



Tech for Green

TRANSFORMATION HANDBOOK



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.



Sustainability:

key to moving forward

Digitalisation plays a major role in solving the environmental challenges we face today. As such, here at Telefónica, our goal is to help build a world in which technology plays a part in achieving a greener planet.

We provide our clients with digital solutions that, as well as improving their competitiveness, also help them reduce their carbon emissions and the resources they use.

We are well on the road to becoming a net zero emissions and zero waste company, rolling out state-of-the-art networks, using renewable energies and actively promoting the circular economy.

Decarbonising the world through **digitalisation**

WE ARE REDUCING OUR ENVIRONMENTAL IMPACT

Our goal is to have **the most efficient and lowest emitting telecoms network in the sector**, so as to ensure the connectivity we offer our customers is green.

- We are committed to achieving net zero emissions by 2025 in our core markets.
- 100% of our electrical consumption comes from renewable sources in Europe, Brazil and Peru.



WE ARE HELPING TO DECARBONISE THE ECONOMY

We offer our customers **digital solutions** that help reduce their **environmental impact**.

We have created the [Eco Smart Seal](#). This badge has 4 icons representing different environmental benefits: **energy savings, reductions in water consumption, CO2 emissions and contribution to circular economy.**

In 2020, we helped our customers reduce their emissions by 9.5 M tCO₂, equivalent to a forest of 158 million trees.



How we are helping to take care of our planet

ONUBAFRUIT

VERTICAL GREEN CROPS

A smart agro project with indoor strawberry production based on Vertical Green's aeroponic technology in a digitally controlled environment through IoT, 5G communication, cyber security and machine learning.



ECOSMART
SERVICES



LANZAROTE AND LA PALMA

SMART AND SUSTAINABLE ISLANDS

In the two smart island projects we designed for the Lanzarote and La Palma city councils, we implemented digital solutions to help protect the environment, reduce the use of resources and make the islands even more sustainable.



ECOSMART
SERVICES



GRUPO TENDAM

SUSTAINABLE STORES

Thanks to our IoT solutions, Cortefiel have successfully reduced the energy consumption in their stores by automating energy management and remotely controlling in-store lighting and air conditioning.



ECOSMART
SERVICES





TESTIMONIALS

What our clients say...



Francisco Sánchez | **Onubafruit**
Chairman of Onubafruit

'Agriculture will be key going forwards: we are going to have to produce more in less space and that is where technology is going to be a game changer.'

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

'The store network of Tendam Group's 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.'



Gonzalo Pascual | **Cabildo La Palma**
Minister for Innovation, Land Planning and New Technology

'The 'La Palma Smart Island' project is a proposal targeting sustainability and self-sufficiency that, by applying new technologies, will allow for a more efficient management of our resources, services and infrastructure to create spaces which favour the interaction between people, businesses and public authorities.'

Benjamín Perdomo | **Cabildo Lanzarote**
CEO of the Centres for Art, Culture and Tourism

'The 'Lanzarote Smart Island' project will provide the island with the digital tools and solutions to establish it as a Smart Tourism Destination, but above all make it a destination that is even more sustainable.'



Onubafruit: Vertical Green crops

5G

IoT

CYBER
SECURITY

MACHINE
LEARNING

RHPA

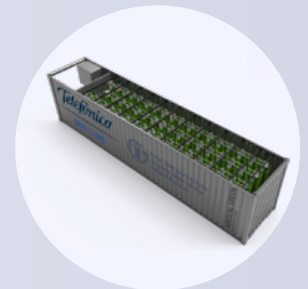
Agriculture 4.0 is synonymous with efficient, sustainable and smart agriculture which also uses sensorisation, connectivity, data analysis and traceability and brings a whole new dimension to how we physically grow crops. As part of our smart agro proposal, at Telefónica we incorporate Vertical Green solutions for growing crops indoors in digitally controlled environments that are accessed remotely thanks to RHPA aeroponics (Rotating High Pressure Aeroponic Irrigation) technology. Onubafruit, one of Europe's leading strawberry growers, is using this technology to grow strawberries in high density indoor spaces that are digitally controlled via IoT, 5G communications, cybersecurity and machine learning.

TECHNOLOGICAL SOLUTION

Interconnected modular production in a 40-foot enclosure with automated remote management of variables such as fertigation, carbon pressure and photoperiods controlled via algorithms, sensors and digital actuator systems. Implement a crop-growing plan specifically tailored to each variety, significantly reducing the consumption of water and nutrients and avoiding the need for pesticides.

BENEFITS

- 95% drop in water consumption.
- 64% drop in energy consumption (renewable sources).
- Farming of organic produce, free from pesticides and agrochemicals.
- Higher-density production in smaller spaces (vertical farming).
- Specialist technical work (creating skilled employment).



FURTHER INFORMATION

Videos: [Sustainable agriculture](#),
[Vertical Green](#)

Lanzarote and La Palma: smart and sustainable islands



Two landmark sustainable digital transformation projects for two Canary Island city councils:

- **Lanzarote:** its aim is to establish itself as a sustainable destination, partnering with Telefónica to roll out weather and environmental base stations in tourist hotspots on the island. This initiative further warrants its campaign "Lanzarote Intelligent Biosphere Reserve".
- **La Palma:** we lead the way in the "Smart Island" project, implementing IoT solutions to make the island even more sustainable thanks to smart waste management solutions, energy efficiency in buildings and remote vehicle monitoring, among others.

TECHNOLOGICAL SOLUTION

Sustainable tourism platform and roll-out of IoT solutions (environment, waste, energy, agro...) to raise the appeal of the islands, but above all, make them more sustainable.

BENEFITS

The aim of both islands in these projects is to achieve their sustainable development goals by implementing innovative digital solutions that allow them to:

- Measure air quality.
- Reduce the energy consumption of buildings.
- Reduce energy consumption by improving urban waste management logistics and the general logistics of the entire fleet of monitored vehicles.
- Gain access to vast amounts of data to help make better-informed decisions regarding the island's sustainability.



FURTHER INFORMATION

News: [Deloitte and Telefónica present Lanzarote Smart Island.](#)

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.



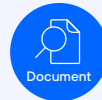
Other cases from the sector

Digital solutions for our clients that help them reduce their environmental impact and achieve more efficient and sustainable businesses.

PRECISION AGRICULTURE



IoT and big data technology allows agricultural productivity to be improved sustainably by optimising the management of resources and reducing water used in irrigation, as well as reduce the use of fertilisers and pesticides.



FLEET MANAGEMENT



Solution that – via advanced telematics – allows a fleet of vehicles to be managed in real time and provides a strategic view that helps make better-informed decisions.



SMART CITIES



Optimised waste collection by sensorisation of containers, sustainable gardening with remote irrigation to reduce water usage, consumption and street lighting controlled remotely, environmental parameters processed to measure air quality and noise levels.

SMART BUILDING MANAGEMENT



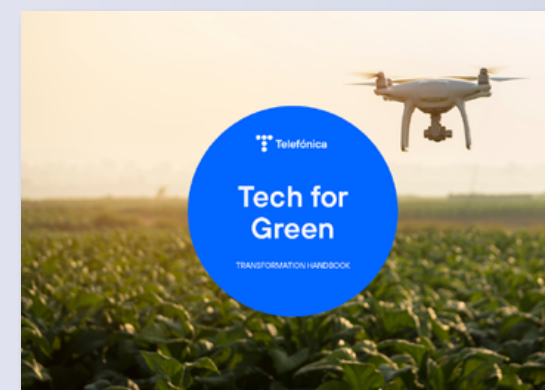
Centralised control, monitoring and management to optimise and reduce the building's energy consumption (electricity, water...) and reduce its CO2 emissions; we remotely supervise facilities via AI and predictive maintenance, to maximise the useful life of equipment and help contribute to the circular economy.

REMOTE WORKING AND VIDEO CONFERENCING



Connectivity and digital productivity and collaboration solutions allow people to work remotely, reducing the amount they need to travel and avoiding around 1.4 tonnes of CO2 being released into the atmosphere per person per year.

Transformation handbook collection





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