to mitigating and minimising the impacts construction activities have on habitats, via constant environmental monitoring and appropriate actions to mitigate the impacts identified during the assessment stage with the participation and contribution of all bodies involved.

Monitoring activities carried out is the first step in detecting and then reducing the risk of generating negative effects within these ecosystems. In this way, Astaldi mitigates the risk of delays in its operations and pre-empts possible damage to its reputation.

Astaldi blends its efforts to monitor and mitigate impacts with its commitment to preserving and protecting biodiversity. Assessing environmental impact also includes analysing potential risks for the local flora and fauna, paying particular attention where these include protected species.

Some of the areas where the group operates are home to protected species of wild flora and fauna. The prevention and protection measures applied include careful management of water resources and creating protection systems (e.g., protective barriers to cordon off areas at risk or prevent access by animals in places where work is carried out). Furthermore, the group effects information and awareness campaigns for all personnel (employees and external consultants), both during their induction phase and at regular intervals so that everyone can contribute to safeguarding these protected species, even simply by drawing attention to them.

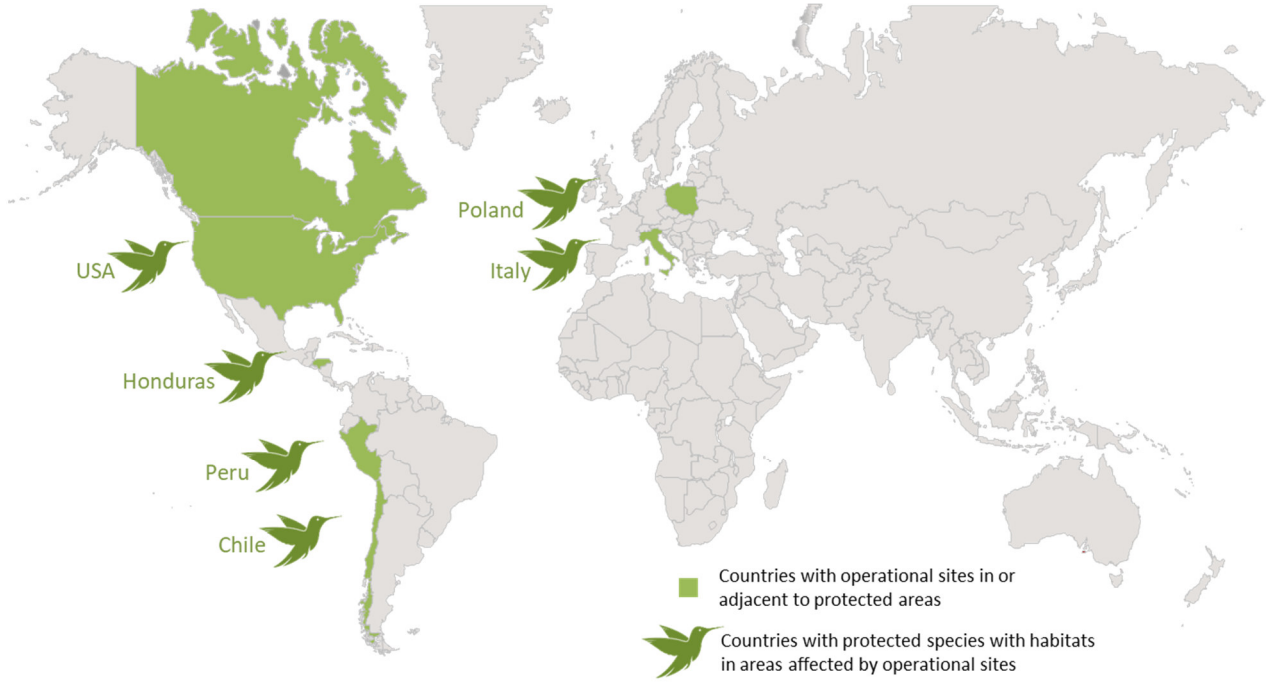


Figure 21: Map of countries where the group operates with protected habitats and biodiversity

GRI CONTENT INDEX

The GRI Content Index provides an overview of the group's performance through the indicators set out in the GRI-G4 guidelines, covering the construction, plant installation and maintenance and concessions segments related to the in-scope companies (§ Reporting scope).

In line with the GRI sector protocol, the index includes specific indicators for material aspects of the construction segment.

The Disclosures on management approach (G4-DMA) have been formalised in the table for material aspects only, in line with the relevant guidelines and the materiality analysis carried out by Astaldi (§ Methodology for reporting non-financial information).

The GRI Content Index set out in the following pages contains information needed to assess compliance with GRI-G4 requirements and refers to the relevant sections of the document and any explanatory notes.

The association table between Legislative decree no. 254 of 30 December 2016 and the GRI – G4 guidelines has been temporarily included in this section.

REQUIRED BY LEGISLATIVE DECREE NO. 254/2016	GRI-G4 DISCLOSURE
General statement	
Management and organisational model	G4-1; G4-2; G4-3; G4-4; G4-5; G4-6; G4-7; G4-8; G4-9; G4-10; G4-11; G4-12; G4-13; G4-14; G4-15; G4-16
For companies that do not apply policies related to one or more of the mentioned aspects, the non-financial statement shall provide a clear and articulate explanation of the reasons therefor.	G4-20; G4-DMA / Reasons for omission
External assurance	G4-32; G4-33
Description of the diversity policy	G4-20; G4-21; G4-38; G4-40; G4-DMA Occupazione; G4-LA1; G4-LA2; G4-LA3, G4-LA12

REQUIRED BY LEGISLATIVE DECREE NO. 254/2016	GRI-G4 DISCLOSURE
	Environment
Brief description of the management and organisational model	G4-1; G4-DMA Category: Environmental
Description of the policies applied by the company, including due diligence procedures	G4-20; G4-21; G4-DMA Category: Environmental
Results obtained from the policies applied	G4-DMA Category: Environmental; G4-EN1; G4-EN2; G4-EN3; G4-EN4; G4-EN5; G4-EN6; G4-EN7; CRE1; G4-EN8; G4-EN9; G4-EN10; G4-EN11; CRE2; G4-EN15; G4-EN16; G4-EN17; G4-EN18; G4-EN19; G4-EN20; G4-EN21; CRE3; CRE4; CRE5
Main risks linked to such aspects connected to company activities, also, where suitable and proportionate, with reference to its commercial relationships, products and services, including, where relevant, the supply and subcontracting chains, which could have negative repercussions in such areas, including the relevant management methods adopted by the company	G4-2; G4-DMA Category: Environmental
Basic non-financial performance indicators relevant to the company's specific activities	G4-DMA Energy, DMA Land degradation, pollution and remediation G4-EN1; G4-EN2; G4-EN3; G4-EN4; G4-EN5; G4-EN6; G4-EN7; CRE1; CRE5

REQUIRED BY LEGISLATIVE DECREE NO. 254/2016	GRI-G4 DISCLOSURE			
	Social	**Labour practices**	**Human rights**	**Anti-corruption**
Brief description of the management and organisational model	G4-1; G4-2; G4-24; G4-25; G4-26; G4-27	G4-1; G4-2; G4-DMA Category: Labour practices	G4-1; G4-2 G4-DMA Category: Human rights	G4-1; G4-2; G4-58; G4-DMA Category: Social
Description of the policies applied by the company, including due diligence procedures	G4-1; G4-2; G4-24; G4-25; G4-26; G4-27	G4-DMA Category: Labour practices	G4-DMA Category: Human rights	G4-2; G4-58; G4-DMA Category: Social
Results obtained from the policies applied	not applicable based on the principle of materiality	G4-10; G4-11; G4-DMA Category: Labour practices; G4-LA1; G4-LA2; G4-LA3; G4-LA5; G4-LA6; G4-LA7; G4-LA8; CRE6; G4-LA9; G4-LA10; G4-LA11; G4-LA12; G4-SO4	G4-DMA Category: Human rights; G4-HR3; G4-HR8	G4-DMA Category: Social; G4-SO3; G4-SO4; G4-SO5
Main risks linked to such aspects connected to company activities, also, where suitable and proportionate, with reference to its commercial relationships, products and services, including, where relevant, the supply and subcontracting chains, which could have negative repercussions in such areas, including the relevant management methods adopted by the company	G4-2	G4-2; G4-DMA Category: Labour practices	G4-2; G4-DMA Category: Human rights	G4-2
Basic non-financial performance indicators relevant to the company's specific activities	not applicable based on the principle of materiality	G4-10; G4-11; G4-DMA Employment, G4-DMA Occupational health and safety, G4-DMA Training and education; G4-LA1; G4-LA2; G4-LA3; G4-LA5; G4-LA6; G4-LA7; G4-LA8; CRE6; G4-LA9; G4-LA10; G4-LA11; G4-SO4	G4-DMA Non-discrimination; G4-DMA Indigenous rights; G4-HR3; G4-HR8	G4-DMA Anti-corruption; G4-SO3; G4-SO4; SO5

GENERAL STANDARD DISCLOSURES

ID		Page	NOTES AND OMISSIONS
Strategy and analysis			
G4-1	Provide a statement from the most senior decision-maker of the organisation about the relevance of sustainability to the organisation and the organisation's strategy for addressing sustainability	2	
G4-2	Provide a description of key impacts, risks, and opportunities	19 54 58 65	
Organisational profile			
G4-3	Report the name of the organisation	11	Astaldi Società per Azioni, in short Astaldi S.p.A.
G4-4	Report the primary brands, products and services	11 25	
G4-5	Report the location of the organisation's headquarters		Registered office: Via Giulio Vincenzo Bona 65, 00156, Rome (Italy)
G4-6	Report the number of countries where the organisation operates, and names of countries where either the organisation has significant operations or that are specifically relevant to the sustainability topics covered in the report	11	
G4-7	Report the nature of ownership and legal form	14	For more information, reference should be made to the "Report on corporate governance and ownership structure" available on the website www.astaldi.com
G4-8	Report the markets served (including geographic breakdown, sectors served, and types of customers and beneficiaries)	11 25 27	
G4-9	Report the scale of the organisation, including: total number of employees; total number of operations; net sales or net revenues; total capitalisation broken down in terms of debt and equity; quantity of products or services provided.	11 25 27 38	
G4-10	Report the total number of employees by employment contract, region/country and gender, reporting and explaining any significant variations in employment numbers in the past year and the reasons therefor	38	With reference to the principle of comparability, the group deems it suitable to present data for the average workforce as this gives a better understanding of its HR trends. In terms of type of employment, the number of self-employed workers or part-time employees is not significant at the group as almost all employees have full-time contracts. At the registered office in Rome (where the number of part-time employees could be considered significant with respect to full-time employees), the percentage of part-time (with open-ended contracts) to total is 8.4%.
G4-11	Report the percentage of total employees covered by collective bargaining agreements	38	In countries that apply collective bargaining agreements, the percentage of (local) employees covered by such agreements are; Italy 100%; Canada 70%; Peru 93%; Chile 67%.
G4-12	Describe the organisation's supply chain	31	

ID		Page	NOTES AND OMISSIONS
G4-13	Report any significant changes during the reporting period regarding the organisation's size, structure, ownership, location, or changes in, operations, including facility openings, closings, and expansions into new markets Report any changes in the share capital structure Report any changes in the location of suppliers, the structure of the supply chain, or in relationships with suppliers (including any terminations of relationships with particularly significant suppliers)	17 31	In May 2017, changes were made to responsibility within the group, affecting the corporate structures, central and country managements and the chief executive officers of group companies In September 2017, the Astaldi Group's general organisational chart was updated as follows: - developing the staff of the domestic general management and international general management via the procurement coordination figures; - developing the O&M business segment - creating a department to supervise the implementation of guidelines for financial planning and reporting to support the administration and finance general management. - including organisational components into the integrated management system. For more information, reference should be made to the "Report on corporate governance and ownership structure" available on the website www.astaldi.com There were no significant changes in the location of suppliers, the structure of the supply chain or in relationships with strategic suppliers.
G4-14	Report whether and how the precautionary approach or principle is addressed by the organisation.	19	
G4-15	List externally developed economic, environmental and social charters, principles, or other initiatives to which the organisation subscribes or which it endorses.	-	To date, Astaldi has not signed any national or international externally developed economic, environmental and social charters, principles, or other initiatives
G4-16	List memberships of associations and national or international advocacy organisations in which the organisation: holds a position on a governance body; participates in projects or committees; provides substantive funding beyond routine membership dues; views membership as strategic	53	
Identified material aspects and boundaries			
G4-17	List all entities included in the organisation's consolidated financial statements or equivalent documents. Report whether any entity included in the organisation's consolidated financial statements or equivalent documents is not covered by the report.	6	For a list of companies included in the consolidated financial statements, reference should be made to the "2017 Annual Financial Report" available on the website www.astaldi.com . For entities included in the consolidated financial statements but excluded from this statement, reference should be made to § Methodology for reporting non-financial information and paragraph § Reporting scope.
G4-18	Explain the process for defining the report content and the aspect boundaries, including: determining the materiality; setting the priority of topics within the report; identifying the stakeholders to which the report is addressed. Explain how the organisation has implemented the reporting principles for defining report content.	5 22 23	
G4-19	List all the material aspects identified in the process for defining report content.	23	

G4-20	For each material aspect, report the aspect boundary within the organisation, as follows:
	• Report whether the aspect is material within the organisation
	• If the aspect is not material for all entities within the organisation (as described in G4-17), select one of the following two approaches and report either:
	  • the list of entities or groups of entities included in G4-17 for which the aspect is not material or;
	  • the list of entities or groups of entities included in G4-17 for which the aspect is material
	• Report any specific limitation regarding the aspect boundary within the organisation.
		23	Some aspects are material for Astaldi Concessioni's business. In more detail, with regard to the labour practices and decent work category, injuries in the workplace are not significant - indeed, the injuries reported refer to employees working in engineering, procurement and construction.

G4-21	For each material aspect, report the aspect boundary outside the organisation, as follows: • Report whether the aspect is material outside of the organisation • If the aspect is material outside of the organisation, identify the entities, groups of entities or elements for which the aspect is material. In addition, describe the	23	For the "outside the organisation" boundary, the group considered the performance of suppliers/general third-party companies operating at the group's in-scope production units.

ID		Page	NOTES AND OMISSIONS
	geographical location where the aspect is material for the entities identified • Report any specific limitation regarding the aspect boundary outside the organisation		
G4-22	Report the effect of any restatements of information provided in previous reports, and the reasons for such restatements.	n/a	This statement is the group's first to be externally published.
G4-23	Report significant changes from previous reporting periods in the scope and aspect boundaries	n/a	This statement is the group's first to be externally published. In any case, the scope of reporting changes from year to year following the completion and beginning of new contracts in the segments where the group operates.
Stakeholder engagement			
G4-24	Provide a list of stakeholder groups engaged by the organisation	56	
G4-25	Report the basis for identification and selection of stakeholders with whom to engage	22	Stakeholders are identified at corporate and at local level according to a single mapping criterion. Right from the planning or start-up phase, each project team identifies the stakeholders with whom to engage, defining the type and frequency of engagement based on requirements.
G4-26	Report the organisation's approach to stakeholder engagement, including frequency of engagement by type and by stakeholder group	56	The frequency and type of activities that are developed are closely related to the world where the group operates. Therefore, the specific activities included in the different projects are defined (with regard to type and frequency) considering the tools that regulate this aspect in the management system applied to the project (Project management plan, Community relations plan, Communications management plan, etc.), which are periodically reviewed also to implement any requirements presented by the various stakeholders.
G4-27	Report key topics that have been raised by stakeholder groups and their reporting, if any	56	
Report profile			
G4-28	Reporting period for information provided	5	2017 (calendar year).
G4-29	Date of most recent previous report (if any)	n/a	This statement is the group's first to be externally published.
G4-30	Reporting cycle (such as annual, biennial)	5	Annual.
G4-31	Provide the contact point for questions regarding the report or its contents	-	sustainability@astaldi.com
G4-32	Report the "in accordance" option the organisation has chosen, report the GRI Content Index for the chosen option and report the reference to the external assurance report, if the report has been externally assured.	5 i	The group has chosen the "comprehensive" GRI option in preparing its 2017 sustainability profile. The GRI Content Index is attached to the sustainability profile.
G4-33	• Report the organisation's policy and current practice with regard to seeking external assurance for the report. • If not included in the assurance report accompanying the sustainability report, report the scope and basis of any external assurance provided. • Report the relationship between the organisation and the assurance providers. • Report whether the highest governance body or senior executives are involved in seeking assurance for the organisation's sustainability report.	-	The independent auditors KPMG S.p.A. have been engaged by the board of directors to carry out the external assurance activities.
Governance			
G4-34	Report the governance structure of the organisation, including committees of the highest governance body. Identify any committees responsible for decision-making on economic, environmental and social impacts	14 22	For more information, reference should be made to the "Report on corporate governance and ownership structure" available on the website www.astaldi.com
G4-35	Report the process for delegating authority for economic, environmental and social topics from the highest governance body to senior executives and other employees.	14 17 22	
G4-36	Report whether the organisation has appointed an executive-level position or positions with responsibility for economic, environmental and social topics, and whether post holders report directly to the highest governance body.	-	The group's integrated sustainability organisation and management service, which reports to the chief executive officer, is in charge of overseeing the management model, including with regard to sustainability, from a business outlook. The head of such management is the secretary and a member of the sustainability committee which is comprised of the chief executive officer, general managers and deputy managers.

ID		Page	NOTES AND OMISSIONS
			The head of such management is also "Management representative", i.e., the person entrusted with overseeing the integrated quality, safety and environment and social responsibility management system and who reports to the chief executive officer of the Astaldi Group.
G4-37	Report processes for consultation between stakeholders and the highest governance body on economic, environmental and social topics. If consultation is delegated, describe to whom and any feedback processes to the highest governance body.	14 22	Assessments of requests submitted by stakeholders involve Astaldi S.p.A.'s different committees.
G4-38	Report the composition of the highest governance body and its committees by: • Executive or non-executive • Independence • Tenure on the governance body • Number of each individual's other significant positions and commitments, and the nature of the commitments • Gender • Membership of under-represented social groups • Competences relating to economic, environmental and social impacts • Stakeholder representation	14	For more information, reference should be made to the "Report on corporate governance and ownership structure" available on the website www.astaldi.com
G4-39	Report whether the Chair of the highest governance body is also an executive officer (and, if so, his or her function within the organisation's management and the reasons for this arrangement)	-	Reference should be made to the "Report on corporate governance and ownership structure" available on the website www.astaldi.com
G4-40	Report the nomination and selection processes for the highest governance body and its committees, and the criteria used for nominating and selecting highest governance body members, including: • Whether and how diversity is considered • Whether and how independence is considered • Whether and how expertise and experience relating to economic, environmental and social topics are considered • Whether and how stakeholders (including shareholders) are involved.	14	For more information, reference should be made to the "Report on corporate governance and ownership structure" available on the website www.astaldi.com
G4-41	Report processes for the highest governance body to ensure conflicts of interest are avoided and managed. Report whether conflicts of interest are disclosed to stakeholders, including, as a minimum: • Cross-board membership • Cross-shareholding with suppliers and other stakeholders • Existence of controlling shareholder • Related party disclosures	15 17	The organisational solutions adopted are shown in the "Report on corporate governance and ownership structure" available on the website www.astaldi.com
G4-42	Report the highest governance body's and senior executives' roles in the development, approval, and updating of the organisation's purpose, value or mission statements, strategies, policies, and goals related to economic, environmental and social impacts.	14 16 17 22	Reference should be made to the "code of ethics" available on the website www.astaldi.com
G4-43	Report the measures taken to develop and enhance the highest governance body's collective knowledge of economic, environmental and social topics.	14 22	
G4-44	Report the processes for evaluation of the highest governance body's performance with respect to governance of economic, environmental and social topics. Report whether such evaluation is independent or not, and its frequency. Report whether such evaluation is a self-assessment. Report actions taken in response to these evaluations	14 17 22	On an annual basis starting from 2018, Astaldi publishes this non-financial statement related to sustainability (economic, environmental and social) Furthermore, at least once a year, the sustainability committee carries out its periodic assessment of the group's performance. This is also in order to make decisions and perform consequent actions aimed at ensuring the ongoing suitability, adequacy and effectiveness of the integrated management system, in addition to its alignment with the group's strategic guidelines, including with regard to sustainability.
G4-45	Report the highest governance body's role in the identification and management of economic, environmental and social impacts, risks, and opportunities. Include the highest governance body's role in the implementation of due diligence processes. Report whether stakeholder consultation is used to support the highest governance body's identification and management of economic, environmental and social impacts, risks, and opportunities.	14 17 22	The sustainability committee and the control and risks committee work in sync to analyse the risks and opportunities of the economic, environmental and social performance, in support of the group's highest governance bodies. As part of planning sustainability initiatives, information on the different needs of interest parties is gathered through the various communication channels described in the report. Such information is used in assessing stakeholder interest with regard to the materiality matrix.

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G4-46	Report the highest governance body's role in reviewing the effectiveness of the organisation's risk management processes for economic, environmental and social topics.	-	Senior management's assessment of the effectiveness of risk management processes for economic, environmental and social topics is supported by the internal audit department and the summary assessment of the audit activities performed by the integrated sustainability organisation and management presented at meetings of the sustainability committee. Furthermore, the head of corporate risk management ensures monitoring of risks (including those related to sustainability and CSR) that are sources of critical issues in reaching objectives.
G4-47	Report the frequency of the highest governance body's review of economic, environmental and social impacts, risks, and opportunities.	22	Every year, during the periodic review of the performance of the group's management system, which assesses the adequacy of the objectives, goals and general elements of the management system, including the group's sustainability policy.
G4-48	Report the highest committee or position that formally reviews and approves the organisation's sustainability report and ensures that all material aspects are covered.	22	The sustainability profile has been approved by the sustainability committee and the board of directors of Astaldi S.p.A.. Group management periodically checks that material aspects are covered according to the approach set out on page 23.
G4-49	Report the process for communicating critical concerns to the highest governance body	14 22	
G4-50	Report the nature and total number of critical concerns that were communicated to the highest governance body and the mechanism(s) used to address and resolve them	-	Potentially critical concerns are periodically communicated to the board of directors by the supervisory body about application of the Model as per Legislative decree no. 231/01. There were no communications made to the board of directors in 2017.
G4-51	Report the remuneration policies for the highest governance body and senior executives for the main types of remuneration. • Fixed pay and variable pay: performance-based pay; equity-based pay; bonuses; deferred or vested shares • Sign-on bonuses or recruitment incentive payments • Termination payments • Clawbacks • Retirement benefits, including the difference between benefit schemes and contribution rates for the highest governance body, senior executives, and all other employees. b. Report how performance criteria in the remuneration policy relate to economic, environmental and social objectives.	15	Reference should be made to the "Remuneration report" available on the website www.astaldi.com.
G4-52	Report the process for determining remuneration of highest governance bodies. Report whether remuneration consultants are involved in determining remuneration and whether they are independent of management. Report any other relationships which the remuneration consultants have with the organisation.	15	Reference should be made to the "Remuneration report" available on the website www.astaldi.com.
G4-53	Report how stakeholders' views are sought and taken into account regarding remuneration, including the results of votes on remuneration policies and proposals, if applicable.	15	Reference should be made to the "Remuneration report" available on the website www.astaldi.com.
G4-54	Report the ratio of the annual total compensation for the organisation's highest-paid individual in each country of significant operations to the median annual total compensation for all employees (excluding the highest-paid individual) in the same country	-	The ratio of the annual total compensation for the highest-paid individual to the median annual total compensation for all employees (excluding the highest-paid individual) by geographical segment is: Italy 21.6; Algeria 13.3; Central America 3.5; Canada 7.3; Chile 5.2; Peru 5.3; Poland 5.1; Romania 7.7; USA 3.0; Turkey 6.6.
G4-55	Report the ratio of percentage increase in annual total compensation for the organisation's highest-paid individual in each country of significant operations to the median percentage increase in annual total compensation for all employees (excluding the highest-paid individual) in the same country.	-	The ratio of percentage increase in annual total compensation for the highest-paid individual to the median percentage increase in annual total compensation for all employees is 0 for Italy, Algeria, Turkey, Chile; Peru, Canada, Poland, Romania and the USA.
Ethics and integrity			
G4-56	Describe the organisation's values, principles, standards and norms of behaviour such as codes of conduct and codes of ethics	10 16	

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G4-57	Report the internal and external mechanisms for seeking advice on ethical and lawful behaviour, and matters related to organisational integrity, such as helplines or advice lines.	-	The ethics committee is in charge of assessing any reports from any representative, employee or consultant of Astaldi S.p.A. of unethical behaviour. Specifically, the committee assesses the implications of the reports received and then decides which company departments and bodies the reports shall be redirected to on a case-by-case basis. Moreover, Astaldi has an internal whistleblowing system for reporting any irregularities or violations of applicable legislation or internal procedures
G4-58	Report the internal and external mechanisms for reporting concerns about unethical or unlawful behaviour, and matters related to organisational integrity, such as escalation through line management, whistleblowing mechanisms or hotlines.	-	Reference should be made to G4-57

SPECIFIC STANDARD DISCLOSURES – CATEGORY: ECONOMIC

ID		Page	NOTES AND OMISSIONS
Material aspect: Economic performance			
G4-DMA	Generic disclosures on management approach	23 25 27 29	
G4-EC1	Direct economic value generated and distributed.	29 26	Considering the group's investment property as a percentage of total assets, the directly-related taxes are not significant.
G4-EC2	Financial implications and other risks and opportunities for the organisation's activities due to climate change.	58 32	
G4-EC3	Coverage of the organisation's defined benefit plan obligations.	-	Reference should be made to the "Employee benefits" section of the 2017 Annual Financial Report. The current pension system is essentially comprised of two pillars: the mandatory scheme and the voluntary supplementary scheme. The contributions and relevant payments are regulated by special legislations. There are no other defined benefit plans.
G4-EC4	Financial assistance received from government.	-	There is a buyer credit policy in place to insure the loan given to 51%-owned SPV in Turkey (Etlik hospital) amounting to €125 million.
Material aspect: Procurement practices			
G4-DMA	Generic disclosures on management approach	23 31	
G4-EC9	Policies, practices and proportion of spending on local suppliers at significant locations of operation	33	2017 figures are reported. The group is currently upgrading the data and information collection, control and monitoring system, so that data in future reports can be compared with corresponding data of previous years.

SPECIFIC STANDARD DISCLOSURES – CATEGORY: ENVIRONMENTAL

ID		Page	NOTES AND OMISSIONS
Aspect: Materials			
G4-EN1	Materials used by weight or volume	64	With regard to disclosure, the materials typical of the group's business are reported.
G4-EN2	Percentage of materials used that are recycled input materials	65	Due to the business type, in assessing recycled materials within group projects, excavated materials are significant in terms of total quantities.
Material aspect: Energy			
G4-DMA	Generic disclosures on management approach	23 61	
G4-EN3	Energy consumption within the organisation	61	The conversion methods and factors used are reported in the text or as a footnote. The amount of consumption from renewable fuel sources as a percentage of total consumption is not significant. Electricity is the only significant indirect energy consumption. Consumption trends are influenced by the group's operations. Fluctuations in data are mainly due to the variability of direct and indirect operating activities carried out in different years.
G4-EN4	Energy consumption outside of the organisation	61	The conversion methods and factors used are reported in the text or as a footnote. Energy consumption outside of the organisation refers to consumption deriving from the activities of third parties working on the group's projects. As in G4-EN3, the amount of consumption from renewable fuel sources as a percentage of total consumption is not significant. Consumption trends are influenced by the group's operations. Fluctuations in data are mainly due to the variability of direct and indirect operating activities carried out in different years.
G4-EN5	Energy intensity	61	The ratio includes all consumption (inside and outside of the organisation). In order to obtain an energy intensity ratio that represents the business, consumption is calculated as a percentage of total operating revenue of the Astaldi Group.
G4-EN6	Reduction of energy consumption	62	Considering the temporary nature of activities, a qualitative description of this aspect is more significant. In relation to energy efficiency actions presented, the quantification of energy saving was assessed by comparing the previous situation to the current one (in terms of capacity of the lighting system by the annual average hours of use).
G4-EN7	Reductions in energy requirements of products and services	62	Reference should be made to G4-EN6
CRE1	Building energy intensity	-	Building energy intensity is not reported as it is not significant for the purposes of presenting the group's environmental performance.
Aspect: Water			
G4-EN8	Total water withdrawal by source	64	Water withdrawal was quantified at 72% of sites via direct measurements, 26% via estimates and the remaining 2% via calculation models.
G4-EN9	Water sources significantly affected by withdrawal of water	-	The Alto Piura hydroelectric project (Peru) is fed by the Río Huancabamba (capacity of roughly 1,275,000 m^3/day) and the Quebrada Cashapite (capacity of roughly 13,990 m^3/day), classified as very important water sources for the local communities and indigenous people. The capacity amounts refer to the capacity measured in October 2017 where the tunnel will be built.
G4-EN10	Percentage and total volume of water recycled and reused	64	The volume of water recycled and reused was quantified at 38% of sites via direct measurements and at 62% via estimates.
CRE2	Building water intensity	-	Building water intensity is not reported as it is not significant for the purposes of presenting the group's environmental performance.
Aspect: Emissions			
G4-EN15	Direct greenhouse gas (GHG) emissions (scope 1)	63	Reference should be made to section § Reporting scope for information on the consolidation approach.

ID		Page	NOTES AND OMISSIONS
G4-EN16	Energy indirect greenhouse gas (GHG) emissions (scope 2)	63	Reference should be made to section § Reporting scope for information on the consolidation approach.
G4-EN17	Other indirect greenhouse gas (GHG) emissions (scope 3)	63	
G4-EN18	Greenhouse gas (GHG) emissions intensity	63	This ratio includes emissions from consumption both inside and outside of the organisation. Consumption is calculated as a percentage of total hours worked (direct and third-party personnel) by the entire Astaldi Group. Hours worked were used as the denominator as they best represent the impact on total revenue.
G4-EN19	Reduction of greenhouse gas (GHG) emissions	-	The reduction of GHG is closely related to the reduction of energy consumption. Reference should be made to G4-EN6.
G4-EN20	Emissions of ozone-depleting substances (ODS)	-	This information is not reported as it is not material for group activities.
G4-EN21	NO_x, SO_x, and other significant air emissions	-	This information is not reported as it is not material for group activities.
CRE3	Greenhouse gas emissions intensity from buildings	-	Greenhouse gas emissions intensity from buildings is not reported as it is not significant for the purposes of representing the group's environmental performance.
CRE4	Greenhouse gas emissions intensity from new construction and redevelopment activity	-	Greenhouse gas emissions intensity from new construction and redevelopment activity is not reported as it is not significant for the purposes of representing the group's environmental performance.
Material aspect: Land degradation, pollution and remediation			
G4-DMA	Generic disclosures on management approach	23 58	
CRE5	Land remediated and in need of remediation	-	Surface area of remediated and redeveloped land: 2.72 ha (all in Italy - high speed Naples-Afragola Station: 0.70 ha; Line 4 of the Milan metro: 0.01 ha; Quadrilatero Marche-Umbria road system: 0.21 ha; Line 5 of the Milan metro: 1.80 ha) Surface area of land that may be remediated and not yet redeveloped: 171.89 ha (Honduras - Jicaro Galán – Santa Elena and Jicaro Galán – Desvío El Transito: 0.05 ha; Italy - Line 4 of the Milan metro: 1.34 ha; Italy - Dredging of the port of Taranto: 134.00 ha; Italy - Nuraghe project: 36.50 ha) Surface area of potentially polluted land where the pollution is unknown: 15.02 ha (Honduras - Jicaro Galán – Santa Elena and Jicaro Galán – Desvío El Transito: 0.02 ha; Italy – Nuraghe project: 15.00 ha) In all cases, the pollution was caused by third parties and is not directly attributable to group activities.

SPECIFIC STANDARD DISCLOSURES – CATEGORY: SOCIAL

SUB-CATEGORY – LABOUR PRACTICES AND DECENT WORK

ID		Page	NOTES AND OMISSIONS
Material aspect: Employment			
G4-DMA	Generic disclosures on management approach	23 38	
G4-LA1	Total number and rates of new employee hires and employee turnover by age group, gender and region	50	The figures refer to activities considered significant for the Astaldi Group's business, according to that set out on page 6. 2017 figures are reported. The group is currently upgrading the data and information collection, control and monitoring system, so that data in future reports can be compared with corresponding data of previous years.
G4-LA2	Benefits provided to full-time employees that are not provided to temporary or part-time employees, by significant locations of operation	41	Employees with fixed-term contracts are given all the benefits granted to employees of similar levels and positions with open-ended contracts, except for the supplementary health insurance policy which only covers employees with open-ended contracts.
G4-LA3	Return to work and retention rates after parental leave, by gender	42	There are 1,528 employees with the right to parental leave (86% men and 14% women) 2017 figures are reported. The group is currently upgrading the data and information collection, control and monitoring system, so that data in future reports can be compared with corresponding data of previous years.
Material aspect: Occupational health and safety			
G4-DMA	Generic disclosures on management approach	23 43	
G4-LA5	Percentage of total workforce represented in formal joint management-worker health and safety committees that help monitor and advise on occupational health and safety programs	-	Formal health and safety committees have been set up in Canada, Central America, Peru, Chile, Romania, Turkey and Poland. The percentage of the workforce represented (at country/geographical segment level) is: Canada 1%; Central America 6%; Chile 1%; Peru 2%; Romania 95%; Turkey 3%; Poland 19%. These committees meet periodically and are consulted for/participate in assessing risk and contribute to programmes to improve safety levels in projects and at group production units. The percentage of workers represented refers to times during the year when the workforce is at its highest. In Italy, in line with the Consolidated act on safety in the workplace (Legislative decree no. 81/2008), these aspects are managed by designating worker safety representatives at each production unit.
G4-LA6	Type of injury and rates of injury, occupational diseases, lost days, and absenteeism, and total number of work-related fatalities, by region and by gender	45 46	The figures refer to activities considered significant for the Astaldi Group's business, according to that set out on page 6. The breakdown by gender is not represented as, due to the type of production activities carried out, the employee category most exposed to these risks is craft employees which are almost all men (§ Worker profile). There were three work-related fatalities during the year involving employees of subcontractors (two in Central America and one in Turkey) In 2017, occupational diseases rate by region (calculated by 1 million hours worked) in regions where occupational diseases were recorded is: Italy 7.73; Chile 1.23. For Italy, the calculation also includes cases of occupational diseases where the prognosis was not yet known by the group in 2017. The occupational diseases rate for independent contractors is nil. The absentee rate by region (calculated as the lost days rate) is: Italy 6.1%; Poland 3.7%; Romania 6.3%; Turkey 1.3%; Algeria 0.7%; USA ~0.0%; Canada 0.2%; Central America 0.4%; Chile 2.4%; Peru 0.3%. The absentee rate for independent contractors is: Italy 0.6%; Poland ~0.0%; Romania 0.2%; Turkey 1.0%; Algeria ~0.0%; USA 0.0%; Canada ~0.0%; Central America 0.1%; Chile 0.2%; Peru ~0.0%. Days works are calculated using total hours worked by direct and third-party personnel, assuming 10 man/hours per day. Injuries incurred during production activities are mainly linked to people slipping, tripping or falling, colliding with objects and improper use of equipment. The consequence of such injuries are mainly wounds, fractures and bruises. There were 772 dangerous occurrences recorded in 2017.

ID		Page	NOTES AND OMISSIONS
G4-LA7	Workers with high incidence or high risk of diseases related to their occupation	-	The health and safety risks for Astaldi S.p.A. employees are those linked to construction activities. The risk of occupational diseases chiefly relates to musculoskeletal disorders and hearing and respiratory problems. For each project, the group assesses the risks for all workers involved in line with corporate policies and in compliance with local legislation. In 2017, direct employees at high risk of disease amounted to 2,030, in Italy (10%), Chile (84%) and Central America (6%).
G4-LA8	Health and safety topics covered in formal agreements with trade unions	-	In 2017, at local level, 84% of formal agreements signed with trade unions for group projects contain health and safety clauses. These agreements mainly refer to investigating injuries, site visits, recognition/awards to workers for their compliance with the safety procedures and standards in carrying out their work activities and organisation.
CRE6	Percentage of the organisation operating in verified compliance with an internationally recognised health and safety management system	36	Astaldi adopts the OHSAS 18001 standard at all group companies. Due to legislation regulating the health and safety component of Astaldi's integrated management system at sites where the group operates, 100% of personnel (both direct and third party) operate in line with OHSAS 18001. Internally, all group projects and companies undergo an audit of compliance with the OHSAS 18001 standard which is performed by personnel belonging to the project team/group company. At corporate level, an audit programme is defined which, on a sample basis based on ISO 19001 guidelines, covers all Astaldi Group activities and, therefore, 100% of personnel performing such activities. Externally, OHSAS 18001 compliance of the health and safety component of Astaldi's integrated management system is checked by an independent certification body via an audit programme that covers roughly 90% of in-scope sites/production units for 99% of direct personnel (figures at 31 December 2017).
Material aspect: Training and education			
G4-DMA	Generic disclosures on management approach	23 47	
G4-LA9	Average hours of training per year per employee by gender, and by employee category	47	Due to the type of production activities performed, the composition of personnel in group projects is predominantly male (§ Worker profile). Accordingly, a breakdown by gender is not significant for this disclosure. Awareness in daily health and safety management is one of the prerequisites for implementing sustainability policies and it is achieved partly by ongoing information and training activities for personnel of all levels and contracts. Health and safety training (which comprises 72% of total training provided) is not differentiated in any way as it is part of the combined performance data used for the integrated management system.
G4-LA10	Programs for skills management and lifelong learning that support the continued employability of employees and assist them in managing career endings.	47	Internal skills are managed and developed via managerial and technical/professional training programmes. The group's internal managerial school, the Astaldi Corporate Academy, aims to provide professional refresher courses (economics, performance management, business processes, project management, strategy and innovation and soft skills). The personnel involved, mainly managers and technical/professional staff, and the relevant training programmes, are chosen by the group on the basis of position held and the relevant training needs. The training plan is also inspired by group values and business plan needs. Italian legislation provides for post-employment benefits that only consider years of service, as well as providing for social security cushions in the event of consensual termination of employment.

ID		Page	NOTES AND OMISSIONS
G4-LA11	Percentage of employees receiving regular performance and career development reviews, by gender and by employee category	47	Employee reviews are carried out annually, including for the purposes of assigning production and career development bonuses. Astaldi applies a job evaluation method which determines the organisational weight (of positions within the group) in order to objectively and fairly support employee rewarding, mobility and development policies. 2,079 employee reviews were carried out in 2017 for managers (5.6% of total reviews), middle managers/staff employees (47.9%) and craft employees (46.5%) in Italy and abroad.
Aspect: Diversity and equal opportunity			
G4-LA12	Composition of governance bodies and breakdown of employees per employee category according to gender, age group, minority group membership, and other indicators of diversity	14 38	For more information, reference should be made to the "Report on corporate governance and ownership structure" available on the website www.astaldi.com

SUB-CATEGORY – HUMAN RIGHTS

ID		Page	NOTES AND OMISSIONS
Material aspect: Non-discrimination			
G4-DMA	Generic disclosures on management approach	23 16	
G4-HR3	Total number of incidents of discrimination and corrective actions taken	-	No incidents of discrimination were reported during the reporting period.
Material aspect: Indigenous rights			
G4-DMA	Generic disclosures on management approach	23 16	
G4-HR8	Total number of incidents of violations involving rights of indigenous peoples and actions taken	-	No incidents of violations involving rights of indigenous peoples were reported during the reporting period.

SUB-CATEGORY – SOCIETY

ID		Page	NOTES AND OMISSIONS
Material aspect: Anti-corruption			
G4-DMA	Generic disclosures on management approach	16 23	
G4-SO3	Total number and percentage of operations assessed for risks related to corruption and the significant risks identified	16	The main areas of risk in the macro-category of risks related to corruption are: managing: relationships with local sponsors; initiatives, prequalfications, bids, negotiations and contract signing (public bids or private negotiations); authorisations/licences and certifications; partnerships; procurement and subcontracts; company assets; human resources and company organisation; legal disputes, appointing legal advisors and coordinating activities; intercompany transactions; corporate and contract planning and control; tax fulfilments; corporate and contract finance and treasury; grants, financing, special rate mortgages, subsidies from public or private parties; corporate affairs; recurring and non-recurring transactions; relationships with public officials during the public administration's inspection and control activities. The main risks identified are related to crimes against public administration (corruption in performing duties, an act contrary to official duties, in judicial documents, of public service officers, incitement to corruption and incitement to corruption of board members and officials of the European Union and foreign states) and corporate crimes (corruption in the private sector) The group carries out periodic fraud risk assessments in order to identify and assess the potential risks of corruption and related controls that cover 100% of operations.
G4-SO4	Communication and training on anti-corruption policies and procedures	16	All managers, employees and external consultants (associates, project partners, suppliers, subcontractors, etc.) receive communications about the Astaldi Group's anti-corruption policies via the code of ethics. In addition, personnel at risk of corruption (due to their position or duties) receive specific training on these issues. In 2017, 966 hours of training on these topics were provided (21% to managers, 24% to middle managers and 55% to staff employees) to a total of 935 employees (22% managers, 22% middle managers and 56% staff employees), via e-learning to Astaldi group employees and via on-site training by the supervisory body at the most strategic foreign sites (48% of training hours) and on the most material Italian projects (52% of training hours – including the head office).
G4-SO5	Confirmed incidents of corruption and actions taken	-	There were no incidents of corruption reported during the reporting period.

SUB-CATEGORY – PRODUCT RESPONSIBILITY

ID		Page	NOTES AND OMISSIONS
Material aspect: Customer health and safety			
G4-DMA	Generic disclosures on management approach	23 36	
G4-PR1	Percentage of significant product and service categories for which health and safety impacts are assessed for improvement	-	100% - All of the group's works are designed (right from the planning stage) to ensure the health and safety of users.
G4-PR2	Total number of incidents of non-compliance with regulations and voluntary codes concerning the health and safety impacts of products and services during their life cycle, by type of outcomes	-	This indicator mostly refers to the concessions segment. There were no cases of non-compliance related to health and safety impacts of products and services during the reporting period with specific reference to regulations and voluntary codes concerning the health and safety impacts of products and services during their life cycle.
Material aspect: Product and service labelling			
G4-DMA	Generic disclosures on management approach	23 36	
G4-PR3	Type of product and service information required by the organisation's procedures for product and service information and labelling, and percentage of significant product and service categories subject to such information requirements	n/a	This indicator is not reported as it is basically not applicable to Astaldi and its activities.
G4-PR4	Total number of incidents of non-compliance with regulations and voluntary codes concerning product and service information and labelling, by type of outcomes	37	This indicator mostly refers to the concessions segment. There were no cases of non-compliance related to the quality of service provided with specific reference to non-compliance with regulations and voluntary codes concerning services provided.
G4-PR5	Results of surveys measuring customer satisfaction	-	Reference should be made to G4-PR4.
CRE8	Type and number of sustainability certification, rating and labelling schemes for new construction, management, occupation and redevelopment	59	

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