12. Innovation and Digital Transformation

12.1. Strategy

In an increasingly competitive and demanding context, the ACS Group is aware of the importance of anticipating future trends and demands in pursuing global leadership. The Group therefore promotes innovation and research aimed at finding solutions to improve processes, incorporate technological advances and improve the quality of the services provided.

The ACS Group's capabilities were strengthened and complemented through the alliances with technological centres, research institutes and universities, as well as other institutions related to R&D&I in order to successfully complete the innovation processes. In this sense, the Group has made a notable commitment to developing innovation projects related to sustainability.

Digital transformation not only drives productivity improvement and sustainability, but also enables ACS Group companies to anticipate industry challenges and adapt to a constantly changing market. Innovation is thus consolidated as a transversal lever that drives growth and excellence in all areas of the Group.

The projects developed in the ACS Group's Innovation area are aimed at responding to the specific challenges and opportunities presented in the current construction and services environment, representing one of the Group's key lines for creating value.

12.2. Impact, risk and opportunity management

12.2.1. ESRS-2 IRO-1 Description of the processes to identify and assess material Impacts, Risks and Opportunities

All the information concerning IRO-1 related to this topic is provided in section IRO-1 of chapter ESRS-2.

12.2.2. Policies related to innovation and digitisation

Innovation and digital transformation is one of the ACS Group's strategic pillars and one of the levers of the Sustainability Master Plan. That is why to manage the opportunities arising in this field, the concept is included transversally in different Group policies such as the Code of Conduct, which reaffirms the Group's commitment to innovation, or the General Sustainability Policy in which the principles of action include promoting research, development and innovation, ensuring the appropriate use of new technologies to modernise organisational and production processes so that they contribute to the decarbonisation of the economy and the creation of sustainable value, among others.

In 2024, the ACS Group also approved its Artificial Intelligence Policy, which aims to ensure appropriate, responsible and ethical use of artificial intelligence tools, complying with applicable laws and regulations, as well as respecting the values and principles of the ACS Group, promoting sustainability, safety and innovation, and ensuring that any AI applications respect the rights and privacy of all the Group's stakeholders.

General Sustainability Policy

Relationship with Material IROs

The ACS Group promotes excellence and innovation as key elements for its growth and leadership in the sector. In this sense, it promotes research, development and innovation (R&D&I), ensuring a strategic use of new technologies to modernise organisational and production processes. This modernisation not only optimises operational efficiency, but also contributes to the decarbonisation of the economy and the generation of sustainable value, thus aligning innovation with the Group's environmental and social targets.

Code of Conduct

Relationship with Material IROs

The ACS Group's commitment to innovation and quality is part of the fundamental principles that govern the actions of its employees and executives. The Code of Conduct sets out the responsibility of each professional to act with high professionalism, efficiency and a focus on excellence. As part of this culture, the Group provides the necessary resources for research, development and continuous improvement of products and services, thus guaranteeing the highest quality under criteria of profitability and sustainability.

Artificial Intelligence Policy

Relationship with Material IROs

The use of emerging technologies, such as Artificial Intelligence (AI), is a key factor in the ACS Group's digitalisation strategy. Its AI Policy sets out the principles for the ethical, responsible and safe implementation of these technologies, ensuring compliance with the applicable legislation and respect for the Group's values. Furthermore, this policy reinforces the Group's commitment to sustainability, innovation and the protection of the rights and privacy of all its stakeholders, ensuring that AI development is conducted in a transparent and trustworthy manner.

12.2.3. Actions related to innovation and digitisation

The Company's commitment to innovation is evident in the significant investment in R&D+i made by the ACS Group every year, which reached EUR 26.13 million in 2024. The result of this effort leads to, among others, improvements in productivity, quality, customer satisfaction, occupational safety, the use of new materials and products, and the design of more efficient production processes and systems.

Over the last 20 years, Group companies have registered a total of 57 patents.

Specifically, in 2024, the ACS Group had 230 innovation projects underway.

Below are some examples of R&D&I projects and actions that the Group carried out in 2024:

Data management and connectivity

Link with policies and targets	This action is linked to the General Sustainability Policy, the Code of Conduct and the Artificial Intelligence Policy.
Scope of the action	The entire value chain.
Time horizon	This action is carried out on a recurring basis, as it is currently being implemented (short term) and is planned to continue to be implemented in the medium and long term.
Progress on the actions	As a recurrent measure, data management is carried out in a transversal and constant manner throughout the Group and its activities.

Description of the action:

Data management is essential for implementing projects and using infrastructures. This is not only limited to projects, but also applies to the entire project value chain. The internet of things and artificial intelligence are used for real-time monitoring of traffic systems, buildings, bridges and roads. This makes it possible to identify maintenance requirements at an early stage and reduce costs. Using big data analytics, large volumes of data from networked sensors and other sources can be processed to identify patterns and make decisions to optimise projects. At the same time, smart grids and IoT sensors increase energy efficiency by optimising energy consumption in urban deconstruction projects and promoting sustainable solutions. Cloud collaboration tools improve the way project teams work together by providing access to real-time data and shared platforms, increasing efficiency and transparency in project delivery. The integration of

cutting-edge technologies in smart cities allows for more efficient planning, monitoring and management of urban infrastructures.

Digital twins are used to visualise and optimise projects. Blockchain technology in construction increases transparency and traceability in supply chains, improves contract enforcement and mitigates risks. The security of networked systems is ensured through cyber security systems that protect sensitive data and critical infrastructure from threats.

For example, Dragados has developed AUR-AI, an innovative system that uses AI to optimise tunnel boring machine (TBM) tunnelling. This system enables real-time data analysis and provides recommendations to operators, improving performance, reducing risk and optimising construction costs. Thanks to its predictive maintenance capability, AUR-AI detects early signs of equipment failure, minimising downtime and reducing resource consumption for repairs. Moreover, by anticipating possible incidents, it contributes significantly to the safety of workers, avoiding interventions under high-risk conditions. From a sustainability perspective, optimising the operation of TBMs allows for a reduction in energy and material consumption, generating a positive impact on the efficiency of the construction process and a reduction in waste. With this initiative, Dragados reinforces its commitment to digitalisation as a key tool for improving productivity and sustainability in large-scale projects.

Digital design and planning

Link with policies and targets	This action is linked to the General Sustainability Policy, the Code of Conduct and the Artificial Intelligence Policy.
Scope of the action	The entire value chain.
Time horizon	This action is carried out on a recurring basis, as it is currently being implemented (short term) and is planned to continue to be implemented in the medium and long term.
Progress on the actions	As a recurrent measure, data management is carried out in a transversal and constant manner throughout the Group and its activities.

Description of the action:

The use of digital design and planning tools paves the way for simulation and optimisation of the various activities throughout the project lifecycle. The detailed information provided by these virtual models improves the efficiency of construction planning and implementation and facilitates maintenance.

Complementing this approach with Building Information Modelling (BIM) greatly enhances collaboration and consultation between the project's stakeholders, boosting efficiency, improving process quality, and mitigating risk. This makes project implementation more sustainable and cost-effective while promoting the safety of employees and affected communities.

In addition, using digital twins serves to virtually simulate projects and processes, generating real-time data that improve decision-making and process optimisation.

Another advance in digital planning is the use of generative design, where algorithms and AI contribute to the automatic creation of innovative and efficient design alternatives. This improves design quality, enhances efficiency and provides more economical and sustainable solutions. Virtual reality (VR) and augmented reality (AR) are used to further support visualisation and interaction with digital models. These technologies provide real information on project phases at an early stage and improve collaboration through visual representation of construction and planning data in real environments.

For example, the SOGUN Project (Gunite Robot Geometric Control System) represents a significant advance in the automation of construction processes in tunnels. Developed internally by Dragados since 2018, SOGUN allows the geometry of a tunnel to be compared in near real time with its theoretical design, ensuring the precise application of shotcrete.

The impact of this innovation is remarkable in terms of efficiency and sustainability. SOGUN has been shown to improve performance by 100% in section re-profiling activities and up to 200% in gunite spraying, achieving a 67% reduction in construction time. This increased efficiency means less consumption of materials and energy, as well as an optimisation of resources, which directly contributes to reducing the carbon footprint on construction sites.

SOGUN's international recognition, with awards at the 2024 ITA Tunnelling Awards and the 2024 NCE Tunnelling Conference & Awards, demonstrates its impact on the industry and reinforces Dragados' position as a benchmark in the development of innovative solutions that transform civil engineering.

Smart construction and construction management

Link with policies and targets	This action is linked to the General Sustainability Policy, the Code of Conduct and the Artificial Intelligence Policy.
Scope of the action	The entire value chain.
Time horizon	This action is carried out on a recurring basis, as it is currently being implemented (short term) and is planned to continue to be implemented in the medium and long term.
Progress on the actions	As a recurrent measure, data management is carried out in a transversal and constant manner throughout the Group and its construction activities.

Description of the action:

Digitalisation is revolutionising the construction industry with innovative technologies and optimised processes, especially in planning, construction, operations and maintenance. Digital construction combines several approaches to increase efficiency and transparency. IoT sensors and telematics enable real-time monitoring of the machines and materials, ensuring precise control and optimisation of the construction's progress. Drones support surveying and inspection of hard-to-reach areas and monitor progress and construction operations, while GPS and RFID systems enable accurate tracking of resources, minimise losses, and increase planning certainty. Intelligent solutions, often in combination with AI, facilitate the efficient execution of operation and maintenance activities. The complementary use of robotic technologies supports the autonomous implementation of construction processes. In addition, blockchain technology improves transparency and traceability throughout the supply chain.

Blockchain-based solutions allow building materials to be tracked seamlessly, ensuring their origin, reducing the risk of delivery delays and quality losses, and guaranteeing regulatory compliance. Wearable technologies improve safety and productivity by providing real-time data on workers' activities and well-being. Construction management software offers comprehensive solutions for project planning, resource management and documentation to maximise efficiency and minimise errors. Integrating these technologies creates a networked digital infrastructure that reduces costs, optimises processes and supports the achievement of sustainability goals.

Automation of processes

Link with policies and targets	This action is linked to the General Sustainability Policy, the Code of Conduct and the Artificial Intelligence Policy.
Scope of the action	The entire value chain.
Time horizon	This action is carried out on a recurring basis, as it is currently being implemented (short term) and is planned to continue to be implemented in the medium and long term.
Progress on the actions	As a recurrent measure, data management is carried out in a transversal and constant manner throughout the Group and its construction activities.

Description of the action:

The use of automation significantly improves efficiency and safety in projects. Assistance systems, autonomous remotely controlled equipment assisted by AI, take over dangerous and physically demanding

tasks. This not only improves worker safety, but also increases precision and accuracy, reducing human error and ensuring higher quality project results.

The use of 3D printing in construction opens up new options for fast and efficient production of complex structures, reducing material inputs and increasing flexibility. Automated systems take care of repetitive tasks such as brick-laying and concreting, increasing productivity and shortening project schedules. Robots assist workers on the construction site by handling and transporting heavy loads, as well as performing physically demanding tasks. These approaches contribute to more environmentally friendly construction processes, minimising the ecological footprint and making project execution more efficient and economical. Industrialised construction integrates standardised, prefabricated components and automated workflows as a way to further increase efficiency.

AI and machine learning analyse data to predict and optimise construction processes, improving both productivity and quality. Robots help reduce worker stress and the risk of injury. Integrating them can also facilitate the use of exoskeletons that provide additional support and protection for workers.

Development of innovative and sustainable materials, products and services.

Link with policies and targets	This action is linked to the General Sustainability Policy, the Code of Conduct and the Artificial Intelligence Policy.
Scope of the action	The entire value chain.
Time horizon	This action is carried out on a recurring basis, as it is currently being implemented (short term) and is planned to continue to be implemented in the medium and long term.
Progress on the actions	As a recurrent measure, data management is carried out in a transversal and constant manner throughout the Group and its construction activities.

Description of the action:

Sustainability and innovation are transforming the construction sector and manufacturing processes through a focus on developing new materials, circular processes and modular construction concepts. Developing new types of materials improves durability, performance and efficiency, allowing for stronger and more user-friendly structures. Prefabrication and modular construction streamline processes, minimise resource use and waste, and accelerate project delivery. Recycled and circular materials play a key role in creating a more sustainable resource economy, ensuring that materials are reused effectively.

Sustainable materials are specifically chosen taking into account their environmental impact throughout their life cycle. Innovative product solutions combine smart technologies and design to meet current and future demands for efficiency and resilience.

Together, these approaches create a comprehensive framework for a more sustainable and forward-looking construction industry.

12.3. Metrics and Targets

12.3.1. Targets related to innovation and digital transformation

The ACS Group recognises innovation and digital transformation as strategic axes to strengthen its competitiveness and contribute to sustainable development. However, due to the diversity of the Group's companies and the specialisation of their activities, no specific global targets have been set in this area. Instead, ACS fosters a culture of innovation and digitisation, encouraging the adoption of new technologies and promoting the development of advanced solutions in each of its companies, while respecting their autonomy and technical knowledge in the implementation of specific measures. The 2025 Sustainability Master Plan flags innovation as a transversal lever for achieving its targets and commitments.

As part of its commitment to continuous improvement, in 2025 the ACS Group aims to update its Sustainability Master Plan and consider the possibility of setting specific targets for innovation and digital transformation. This process will be based on a detailed analysis to identify strategic opportunities aligned with the needs of the sector and the capabilities of each company in the Group.

12.3.2. Metrics related to managing material negative Impacts, advancing positive Impacts, and managing material Risks and Opportunities

In 2024, the ACS Group's companies earmarked EUR 26.13 million for Innovation and Digitalisation projects.

Main Innovation and Digitalization Indicators Group Companies	2024
Total R&D projects during the reporting year	230
Investment in R&D (mn €)	26.13

Patents	2024
Total number of patents registered in the last 20 years	57.00