



Smart buildings

TRANSFORMATION HANDBOOK
2022

Transformation is in our DNA

The public health and economic crisis triggered by COVID-19 has focused our minds on the need for **a swifter economic and social transformation** – the only way we can count on a full recovery and get back on track for growth.

We believe that **digitalisation is key** to making this transformation possible. Technologies such as 5G, cloud storage, cybersecurity, AI, big data and IoT will be game-changing – as demonstrated by our extensive catalogue of solutions, applications and use cases. Our capacities and experience make us the perfect partner for businesses and local authorities as they take on the digital challenge.

We stand for a **fair, inclusive and sustainable digital transformation**. Our mission is to harness technology for people and planet, lightening the environmental load and offering our clients solutions that get them working more efficiently and sustainably.



Smart buildings:

creation of smart, efficient, sustainable, safe and profitable places

From an energy perspective, approximately 75% of the EU's building stock is inefficient. According to the WHO, we spend between 80% and 90% of our time inside buildings or enclosed spaces.

At Telefónica we have come up with an inclusive and unrivalled solution that is second to none. We offer a range of technological solutions ready to increase efficiency, reduce costs, enhance user experiences and improve security.

These types of solutions also promote the transition towards a more sustainable society, optimising energy and natural resources and promoting the circular economy, thus reducing environmental impact.

How we are revolutionising buildings

COMMUNICATIONS

THE BEST CONNECTIVITY

Solutions and services aimed at providing building connectivity - both inside and out - from connecting basic communications infrastructure and local network cables to WiFi signal, IoT services and 5G connectivity.



PLATFORM

UNIFIED CENTRAL VISION

Platform aimed at facilitating decision-making by incorporating various systems to automate, collate and present data more efficiently. Also includes enabling technologies such as the IoT, BIM tools and digital twins by implementing advanced analytics, artificial intelligence and big data.



EFFICIENCY

COST SAVINGS, OPTIMISATION OF SPACE AND RESOURCES

Solutions that efficiently and centrally manage a facility's resources and consumption, monitoring infrastructure and user behaviour to reduce resource consumption, operating costs and maintenance.



How we are revolutionising buildings

SUSTAINABILITY

REDUCING ENVIRONMENTAL IMPACT

By optimising and reducing electrical and water consumption and related CO₂ emissions, we create more sustainable buildings. We also contribute to the circular economy by using predictive maintenance tools and waste and recycling management solutions, as well as monitoring air quality.



PEOPLE

ENHANCING THE USER EXPERIENCE

People-oriented services that improve user experiences and facilitate the digitalisation of spaces by implementing audiovisual systems, corporate communications, user applications, space reservations and traceability, among others.



SECURITY

IMPROVED BUILDING SECURITY AND PROTECTION

Comprehensive technological solutions, adapted to each building to provide end-to-end security solutions and advanced management competency, identifying risks and proceeding effectively to achieve a safer and more efficient space.





TESTIMONIALS

What our clients say...



Laura Redondo | **Grupo Tendam**
Head of Procurement

"The store network of the Tendam Group brands is key in the company's commitment to innovation and sustainability. Thanks to our IoT project with Telefónica we continue to reduce the amount of energy we use, as well as improve operational and environmental efficiencies at our physical stores."

Mariano González | **Grupo Iberebro**
Head of Real Estate

"Thanks to Telefónica, we are the most digitalised shopping complex in Spain, putting La Torre Outlet Zaragoza into a technological class of its own."



Toni Francés Pérez | **Alcoy City Hall**
Mayor

"This project provides real time and useful information. Together with our city platform, it gives us a technological tool to take informed decisions, make predictions and be more efficient and effective."

René Abril | **Club Atlético de Madrid**
Head of Technology and Digital Development

"We chose Telefónica because they have a large number of divisions that specialise in all the areas we needed."



Alcoy City Hall:

smart buildings – IoT hub



Development of an IoT hub in the Eduardo Latorre municipal sports centre, fully in line with the UNE standard 178108 for smart buildings. The IoT hub was designed as a central system for information comprised of multiple sensors and sources, capable of storing data, variations and carrying out value analyses, with the aim of making this information available to a smart city platform. Some of the main core services to manage at the City Hall include energy efficiency, water consumption management, interior comfort, exterior air quality and occupancy levels.

OBJECTIVES

Display real-time information on:

- Energy efficiency: electricity, gas, hot and cold water and photovoltaic solar energy usage.
- Interior comfort: room temperature and humidity.
- Exterior air quality: environmental temperature and humidity, CO₂ meter.
- Occupancy levels: monitoring main entrance and emergency exit.

The overall situation can be viewed and managed from the city platform, together with detailed real-time information, changes, graphics, historical and accumulated data. This can all be customised and alerts created for notifications.

FEATURES

- Ability to interact with the rest of the elements inside the building: sensors and/or actuators and private systems.
- Ability to interact with other city-related elements.
- Potential for future expansion and scalability.
- Integration with the city platform.

BENEFITS

- Monitoring and display of general data, for enhanced information management and decision-making.
- Possibility of interacting with hubs nearby (other buildings) in the event of an emergency.
- Reduced consumption of available resources and financial savings.
- Greater capacity for service management.
- Enhanced comfort and quality of life for building users and the general public.



Wanda Metropolitano: smart stadium



Atlético de Madrid chose to partner with Telefónica for the digitalisation of its new stadium. The Wanda Metropolitano is now the first smart stadium in Europe and has become a benchmark for this type of building. Its technological features mean spectators can enjoy a truly unique experience.

OBJECTIVES

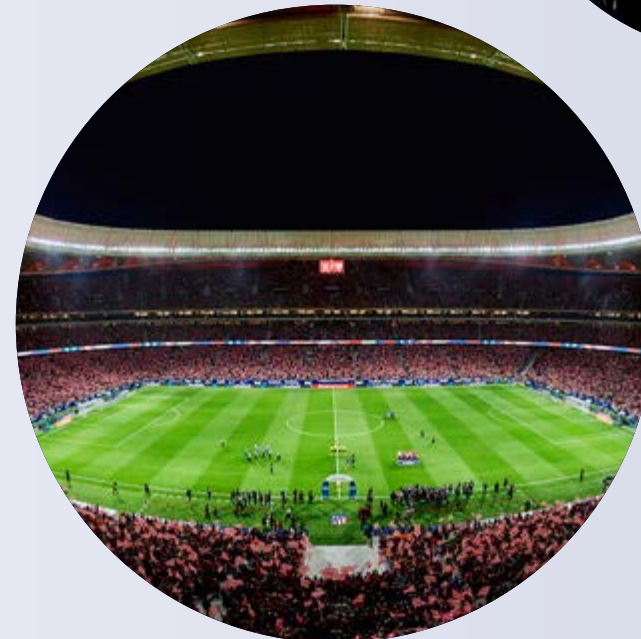
- The client's main objectives included:
- Converting the new stadium into a smart stadium.
 - Tightening venue security.
 - Optimising the full visitor experience.
 - Avoiding or reducing waiting times.
 - Improving the experience through connectivity and sustainability.

BENEFITS

- Main benefits:
- Becoming a fully IP-based stadium.
 - Becoming a world-class stadium.
 - Improving user experience.
 - Making the experience visually more spectacular.
 - Fast and easy media access to television networks.
 - Hosting of high-profile events.
 - High-speed-internet connectivity for all users.

FEATURES

- Solutions implemented:
- Data centre.
 - Connectivity: network, WiFi, fibre and 4G/5G connections.
 - Audiovisual: screens, outdoor screens, 360° ribbon board, videomarkers.
 - Security: entrance doors, CCTV, video surveillance cameras.
 - Broadcasting: signal distribution.



FURTHER INFORMATION

Video: [Wanda Metropolitano: the first smart stadium in Europe.](#)

Post: [The Champions is also IoT.](#)

Shopping Centre:

La Torre Outlet Zaragoza



Ibereco Group digital shopping centre. Innovative digitally designed space, providing the very best value to visitors and offering a unique, personalised and immersive experience.

OBJECTIVES

Integrate network abilities, communications and WiFi infrastructure with the most advanced in IoT digital solutions, big data and artificial intelligence to create a one-of-a-kind user experience, where physical meets digital.

BENEFITS

- Technological proposal that sets it apart from other shopping centres.
- Creation of an immersive public space.
- Unique digital experience with the use of mega LED screens, lighting systems, content and desired settings.
- Improving user experiences.
- Advanced dashboard, including metrics with a direct impact on operator businesses (retail and catering).
- Smart parking management.

FEATURES

The project includes the conceptualisation, design and implementation of all audiovisual elements, digital signage, support and generation and adaptation of content. Telefónica also provides technologies and solutions such as: smart parking, control of visitor flows, connectivity, the cloud and WiFi network; making it the most digitalised shopping centre in Spain. It also provides end-to-end security for the complex as a core part of its digitalisation, including CCTV security, all operated from the Telefónica Security Control Centre.



FURTHER INFORMATION

Press release: [Telefónica turns La Torre Outlet Zaragoza into the most digitalised shopping complex in Spain.](#)

Grupo Tendam: sustainable stores



Grupo Tendam set itself the goal of becoming more sustainable by reducing its energy consumption, enhancing the comfort of its stores for customers and reducing its environmental footprint. To achieve this goal, it selected Telefónica as its technological partner – via Eco Smart solutions based on IoT – to help it streamline and centrally manage the energy consumption in 37 of its Cortefiel stores across Madrid and Andalucía.

These solutions are designed to reduce the company's environmental footprint and improve its overall sustainability, by reducing energy consumption and improving the comfort of customers in its stores – always ensuring optimal lighting and temperature. This is achieved via the building automation and energy efficiency tool deployed in the Telefónica network that centrally and remotely automates, monitors and manages all the fashion firm's stores.

TECHNOLOGICAL SOLUTION

- Hardware deployed for remote measurement and management of the HVAC/extraction, lighting and control system.
- Remote measurement and management to monitor in real time and deliver individual store-specific reports on energy consumption for lighting and HVAC systems.
- Energy management: producing detailed reports, analysis and recommendations on the installations with a view to saving energy.

BENEFITS

- A 15% drop in energy consumption.
- In total, over 3,700 MWh has been saved, equivalent to the annual energy consumption of 1,060 homes in Spain.
- Customers feel that the stores are more welcoming and comfortable.
- The client has met its goal to help build a greener planet and decarbonise the company.

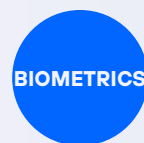


FURTHER INFORMATION

Press release: [Cortefiel stores reduce their energy consumption by 15% with Telefónica Empresas' IOT ECO SMART solution.](#)

BBVA:

end-to-end security in Las Tablas headquarters



La Ciudad BBVA is a complex of seven buildings housing the headquarters of the Spanish bank Banco Bilbao Vizcaya Argentaria. In the centre of the complex is a circular 100 m wide plaza, which is where the main building, an irregular-elliptical tower known as La Vela, stands. It is a 93m high building with 19 floors, covering an area of 82 m in diameter and only 16 m in width. Winning the Pritzker Architecture Prize with its construction, it was certified as an LEED Gold building by the U.S. Green Building Council (USGBC), one of the most rigorous sustainable construction standards in the world. The project involved installing an end-to-end security system in the vertical section of the La Vela building.

OBJECTIVES

To provide the building with smart security solutions for its users.

BENEFITS

Installation of an end-to-end physical security system that also obtains information to help improve building security.

FEATURES

We worked with BBVA as their digitalisation partner, providing various integrated solutions at the BBVA headquarters in Las Tablas (Madrid). This included physical security systems, such as:

- CCTV system.
- Access control.
- Intruder detection.
- Interphones.
- Fire detection.



FURTHER INFORMATION

Post: [Singular Buildings](#).

Other cases from the sector

There are various types of installations and solutions applicable to each smart building field, such as connectivity, energy efficiency, audiovisuals, spaces and physical security, among others. Below we provide a range of case studies covering different building types and uses, as well as the different solutions that were applied.

CAMPUS REPSOL



All-encompassing security project for the Repsol Campus in Méndez Álvaro, Madrid. Installation of an end-to-end security system at Repsol's 32,000 sqm business campus that houses over 4,000 employees. The project provided the campus with an early response system for any incident, monitoring and controlling entrances, as well as keeping track of any activities occurring inside the perimeter.



CANALEJAS COMPLEX



The new Canalejas shopping complex features over 16,000 square metres of retail arcades, luxury residences, a Four Seasons hotel and an underground car park. This project entailed the supply, installation, configuration, testing and implementation of security, entrance, fire protection and communication systems, as well as a centralised management system.



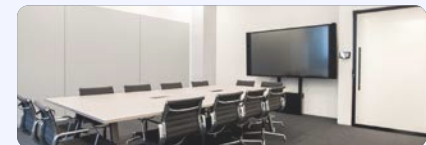
FCC HEADQUARTERS



Security solutions for FCC's headquarters in Madrid. Installation of internal and external security measures, including: pedestrian and vehicle access control system, CCTV system, control system for material deliveries including detection of explosives and metals, as well as an intruder detection system. Centralised video, access control and intruder detection system.

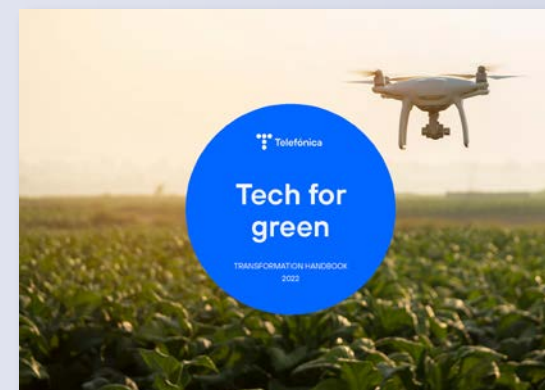
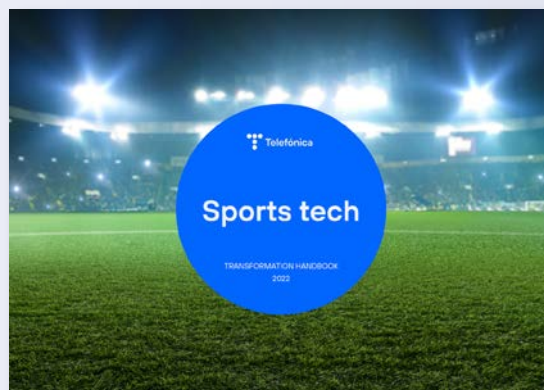
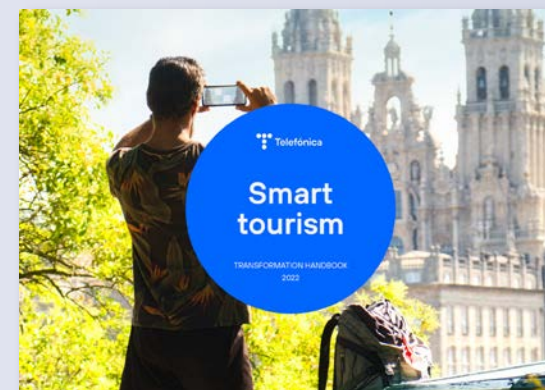


WPP CAMPUS "LA MATRIZ"

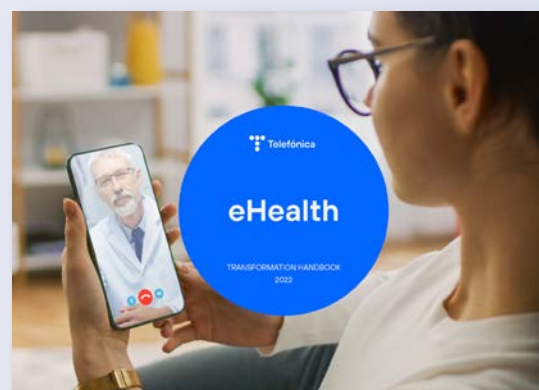


WPP's new campus in Madrid, "La Matriz", is the company's largest in Europe. Spanning 6 floors and 35,000 sqm, it houses 2,500 of the multinational advertising company's staff. Intended to be a landmark hub, WPP needed a company that could work alongside its architects and find the right technological solutions to enhance the experience and efficiency of both its employees and clients.

Transformation handbook collection



Transformation handbook collection





Want to *find out* more?

telefonicatech.com