

INNOVATION

A TOOL FOR VALUE CREATION

Innovation as a key element for gaining competitive advantages, focused on guaranteeing sustainability and creating added value for current and future business.



HIGHLIGHTS IN 2017

- Innovation figure of EUR 209.4 million, maximum record for the company, translated into an innovation intensity ratio (2.9 %) higher than the European average (1.4 %).

- Implementation of innovative technologies that have helped enhance the efficiency of construction and water treatment processes, energy efficiency and the development of a circular economy.

- Launch of I'MNOVATION #Startups, the first corporate start-up accelerator for infrastructure and renewable energies to foster the technical capacity of the company and its R&D centres through collaboration programmes with start-ups and partners.

- Presentation of the results of the Augmented Facility Management project for the use of augmented reality and virtual reality technologies at the La Almunia WWTP (Spain).

- Successful completion of the justification for the financing provided by the European Investment Bank for the 2013-2016 annual payments.

- Savings of EUR 32 million for improvements in operational innovation processes.

MAIN CHALLENGES FOR 2018

- ▶ Maintain an innovation over sales figure that exceeds the European average, to preserve ACCIONA's innovative leadership.

- ▶ Improve ACCIONA's processes, generating savings of at least EUR 15 million.

- ▶ Receive the financing requested from the European Investment Bank to implement projects in R&D&I and Digital and Economy Transformation during the 2017-2020 period.

- ▶ Launch the intrapreneurship programme aimed at increasing participation by ACCIONA's employees in the development of innovative pilot programmes that could generate business in the short term.

- ▶ Develop and implement instant messaging virtual assistants (known as BOTs) for the Procurement department and for ACCIONA Service.

- ▶ Develop initiatives that apply blockchain technology at ACCIONA.

INNOVATION AS A TOOL FOR VALUE CREATION

As stated in its Innovation Policy, ACCIONA integrates innovation into its businesses as an essential tool for gaining competitive advantage, focused on guaranteeing sustainability and creating added value for current and future business.

The trend towards interconnection and communication between everyday objects and the Internet already exists at the company. It provides the basis for new digital designs that enable supercomputing, digitalisation of processes, big data and smart cities. This new paradigm has had a significant impact on ACCIONA, a company that designs, builds and operates infrastructures. ACCIONA has developed and applied new technologies to create value for its clients in this area.

Moreover, thanks to collaborative innovation some projects have been carried out providing clear competitive advantages for the company and demonstrating ACCIONA's commitment to advanced technologies.

ACCIONA accredited an innovation figure of EUR 209.4 million in 2017, once again achieving its highest record. This figure demonstrates the company's commitment to remaining at the forefront of technological innovation.

INNOVATION AT ACCIONA, CLASSIFIED IN WORLD RANKINGS

The efforts made in innovation have enabled ACCIONA to maintain a leading position in the main rankings. The *2017 EU Industrial R&D Investment Scoreboard*, developed by the European Commission's Economics of Industrial Research and Innovation (IRI), ranks ACCIONA as the sixth leading Spanish company and 147th in Europe in R&D&I investment efforts.

Furthermore, the *2017 Global Innovation 1000 Report*, prepared by Strategy&, PwC's strategic consultants, which lists the 1,000 companies that invest the most in R&D worldwide, ranks ACCIONA fifth among the eight Spanish companies in the ranking.

TABLE 1.

Evolution of ACCIONA's R&D&I figure

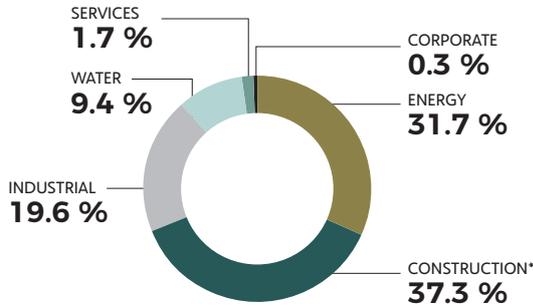
€ million

		2014	2015	2016	2017
R&D&I figure		174.9	180.4	193.9	209.4
Ranking	EU	139	144	152	147
	SPAIN	5	5	6	6
	Strategy&	447	468	*	530

* Not reported in the 2016 *Global Innovation 1000 Report*.

FIGURE 1.

Distribution of innovation figure by business line

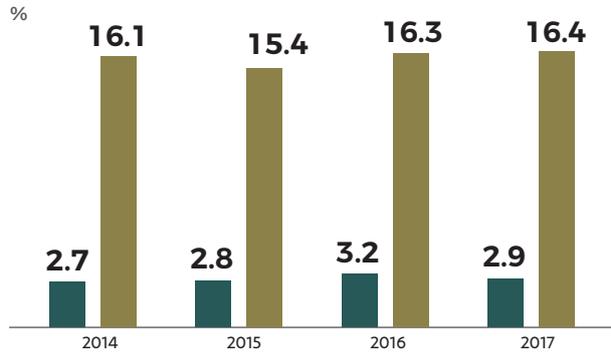


* Includes Engineering

The innovation intensity ratio, defined as the innovation figure divided by the sales figure, is 2.9 % in 2017, higher than the European average of 1.4 %.

FIGURE 2.

Evolution of innovation intensity



● Innovation figure RDI/Sales
● Innovation figure RDI/EBITDA

R&D&I MANAGEMENT

ACCIONA works with documented methodologies that make it possible to structure, quantify and qualify its processes. Since 2013, when the 'Management of Innovation' Corporate Standard was approved, new procedures and instructions have been adapted and developed with the aim of aligning them with the company's strategy.

In 2017, the R&D&I Management System (SGIDi) continued to move forward under the guidelines established in UNE 166002:2014, constantly monitoring the company's activities through regular review meetings and management indicators defined on the basis of strategic, operating, follow-up and improvement processes. Through internal and external audits, the system has been optimised and improved, thus helping to adequately accomplish the goals set out in innovation by the ACCIONA Group.

The SGIDi activities in 2017 included drawing up new Multi-year Strategic Plans, aided by the Technological and Competitive Observatory, which created the states of arts and coherence tests of the different research lines in R&D for several divisions.

ACCIONA ACCREDITED
AN INNOVATION
FIGURE OF 209 M€
IN 2017, ONCE AGAIN
ACHIEVING ITS
HIGHEST RECORD

The Plans were approved by the Committee for the Analysis and Evaluation of the Contribution of R&D&I to the Business, as specified in the 'Management of Innovation' Corporate Standard.

These ongoing efforts have been rewarded in the external follow-up audit of the group performed by AENOR in 2017, overcoming the audit with zero non-conformities for the second year in a row.

TECHNOLOGICAL AND COMPETITIVE OBSERVATORY

The following lines of action taken by the Technological and Competitive Observatory in 2017 can be highlighted:

- Monitoring of ACCIONA's competitive environment, placing special emphasis on the company's strategic lines of innovation.
- Implementation of the support methods and tools for detecting trends and new business and for analysing new players and markets.
- Support in decision-making for the main business lines in terms of both business development and R&D.

Furthermore, in 2017 the Observatory launched a new tool for detecting and analysing technological trends, and the first reports have been generated. Thus, it continues to bolster its position as an internal tool for support in strategic decision-making at the company, generating strategic documents for the organisation.

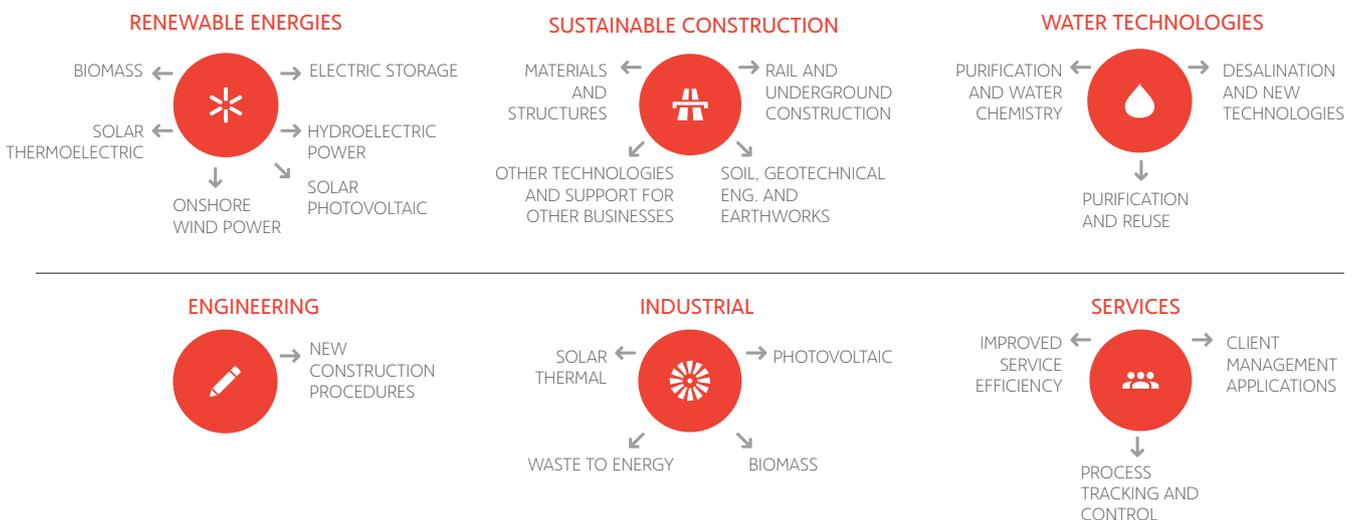
ACCIONA has three technology centres in Spain with different lines of research, among which, infrastructure, renewable energies and water can be highlighted.



MORE INFORMATION
 can be found in the "Innovation, a Factor in Development and Progress" section of the chapter entitled "ACCIONA Energy's Commitment" and in "Innovation for the Benefit of Sustainability" within the chapter on "ACCIONA Infrastructure's Commitment"

FIGURE 3.

Strategic R&D&I lines in ACCIONA's core businesses



INNOVATION IN BUSINESS AND INTERNATIONALISATION

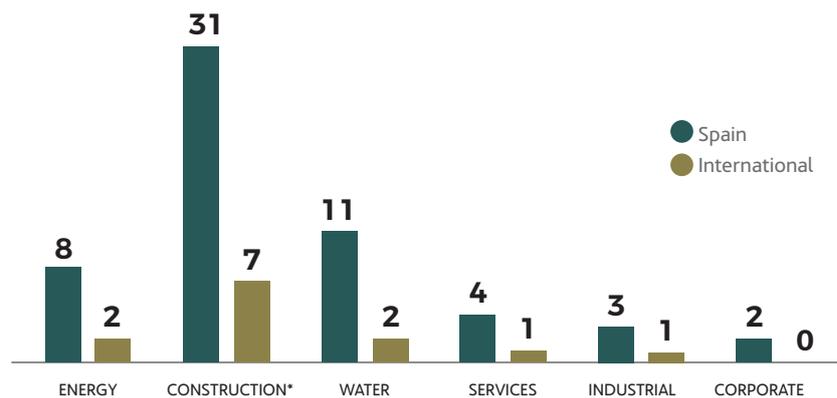
The entire ACCIONA group is involved in the creation of value through innovation to satisfy its objective of maintaining a leading position in the development of sustainable solutions for major global challenges.

With this premise, the group carries out its activities by providing innovative solutions in the development of its businesses, anticipating the needs of the clients and differentiating itself from the competition.

In 2017, 57 research projects and 72 innovation projects were carried out. Of the latter, 13 were conducted internationally, with an associated figure of EUR 165.8 million (higher than the figure from the previous year). This shows that the efforts to internationalise innovation at ACCIONA have been successful, since international innovation represents 79.2 % of the group's innovation figure.

FIGURE 4.

Geographical breakdown of innovation projects per business in 2017



* Includes Engineering (6 projects in Spain and 1 abroad).

TABLE 2.

Innovation figure evolution per country

€ million

	2015	2016	2017
Spain	97.8	55.2	43.6
Australia	0.8	3.5	11.1
Brazil	9.1	1	2.1
South Africa	10.4	25.8	-
Mexico	37.7	-	39.5
Poland	5.6	7.4	18.2
United Arab Emirates	0.3	27.1	-
Norway	9.9	28.5	13.2
Chile	-	33.3	47.3
North America	-	1.5	6.4
Canada	-	10.6	11.1
Kazakhstan	-	-	2.7
Peru	-	-	0.2
Qatar	-	-	9.4
Philippines	-	-	4.6
TOTAL	180.4	193.9	209.4

CONTINUOUS IMPROVEMENT OF PROCESSES, GREATER EFFICIENCY IN OPERATIONS

In 2017, the company managed to generate savings worth EUR 32 million, 16 % more than in 2016, by introducing enhancements in its processes, thus achieving its goal by 154 %.

2017 was the year in which the greatest amount of savings was achieved since the Sustainability Master Plan 2020 (SMP 2020) was implemented at ACCIONA in 2016.

TABLE 3.

Savings figure evolution

€ million

	2015	2016	2017
Verified Savings (€ million)	26.2	27.7	32.0
Goals reached (%)	218	138	154

SHARING INNOVATION

Through ACCIONA's new innovation platform - I'MNOVATION - the company fosters its technical capacity and that of its R&D centres through collaboration programmes with start-ups and partners, as well as through intrapreneurship initiatives.

In addition to the usual publication of ACCIONA's projects in the press and audio-visual media, innovative content continues to be published on the website known as the I'MNOVATION-HUB. This site was created in 2016 as a joint initiative by the Technology and Innovation Department and the Institutional Relations, Sustainability and Brand Department.

I'MNOVATION #STARTUPS: COLLABORATION PROGRAMME WITH START-UPS AND PARTNERS

In 2017, the first corporate start-up accelerator for infrastructure and renewable energies in Spain was launched. This is the first initiative under the I'MNOVATION programme and it aims to open the company up to external talent, thus keeping one step ahead of its direct competitors in terms of access to technology and interesting projects, and to develop intrapreneurship initiatives.

The combination of internal and external capabilities, along with the development of projects in some of the most promising areas, are an excellent starting point for generating opportunities in ACCIONA's business.

During this first year, more than 100 start-ups were assessed, leading 8 of them to be selected to work on 9 pilot projects over 3 months. Over this time, they received collaboration, mentoring and funding from ACCIONA, as well as fast-track purchasing, which hastened the launch of the pilot programme and the commercial relationship with ACCIONA.

THE SIX SKILL CENTRES
DEVELOP PROJECTS
FOCUSING ON DIGITAL
INNOVATION AND
ITS APPLICATION IN
ACCIONA'S BUSINESS

Moreover, a series of internal and external informative events were held in 2017 to show how innovation can be applied in business:

- Trade Fair for Innovative Water Management Solutions (SIGA), the final meeting of the SmartWater4Europe project, and the kick-off meeting of the LIFE-DREAMER project.
- In(3D)ustry From Needs to Solutions Trade Fair, the presentation of the I'MNOVATION platform at South Summit 2017, and the AUTODESK UNIVERSITY 2017 conference.

ADVANCED AND DIGITAL INNOVATION HUB (AADIH)

In recent years, technologies such as the Internet of Things, data science, 3D printing, artificial intelligence, virtual reality and augmented reality have become increasingly relevant at ACCIONA. As a result, through the Technology Transfer Department, the Advanced and Digital Innovation Hub (AADIH) was set up in 2017, which is structured around six skill centres and develops projects focusing on digital technologies and their application in ACCIONA's businesses.

The main functions of the AADIH are to explore and demonstrate new digital technologies, to transfer digital technologies to the businesses and to exchange knowledge and digital skills. These six skill centres are: Large-scale 3D Printing, Mixed Reality, Connected Things, Data Science, Robotics and Artificial Intelligence, Blockchain and new technologies.

The new Hub seeks to develop digital innovation capabilities and transfer them to the company's business, helping spread knowledge about these technologies and fostering the everyday use of these innovative tools throughout the company. Its aim is to become a benchmark for technology both within the company and beyond.

PROGRAM OFFICE

In addition to the creation of the AADIH, the Program Office was created with the intention of developing projects in conjunction with ACCIONA businesses. One such project is the Water and Energy Programme: based on the business needs, it helps include the circular and carbon economy through the reuse, minimisation and recovery of waste, and the minimisation of energy consumption and integration of renewable energies and storage into the infrastructure of ACCIONA's businesses.

Some of the most important achievements of the Program Office in 2017 are:

- Collaboration between Water and Energy and Industrial: launch of the Desalenergy Programme, Southeast SWRO.
- Completion of LIFE Renewatt Project: 20 % reduction in water treatment, WWTP with Renewables.
- CSR ACCIONA Colombia: Portable water purification plant with renewables in La Guajira.

One of the accomplishments of the Mixed Reality skill centre was the incorporation of virtual reality and augmented reality at the La Almunia (Spain) treatment plant as part of the Augmented Facility Management project. The goal of the project is to transform the current conditions of the WWTP, equipping the plant with the latest technology in order to improve its management, operation and maintenance processes and employee training. The tools developed in the project are considered to be highly useful for minimising errors and the time needed for performing checks, maintenance and activities at the plant, thus leading to quantifiable savings and a reduction in labour risks.

STRATEGIC PARTNERSHIPS AND ACKNOWLEDGEMENTS

ACCIONA has renewed and extended certain strategic agreements with world-renowned universities and technology centres, in particular: Consejo Superior de Investigaciones Científicas (CSIC), Centro de Investigaciones Energéticas, Medioambientales y Tecnológicas (CIEMAT), Centro Nacional de Energías Renovables (CENER), Centro de Nanociencia y Nanotecnología (CIN2), Consejo Asesor del Foro de Empresas de la Universidad Carlos III de Madrid, TECNALIA, Centro Tecnológico de Navarra de la Fundación Cetena (CEMITEC), Massachusetts Institute of Technology (MIT), Universidad Politécnica de Cantabria and Universidad Politécnica de Catalunya, among others.

It should be noted that ACCIONA is a member of the Board of Directors of the Water supply and sanitation Technology Platform (WssTP) and of the European Desalination Society (EDS).

Acknowledgements

- VOCENTO Business Award for Innovation, acknowledging the entrepreneurship initiatives under the I´MNOVATION programme.
- The SmartWater4Europe project received second prize for the best R&D&I activity within the competition for the Best Management Prize in the ACCIONA Infrastructure division.
- Sustainable Construction Awards, Castilla y León 2017, special category. A study on the treatment of acidic soil through waste recovery.
- ACCIONA Construction, finalist in the IABSE AWARDS 2017 as OUTSTANDING STRUCTURE with the Port of Valencia Lighthouse project.