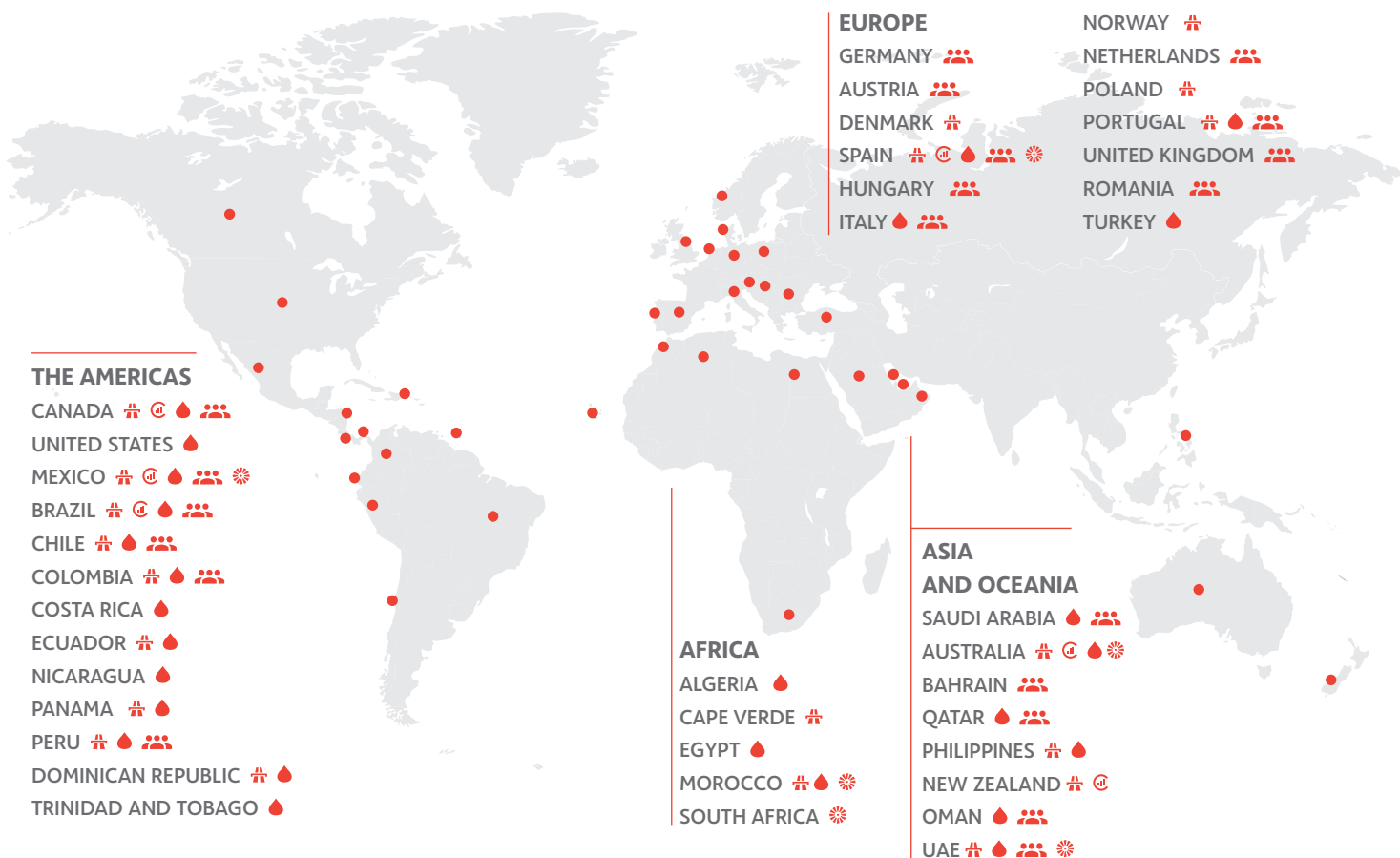


ACCIONA INFRASTRUCTURE'S COMMITMENT

ACCIONA Infrastructure has extensive experience in the development and execution of large-scale projects throughout the world. Its activities are broken down into five main business lines: Construction, Concessions, Water, Industrial and Services.



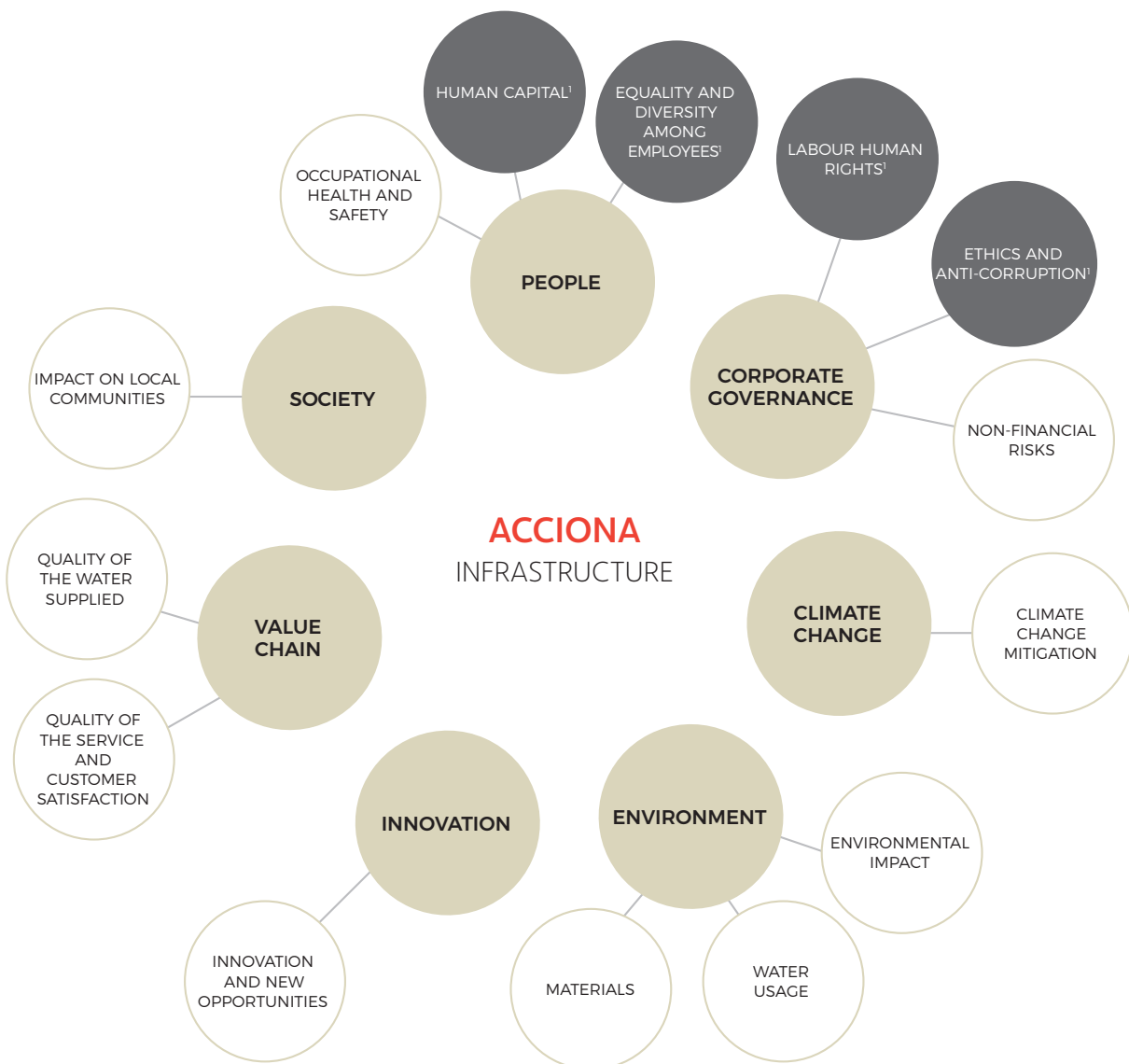
🏗️ CONSTRUCTION
⚙️ CONCESSIONS
💧 WATER
👤 SERVICES
☀️ INDUSTRIAL

ACCIONA INFRASTRUCTURES IN 2017



ACCIONA INFRASTRUCTURE SUSTAINABILITY PERFORMANCE

This chapter presents some of the main issues that were identified in 2017 as being highly relevant to ACCIONA Infrastructure's key stakeholders. In each aspect below we will describe the sustainability performance of the division in 2017.



Note 1. The performance of these aspects is described in the "People" and "Corporate Governance" chapters.

HIGHLIGHTS IN 2017 IN THE THREE DIMENSIONS

ECONOMIC

- The index of satisfied customers was 100 % for all of Infrastructure²⁹.
- 94.34 % of suppliers are locals.
- A total innovation figure of EUR 142.39 million.

SOCIAL

- Implementation of the Social Impact Management methodology in 87 projects and 30 countries
- 11 % reduction in on route or on mission accidents (road safety).
- Socioeconomic impact measured in the Metro of Quito and Kathu solar thermal plant.

ENVIRONMENTAL

- 775 hm³ of desalinated, treated and purified water.
- Over 98 % of the water treated was in 8 countries with regions under water stress.
- 100 % of emissions generated were offset (647,307 t CO₂e in 2017).

HEALTH AND SAFETY AT INFRASTRUCTURE

ACCIONA Infrastructure's health and safety management vision is grounded in the development of a Smart Prevention strategy that uses programmes, tools, technological resources and procedures available to the businesses to develop and carry out health and safety and the effective and efficient promotion of employee well-being.

The health and safety culture is in the process of transformation through the use of programmes that reinforce employees' commitment to the current vision of the company and its stakeholders, having become one of the core values of the Cultural Transformation strategy relating to the OHS of the Infrastructure division.

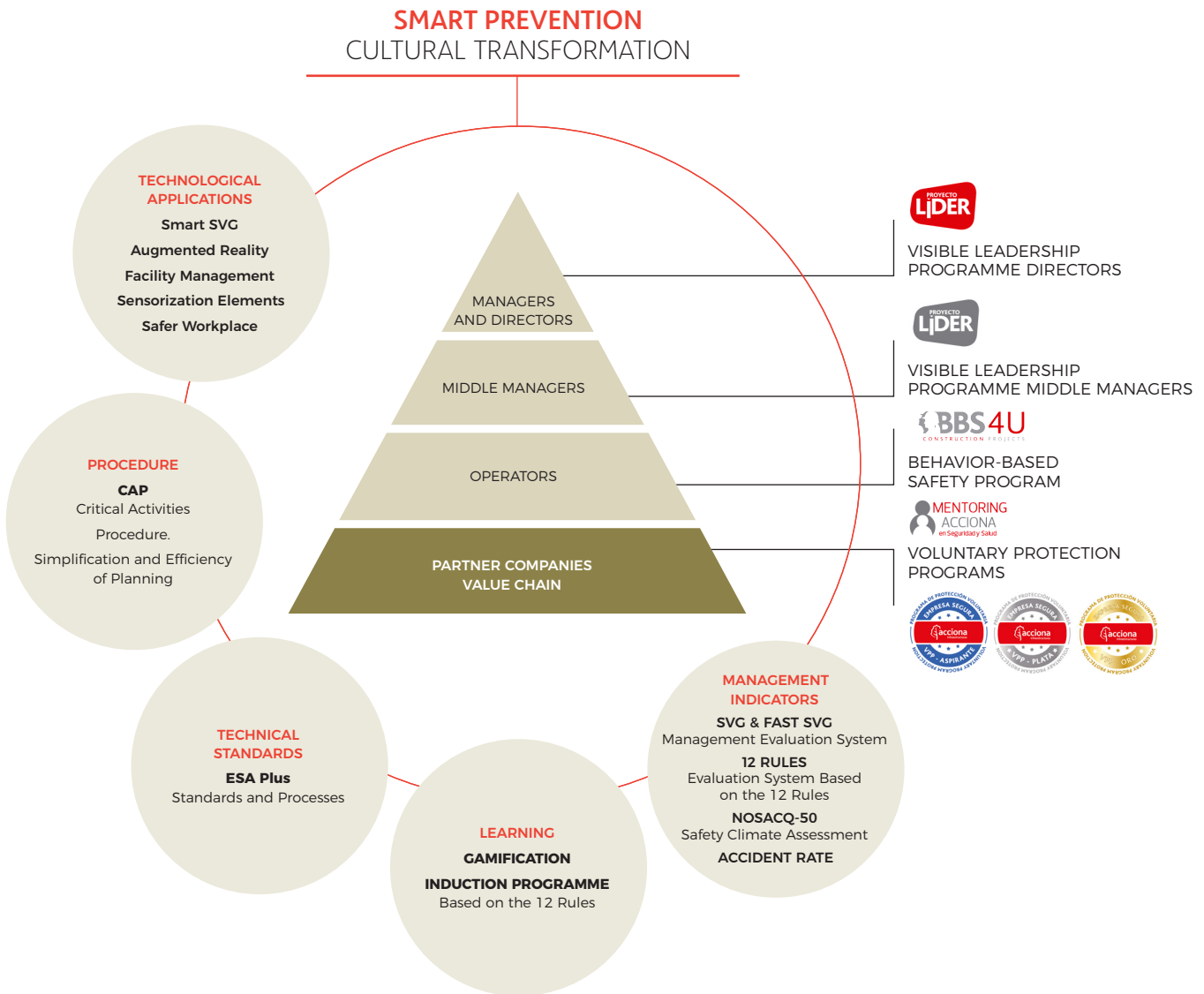
ACCIONA Infrastructure's management system is global. This strategy maintains a flexible balance between the local demands and those of the customers, and generates costs savings in certifications, as the basic methodologies are standardised based on OHSAS 18001 standard processes. In 2017, and pursuant to the objectives of the Sustainability Master Plan (SMP 2020), 98.89 % of Infrastructure is certified under this standard.

Within the risk management model, reporting and response to incidents is key. The established communications channel (prl.infraestructuras@acciona.com) allows a quicker response when managing incidents.

(29) Construction only encompasses data from Spain.

FIGURE 1.

Smart prevention. Cultural transformation



With regard to training, 479,800 hours were provided in 2017, including both internal and subcontracted workers. For 2018, it is expected that the training courses will continue to be digitalised both in the area of OHS and the technical area, creating formative itineraries for each job.



Heat Shield Project: thermal stress control. ACCIONA Construction

Heat Shield is a project funded by the European Horizon 2020 programme in which ACCIONA Construction works alongside 19 institutions. This project tackles the negative effects of thermal stress on health and productivity in the workplace. Analysing the impact of the increase in temperature in certain work scenarios due to the effects of climate change on occupational health and productivity, adaptation strategies may be provided for the main industries of the EU such as construction and transport, among others.



LIDER Program. ACCIONA Infrastructure

In 2017, it continued to be rolled out with the goal of reaching 20 % of staff. The programme rests on the improvement of the conducts by modifying them, ensuring that the leaders are directly involved in the safety of employees. In 2017, the programme trained 622 executives and 199 middle managers through seminars that encourage the proper use of tools.

All initiatives carried out ultimately aim to reduce the division accident rates. The accident rate indicators for internal Infrastructure employees have increased as well as the rate of absenteeism. Sadly, in 2017 there were three fatal accidents at ACCIONA Mantenimiento de Infraestructuras S.A. (Infrastructure Maintenance), Rail Services S.A. and ACCIONA Servicios Urbanos S.L. (Urban Services), of which only one case was directly work-related.

TABLE 1.

The evolution of the accident rate indicators for ACCIONA Infrastructure employees

	SEVERITY RATE ¹				FREQUENCY RATE ²			
	2014	2015	2016	2017	2014	2015	2016	2017
Infrastructure	84.6	120.7	111.3	142.4	3.6	4.3	4.0	4.8
Construction*	61.5	38.6	64.5	53.9	2.9	1.5	1.9	1.6
Concessions**	118.7	27.9	64.2	111.9	4.2	1.7	2.3	2.7
Water	75.4	92.3	108.8	119.0	2.6	4.1	4.1	4.4
Services	91.6	156.4	126.5	194.4	4.1	5.2	4.5	6.8
Industrial	61.2	73.8	0	5	2.8	0	0	0.5

(1) OHS - SR: (no. of days lost due to work accident/hours worked) x 200,000.

(2) OHS - FR: (no. of accidents with work loss/hours worked) x 200,000

* Construction includes: AMISA and ACCIONA Engineering.

** Until 2015, Concessions was included under Construction.

TABLE 2

Evolution of the rate of absenteeism of ACCIONA Infrastructure employees

	2014	2015	2016	2017
Infrastructure	3.63	3.21	4.71	4.90
Construction	1.46	3.06	1.84	1.20
Concessions*	2.71	2.27	2.52	2.41
Water	3.19	2.80	2.22	2.51
Services	4.66	3.44	5.84	6.85
Industrial	1.01	2.31	0.24	0.32

* Until 2015, Concessions was included under Construction.

In terms of on route or on mission accidents related to road safety, there was an 11 % representative decrease during the year. Most on route accidents occurred in the Services division and in Spain.

TABLE 3.

Evolution of on route accidents for ACCIONA Infrastructure own employees

(with and without work leave)

	2014	2015	2016	2017
Infrastructure	113	79	178	158
Construction	29	28	13	9
Concessions*	7	8	4	9
Water	7	11	14	0
Services	68	29	146	140
Industrial	1	1	1	0

* Until 2015, Concessions was included under Construction.

TABLE 4.

Evolution of on mission accidents at ACCIONA Infrastructure

	2014	2015	2016	2017
Infrastructure	18	31	100	15
Construction	9	6	0	4
Concessions*	1	1	0	3
Water	8	24	62	2
Services	0	0	38	5
Industrial	0	0	0	1

* Until 2015, Concessions was included under Construction.

Reducing the number of accidents during travel is one of Infrastructure's lines of action. In road safety, various initiatives have been carried out, for example in the Water division, where training has been provided adapted to the type of job, the nature of the trips, and the intensity of use of each employee's vehicles.

HEALTH AND SAFETY IN THE INFRASTRUCTURE SUPPLY CHAIN

There is full collaboration from contractors or subcontractors and suppliers in almost all prevention activities, given that they participate in the company's normal management system procedures. The accident rate indicators for Infrastructure subcontractors have substantially improved compared to 2016.

TABLE 5. Evolution of the accident rate indicators for ACCIONA Infrastructure contractors

	SEVERITY RATE ¹				FREQUENCY RATE ²			
	2014	2015	2016	2017	2014	2015	2016	2017
Infrastructure	54.9	19.7	29.5	19.1	2.7	1.7	1.9	0.9
Construction*	65.5	30.1	30.4	15.8	3.0	2.8	2.0	0.8
Concessions	136.3	43.2	71.4	16.9	4.7	2.8	2.8	0.7
Water	11.8	2.5	12.3	43.9	1.0	0.3	1.6	2.0
Services	65.7	53.2	0.0	1.6	4.2	2.1	0.0	0.8
Industrial	22.7	1.5	6.8	19.8	3.7	1.5	1.0	0.8

(1) OHS - SR: (no. of days lost due to work accident/hours worked) x 200,000.
 (2) OHS - FR: (no. of accidents with loss of work/hours worked) x 200,000.

* Construction includes: ACCIONA Infrastructure, AMISA and ACCIONA Engineering

THE VOLUNTARY PROTECTION PROGRAMME (VPP) WAS CARRIED OUT, AIMED TO ENSURING ITS SUPPLIERS TO IMPROVE THEIR OHS STANDARDS



Voluntary Protection Programme. ACCIONA Infrastructure

In 2017, the Voluntary Protection Programme was carried out for its partner's companies, an initiative aimed at improving the quality of its occupational health and safety standards, certifying them with a seal that qualifies them as "safe companies". These seals acknowledge the correct implementation and compliance with different safety indicators, such as having an OHS policy, an emergency policy and personal protective equipment, among other elements.

The companies that are members of the programme became part of the qualified supplier database and will have access to advice, training and specialised technical support on occupational health and safety.

Throughout 2017, 39 companies became members of these programmes, 29 of which did so to reduce the risk detected in the qualification process. Prior experience with this type of programme has proven to reduce the average accident rate by 52 %. The aim is to reduce the work accident rate, improve working conditions, increase productivity and fully integrate health and safety into the company's management system.

RISK MANAGEMENT IN SUSTAINABILITY

ACCIONA Infrastructure takes into account sustainability criteria in all of its business units. Its risk management model has defined six distinct phases: 1) Identification, 2) Analysis and assessment, 3) Planning, 4) Treatment and management, 5) Follow-up and control and 6) Improvement.

In the identification phase, possible aspects generating risks and opportunities within the construction process (design and execution) are characterised taking into account economic, social, environmental, ethical and cultural aspects, among others, related to the effect of the project on the community.

The risk events, evaluated based on the likelihood of them occurring and their consequences, are reflected in a risk matrix divided into four categories: low, moderate, significant and high. As well as this framework for assessment, there are also six categories of consequences to estimate impact:

- Economic: on the cost and result of the project.
- Timing: on programming, milestones and deadlines.
- Environmental and community: on the natural environment and third parties.
- Reputation: on the image of the company or customer.
- Health and Safety: on people.
- Compliance and development of the infrastructure: on the functionality of the infrastructure, its design, execution, location, internal organisation, performance, etc.

In 2017, ACCIONA Infrastructure made the following progress in risk management:

- Consolidation of the risk management process in Construction, carrying out the analysis of risks and opportunities in their projects and business processes, thereby acting pursuant to the latest revision of the ISO 9001 and ISO 14001 standards.
- Significant progress in widening the scope of analysis for Water and Industrial, and collaboration in implementing the risks and opportunities management system in Engineering.
- Update of the IT tools used for risk analysis with proprietary internal development.
- Significant compliance in the percentage of the volume of projects, in both the execution phase and the bidding phase, in which risks are analysed.
- Improvement and expansion of the country risk analyses performed.
- Consolidation of ACCIONA's rating for perceived risk for the businesses in a total of 83 countries.

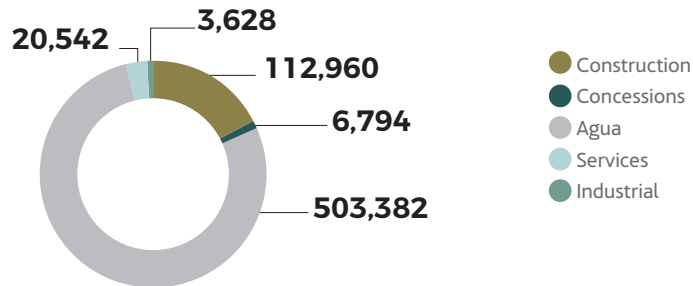
FIGHTING CLIMATE CHANGE WITH ENERGY EFFICIENCY

ACCIONA Infrastructure's priority is to respond to global demand for sustainable infrastructures. In this regard, the division implements solutions in the energy efficiency field at its own centres and for its customers, optimising consumption and reducing the related CO₂ emissions.

In relation to emissions generated by the division, there has been a 66 % increase in the volume of gases emitted in 2017 compared with 2016.

FIGURE 2.

ACCIONA Infrastructure emissions in 2017 (t CO₂e)



N.B.: scope 1 and scope 2 emissions are included (market-based).

ACCIONA Infrastructure works towards achieving the carbon neutrality objective for the whole group, offsetting 100 % of the emissions it generates (647,307 t CO₂e in 2017).

The Infrastructure business implements different energy efficiency solutions in the field of desalination, wastewater treatment, construction and organisation of events, among others. Below are some key examples:



Fujairah desalination plant (UAE). ACCIONA Agua

In order to be able to limit the global increase in temperatures to 2 °C ('450 Scenario'), by 2040 in the desalination sector, the International Energy Agency (IEA) proposes to use reverse osmosis to increase the contribution of renewable energies and achieve energy efficiency close to 3 kWh per m³ desalinated. The Fujairah emirate desalination plant, designed, built and operated by ACCIONA, already achieves efficiency values very close to these figures thanks to the incorporation of market technologies such as isobaric recuperators or low pressure drop membranes, as well as our own techniques such as high-flow pumps connected to a pressure ring, anti-fouling solutions and continuous control and permeate flow regulation.

Taking into account that the current consumption in desalination by reverse osmosis is in the range of 4-5 kWh/m³ according to the IEA's World Energy Outlook 2016, the plant manages to reduce CO₂e each year by between 20,710 and 47,424 t CO₂e.

Padornelo Tunnel (Spain). ACCIONA Construction

The excavation process that is under way is one of the biggest energy consumers during the execution of infrastructures, and the correct guidance of the excavation section is vital.

The Construction division has designed an innovative laser guidance system for building tunnels in which tunneling machines are not used, which increases the precision of the excavation by over 60 %. By using this technique, Construction avoid up to 3 % of cost overruns and over-consumption caused by the deviations between the actual excavation area and the theoretical design area.

This system has been used in the Padornelo tunnel works in Spain, facilitating savings of almost 30 MWh of energy consumption and almost 200 working hours.

OptiAnMBR Project. ACCIONA Agua

Using anaerobic systems for waste water treatment creates a high potential for energy saving, reduction of the sludge generation and generation of water that is fit for reuse in irrigation, but it poses certain technical problems, including recovering the methane dissolve in the effluent of the process and reducing the yields of membrane filtration due to their contamination. Through ACCIONA's participation in the OptiAnMBR project alongside ESAMUR and CETENMA, we are seeking to overcome those problems by using substances such as cationic polymers.

The solutions developed will be introduced in new offers for future WWTPs, where energy reductions in treatment may be achieved of up to 30 %, while reducing 80 % of sludge generation.

Olivenza solar thermal plant. ACCIONA Industrial

In the Industrial business, an energy diagnosis was carried out of the Olivenza solar thermal plant (Spain) that proposes the implementation of solutions such as the Monitoring and Energy Management System, the displacement of consumption not related to generation during periods of greater efficiency of the plant, the replacement of high-use engines by more efficient equipment, the installation of frequency variators in the cooling circuit pumps or the installation of lower consumption lighting systems, which would allow savings of up to 5 % of the energy consumption of the facility.

Energy efficiency for customers. ACCIONA Service

Energy efficiency is one of the basic pillars in the fight against climate change that the company has added to its offer to customers for over 10 years. With this in mind, in 2017, companies in the automotive sector, companies that sell capital goods and companies in the metallurgical industry in the UK, Poland and Spain trusted ACCIONA's experience in this field to reduce their energy costs and minimise the volume of carbon emissions released into the environment.

By entering into an energy services contract under which the investment is undertaken by ACCIONA, the company has implemented measures such as substituting lighting, extraction or compression systems with others that are more efficient, that will ensure savings of over 2,700 MWh of electricity and will avoid emitting over 1,100 t CO₂.

ENVIRONMENTAL IMPACT MANAGEMENT

The division's environmental management is based on the principles of improving the business's environmental performance. All the businesses have environmental objectives that are reviewed annually in line with the Sustainability Master Plan 2020 (SMP 2020).

PROTECTION AND CONSERVATION OF BIODIVERSITY

The division's activities may affect biodiversity as a result of the operations it performs. Therefore, all the businesses identify and assess the possible effects at each phase of the projects implemented, in order to put the necessary preventive and corrective measures in place.



Environmental Management Plan for the Mohammed bin Rashid Al Maktoum photovoltaic plant (UAE). ACCIONA Industrial

The Industrial business participates in the construction of the biggest photovoltaic plant in the world, Mohammed bin Rashid Al Maktoum Solar Park. In this context, a two-stage environmental plan has been developed:

- Identification and transfer of animal species present in the project environment: the Arabian gazelle, classed as vulnerable by the IUCN, the Arabian hare, the Cheeseman's gerbil, and the spiny-tailed lizard (also vulnerable), among others, to the Al Marmoum Conservation Reserve.
- Identification and transfer to the same reserve of the Ghaf trees, or the tree of the dunes, considered the national tree of the UAE, in order to protect this species that has such a limited natural presence.



Management of biodiversity in Historic Parks and Gardens in Madrid (Spain). ACCIONA Service

ACCIONA Service is carrying out various biodiversity management plans in large urban parks in the city of Madrid. In particular, it is carrying out a campaign to control the monk parakeet population in the parks and historic gardens of the capital, a species included in the Spanish Catalogue of Invasive Alien Species, which poses significant imbalances in the ecosystems of the parks. In addition, a study is under way to find out the population, location and conservation status of the Iberian painted frog in the Parque del Oeste, which includes the detection of appropriate areas for increasing their habitat, and the population monitoring and control of the group of peacocks in the Fuente del Berro Park.

CIRCULAR ECONOMY: SUSTAINABLE RESOURCE USE AND WASTE MANAGEMENT

The Infrastructure division's activities include key elements of the circular economy, such as the efficient use of materials and the minimisation and recovery of waste.

Its different business lines promote the creation and monitoring of procedures and processes aimed at minimising, segregating, reusing, recycling and recovering waste.



Energy recovery from waste in the Arroyo Culebro Cuenca Media-Alta WWTP (Spain). ACCIONA Agua

Anaerobic digestion is a process by which biogas is obtained from sludge produced in wastewater treatment. The biogas generated in digestion supplies the energy consumption of the plant and also reduces the amount of waste sent to landfill.

Through the PROMETHANE project, the company seeks to increase the efficiency of the process by first adding nitrous acid and using nanoparticles in the digester. This system has started to be implemented on an experimental scale in the Arroyo Culebro Cuenca Media-Alta WWTP (Spain), and it is expected to increase the energy performance of the process by around 20 %, reducing the volume of sludge produced by some 15 %.

MATERIALS

The decrease in the amount of resources consumed in 2017 is mainly due to a lower consumption in ACCIONA Construction works of aggregates, soils and concrete, which represent around 60 % of the total weight of the resources.

TABLE 6.

Evolution of the resource consumption of ACCIONA Construction, Concessions and Industrial.

ACCIONA CONSTRUCTION, CONCESSIONS AND INDUSTRIAL	UNIT	2014	2015	2016	2017
TOTAL resources*	t	13,751,528	7,602,924	11,954,024	8,548,722
Renewable/recycled resources	t	2,173,112	1,392,542	1,614,318	1,763,063
	%	16 %	18 %	14 %	21 %
Total aggregates and soils	t	9,142,919	4,509,885	7,275,858	4,624,858
Recycled aggregates and soils	t	2,111,680	1,041,544	1,257,765	1,394,762
	%	23 %	23 %	17 %	30 %
TOTAL Steel	t	249,755	678,755	283,213	1,047,309
Recycled steel	t	61,145	13,918	12,687	14,440
	%	26 %	2 %	4 %	1 %
TOTAL wood	t	17,251	2,151	1,922	1,609
Certified wood (FSC or similar)	t	288	491	654	307
	%	2 %	23 %	34 %	19 %

*Includes the most representative resources for each of the businesses



Best Practices Guide for Managing Surplus Soils. ACCIONA Industrial

ACCIONA Industrial has a series of best practice guides on circular economy concepts that apply to all of its works and projects. These include the Best Practices Guide for Managing Surplus Soils, aimed at minimising the generation of this waste and its reuse in alternative landfill destinations, such as the site itself. It describes measures such as:

- Stocktaking of necessary and surplus material, products or items in order to reduce waste.
- Collecting sand and gravel on a hard surface to avoid waste or contamination of the excavated soil so that they can be reused.



Padornelo Tunnel (Spain). ACCIONA Construction

Noteworthy in 2017 was the Pedralba-Padornelo tunnel (Spain) that, thanks to a laser-guided system for excavating tunnels in which tunneling machines are not used, saved almost 15,000 t of excavated material and the use of around 4,200 m³ of concrete for each kilometre of tunnel excavated.

WATER RESOURCES MANAGEMENT

ACCIONA Agua is the business line that contributes to the company's positive water footprint thanks to the wastewater treatment and purification activities. Throughout its history, it has served the needs of over 100 million people in more than 30 countries throughout the world by managing the full water cycle. In 2017, the treatment plants managed by ACCIONA Agua desalinated, made drinkable and purified 775 hm³ of water, a slight increase compared to 2016.


TABLE 7.

Evolution in the volume of water managed by ACCIONA Agua (hm³)

	2014	2015	2016	2017
Desalinated water	89	110	196	296
Treated drinking water	143	133	218	199
Treated sewage water	416	390	358	280
TOTAL	648	633	772	775

In 2017, water consumption at ACCIONA Infrastructure has increased by 47 % compared to 2016 and Construction was the business that consumed the most, with 66 % of the total amount for Infrastructure, followed by ACCIONA Agua, with 23 %.


In accordance with the principles of the company's Water Policy, in 2017 ACCIONA pursued its commitment to promote the saving of this resource among its customers.

 **Smart Water Innovation Network in the city of Burgos (Spain).**
ACCIONA Agua.

ACCIONA Agua continued to optimise the water supply network of the city of Burgos in the context of the European innovation project SmartWater4Europe. The SWING network (Smart Water Innovation Network in the city of Burgos) has a pilot sensing and data analysis system that allows for the detection and early repair of breakdowns, improves the control of water quality and allows remote reading of meters, facilitating the detection of abnormal consumption and leaks in a total of 56 km of pipes. It also has a Business Intelligence platform that integrates the data and manages it in real time. Overall, more than 10,500 people and some one hundred businesses benefit from this smart distribution network. On top of the water-saving capacity of this more efficient network, it also has environmental and economic benefits.

WATER TREATMENT IN REGIONS WITH WATER STRESS

ACCIONA again this year contributed to guaranteeing access to drinking water in areas with high water stress and to the sustainability of the environment in areas with low levels of sanitation through the construction, operation or maintenance of treatment, desalination and purification plants. In 2017, 766 hm³ of water in eight countries with regions under water stress was purified, treated and desalinated.

 **Facility-D desalination plant and RAF A3 plant (Qatar).** ACCIONA Agua.

In Qatar, one of the countries with the highest levels of water stress on the planet, ACCIONA commissioned the Facility-D desalination plant in Doha. The plant has a capacity of 284,000 m³/day to supply a population of 1.8 million inhabitants. This desalination plant is the second built by the company in the country after the RAF A3 plant, commissioned at the end of 2016. Both plants are a milestone in desalination in this area, since it is the first time that large-scale reverse osmosis technology has been used.

INNOVATION AT THE SERVICE OF SUSTAINABILITY

ACCIONA Infrastructure is at the cutting edge in R&D&I, applying specific technologically-advanced solutions to solve every issue that arises in its activities. In this regard, the business' innovation figure reached EUR 142.4 million, an increase of 19 % compared to 2016. In addition, ongoing process improvement thanks to innovation enabled verified savings of EUR 19.4 million in 77 initiatives.

TABLE 8.

Evolution of the R&D&I figure per business at ACCIONA Infrastructure (EUR million)

BUSINESSES	2015	2016	2017
Infrastructure	114.7	119.9	142.4
Construction*	54.4	63.8	78.2
Water	18.3	35.6	19.7
Services	16.5	2.6	3.5
Industrial	25.5	18	41.0

* Includes Engineering.

Each business has a defined innovation strategy that revolves mainly around the ACCIONA technology centres.

MADRID TECHNOLOGY CENTRE (SPAIN): INNOVATION IN CONSTRUCTION PROCESSES

ACCIONA has its Madrid Technology Centre (Spain), which is dedicated to improving construction processes, as well as incorporating new technologies and more efficient materials into works in order to reduce the environmental impact. Its main lines of research are: rail and underground works, soils, geotechnics and earth movements, materials and structures, other technologies and support for other businesses of the company.

The main initiatives in 2017 that facilitated cost savings or generated income for Infrastructures were:



Quito Metro Line 1 (Ecuador). ACCIONA Construction

The main innovation was carried out in the quality control process of backfill mortar injection for the voussoir lining. It is a pioneering global technique in its production phase, only identified in some references in China, on an academic level. The benefits of using this technique are:

- Avoiding outages in the basic supplies in the city of Quito (electricity, water, telecommunications, etc.).
- Guaranteeing an appropriate process of injecting mortar in the backfill of the voussoirs, reducing the number of traditional mechanical markers and increasing the sampling of measures.

- Generating EUR 1.8 million of savings by reducing the stoppage of the tunnelling machine by two months, thanks to the modification of the oil clean-up techniques at the site.



Follo Line railway tunnels (Norway). ACCIONA Construction

The project has provided for the development of a mixture of concrete with fibres to manufacture voussoirs for tunnels that improve their technical characteristics, optimising work procedures without compromising the technical and financial feasibility of the work. Specifically, special emphasis has been placed on improving the mechanical characteristics of the construction material, constituting a product and process innovation. The savings made amounted to EUR 1.7 million.

In addition, as part of the objective of including criteria that improve the environmental, economic and social aspects of the projects, during 2017, the environmental impact assessment of construction materials was carried out to achieve the Environmental Product Declaration (EPD) of the work.

ACCIONA
HAS OBTAINED
THE EPD
OF SOME
OF THE
CONSTRUCTION
MATERIALS
OF FOLLO LINE



Research in Waste to Energy (WtE). ACCIONA Industrial

In 2016, a line of market research was initiated in innovative technology in the Waste to Energy (WtE) sector, gasification by internal combustion being the most relevant for ACCIONA Industrial. The progress of the work carried out in this area meant that, in 2017, a new line of Waste to Chemical (WtC) research could be launched.

The objective of Industrial is to identify and evaluate the growth potential of the WtE and WtC businesses, in the event that it is attractive enough to position itself at the forefront of the technological advancement and become a future benchmark in the sector.

In 2017, a New Thermal Generation Plant Concept was also carried out with the aim of implementing an internal combustion engine for the reuse of residual petroleum-based fuels.



Kathu solar thermal plant (South Africa).

ACCIONA Industrial, Construction and Engineering

The project covers every stage from the design and calculation of the facilities, using a new and improved system of capturing solar energy, to the execution and commissioning stages. The use of new technologies and the development of new systems and methodologies to lay the foundations for the facilities means innovative activities for ACCIONA, differentiating it from its competitors in the sector.

The solutions obtained in optimising the installation of the solar thermal plant are unprecedented both for ACCIONA and for the rest of the entities involved in the Temporary Joint Ventures. Finally, in the construction of the solar thermal plant, the number of necessary steps has been reduced, which has generated savings of EUR 1.2 million.



Reality Capture. ACCIONA Service

In 2017, various innovations continued to be developed in relation to new technology and application development. Among them is the Reality Capture technology, which lets the user take virtual strolls through actual settings by taking panoramic 360 degree photos. Furthermore, by using virtual reality devices an immersive experience is achieved. During the capture process, a 3D digital model of the space is automatically generated with real dimensions, which can be used, among other things, to create a virtual tour with 360 degree photos and a 3D model of the captured shape, building plans, facilities or an industrial plant.

BARCELONA TECHNOLOGY CENTRE (SPAIN): INNOVATION IN THE TREATMENT AND DISTRIBUTION OF WATER

The Barcelona Technology Centre develops state-of-the-art solutions for water treatment, desalination, reuse and distribution. The facilities are a technological benchmark, boasting the most modern analytical and characterisation techniques for the study of new processes and the design of more efficient pilot plants. Its main strategic lines are: desalination and new technologies, purification and reuse, treatment and chemistry of water.

Below we will highlight one of the projects from 2017:



Advanced-control MBR for wastewater reclamation project. LIFE BRAINYMEM. ACCIONA Agua

This project, which ended in 2017, developed two control strategies for membrane bio-reactors (MBRs). One of them is based on controlling the aeration of the reactor itself and the second on controlling the aeration of the membrane of the MBR (a patented control strategy).

Both strategies have led to a noticeable energy reduction (25 %), which means operational cost and CO₂ emission reductions (22.5 %).

QUALITY AS A MATTER OF CONFIDENCE WITH CUSTOMERS

To ensure its technical capacity, guarantee competitiveness and improve its processes, ACCIONA Infrastructure's Quality Management Systems (ISO 9001) and its Environmental Management Systems (ISO 14001) are certified, in addition to holding certifications in various standards:

TABLE 9.

Certifications of ACCIONA Infrastructure in 2017

CONSTRUCTION	ISO 9001 and ISO 14001 Certifications 100 % construction activity in Spain, Chile, Brazil, Mexico, Colombia, Canada, Poland, Australia, Abu Dhabi, Ecuador, Peru and Panama.
	Other certifications: ISO 50001 Implementation and certification of the energy management system in the Technology Centre.
	Other certifications: UNE 171330 Indoor environmental quality management system for the activities carried out in the technology centre.
	Other certifications: Socially Responsible Company Seal ESR® in Construction Mexico.
CONCESSIONS	ISO 9001 and ISO 14001 Certifications 90 % of directly managed concessions.
	Other certifications: ISO 39001 The road safety management system was implemented and certified at two concessions in Spain: Sociedad Concesionaria A2, section 2, and Autovía de la Plata.
	Other certifications: ISO 50001 Implementation and certification of the energy management system of the Infanta Sofia Hospital in Madrid.
WATER	ISO 9001 and ISO 14001 Certifications 100 % of the water treatment activities in Spain, Italy and Australia (100 % in Chile under ISO 9001) and 100 % of integrated water management services in Spain.
	Other certifications: ISO 50001 ACCIONA Agua's energy management system is certified at three new centres: Villarrubia de los Ojos Water Services, Gartxeta DWTP and Falset WWTP.

ACCIONA
CONSTRUCTION
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REINFORCE THE
GUARANTEED
QUALITY
OF THE
PROJECTS
THAT THE
COMPANY
EXECUTES

SERVICES	<p>ISO 9001 and ISO 14001 Certifications</p> <p>100 % of the ACCIONA Urban and Environmental Services activities.</p> <p>100 % of the Renewable Energy Operation and Maintenance (EROM) activities.</p> <p>100 % of the ACCIONA Rail Services train and station cleaning activities.</p> <p>100 % of international transit activities under ISO 9001 (ACCIONA Forwarding).</p> <p>100 % of passenger boarding bridge handling and driving activities at ACCIONA Airport Services in Spain (100 % in Germany under ISO 9001).</p> <p>100 % event organising and exhibition staging and museums (ACCIONA Producciones y Diseño).</p> <p>All activities by ACCIONA Facility Services for Spain and Portugal, except conventional cleaning.</p> <p>Other certifications: ISO 50001</p> <p>ACCIONA Facility Services' energy services provider activities and 100 % of the activities developed by ACCIONA Airport Services at Frankfurt airport.</p> <p>Other certifications: SA8000</p> <p>Implementation and certification of the social responsibility management system in technical cleaning and maintenance operations at its central offices and in six centres in Spain.</p> <p>Other certifications: EMAS</p> <p>European Union's Eco-Management and Audit Scheme in a service in León.</p> <p>Other certifications: EA 005</p> <p>In 2017, Facility Services obtained the certification for Energy Services Provider (ESP): in the three classifications that the standard offers: Classification 1: ESP for Consultancy and energy audits. Classification 2: ESP for Operations. Classification 3: ESP for Investment (Energy Services Company)</p>
INDUSTRIAL	<p>ISO 9001 and ISO 14001 Certifications</p> <p>100 % of the activities conducted by ACCIONA Industrial.</p>

CUSTOMER RELATIONS AND SERVICES AT THEIR DISPOSAL

Considering the diversity of ACCIONA Infrastructure's customers, communications and relations with them take place through a wide variety of channels, among which the following are worth noting:

- Physical points of customer service: water services concessions that have physical customer assistance offices and the commercial department of Airport Services that handles direct relations with customers, to name a few.
- Online channels: such as websites for each of the Infrastructure businesses, virtual offices in ACCIONA Agua Services concessions. Noteworthy is the creation of a new ACCIONA Concessions web page, focused on customers, partners and suppliers, and the development of applications in several of ACCIONA Service contracts, from which users can submit incidents directly to the head of the corresponding department.

One of the main actions carried out by the business to strengthen ties with customers in 2017, is the holding of periodic meetings with customers at ACCIONA Facility Services Mexico to review the quality indicators established in the corresponding contracts.

Finally, in relation to managing complaints, suggestions and solving incidents, ACCIONA Infrastructure has several channels for providing feedback to customers. For instance, the computer software application to collect complaints concerning ACCIONA Construction's works in Spain, or the "customers" area of the web pages of various ACCIONA Agua departments, explaining to customers the steps to take and where to resort to if they have a complaint.

ACCIONA Agua Services achieved the goal of resolving 100 % of complaints, and Facility Services Mexico implemented a training plan, reducing complaints at a customer's plant.



Quality of water supplied to the customer. ACCIONA Agua

Regarding communication and the relationship with the customer in water supply activities, different channels are enabled such as web pages for customers and virtual offices in the concessions of ACCIONA Agua Services, among others. These spaces also serve to manage complaints and suggestions received and to resolve problems.

Also in 2017, the following activities to strengthen links with customers stand out:

- Consultation with customers about the tariff revisions for the year 2017 and 2018 of ACCIONA Agua Services, as well as the adaptation of the pricing structure to European regulations. The participants were the various clients of the contracts, and the result was generally very satisfactory.

In 2017, no sanctions were received in relation to the quality of the water supplied to customers.



MORE INFORMATION
in the 'Value Chain' chapter

CUSTOMER SATISFACTION AND LOYALTY

ACCIONA Infrastructure sets quantifiable improvement targets to improve customer satisfaction: ACCIONA Agua Services achieved 90 % of its "zero complaints" target and Facility Services Mexico, at the San Luis de Potosí University, achieved its target to answer 100 % of customer requests in due time and proper form.

In addition to the tools mentioned in the "Value Chain" chapter, the following methods for measuring satisfaction used by the Infrastructure division should be mentioned:

- Online surveys: ACCIONA Service in 2017 used the e-survey platform.
- Interviews: ACCIONA Concessions carried out in-person interviews in the Vigo Novo Hospital with users (patients, companions and professionals) of its services, and monthly telephone interviews in Rodovía do Aço (Brazil) with a sample of 10 % of the users served during that period.
- In 2017, the index of satisfied customers was 100 % for Infrastructure's five businesses: Construction³⁰, Concessions, Water, Industrial and Services.

Highlight some indicators in respect to customer satisfaction:

- 71 % of the Construction customers in Spain believe that the company is much better than its competitors and 34 customers would recommend working with the company (of the 38 surveys received in total).
- 100 % of ACCIONA Industrial customers would award the company again. 76 % of Facility Services Spain and 100 % of ASUMA, would contract the company again.
- Praises were received from customers in relation to the products and services provided by ACCIONA: the customer of the Rodovía Do Aço concession (Brazil) praised the company on 70 occasions in 2017. ACCIONA Producciones y Diseño, a Services subsidiary, received two letters of recommendation from customers for its museum projects. The Infanta Sofia Hospital (Madrid) received 27 congratulations from patients.

IMPROVEMENT TOOLS

ACCIONA Infrastructure launched 33 improvement groups with the aim of identifying and implementing innovative solutions that also aid in managing risks. Some of the most significant of these are as follows:

- Improvement of ACCIONA Agua processes: the aim is to review the processes and adapt the integrated management system to the PMI standards in order to facilitate the subsequent process digitalisation. In 2017, the model for the execution of the life cycle of the projects and its subsidiary plans was approved. Seven new procedures and 502 documents reviewed.
- Satisfaction survey with interested parties of ACCIONA Service: development of a new tool for carrying out customised surveys by business line. The answers are received in real time and are sent automatically to the contract manager and the head of the operational unit, marking the questions with the worst score, so that the appropriate measures can be taken.

(30) Construction only encompasses data from Spain.

- Improvement of the design and development process in APD of ACCIONA Service: development of a new procedure that incorporates the following improvements: i) including concepts commonly used in design projects; ii) differentiating requirements and methodologies according to the nature and characteristics of the projects; iii) defining verification and validation activities adapted to the different project areas.
- Development of the ACCIONA Service Management Model project (MGAS): the company has a unique model for managing the life cycle of the contracts of all of the businesses within Services (prepared in 2016). In 2017, the processes started to be implemented that are part of this standardised model, including all of the related documentation in the company's document manager.
- Defining of the PMP (Project Management Plan) Processes Model of ACCIONA Construction: all of the operational and support processes that make up the full cycle of a construction project were raised, according to the PMI (Project Management Institute) international standard. The model is presented in four levels: general overview of the processes map, end-to-end overview, flow charts and the process detail file. In addition, 54 support processes were identified for the 12 departments that support the execution of the projects.

LESSONS LEARNED

During 2017, a total of 19 proposals of lessons learned were drafted in the Construction division, related to aspects of quality, the environment, tender proceedings, contract management, relations with stakeholders, and health and safety.

At ACCIONA Agua, there is a working group for the preparation of lessons learned and best practices that has published four technical case studies, nine project phase-end case studies and five security case studies.

Furthermore, at ACCIONA Industrial, a total of 135 lessons learned were identified. In 2017, a specific session was held to collect and analyse the lessons learned from the completed Baja California V project, which analysed: document management, engineering, construction, guarantees, purchasing, quality, project control and operations.

PROGRESSIVE IMPLEMENTATION OF THE LEAN PROJECT

In 2017, work continued on the Lean Service Project, which was launched in 2016 (in which training was given on the lean methodology) with the objective of progressively implementing lean to optimise the processes throughout the company.

This programme is being rolled out on a cascading basis, beginning with the training for directors of the entire Services division and operational staff of ACCIONA Facility Services. During the year, the work aimed at implementing the methodology was carried out.

CONTRIBUTION TO SOCIETY

ACCIONA Infrastructure contributes to the improvement of society through its projects. The impacts generated include different dimensions: effects on people, in community life or in the generation of wealth and employment in the region.

Three types of actions that manage and measure these different impacts are: Social Impact Management, socioeconomic and environmental impact measurement, and social investment related to projects.



MORE INFORMATION

on the methodology and implementation of SIM in the chapter "Society"

SOCIAL IMPACT MANAGEMENT

ACCIONA applies its own Social Impact Management (SIM) methodology, by which it knows, from the bidding and design phase, the social risks of its projects, operations or service provision could cause in the areas of influence of its projects, with the objective of generating positive impacts and minimizing the negative ones on the local communities and environments in which it operates.

In 2017, ACCIONA Infrastructure reached 87 projects with social impact management: Construction (50), Water (26), Services (6) and Industrial (5) in different types of projects in 30 countries: metros, hospitals, roads, tunnels, treatment plants, solar thermal plants, purification plants, facility cleaning services, among others.

TABLE 8.

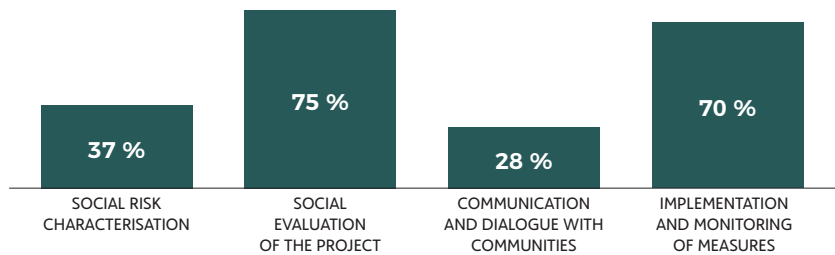
Evolution of the implementation of the SIM methodology at ACCIONA Infrastructure

	2014	2015	2016	2017
No. of projects	18	45	64	87
No. of countries	11	17	18	30

FIGURE 3.

State of implementation of phases of the Social Impact Management methodology in ACCIONA Infrastructure

(% of the total Infrastructure projects with SIM in 2017)



External audits were carried out in seven Infrastructure projects, with the aim of assessing the degree of implementation of the SIM methodology.

The Infrastructures division currently establishes suggestions and complaints channels in those projects in which the customer requires or allows it. During 2018, the existing channels will flourish in the projects carried out in communities and other stakeholders.

During the review and approval of the Social Impact Management procedure in 2017, the scope of application for Infrastructure was adjusted. Finally, it should be noted that in addition to the implementation of the SIM methodology, social management has been carried out in 12 projects following specific legal or contractual requirements.

ACCIONA INFRASTRUCTURE'S GUIDELINE FOR MIGRANT WORKERS' WELFARE

In projects where the local labour context does not meet international human rights standards, ACCIONA Infrastructure has a guide aimed at ensuring that both the company and its suppliers and employment agencies meet certain minimum requirements in relation to recruitment, living conditions and housing of migrant workers. The purpose of this guide is to help avoid human rights violations such as child labour and forced labour.

SOCIOECONOMIC IMPACT OF PROJECTS

Since 2015, ACCIONA has been working on measuring the socioeconomic and environmental impact that its projects have on a given country, obtaining quantitative results of the impact of the company's activity in terms of employment generation (direct, indirect and induced) and contribution to the country's GDP, as well as taking into account other positive effects on the environment and communities.

In 2017, progress was made in measuring the socioeconomic and environmental impact of two projects in the Infrastructure business: the construction of line 1 of the Quito Metro in Ecuador and the Kathu solar thermal plant in South Africa. Both projects also stand out for their implementation of the Social Impact Management methodology and the social initiatives.



MORE INFORMATION

on the methodology in "Society"



Quito Metro (Ecuador). ACCIONA Construction

ACCIONA builds line 1 of the Quito Metro (Ecuador) via the Line 1 Consortium, with the aim of streamlining the city's passenger transport system. The works began in 2014 and will end in 2019.

SOCIAL IMPACT MANAGEMENT

During its construction, the SIM methodology is being implemented in order to manage the multiple impacts that are being caused.

The stakeholders are prioritised and managed from a proactive approach, holding meetings to inform them of the progress of the project and the carrying out different social measures linked to the impacts identified. As a result of this dialogue, additional social measures were agreed upon, such as:

- Implementing agreements with merchants to boost the local economy.
- Education plan on social and environmental responsibility through the use of a metro carriage to stage micro theatre performances.

SOCIAL ACTION INITIATIVES

Furthermore, 15,000 people benefited from the following initiatives:

- Meeting with local authorities about citizen safety.
- Improvement of infrastructures in schools and municipal buildings.
- Cultural events in nurseries in the project area.
- Delivery of recycled material to improve pavement surfacing.
- Donation of materials from the works to schools.
- Launch of the programme "Let's build the Quito metro with a gender approach".
- Measures to reduce noise in medical centres in the area of influence.
- Membership of the initiative "Ecuador free from child labour".

SOCIOECONOMIC IMPACT

- Contribution to the GDP during the construction (4.5 years): EUR 856 million.
- Job creation during the construction (4.5 years): 32,760 job-years*.
- Emissions avoided: 163,942 t of CO₂ per year.
- Old buses taken off the road: 800.

*Job-years: full-time equivalent jobs for one year.



Kathu Solar Thermal Plant (South Africa). ACCIONA Industrial.

Within the LICIASTAR consortium, ACCIONA is carrying out the EPC project of the Kathu Solar Thermal Plant, which will have 100 MW of power. This project will be able to supply electricity to 80,000 homes once operational, which is expected to be in 2018. The planning, implementation, monitoring, and evaluation of social projects and programmes is carried out through the Kelebogile Trust.

SOCIAL IMPACT MANAGEMENT

The SIM methodology is in its final phase involving the implementation and monitoring of social measures.

The stakeholders affected by the project have been identified and prioritised and the relevant information on their expectations, participation and impact on the success of the project has been documented. Furthermore, participatory and inclusive processes with the local community have been carried out.

All of the measures agreed upon with the community have been approved by the project management. The funds allocated to social measures have been divided into:

- 75 % for social training measures to improve the community's education levels.
- 25 % to boost local hiring and SMEs through training and technical assistance.

SOCIAL ACTION INITIATIVES

Furthermore, in 2017, 113,320 people benefited from the following social initiatives:

- Creation of a fund of 15 study and maintenance grants for teenagers.
- Driving course for ambulance and emergency services aimed at young people in the municipality of Gamagara.
- 60 people trained with the aim of helping disadvantaged children (Early Childhood project).
- Construction of classrooms, toilets and kitchens in schools and donation of furniture.
- Renovation of a centre for disabled people.
- Contribution to the creation of small businesses among the inhabitants.
- Creation of education support camps for teenagers with learning difficulties.

SOCIOECONOMIC IMPACT

- Contribution to the GDP throughout its useful life (20 years): EUR 284 million.
- Contribution to the GDP during the construction phase: EUR 188 million.
- Job creation throughout its useful life (20 years): 10,768 job-years*.
- Job creation during the construction phase: 5,131 job-years.
- Emissions avoided during the period of activity: 6 million t of CO₂.
- Water saved during the period of activity: 8 million m³ of water.
- Improvement of the air quality during the period of activity: 44,000 t of SO₂ and NO_x avoided.

*Job-years: full-time equivalent jobs for one year.

INVESTMENT ASSOCIATED WITH PROJECTS

ACCIONA Infrastructure maintains a firm commitment to the socioeconomic development of the communities in which it does business. To this end, it performs specific social initiatives in each country where it operates. It is important to highlight the following in 2017:



Frederikssund Link (Denmark). ACCIONA Construction

The Construction division is building a highway that will cross the Danish fjord of Roskilde, relieving congestion. In 2017, over 2,050 people benefited from different social initiatives, including the following:

- Participation in the project "Invest in the future", giving talks to more than 300 students.
- Visit of engineering students of Copenhagen University to the project.
- Construction of two project information centres for the community, as well as informational campaigns and visits to the site.
- Informative meetings on archaeological remains found at the site.



Infanta Sofia Hospital (Spain). ACCIONA Concessions

The Concessions business manages the non-hospital services at Infanta Sofía Public University Hospital in Madrid. In 2017, it carried out several initiatives, including the following:

- Organisation of a charity market.
- Charity lunch for an aid project for children with chronic malnutrition.



Integrated Sectorial Programme for Water and Human sanitation (Nicaragua). ACCIONA Agua

ACCIONA Agua, as consortium leader, is carrying out the construction work and commissioning of systems that are part of Phase I of the Integrated Water and Human Sanitation Sector Programme (PISASH) in Nicaragua. with the objective of contributing to the social welfare of the Nicaraguans, through access to urban and rural drinking water supply and sanitation services. In 2017, 29,700 people benefited from different initiatives, including the following:

- Training for students about the subjects of water and sanitation, promoting the dissemination of these subjects among educational associations and schools around the project's influence area.
- Informative talks about the project and detailed information on sewage and drinking water supply systems and hygiene for health benefits.
- Training about the subjects of water and sanitation among community leaders.
- Fostering local entrepreneurship.



Producciones y Diseño Pavilions (Spain, UAE and Kazakhstan). ACCIONA Service

ACCIONA Producciones y Diseño designed and executed the Pavilion of Spain, carried out the technical development and the completion of the exhibition area of the United Arab Emirates Pavilion and completed the two exhibition floors of the Kazakhstan Pavilion. In total, some 400 people took part in the different projects:

- Promotion of local hiring.
- Local employee training through various courses.
- Furniture donation from the exhibition to various schools.
- Visits from over 25,000 students with work placements in renewable energies.



Purification plant to guarantee the water supply to the Wiwa de Seyamake community (Colombia). ACCIONA Agua

Last year, ACCIONA, in collaboration with the municipality of Dibulla, Aguas de Dibulla ESP, CorpoGuajira, and the United Nations Development Programme (UNDP) inaugurated the purification plant that will guarantee the supply of drinking water to the indigenous Wiwa de Seyamake community in the municipality of Dibulla (Colombia), in the context of ACCIONA's programme of social measures in the area, and guaranteeing access to drinking water to 42 families (more than 200 people).