



DIGITALIZATION AND INNOVATION

DIGITAL TRANSFORMA- TION AND COMPETITIVE ADVANTAGES

Digitalization and innovation promote efficiency and competitiveness, transforming and diversifying the company's activities, as well as paving the way for a more sustainable future.

Ferrovial continues to consolidate the digitalization of the company as part of its strategic transformation process, based on the pillars of innovation, sustainability and future growth through Digital Horizon 24.

During 2023 Ferrovial invested 73.97 million euros, to boosting digitalization in the businesses and for the development of innovative solutions in its infrastructures.

INVESTMENT IN DIGITALIZATION
AND R+D+I (M€)

73.97

PROJECTS DEVELOPED
IN R+D+I

158

DIGITAL PRODUCTS

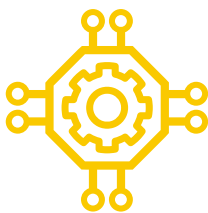
+18

DIGITALIZATION

The digitalization pillar of Digital Horizon 24 is articulated through a series of specific programs aimed at addressing the needs of business units in this area: Digital Construction (digitalization of construction management and administration processes), Digital Concession (smart toll roads and new businesses such as energy or water) and Digital Corporation (finance, human resources, etc.). They are all supported by transversal drivers upon which digitalization projects are developed.

The first of these enablers is **data**, reinforced in PANGEA, a digital platform for the standardization of data that allows its exploitation to create value and apply artificial intelligence algorithms, which contribute to better decision making. For example, Ferrovial Construction standardizes and reuses works data and automatically integrates all technical and financial developments. Use cases continue to expand to other departments and business units.

Another driver is **cybersecurity** that, in 2023, has focused on reducing exposure to cyber threats by improving protection and detection and response times. Ferrovial has implanted a basic cybersecurity program for all assets managed by the concessions business unit to comply with the European Directive on Essential Services Operators (NIS). Cyberculture was also deployed, an individualized awareness program for each employee according to their level of exposure to cyber risks.



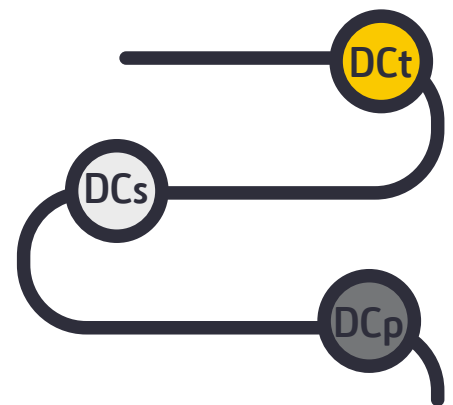
Likewise, in the case of digital platforms, **observability services** have been implemented to monitor the use and operation of applications and infrastructures in real time, also contributing to improve maintenance and evolution in a more proactive and efficient way. The latest digital assets provided by Ferrovial, such as AIVIA or NextPass, already feature this service.

Ferrovial has also progressed in its **process transformation program**, with new automation tools such as UiPath, PowerAutomate and PowerApps. This program, based on the opportunities detected, allows to improve the efficiency of certain procedures and reduce repetitive tasks, increasing employee productivity, for example, by issuing automated reports on control, auditing or management of financial or IT service requests. Process mining is being tested in some departments, such as accounting, to automate the identification of improvement opportunities through AI and facilitate their implementation.

The value of technological transformation is only possible through people. Ferrovial encourages this cultural change by implementing **change management and training** programs such as Digital Skilling, aimed at complementing and extending the skills of work teams through continuous training. In 2023, one of the most relevant initiatives was the Learning Days, a periodic event focused on the development of digital skills and the exchange of knowledge between employees and other external stakeholders.

ENABLING VALUE IN THE BUSINESS

H24



Finally, it is fundamental for Ferrovial to leverage the capabilities of external partners through solid **strategic alliances**. In 2023, in addition to strengthening the alliance with Microsoft, other strategic agreements were reached with NTT Data and Salesforce for the digitalization of infrastructures, development of digital solutions for industry and the promotion of the launch of a Center of Excellence by NTT Data in Spain. Another of its main strategic alliances has been formalized with the Spanish technology company Sngular for the joint deployment of solutions through digital products based on artificial intelligence and IoT.



INNOVATION

Innovation in Ferrovial begins with priorities defined by the business units. Competitive advantages are generated through exploration and experimentation with new technologies and methodologies, and a sustainable impact is ensured thanks to the transformation of the business and the development of new products and services. Ferrovial therefore pursues an Innovation Strategy, framed within Digital Horizon 24 and aimed at creating impact in the following areas:

Generate efficiencies and competitive advantages

PROJECTS WITH STARTUPS

47

The search for competitive advantages by improving productivity through automation and robotization is one of the main strategic focuses. Ferrovial was the first infrastructure company in the world to provide its employees with MAIA (My Artificial Intelligence Assistant), a generative artificial intelligence tool that simplifies daily tasks, boosting productivity through solutions that incorporate the latest technological advances.

In addition, it has managed to add value by automating operations in infrastructure construction. One example is the stakeout robots, capable of autonomous and accurate measurements and stakeouts, saving time, increasing people's safety and reducing costs in construction projects.

NEW APPLIED TECHNOLOGIES

27

Sustainable infrastructure development is also a major priority for Ferrovial, and therefore solutions have been implemented to measure and reduce the carbon footprint of construction projects.

The company also continues to deploy parametric and generative design techniques that use algorithms and specialized software to create complex and customized 3D models, optimizing infrastructure design and improving its efficiency and competitiveness.

Transforming the business

Innovation is a backbone of the transformation process of Ferrovial's different business units. This process affects every stage of the infrastructure management value chain, from the bidding phase, infrastructure design, construction, asset operation and maintenance.

Ferrovial operates an open innovation model. The Centers of Excellence (CoE) for Mobility, Asset Management and Energy and Sustainability, specialized units that lead the implementation of strategic innovation projects that are transversal to the different lines of business and generate added value with a range of projects.

AIVIA is one of the main Mobility CoE initiative, which consists of developing and implementing the physical and digital infrastructure needed for the toll roads of the future. Thanks to capabilities such as teleoperation, predictive maintenance or automation, it will be possible to ensure a correct transition where conventional, connected and autonomous vehicles can coexist in harmony, maximizing safety and traffic flow on Ferrovial's toll roads.

In the Asset Management CoE, Ferrovial has designed Transversal Asset Management, an innovative and flexible platform that digitizes asset management activities and processes in Ferrovial's business units and its core assets.

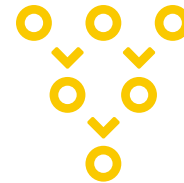
Finally, Ferrovial's Sustainability and Energy CoE implements projects and carries out decarbonization solutions aligned with the company's sustainability strategy. The use of renewable and alternative fuels to diesel, experimentation with new technologies for renewable and low-carbon generation, storage and smart grids are some of the lines of work.

Diversification and growth

Thanks to the creation of the Innovation Growth area, Ferrovial has promoted the design and implementation of new business models in unconventional markets, always linked to infrastructure.

In 2023, Ferrovial collaborated with startups on 47 projects and signed business agreements and invested in several Venture Capital funds, accelerating its innovation process, improving its competitiveness and offering more advanced solutions to its customers.

Finally, Ferrovial continues to strengthen the open innovation ecosystem, initiating new collaborations with universities and research centers, such as the Georgia Institute of Technology, which joins MIT as one of the leading partners in the innovation ecosystem in the USA.



PARAMETRIC AND GENERATIVE DESIGN

Optimized designs based on the input of parameters, such as materials, site constraints, and environmental issues, as well as on the use of algorithms to explore many options before deciding on the final design, ensuring fast and reliable results.



BATTERY ENERGY STORAGE

Development and integration of battery energy storage systems (BESS), which help balance electricity supply and demand, ensuring a stable and reliable energy supply.



5D AEROSAFE

The 5D-AeroSafe project offers a digital technology that provides a set of drone-based services to increase the safety and security of airports and waterways while reducing operational costs.



NEXTPASS BY NEXTMOVE

It is a mobile app available for iPhone and Android, facilitating toll payments on roads, bridges, tunnels, or express lanes without the need for a physical transponder or toll tag.



H&S PLATFORM

Ferrovial's Health and Safety platform for the management of processes that covers incident reporting, observations, inspections and audits, as well as the subsequent analysis, investigation and management of corrective and preventive activities. It has a mobile application that allows information to be captured on site in real time.



TRANSVERSAL ASSET MANAGEMENT SOLUTION

TAM is Ferrovial's Asset Management solution aligned to whole-life asset data standards supporting efficiencies during handover and O&M phases of infrastructure.



CARBON TOOL

The infrastructure carbon tool is conceived to be a whole-life carbon management tool to support project teams throughout the different stages of a project lifecycle. The accuracy of carbon data and calculations will increase throughout the different stages of an infrastructure lifecycle.



ROADMAP TO ANIMATION

This program aims to add scalable value to Ferrovial's businesses through the application of automation technologies.



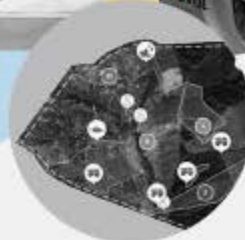
AIVIA SMART ROADS

Projects which aims is to define the model for the sustainable infrastructure of the future for mixed traffic through the development of 5G smart roads and advanced monitoring, sensing and simulation technology.



CONNECTED SITES

Connected Sites is one of Ferrovial Construction's most emblematic project providing productivity, efficiency and operational improvements thanks to monitoring the situation and status of the equipment deployed on a construction site in real time.



- Competitiveness
- Risk Management
- Efficiency
- Diversification
- Transformation