

## 

**TECHNICAL REPORT ON IMPACT MEASUREMENT** 

Measuring the social and environmental impact of Telefónica 2022

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Measuring Impact 2022

# *Executive* summary

## Quantifying our impact helps us to improve

For Telefónica, it is important to **understand social and environmental impact** that we generate as a company. Understanding the impact allows us to identify ways to **operate in a more sustainable way and generate greater value for society.** 

By measuring the value of our impacts, and quantifying that value in economic terms, we are able to use the results in our decision-making and general management of the company. It also allows us to **identify those areas in which we can maximize our positive impact and those where we need to minimise negative impacts.** 

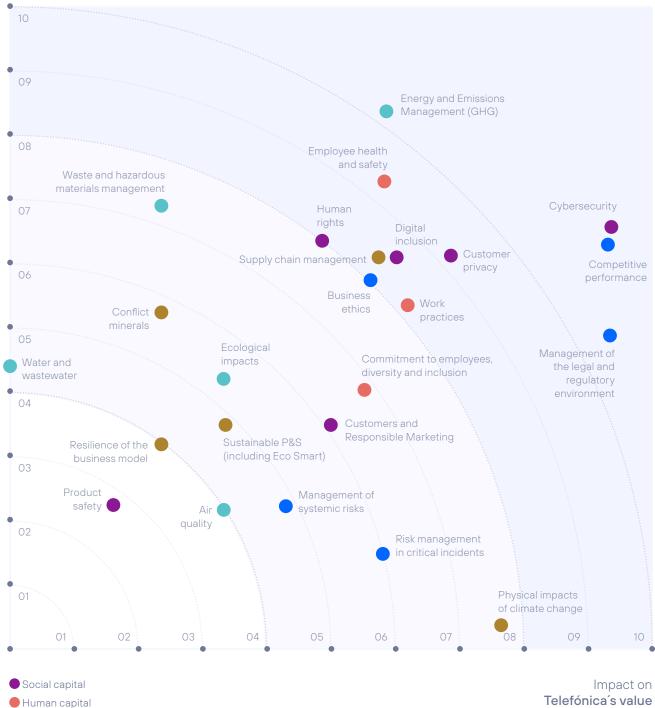
## Telefónica has an annual positive impact of over €98 billion

Our impact model has been based on various academic and commercial frameworks including those proposed by the Chair of Social Impact at the Spanish University ICADE, the analysis models from the Impact Management Project (IMP) and, in particular, the work carried out by Harvard University (Impact Weighted Accounts Initiative). This has enabled us to improve our evaluation models and more precisely identify those areas where we most significantly contribute to the challenges of the United Nations 2030 Agenda.

Building on our evaluation model, we have carried out an **assessment** exercise in which we have analysed all **aspects considered material** for the company.

We start by considering the different externalities that are most directly linked to our business activity, analysing which ones generate the greatest impact. To this end, we have carried out a double materiality study that offers, as a result, a **materiality matrix showing two perspectives**: on the one hand, Telefónica's impact on society and the environment and on the other hand, the impact of externalities on Telefónica's value.



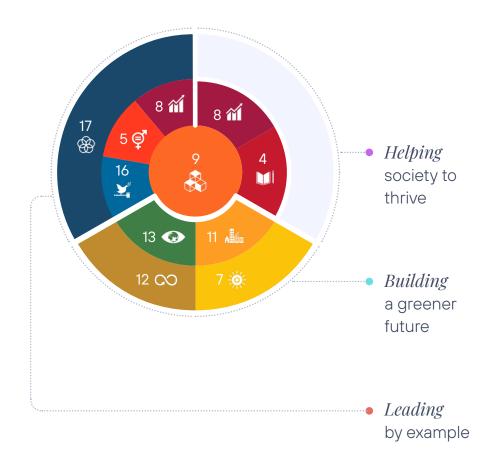


Telefónica's value

Environment

Business model and innovation Governance and leadership

The impact variables analysed have been structured around the company's three strategic pillars and aligned with the Sustainable Development Goals.

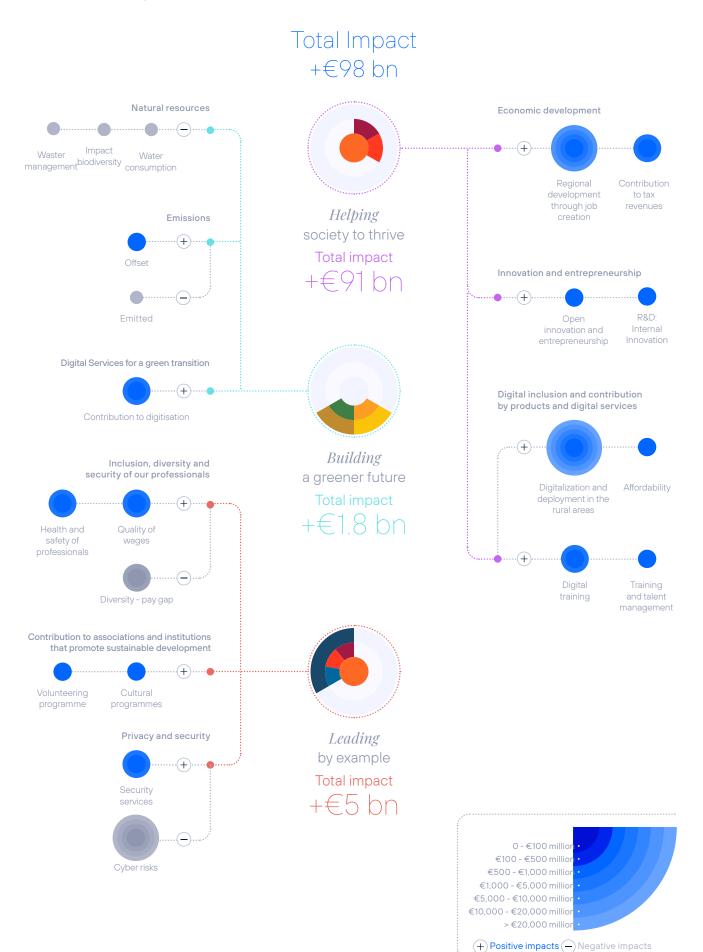


## Impact across the three ESG pillars

**Helping society to thrive**: Encompasses the economic and social contribution derived from investments in activities linked to the company's core business.

**Building a greener future**: This second pillar includes both the impacts that our operation and business activity generate on the environment, as well as the contribution of digital services to the decarbonisation of the economy and the protection of ecosystems, favouring a more sustainable social development through solutions that drive the circular economy.

**Leading by example**: This pillar focuses on the impacts that take place principally in the company's internal control spheres, such as its employees or the processes for guaranteeing security and privacy. It also incorporates the additional social value provided through the work carried out by the Fundación Telefónica through its corporate volunteering and cultural promotion programmes. Measuring Impact 2022 Executive summary



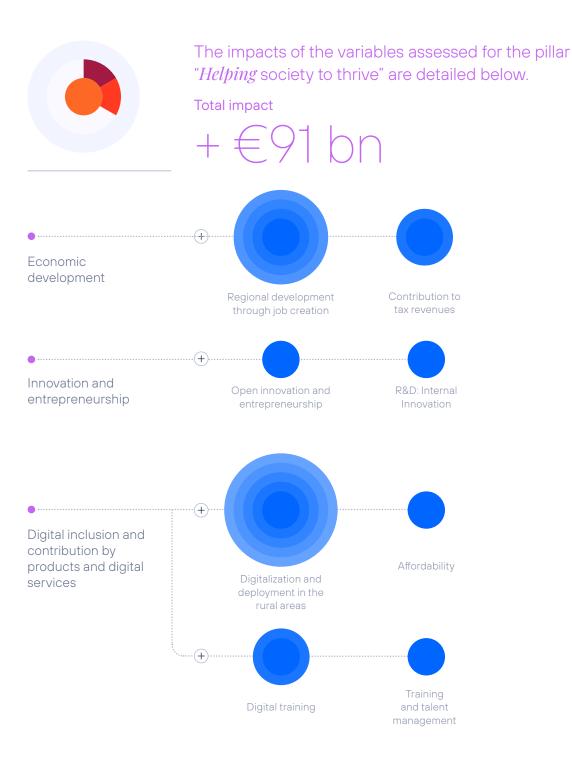
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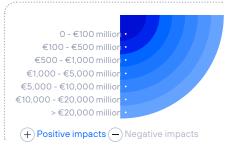
## Impact assessment

Measuring Impact 2022 Impact assessment

# *Helping* society to thrive

By bringing connectivity and digitalisation closer to more people, we boost social and economic development Measuring Impact 2022 Impact assessment Helping society to thrive



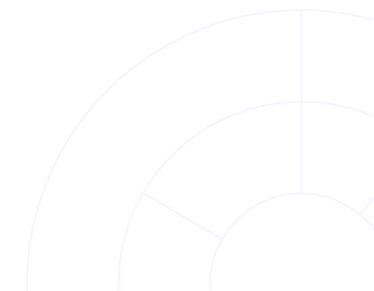


### Economic development

We are part of a strategic sector and contribute to the economic development of the countries where we operate. This occurs both directly, through our commercial activity and job creation, and indirectly, through the multiplier effect we have on other industries. We help these industries move forward because we adapt to their new needs in an increasingly interconnected market.

Beyond our direct contribution to regional economies, we can also highlight **the value of our deployment of telecommunications infrastructure**, the development of broadband and the digitalisation of the productive and business fabric of the countries. These contributions **ensure that everyone**, regardless of their education, financial situation or physical abilities, can **benefit from the new digital revolution**.

We promote inclusive connectivity to bring digitalisation closer to more people



Measuring Impact 2022 Impact assessment Helping society to thrive

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#### Contribution to local tax revenues

Our contribution to local tax revenues is a **key factor for the economic stability of the regions in which we operate**. We quantify it not only through corporate tax revenue, but also through other specific contributions such as fees (for the use of the public domain and the financing of the radio and television corporation, among others), local taxes, social security payments and similar contributions.

## For every €100 of business, we pay €23 in taxes

This contribution has an impact not only on the finances of each country, but **also indirectly on citizens** in the form of, for example, improved public services, which lead to an increase in the standard of living. Measuring Impact 2022 Impact assessment Helping society to thrive

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Contribution to regional development through job creation

Telefónica's commitment to economic development can be seen in our contribution to employment. We have helped create over **1.2 million** jobs: **through direct employment** (professionals working in the Telefónica Group), **indirect** employment (job creation in our supply chain as a result of our high purchasing volumes); and **induced** employment (jobs generated by consumption in other industrial sectors).

For every person we employ, we generate an additional 10.4 jobs in the countries where we operate

#### Impact on employment (main operations)



### Innovation and entrepreneurship

Innovation has been part of Telefónica since its creation almost 100 years ago. We see innovation as the ability to anticipate the future and understand the needs of society and the digital revolution as fundamental pillars for the company's growth and the creation of value.

To achieve this, we rely on our own **internal innovation** and on innovation developed externally **(open innovation)** by third parties in which we invest or with whom we work in close collaboration. We also work transversally to **promote the development** of **sustainable solutions** in which profitability coexists with a positive impact on the social, economic and environmental development of the regions where we operate.

We strive to anticipate the future, understand the needs of the company and be pioneers in the digital world





#### Internal innovation: Impact of investment in R&D

The development of new technologies contributes to **increased productivity in industry and social improvement in local communities**. The innovation activities of Telefónica's R&D teams are focused improving our competitiveness by analysing our own assets, platforms and services.

Some of the main areas of advanced research include connectivity and new communication networks, innovative big data for impact solutions —ranging from the use of artificial intelligence and big data analyses of social or environmental challenges— and entertainment platforms.



### Investment and impacts generated through open innovation and entrepreneurship centres

The creation of new companies through entrepreneurship programmes has a positive impact on the communities where they are established, **increasing their productivity, improving employment and developing technology and innovation**. In turn, these start-ups benefit directly through the availability of new services, improved quality of life and the attraction of new players (shareholders and investors, etc.). Telefónica's Open Innovation area is structured into three main lines of work:

- Telefónica Open Future: a strategic regional programme developed in alliance with public and private partners to support local entrepreneurship in its initial stages of maturity.
- Wayra: the main programme that connects Telefónica with the entrepreneurial ecosystem around the world, adding value to the ecosystems in which we are present, investing in start-ups and supporting their growth and development.
- Telefónica Venture: the corporate venture capital vehicle for strategic investments. It addresses the main challenges facing the telecommunications industry and creates new businesses aligned with company strategy using state-of-the-art technology.

This model is proving to be a catalyst that prevents the loss of young talent and drives innovation and economic development in many regions.

#### In ten years, we have supported 1,032 new companies, 500 of which are part of our portfolio

Specifically, over the last ten years, Telefónica's open innovation area has **invested more than €190 million in start-ups** around the world and has supported 1,032 new companies, approximately 500 of which are part of our portfolio.

## Digital inclusion and contribution of digital products and services

New digital technologies have had an impact not only on the economy and businesses, but also on the culture and way of life of an increasingly interconnected and well-informed society. Their development is behind operations in areas ranging from commerce to education. The process has been accelerating in recent years, especially in the aftermath of the COVID-19 social and health care crisis, which showed that not all sectors are equally prepared for he digital revolution.

#### We want to take the best connectivity and digital services everywhere, including rural areas and leave no one behind

Based on a series of internal analyses, we estimate that, for example, the **deployment of fibre optics**, together with the development of digital services in rural areas, can **increase average annual income by up to 3.9% and reduce the unemployment rate by around 1%**.

**Digitalisation could also help increase the productivity of SMEs by 15-25%**. In addition, we work to foster national and international collaboration with other organisations that are also committed to sustainable development.

\* <u>Technical Study Report Measuring the Socio-economic Impact of High-speed</u> <u>Broadband Deployment in Rural Areas of Spain</u> Measuring Impact 2022 Impact assessment Helping society to thrive



#### Digitalisation and deployment in rural areas

Numerous studies show that the **deployment of infrastructure** and **our connectivity services** have a **positive effect** on digital inclusion and economic growth for the communities in which we operate.

The development of **broadband and the use of digital services are contributing directly to increasing productivity, efficiency and the competitiveness** of local businesses.

In 2016, the United Nations defined access to the internet as a basic fundamental basic human right

**Improved mobile and fixed telecommunications services**, as well as **digital transformation**, are enabling both public and private companies to **access the information they need more quickly, reduce the number of service incidents and inefficiencies** – with a considerable improvement in quality – and develop new solutions and business models.

In particular, the **deployment of connectivity in rural or hardto-reach areas** allows many people to access, for the first time, **basic digital services** such as e-commerce, financial solutions, **new educational opportunities, online administration, or entertainment services.** 

## We aim to exceed 90% mobile rural broadband coverage in our core markets by 2024

For this reason, we have continued to deploy infrastructure for both mobile and fixed networks and we have assessed their contribution to socio-economic development.

#### LTE penetration

• Spain	91.6 %
<ul> <li>United Kingdom</li> </ul>	91.5 %
• Germany	98.9 %
• Brazil	85.1 %
• Argentina	89.2 %
● Peru	91.3 %
• Chile	91.8 %
• Colombia	83.1 %
• Mexico	79.7 %
Total	89.6 %

#### UBB accesses (thousands)

• Spain	4,848
• Germany	1,857
• Brazil	5,535
• Hispanic America	4,432

The exercise of calculating Telefónica's contribution to socio-economic development as a result of the deployment of connectivity and digital services includes the analysis of the impact of digitalisation on the economy and the deployment of broadband coverage, mainly in rural areas.

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#### Affordability

The deployment of connectivity always entails a cost that has an impact on the prices of the services offered. Although the costs of fixed broadband, and especially mobile broadband, take-up have fallen significantly over the last decade. We continue to work on new business models that allow us to offer increasingly affordable tariffs and thereby ensure universal access to communications services.

Pay-as-you-go mobile service, specific broadband packages, and service packages for small businesses and entrepreneurs are just some of the **key tools** we use at Telefónica to **provide access to telecommunications services to the entire population.** 

In each of the markets in which we offer our services, we analyse and seek business models that facilitate access to all segments of the population, and, in some of these countries, we **contribute to the Universal Service Fund** or collaborate with **public administrations** to offer **subsidised or regulated services**. Specifically, the Universal Service Fund is a public investment fund whose objective is to guarantee the provision of services to all users regardless of their geographical location, respecting quality standards and at an affordable price. The investment is under the control of the public bodies designated for this purpose in each country.

Universal Service Fund (millions of euros)

	2020	2021
• Argentina	39	47
• Brazil	70	62
• Colombia	40	36
● Ecuador	3	3

2020	2021
•••••••	•••••
• Spain 8	8
••••••	•••••
• Peru <b>13</b>	11
••••••	•••••
• Venezuela 1	2
	•••••

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#### Digital training

Inclusion, education and cultural programmes foster growth and progress in the areas where they are implemented. For education to become a key part of bridging the digital divide, it must encompass all stages of learning and be a part of everyday life.

We develop training programmes in digital skills at every level, mainly through Fundación Telefónica. The programmes promote **knowledge of new technologies** to strengthen **people's employability**. These courses are helping with the **socio-economic growth** of different regions, mainly in Latin America, which often suffer from structural problems in digital skills, unemployment and talent relocation.

## We promote knowledge of new technologies to strengthen employability

Some of these free training programmes have now been running for years and have had an impact on the employability of young people:

- Escuela 42: campus financed in Spain by Fundación Telefónica, onsite and open to all types of talent, with no need for qualifications or prior studies; accessible from the age of 18.
- Scolar TIC: a digital skills training programme in which users can enjoy learning about educational innovation.
- StemByMe: this programme aims to create a learning environment for young people (14-18 years) from Latin American countries.

- Conecta Empleo: a digital training programme promoted by Fundación Telefónica in Europe and Latin America; its main objective is to improve the digital skills of unemployed people looking to strengthen their employability.
- **Profuturo:** this programme has a mission to **reduce the education gap in the world** by providing **quality digital education** to children in vulnerable environments in Latin America, Africa and Asia.



#### Training and talent management

In addition to digital skills training for society, we run **professional development programmes** for our own **employees**. Beyond the impact on Telefónica itself in terms of efficiency, this training **generates positive value for team members**: it increases their chances in the working world, improves their motivation and integration in the company and helps them deal with problems more effectively.

# *Building* a greener future

We are increasing our contribution to society and the environment in order to achieve development which is more sustainable and planet-friendly. Measuring Impact 2022 Impact assessment Building a greener future





### Natural Resources



The use of natural resources is a fundamental element in the development of any social and economic activity. According to the World Economic Forum, the natural resource crisis is a high-impact risk that can only be reversed with a more circular economy.

Currently, 45% of the world's emissions come from the manufacture and use of products; while 90% of biodiversity loss and water stress relate to the extraction and processing of natural resources.

This is particularly relevant for the use of electronic equipment, as 54 million tonnes of waste is produced globally every year, of which only 17.4% is recovered and recycled.

To reverse this situation, it is essential to **extend the useful life** of the **equipment** and to implement **internal eco-efficiency measures**, which help to reduce the risk of depletion of resources such as water or mineral resources, as well as minimising greenhouse gas emissions.

To this end, **Telefónica is committed** to promoting the **circular economy** across the board in our operations, in our value chain, and with our customers. Our commitment is to be a **Zero Waste company** through ecodesign, reuse, and recycling. This allows us to be **more competitive, reduce costs** and **increase revenues**, while at the same time reducing our environmental footprint on the environment.

#### Emissions are avoided by reusing equipment

At Telefónica, we focus on optimizing the consumption of resources and promoting resources eco-design, **reuse and recycling to minimize our impact** and promote and **encourage the reincorporation** of materials back into the production cycle.

## We have reused 4.7 million electronic equipment, 19% more than in 2020

**Extending the useful life of products by reusing and repairing** them is fundamental is essential to move towards a low-carbon circular economy.

In 2021, we recycled more than 98% of our waste and we aim to be a "Zero-waste" company by 2030

The eco-efficiency package includes measures to the reduction of water consumption in countries with high water stress, such as Spain, Chile, and Mexico. Although we are not a water-intensive company, as our consumption is mainly due to sanitary use, in 2021 we reduced consumption in all our operations by 2% compared to the previous year. **Digitalisation** also plays an important role in resource efficiency as it has the **potential** to facilitate greater traceability, efficiency, and circularity for the planet's resources.

Technologies such as the **IoT**, **Artificial Intelligence**, and blockchain are **key tools** for the **development of new business models** based on the dematerialisation of the economy. An example of this is business models based on offering products as services or digital solutions focused on the **efficient use of natural and mineral resources** in industrial processes to favour the **reduction of consumption**.

#### We work for a world where digital technology contributes to protecting the planet

Part of our **Eco Smart services** is dedicated to **reducing water consumption** and promoting the circular economy. One example of this is the Smart Agro services, which inform farmers about factors such as soil moisture and water consumption allowing them to optimise irrigation and thus improve the yield of their crops. It is a solution designed to promote a more sustainable model capable of coping with the challenges of climate change.

Considering all the impacts we generate on natural resources through our economic activity and the contribution of our **Eco Smart services aimed at promoting the circular economy**, we have estimated the company's contribution to these environmental factors.

### Emissions



Climate change has a global negative impact on the economy as well as on people's lives. According to the United Nations, emissions have increased by 50% since 1990, leading to a temperature increase of almost 1°C. For this reason, both innovation and new digital solutions become a key tools to address the to address the problem, as it is estimated that digitalisation could reduce global  $CO_2$  could reduce global  $CO_2$  emissions by 15-35%.

In our case, like any other company, to carry out our activity we generate emissions, of which:

- **Scope 1 emissions:** mainly come from two sources: fuel consumption in our operations, and fugitive emissions of refrigerant gases from air conditioning equipment.
- Scope 2 emissions: from the generation of the electricity we consume.
- The main Scope 3 emissions from our value chain come principally from purchases from our supply chain and the use of products and services and from the use of products and services we sell to our customers.

The energy and climate change strategy is an integral part of the Company's management and is focused on building a greener future. We are working to **reduce our carbon footprint** and have a zero net emissions network. We are committed to achieving zero net emissions by 2040 including our value chain, as well as to neutralising emissions from our main operations by 2025. Our roadmap towards this goal involves reducing our emissions (Scopes 1 and 2) and those of our value chain (Scope 3) by at least 90% and neutralising the remaining emissions through high-quality carbon credits. Telefónica is one of the first telecommunications companies with a "net zero" target validated by SBTi with a commitment to reach to achieving net zero emissions by 2040.

#### Emissions

	2020	2021	
● Scope 1 GHG emissions (tCO₂e)	207,872	183,231	$\bigcirc$
• Scope 2 GHG emissions - market method (tCO2e)	467,587	353,506	
● Scope 3 GHG emissions (tCO₂e)	2,146,226	2,072,159	$\bigcirc$
● Emissions offset (tCO₂e)	78,101	63,018	

The **main levers** we have for **emission reductions** are: **switching to renewable electricity sources**, **adopting energy efficiency measures and working with our suppliers** to reduce their own carbon footprint.

Specifically, emissions avoided through the use of renewable energies are achieved through the signing of long-term power purchase agreements (PPAs), self-generation and the purchase of renewable energy certificates.

Lastly, in addition to reducing our emissions, we are developing conservation and ecosystem restoration initiatives through the purchase of carbon credits in certified projects.

#### Emissions avoided through the use of renewable energies

Emissions avoided through the use of renewable energies are achieved by signing long-term power purchase agreements (PPAs), self-generation, and the purchase of certificates guaranteeing renewable origin.

For the whole group, this consumption of renewables amounts to 79.4%.

#### 100 % of our electricity consumption in Europe, Brazil, Peru and Chile come from renewable energies

Our objective, within the framework of the RE100 initiative, is to be 100% renewable by 2030 in all our operations.

#### Emissions avoided through efficient energy use

Emissions avoided by efficient energy use We are committed to the efficient use of energy, for which purpose we have developed more than 180 energy efficiency projects, saving more than 302 GWh.

Lastly, we are developing initiatives for the conservation and recovery of ecosystems through the purchase of carbon credits in certified projects.

#### Scope 4 Emissions - Eco Smart Services

Emissions avoided by customers using our services are considered as Scope 4 emissions. The quantification of these emissions allows us to evaluate the impact of new technologies (e.g. IoT or cloud) on the decarbonisation of other sectors and therefore to what extent they are helping in the reduction of atmospheric emissions.

Telefónica has created the Eco Smart seal to identify the environmental benefits generated by our products and services. In this way, we help our customers to incorporate sustainability criteria in their purchasing decisions. The environmental benefits represented in the seal have been verified externally by AENOR.



## Digital services for a green transition



Beyond initiatives to minimise our own emissions, **we contribute to climate change mitigation through digital products and services** linked to the management, monitoring, and analysis of data to reduce emissions linked to other activities.

Digitalisation is key to descarbonising other sectors of the economy, improving their efficiency and competitiveness, just as our networks, are the basis for connectivity and other digital solutions we offer our customers.

Accordingly, **our sustainability strategy** focuses on transforming them to increase their capacity efficiently. This allows us to **offer the best services with the lowest environmental impact.** 

In 2021, through our Ecosmart P&S, we avoided 8.7 million tonnes of  $CO_2$  emissions for our customers, equivalent to the carbon absorbed by 143 million trees

In addition, many of these services generate significant relevant environmental benefits in their production process or daily activity also allowing our cuestomers to develop their businesses in a more efficient and sustainable way.

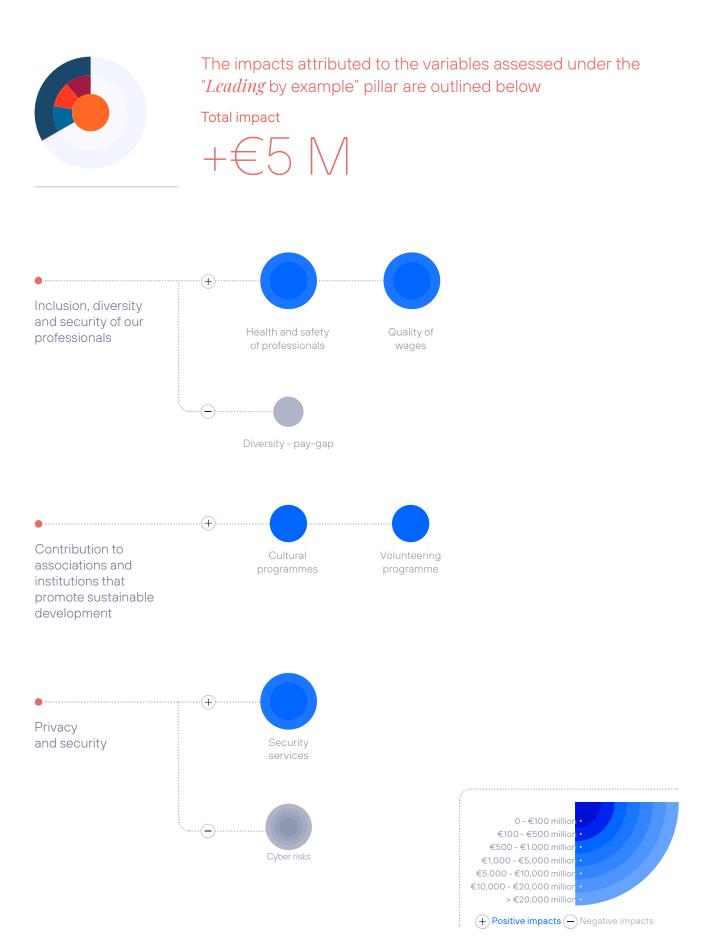
For example, IoT services allow for more efficient use of resources such as energy; with big data, we are helping to improve traffic planning and air quality; with drone-based and connectivity-based services, we can improve fire-fighting responses. Measuring Impact 2022 Impact assessment Building a greener future

We aim for our customers to avoid 12 million tonnes of  $CO_2$  per year through connectivity and our Eco Smart services by 2025

In summary, the calculation of this impact has taken into account emissions generated by the company, the actions being taken to reduce and offset these emissions and how the to reduce and offset these emissions and the way digitalisation contributes through IoT and cloud services, as well as the potential of digitalisation to contribute to the protection of the planet. Measuring Impact 2022 Impact assessment

# *Leading* by example

We promote inclusion, equality and diversity and are committed to protect privacy and security of our customers and employees, as well as collaborating with other institutions to promote sustainable development.



# Inclusion, diversity, and safety of our professionals



At Telefónica we know full well that our team is one of our greatest assets. That is why the company focuses the efforts on its care and well-being of our team. We promote gender equality, diversity, and equal opportunities, in addition to non-discrimination, safety, and health.

**Contributing to the well-being of our employees requires a strategy** and a **commitment** that addresses important factors that respond to the **basic principles of social justice**. This requires initiatives aimed at:

• Fostering diversity in work teams, promoting an organisational culture of equity, plurality, and inclusion, in which the uniqueness of skills, abilities, and ways of thinking skills, capacities, and ways of thinking help us to make better decisions and to meet all the needs of our employees. Furthermore, as we know technology is a great ally in this venture. In this way, we promote the presence of women in STEM (Science, Technology, Engineering, and Mathematics) careers in the field of entrepreneurship.

We aim to eliminate our adjusted pay gap by 2024 and adjusted pay gap by 2024 and eliminate any type of pay gap by 2050

- **Promote wage policies** that not only cover basic needs but also guarantee a good quality of life for everyone in each of the countries in which we operate. Our remuneration strategy is characterised by its competitiveness and high standards. Its main axis is to attract, retain and motivate the Company's professionals, to enable the Company to meet its strategic objectives.
- Develop measures to promote occupational health and safety at work as a broad concept encompassing physical, mental and social wellbeing. Health-promoting measures within the company not only support employees and help employees and ensure long-term business success, but also have positive effects on society as a whole.

## 98.4% of our professionals are covered by a Health and Safety management system

It should be noted that we have a **Sustainability and Quality Committee**, which is responsible for promoting the development of our **Global Responsible Business Plan**, approved by the Board of Directors, which emphasises, among other aspects, the safeguarding and promoting of diversity, safety, health and wellbeing of our employees. This reinforces our commitment to ensuring the execution of all ESG aspects in each and every one of the regions in which we operate, with the ultimate goal of generating a positive social impact.

# Contribution to associations and institutions promoting sustainable development

The United Nations has recognised the **strategic role of our sector in achieving more than half of the goals of the 2030 Agenda**. It has even incorporated two specific goals related to our ability to bring broadband and digitalisation to all corners of the globe.

For this reason, through the <u>Telefónica Foundation</u>, we materialise our purpose of "making our world more human, connecting people's lives" through innovation in education and the promotion of employability and knowledge, as well as fostering culture and supporting other organisations.

#### Cultural programmes

Digital technologies impact not only the economy and business but also the culture and lifestyle of an increasingly educated and interconnected society. However, communities can be left out so it is of upmost importance for us at Telefónica to promote a more inclusive access.

We promote access to new technologies, in order to promote a digital culture accessible to all

At Fundación Telefónica we leverage our market position and business model to carry out a large number of outreach initiatives, as well as generating a reflection of the ideas that are changing the world, through debate, thinking and the expression of creativity.

## During 2021 more than 13 million people benefited from the cultural programmes of Fundación Telefónica



#### Volunteering programmes

At Telefónica we are committed to corporate volunteering and social action activities as complementary measures to the positive social impact we already achieve with our core business.

The **main objectives** addressed by the programme have been:

- 1. Development of digital skills.
- 2. Promote **social inclusion**.

3. Social awareness and coverage of basic needs.

59,054 people, approximately **half of Telefónica's employees**, **volunteered in 2021**, 4% more than the previous year. We are proud to have one of the largest corporate volunteering programmes in the world.

# Privacy and security

Telefónica wants to improve the overall trust in technology, and the company's absolute priority is to preserve the security and privacy of our customers' data. As technology continues to develop, it is increasingly important to ensure that not only does it not affect people's rights but that it also contributes to sustainable development.



**Digital security is a key element of our business:** its aim is to protect us us from possible attacks that could affect our business. This translates in practice into processes, **tools and capabilities designed to anticipate and prevent cybersecurity risks.** 

We protect our customers' data and our infrastructure elements to maintain a high level of trust and by doing so create value for the company and society

Telefónica's cybersecurity units are responsible for monitoring, supervising and developing of protection tools and services.

To this end, the company has a global network of **Cyber Security Incident Response Teams (CSIRTs)** that protect cyberspace, exchanging information on cybersecurity and acting quickly and in a coordinated manner in the event of any incidents that could affect any of the company's units.



### Cyber Risks

Companies in the ICT and telecommunications sector rely on security services and systems to deal with the risks arising from the inappropriate use of new technologies, such as cyber threats. Likewise, to minimise the impact of these threats on society, **we offer solutions that help protect businesses and people**. We have 11 Security Operations Centres that monitor more than 100 million cybersecurity events a year.

We have a business unit dedicated to developing digital services that contribute to protecting companies and public administrations Measuring Impact 2022

# Appendix

Measuring Impact 2022 Appendix

# *Analysis* methodology

Measuring Impact 2022 Appendix Analysis methodology

# Scope definition

The contribution and impact generated by the Telefónica Group's main activities has been measured in all the markets in which it operates: Spain, Germany, the United Kingdom, Brazil and Latin America (Hispam), mainly using information available at year-end 2021.

The data and calculations obtained for each of the variables have been analysed and evaluated individually. In those cases in which it has been necessary, a distribution or estimation has been carried out for those variables for which detailed information by geographical area was not available.



Telefónica's contribution in the regions where we are present

# Calculation and quantification methodology

Over the last few years at Telefónica we have worked with and tested different impact assessment models and, as a result, we have developed a comprehensive model of analysis.

This model allows us to:

- Monitor the evolution of the company's main indicators on the company's contribution and impact.
- Assess our contribution to the 2030 Agenda.
- Detect and monitor risks that may affect our activity.
- Facilitate decision-making that can improve our business and increase our contribution to society.

Among the existing evaluation frameworks, for this study we have followed the quantification-monetisation models of the variables studied, so that the most relevant elements for the company can be compared and identified.

The two main models used have been the <u>Impact Weighted Accounts</u> <u>initiative (IWAI)</u>, developed by Harvard University, and the **True Value** framework developed by the consultancy firm KPMG, for variables where no tools, bibliography or mathematical models of impact were available.

We have also taken into account **new impact assessment guidelines and frameworks** from international organisations and academia. Measuring Impact 2022 Appendix Analysis methodology

# Implementation of results

It is important to note that **we interpret and communicate** the **results obtained** through this study with the aim **of helping to evaluate and make the most appropriate decisions in each case.** 

We publish these results as part of our commitment to transparency in accounting for Telefónica's impact and contribution to society and the environment. This exercise is a complement to the Telefónica Group's Consolidated Annual Report.

In addition, these results allow us to identify and measure our contribution to the 2030 Agenda and define concrete actions to make progress in fulfilling the SDGs. Measuring Impact 2022 Appendix

# *Measurement* methodology



Measuring Impact 2022 Appendix Measurement methodology

# *Helping* society to thrive

# Economic development

SDG 8	Contribution to local tax revenues
• What we measure and why it is relevant	Given the geographical scope of a multinational like Telefónica, it is essential to assess how we generate value from our contribution to local tax revenues.
• Calculation	The calculation is based on the sum of theinput taxes borne (not including those collected) by each of the companies that make up the Telefónica Group and in each of the main territories where we operate. Only input taxes are considered, as they are those taxes that are levied on the company's activity, and which consequently can be considered as a direct impact in terms of contribution to the public tax revenues.
<ul> <li>Indicators</li> </ul>	<ul><li>Total input taxes</li><li>Total taxes collected</li></ul>
Sources	<ul> <li><u>Consolidated Management Report 2021</u></li> <li>What are local tax revenues?   EUROINNOVA Official Website</li> </ul>

SDG 8

## Contribution to regional development through job creation

<ul> <li>What we measure and why it is relevant</li> </ul>	Employment is the lifeblood of the productive economy and a key factor in the progress of any society. It also functions as a factor of cohesion and social justice, enabling citizen participation, wealth distribution and the guarantee of rights. To measure the indirect impact of employability in terms of regional development, we calculate the jobs generated in those companies and sectors that receive our expenditure and investments. An input-output model is used, with information from OECD tables. For monetisation of the impact, this number of employees is multiplied by the value of the average wage adjusted for each country.	
Calculation		
Indicators	<ul><li>Indirect employment</li><li>Average wage</li></ul>	
• Sources	<ul> <li>GDP measurement report (internal source)</li> <li>Telefónica wage report (internal source)</li> <li><u>Consolidated Management Report 2021</u></li> </ul>	





#### R&D investment: internal innovation

• What we measure and why it is relevant	Investment in research and development (R&D) is essential for a company's long-term development, and is also a key driver in the development of its business. In addition, R&D is key for the economic development and competitiveness of industry.
• Calculation	The total amount invested in R&D by the Telefónica Group is weighted by the ratio reflecting the economic value generated indirectly following the execution of a specific R&D investment. The average rate of return on private investment is 30%. This means that for every €1 invested in R&D, an additional €0.30 can be generated for society.
Indicators	<ul><li>Investment in Innovation</li><li>Estimated economic impact of R&amp;D</li></ul>
• Sources	<ul> <li><u>Consolidated Management Report 2021</u></li> <li><u>The Impact of R&amp;D Investment on Economic Performance: A Review of the Econometric Evidence OECD</u></li> <li><u>Estimating the Benefits of R&amp;D for Germany 2018 – del Centre for European Economic Research</u></li> </ul>

- The importance of R&D investment in business Lendix (october.eu)
- Investing in R&D, the solution to a competitive world (forbes.com.mx)



and entrepreneurship centres

• What we measure and why it is relevant

This highlights Telefónica's performance through numerous projects designed to support the entrepreneurial ecosystem, as well as its constant investment in incubation centres for the launch of new business initiatives.

Investment and impacts generated through Open Innovation

The aim is for our investment in entrepreneurship to go beyond financial returns, and offers other benefits. For example, the generation of jobs that favour economic growth and the boosting of regional economies, as well as the generation of direct wealth through the development of services that solve problems or needs in society.

#### Calculation

To obtain the total impact generated through the return on investment in entrepreneurship, the following parameters are assessed:

- Impact generated by investment in promoting entrepreneurship through support centres and activities carried out to support new entrepreneurs (Open Future, innovation hubs and scouting centres).
   To do this, we multiply the investment we make in these activities by the rate of return on investment identified in the Academy of Entrepreneurship Journal report *The economic impact of entrepreneurship: setting realistic expectations*.
- Impact generated by investment in start-ups, for which we multiply the investment we make in these companies by their survival rate and by an estimated growth rate (internal assumptions based on our experience). That value is finally multiplied by the previously mentioned rate of return on venture investment.
- Impact generated through indirect employment caused by investee start-ups. To calculate the latter figure, the number of start-ups is multiplied by the average number of employees (average value of start-ups in the portfolio – internal estimate) multiplied by the minimum annual wage per employee in each company.

• Indicators	<ul> <li>Investment in entrepreneurship promotion</li> <li>N° of Open Future+Hubs spaces</li> <li>Wayra</li> <li>Average investment per space</li> <li>Rate of return on investment in entrepreneurship</li> <li>Cumulative investment in start-ups</li> <li>Survival rate of investee start-ups</li> <li>Growth rate of the investee start-ups</li> <li>Rate of return on investment in entrepreneurship</li> </ul>	<ul> <li>Average number of employees per start-up</li> <li>Annual minimum wage for start-up workers</li> <li>N° of start-ups</li> <li>Impact generated by investment in entrepreneurship (start-ups)</li> <li>Impact generated through indirect employment</li> <li>Total impact generated through return on investment in entrepreneurship (overall + start-ups + indirect employment)</li> </ul>
• Sources	<ul> <li>The Economic Impact of Entrepreneurs summers, University of Houston-Victor</li> <li>Consolidated Management Report 202</li> <li>SMI</li> <li>The economic impact of entrepreneurs</li> <li>Job creation: Most of the world's employed self-employed workers, concludes a networkers</li> <li>Telefónica Open Innovation internal information</li> </ul>	ia 21 ship syment comes from small businesses and sw ILO report (ilo.org)

# Digital inclusion and contribution by products and digital services



• What we measure and

why it is relevant

Digitalisation and deployment in the rural areas



Two impacts have been taken into account for the calculation of the digitalisation and deployment in rural areas, which are detailed below.

In accordance with the IWAI methodology, it is essential to assess the impact derived from the product in the telecommunications sector, considering the dimension of the access, it convers:

- Providing services to rural communities in emerging markets and other underserved communities.
- The size of the economic value generated by our networks

Calculation

For the calculation of this impact, a sum of the three impacts mentioned above has been made.

The calculation methodology for each of the items is detailed below:

#### 1. Accessibility

The calculation of the total impact in terms of accessibility-affordability follows the model defined by IWAI 2 within the impact analysis of the telecommunications sector. This is performed on the basis of an analysis of the accessibility of the service in rural and emerging areas:

• Rural areas. The number of customers in these areas is multiplied by the economic value of the connectivity offered to these regions.

<sup>2</sup> IWAI Methodology (Impact-Weighted Accounts Initiative), developed by Harvard University in its report on goods and services in the telecommunications sector.

• Emerging areas. This would only apply to Hispam. To calculate the affordability impact in emerging areas, we count the total number of customers in this region, and this figure is weighted by the economic value of providing connectivity there.

#### 2. Deployment of the connectivity

Both mobile communications networks and broadband networks, in particular fibre optic networks, have been considered in all cases. This calculation does not take into account narrowband networks that offer limited data capacities, even though these still continue to generate significant social value in the population. The parameters studied are:

• The impact generated by the effectiveness of the service offered to customers. To perform this calculation, we determine a cut-off speed at which a quality service (fibre for the fixed network and 4G for the mobile network) is deemed to be in place, and assess the economic impact calculated as the relationship between the increase in service penetration, which leads to an increase in GDP per capita.

• The need for connection, measured in terms of the economic loss resulting from circumstances in which there has been a supply cut-off. The number of customers affected by network outages is estimated and multiplied by an estimate of the economic loss that can be caused by this lack of supply.

Therefore, to obtain the final result, we subtract the negative impact caused by network outages from the contribution due to service effectiveness, for which the quality of the service we are providing to customers (network availability) is taken into account.

<ul> <li>Indicators</li> </ul>	<ul> <li>N° of Telefónica customers (broadband fixed network accesses; fibre only)</li> <li>Economic value, Total impact generated by offering an effective fixed browsing service</li> <li>N° of Telefónica customers affected by supply cuts</li> <li>Economic loss when there is a supply cut</li> </ul>
	<ul> <li>Negative impact generated as economic loss due to service outage</li> <li>Total impact generated by the deployment of connectivity (fixed network)</li> <li>N° of Telefónica customers (mobile network accesses with &gt;4G technologies)</li> <li>Total impact generated by offering an effective mobile browsing service</li> <li>Total impact generated by deployment of connectivity (mobile network)</li> <li>Total impact generated by deployment of connectivity</li> <li>N° of customers in rural areas</li> </ul>
	<ul> <li>Economic value of providing connectivity in these regions</li> </ul>
	Impact of access to rural areas
	<ul> <li>N° of customers in emerging markets</li> </ul>
	<ul> <li>Economic value of providing connectivity in emerging markets</li> </ul>
	<ul> <li>Impact of access to emerging markets</li> </ul>
• Sources	<u>Accounting for product Impact in the Telecomunication Industry (Harvard</u>
	Business School)
	Measuring the Socio-economic impact of High-spead Broadband
	Deployment Telefónica
	<u>Consolidated Management Report 2021</u>
	PIB per cápita
	Network availability (internal source)
	<ul> <li>Digital report: The number of internet users in the world grows by 7.3% and reaches 4.66 billion (2021) – Marketing 4 Ecommerce – Your online marketing</li> </ul>
	magazine for e-commerce
	How broadband, digitization and ICT regulation impact the global economy
	• The economic impact of disruptions to Internet connectivity: A report for
	Facebook   Deloitte
	Broadband Strategies Handbook, Tim Kelly and Carlo Maria Rossotto (The
	World Bank. Accessed December 2020)
	<ul> <li>These are the key points that will define the future of wireless connectivity I News I IT User</li> </ul>
	<ul> <li>Digital Inequality and Low-Income Households I HUD USER</li> </ul>
	<ul> <li>Emerging Market Economy Definition (investopedia.com)</li> </ul>
	<ul> <li>Study by International Telecommunications Union (ITU) in 2020: Internet</li> </ul>
	access in homes in urban area doubles that of rural areas
	<ul> <li>Latin America, a truly emerging market I Funds Society</li> </ul>
	Laam Anonoa, a daay onroiging market ir ando oooloty



## Affordability of services

• What we measure and why it is relevant	At Telefónica, we firmly believe that "Making the world more human by connecting people's lives" means that the whole of society should have access to basic education without leaving anyone behind, reducing the digital divide through accessibility or affordability.
<ul> <li>Calculation</li> </ul>	The calculation of the impact is based on a service offered to low-income customers. The result is the multiplication between the number of prepaid customers and the monthly cost savings (prepaid-postpaid).
<ul> <li>Indicators</li> </ul>	<ul> <li>N° of prepaid customers</li> <li>Monthly cost savings (prepaid - postpaid)</li> </ul>
• Sources	<u>Consolidated Management Report 2021</u>



## Digital empowerment

<ul> <li>What we measure and why it is relevant</li> </ul>	The aim is to evaluate the contribution of Telefónica's training programmes in digital skills and new technologies, mainly through Fundación Telefónica, to ascertain how they contribute to society and improve employability.		
Calculation	To calculate the impact generated through investment in digital education, the beneficiaries of each of the training programmes <sup>3</sup> are calculated first.		
<sup>3</sup> Ear Esquela 42, popula are	For this purpose, the number of completed courses is divided by the number of courses per user for the different programmes. The Profuturo programme is an exception, due to its particular characteristics. For this programme, the number of beneficiaries is divided by two, as this course is promoted in collaboration with Fundación la Caixa.		
<sup>3</sup> For Escuela 42, people are considered to be beneficiaries if they have passed the first filter (known as the "pool").	Once the number of equivalent individuals for each course is obtained, these figures are added together and multiplied by the social value of this learning per student.		
• Indicators	<ul> <li>Completed courses (Escuela 42)<sup>3</sup></li> <li>Courses per user</li> <li>Equivalent individuals</li> <li>Completed courses (Scolar TIC)</li> <li>Completed courses (StemByMe)</li> </ul>		
• Sources	<ul> <li>Fundación Telefónica (internal source)</li> <li>Skills for Educators - Conecta Empleo (fundacionTelefónica.com)</li> <li>Our programme - Conecta Empleo (fundacionTelefónica.com)</li> <li>ProFuturo I Fundación Telefónica España (fundacionTelefónica.com)</li> <li>Measuring student learning: Best practices for assessing the added value of schools</li> </ul>		



## Training and talent management

<ul> <li>What we measure and why it is relevant</li> </ul>	Telefónica offers its employees a wide range of training courses and programmes. We apply an average ROI on corporate training investment of 5.39, derived from ROIs reported by several companies in the ICT industry.
<ul> <li>Calculation</li> </ul>	To calculate the impact obtained by the company through training, this ratio is multiplied by the investment made during 2021, which in turn is obtained by multiplying the number of employees by the investment made in training per person.
• Indicators	<ul> <li>Total investment in training</li> <li>Return on investment in in-house training</li> <li>Total impact generated through in-house training</li> </ul>
• Sources	<ul> <li><u>Consolidated Management Report 2021</u></li> <li><u>Measuring the Employer's Return on Investments in Training: Evidence</u> form the Literature</li> </ul>

# *Building* a greener future

## Natural resources



# Waste management, water consumption and biodiversity



• What we measure and why it is relevant

In this impact we will measure the impact of our company on natural resources. To do so, we will take into account the three variables detailed below

- Waste management
- Water consumption
- Biodiversity

#### 1. Waste management

Rapidly advancing technology and digitalisation processes have brought about an increase in the generation of waste from electrical and electronic equipment, its materials, components, consumables and sub-assemblies. The best solution to curb this problem is to reduce consumption and then reuse/ repair, but this is not always possible. In order for this to be useful, a logistical process is necessary to preserve the characteristics of the equipment through an appropriate collection, transport, classification and storage system, and to avoid deterioration that would prevent it from being reused.

#### 2. Water consumption

Water is one of the most important natural resources for any ecosystem, which is why improved mechanisms for wastewater treatment and reuse are needed. This means that the use of non-conventional sources has become a recurrent alternative in water resources management plans, contributing to water security. It is therefore essential to assess the impact of the company's water consumption and recycling.

#### 3. Biodiversity

Biodiversity is the variety of life and can be grouped into three distinct and closely related levels: ecological or spatial diversity; species or living organism diversity; and genetic diversity. This concept is not static, since it undergoes changes depending on the place and the passing of time.

Given the broad nature of the concept, it is clear that whenever there is human

intervention in the environment there will be some negative impact on its ecosystem. These negative consequences indirectly affect human well-being and impact on food security, vulnerability to natural disasters, energy security and access to clean water and raw materials. Therefore, it is essential to take into account the impact on biodiversity, in order to be able to evaluate alternatives that are less aggressive for the environment.

#### Calculation

The calculation of the four items is detailed below, where the total impact is extracted through the sum of each of them.

#### 1. Waste management

According to the cost generated through the generation of the company's e-waste, we start from the number of tonnes of electronic waste generated. the company's electronic waste, we start from the number of tons of waste generated, the distribution of which is distributed in accordance with the set of assets of each geography. This figure is multiplied by the cost of one tonne of e-waste according to the price ( $\leq$ 346.01), established to obtain the total cost.

#### 2. Water consumption

Based on the rationale provided by IWAI, the impact analysis is based on the company's net water consumption in the course of its normal business processes and practices. This amount should be weighted by the AWARE factor, used as an indicator of the mid-point of water use, which represents the remaining water available per area in a river basin when human and aquatic ecosystem demand has been met.

	Spain	United Kingdom	Germany	Brazil	Hispam.
AWARE Factor	77.7	3.5	1.36	2.7	24.43

In this way, water consumption is weighted by a factor that reflects the importance of the resource taking into account the need in each geographical area. In order to measure the economic impact, we have considered the cost of production and delivery of this resource, as well as the cost of wastewater treatment as a percentage of the total net tonnage of water consumed.

	<ul> <li><b>3. Biodiversity</b>         The company has measured the value of the impact of habitat alteration resulting from the deployment of the different facilities in each of the geographical areas in which it operates.     </li> <li>The economic impact per square metre, previously calculated, allows us to obtain the total impact adjusted for habitat alteration, and to add the net loss of quality of the habitat altered, in order to obtain the total impact on biodiversity for each of the countries.</li> </ul>
• Indicators	<ul> <li>Tonnes of electronic waste generated</li> <li>Cost of generating one tonne of electronic waste</li> <li>Total cost generated by electronic waste</li> <li>Net water consumption</li> <li>AWARE Factor</li> <li>Cost of water production and delivery</li> <li>Cost of wastewater treatment</li> <li>Total impact of water recycling (for each of the geographical areas)</li> <li>Impact of habitat alteration</li> <li>Recalibration</li> <li>Net impact of altered habitat quality</li> </ul>
• Sources	<ul> <li>Corporate Environmental Impact: Measurement, Data and Information (Harvard Business School)</li> <li>Consolidated Management Report 2021</li> <li>Brett H. Robinson, "E-waste: An assessment of global production and environmental impacts"</li> <li>Measuring the cost of corporate water usage (Harvard Business School)</li> <li>Net water consumption (internal source)</li> <li>Download AWARE Factors - WULCA (wulca-waterica.org)</li> <li>EU level instruments on water-2nd-IA support-study AMEC (europa.eu)</li> <li>Telefónica's Biodiversity Impact Analysis Report (internal source)</li> <li>Biodiversity: what is it, where is it found and why is it important? (Ecologists in Action)</li> </ul>

• Why is biodiversity being lost? I Mexican Biodiversity

## Emissions



#### Offsets and Emitted

• What we measure and why it is relevant

In this section we calculate the impact of the company through the Scope 1, 2 and 3 emissions emitted and offset.

In view of the climate emergency, many companies have decided to implement decarbonisation strategies by adapting their production and logistics processes, developing plans and strategies to detect risks and opportunities related to the emission of greenhouse gases (GHG) into the atmosphere. Telefónica has launched an environmental management strategy with the aim of reducing its carbon footprint. In order to facilitate the understanding of the objectives we are achieving with this strategy, a process of measuring the economic value of CO2 emissions is carried out in accordance with the three scopes:

- **Scope 1,** eScope 1, direct emissions: includes all emissions resulting directly from the activities carried out by the company.
- **Scope 2**, indirect emissions related to energy consumption: includes indirect emissions due to the energy consumed (electricity or other) by the company.
- **Scope 3**, other indirect emissions: includes all other emissions resulting from activities linked to the supply chain of goods and services.

In addition, the company is carrying out a series of measures to compensate for  $CO_2$  emissions into the atmosphere which contributes to an improvement of the the environment and society.

<ul> <li>Calculation</li> </ul>	The value in economic terms of the negative impact generated from the CO <sub>2</sub> emissions of Scopes 1, 2 and 3 is developed as follows:
	• For the calculation of Scope 1 and 2 emissions, the emissions (1 and 2) of each geographical area are multiplied by the price of a tonne of CO2 (€34.23/tCO2) to obtain the negative economic impact generated.
	• In the same way, for the calculation of Scope 3 emissions, the emissions for each geographical area are multiplied by the price of a tonne of CO2 in order to obtain the negative economic impact generated.
	In order to assess Telefónica's contribution to this variable, the following calculation has been made: • This is based on the number of tonnes of CO2 offset by the group through the purchase of carbon credits.
	Offset:
	• To value these amounts, the price that takes into account the overall impact of both social and environmental externalities associated with the emission of one tonne of CO₂ (€34.23/tCO₂) is applied.
• Indicators	<ul> <li>Emissions (Scope 1, 2 and 3)</li> <li>Social cost of one tonne of CO2</li> <li>Negative economic impact generated from CO2 emissions (Scope 1, 2 and 3)</li> <li>Tonnes of CO2 offset through purchase of carbon credits in certified projects</li> </ul>
	<ul> <li>Social cost of one tonne of CO2</li> <li>Positive economic impact generated from offsetting CO2 emissions</li> </ul>
• Sources	<ul> <li><u>Consolidated Management Report 2021</u></li> <li><u>Environmental Protection Agency (EPA)</u></li> <li><u>Do you know what carbon offsetting is? (clean-co2.com)</u></li> </ul>

## Digital services for a green transition



#### Digital services for a green transition

• What we measure and why it is relevant

The impact arising from emissions avoided due to the deployment of innovative services such as *Internet of Things (IoT)* services, big data, cloud services and other digital services.

To this end, a double impact analysis is conducted, which takes into account, on the one hand, the economic impact of the sale of services, and on the other the impact associated with the tonnes of  $CO_2$  avoided by our customers through the use of these services:

- IoT is understood to be the network of physical objects incorporating sensors, software and other technologies in order to connect and exchange data with other devices and systems via the internet.
- On the other hand, the term "cloud" is associated with virtualisation, which allows multiple applications per computing node, as opposed to the traditional model, which allowed only one application per node. Moving data to the cloud could achieve a reduction in CO<sub>2</sub> emissions of up to 5.9%. That would be about 60 million tonnes per year, the equivalent of taking 22 million cars off the road.
- In addition, this takes into account mobility services, whereby, due to the advantages of smart mobile devices (e.g. remote meetings, online shopping without having to travel, online access to medical consultations, etc.), trips and therefore emissions are avoided.

Calculation

In order to calculate the economic impact generated from the solutions offered by the company, the following reasoning has been developed: This impact is divided into three blocks of variables, which are detailed below:

Firstly, the positive economic impact generated from the turnover of the IoT service that combats climate change is calculated by multiplying the turnover generated through the sale of this service by the % of the IoT service that combats climate change, which according to Weforum is 84%,

	Secondly, the positive economic impact generated from the turnover of the cloud service that fights climate change is calculated by multiplying the turnover generated through the sale of the cloud service by the percentage of this business that fights climate change, which, according to The Guardian in an article on sustainability and climate change, is 38%.
	Thirdly, the positive economic impact generated from the turnover from the sale of smart mobile services is calculated by multiplying this figure by the same percentage of cloud services that fight climate change.
	Once the result is obtained for the calculation of the three impacts, they are added together to obtain the positive economic impact generated from the total emissions avoided, due to the opportunity offered by the development of new products whose implementation makes it possible to combat climate change for each geographical area.
<ul> <li>Indicators</li> </ul>	<ul> <li>Turnover generated through the sale of IoT, cloud and mobility services</li> <li>Percentage of services combating climate change</li> <li>Positive economic impact generated from the turnover of services combating climate change</li> </ul>
• Sources	<ul> <li>Consolidated Management Report 2021</li> <li>World Economic Forum article: The effect of the Internet of Things on sustainability</li> <li>What is the Cloud? - acens</li> <li>The sustainability of the Cloud</li> <li>Cloud migration can reduce CO2 emissions by almost 60 million tonnes per year(europapress.es)</li> <li>https://www.theguardian.com/sustainable-business/cloud-computing-climate- change</li> </ul>



## Emissions avoided througth the use of renewable energy sources

<ul> <li>What we measure and why it is relevant</li> </ul>	Energy efficiency and renewable energy plans help us reduce risk and cost exposure and adapt to the consequences of climate change.
Calculation	The figure of global emissions avoided by the use of renewable energies in 2021 (931.611 tCO <sub>2</sub> eq) is multiplied by the price of a tonne of CO <sub>2</sub> , taking as a benchmark the price that reflects the global impact of both the social and environmental externalities associated with the emission of a tonne of CO <sub>2</sub> ( $34,23 \in /tCO_2$ ).
Indicators	<ul> <li>Emissions avoided</li> <li>Social cost of tonne of CO<sub>2</sub></li> </ul>
• Sources	<ul> <li><u>Environmental Protection Agency (EPA)</u></li> <li><u>Consolidated Management Report 2021</u></li> </ul>

Estas acciones y el impacto generado por las mismas también han sido cuantificados, si bien no se quiere incurrir en una doble contabilización al haberse incorporado a las mediciones de los servicios digitales no se añadirán al sumatorio total.



#### Emissions avoided througth efficient energy use

<ul> <li>What we measure and why it is relevant</li> </ul>	Energy efficiency helps to reduce emissions, minimise risks and lower costs.
Calculation	Firstly, we start by analysing the total energy savings figure, as a result of the implementation of the Energy Efficiency Plan, estimated at 301,711,648 kWh for the entire Telefónica Group in 2021.
	We apply a conversion factor to translate MW/h into tonnes of CO <sub>2</sub> . In this case, the CO <sub>2</sub> equivalent emission factor associated with national electricity generation has been applied, considering the energy mix: coal, fuel/gas, combined cycle, cogeneration and non-renewable waste. For this purpose, information has been gathered from different reports on the Spanish electricity system <sup>5</sup> in Europe, and from sources such as Global Energy <sup>6</sup> in Spanish America and Brazil.
<ul> <li><sup>5</sup> <u>The Spanish electricity</u> <u>system. Red Eléctrica</u> <u>España's 2020 Report</u></li> <li><sup>6</sup> Global Energy Review: CO2 Emissions in 2020, IEA</li> </ul>	Lastly the price that reflects the overall impact of both social and environmental externalities associated with the emission of one tonne of $CO_2 - \leq 34.23/tCO_2$ - is again used to assess the positive economic impact generated from the emission savings as a result of efficient energy consumption.
Indicators	<ul> <li>Energy in kWh avoided due to energy efficiency projects</li> <li>Social cost tonne CO2</li> </ul>
• Sources	Consolidated Management Report 2021

These actions and the impact generated by them have also been quantified, although the aim is to avoid double counting. As the actions have been incorporated into the measurements of digital services they shall not be added to the total sum.



## Emissions avoided through reuse of equipment

<ul> <li>What we measure and why it is relevant</li> </ul>	Telefónica has decided to calculate the impact of the reuse of equipment, as this is the first step towards being able to implement actions aimed at extending the useful life of its assets, their reuse or refurbishment. This leads to significant savings in CO <sub>2</sub> emissions and the use of natural resources.
Calculation	This calculation is based on multiplying the total tonnes of CO₂ avoided as a result of equipment reuse for each territory by the social cost of one tonne of CO₂. This gives the positive economic impact generated from the total emissions avoided. For this purpose, the above-mentioned social cost of €34.23/CO₂ is applied.
<ul> <li>Indicators</li> </ul>	<ul> <li>Quantity of equipment reused</li> <li>Tonnes of CO<sub>2</sub> avoided</li> <li>Social cost per tonne of CO<sub>2</sub></li> </ul>
• Sources	<ul> <li><u>EEB - The European Environmental Bureau</u></li> <li><u>"The reuse of e-waste generates five times more jobs than recycling"</u> <u>- Waste Ideas Lab</u></li> <li><u>Consolidated Management Report 2021</u></li> </ul>

These actions and the impact generated by them have also been quantified, although the aim is to avoid double counting. As the actions have been incorporated into the measurements of digital services they shall not be added to the total sum



## Scope 4\* emissions - Eco Smart Services

• What we measure and why it is relevant	Our digital and connectivity services enable our customers to optimise the consumption of natural resources such as energy. They do this, for example, through teleworking or by improving the logistical planning of transport routes, which reduces CO <sub>2</sub> emissions into the atmosphere.
	These emissions, considered to be Scope 4, are calculated in order to monitor them and assess the impact of new technologies such as IoT or the cloud on the decarbonisation of other activities and, therefore, on the reduction of emissions into the atmosphere.
Calculation	The number of tonnes of CO₂ avoided by our customers as a result of services that reduce GHG emissions are multiplied. The emissions avoided are multiplied by the price of a tonne of CO₂ (€34.23/tCO₂) in each territory to obtain the positive economic impact from the total emissions avoided.
<ul> <li>Indicators</li> </ul>	<ul> <li>Tonnes of CO<sub>2</sub> avoided by use of products and services</li> <li>Social cost per tonne of CO<sub>2</sub></li> </ul>
• Sources	<ul> <li>Environmental management I Environment I Responsible Business (Telefónica.com)</li> <li>Cloud Computing Sustainability &amp; The Green Cloud (Accenture)</li> <li>Consolidated Management Report 2021</li> </ul>
* These actions and the	

\* These actions and the impact generated by them have also been quantified, although the aim is to avoid double counting. As the actions have been incorporated into the measurements of digital services they shall not be added to the total sum.

# *Leading* by example

# Inclusion, diversity and security of our professionals



 What we measure and why it is relevant For the calculation of this impact, the sum of three items is taken into account: diversity, quality of wages and health and safety of workers. diversity, quality of wages and health and safety of workers, each of which is detailed below. Each of these is detailed below:

#### **Diversity - Pay gap**

The promotion of diversity seeks to preserve a professional space for different groups that could be considered minorities on the basis of gender, race, religion, sexual orientation or age. The fight against inequalities of any kind is included in the 2030 Agenda; specifically, SDG 10 refers to the eradication of all types of discrimination. To assess this variable, gender diversity is analysed, taking into account that women have historically been the minority group of employees in the company, as well as in the ICT sector itself.

#### **Quality of wages**

The evaluation of wages makes it possible to quantify the value that a company generates through the correct management of people in extra-financial terms. According to the Impact Weighted Account (IWAI) methodology, the total calculation of the impact generated through wages is determined by their quality in economic terms.

#### Health and safety of workers

Occupational safety refers to the set of rules and methods designed to prevent or reduce occupational hazards, accidents and diseases of the workforce, both inside and outside the work environment. Injuries and occupational diseases become negative factors for normal performance. This can lead to direct economic losses caused by, among other things, absenteeism, which can be compounded by indirect costs such as opportunity costs, lost profits, etc. It is therefore imperative to raise awareness of preventive health care to support the good performance of companies as well as the well-being of workers.

#### Calculation

The calculation of this impact takes into account the monetisation of the three variables described above.

#### Diversity - Pay gap:

The calculation takes into account data on the total number of employees per territory, as well as how many of those employed belong to the minority group being analysed, in this case women. In order to make a comparison with the actual number of female employees, the ratio of women in the workforce in each of the five geographical areas in which the company operates is taken as a reference. In the case of Hispam, the average of the countries represented is used. Once the existing gender gap in the company is obtained, the economic value of this impact on the promotion of diversity through the employability of minorities is calculated. For this purpose, the value corresponding to the average wage offered by Telefónica is taken.

It should be noted that, once the results have been analysed, it can be seen that Telefónica's diversity percentage is lower than the percentage of women in the workforce in each country and, consequently, the impact in this case is negative, despite the efforts made by the company. This may be due to the historically high percentage of men in the ICT and telecommunications sectors. However, at Telefónica we continue to make significant efforts to balance and promote the role of women in the company, encouraging, among other actions, measures to promote work-life balance such as flexible working hours and teleworking and, in the case of Telefónica España, the reduction of the working week from five to four days a week.

#### Quality os wages:

According to the impact monetisation method proposed by IWAI, a compensation cost approach is used to measure the quality of wages paid by an organisation.

The marginal impact of earnings incentivises companies to focus on wages paid to the middle and/or lower occupational categories, the part of the population that has had the greatest difficulty in improving their economic conditions. A calculation is performed using variables such as: the minimum wage, the living wage, or the average wage. The exercise of measuring this generated value starts from the evaluation of the total payrolls paid to workers, weighted according to their relation to the different wage levels established in each region. To this end the minimum values of each country are considered, as well as the living wages established according to the standard of living in each country. Firstly, the total number of workers in each geographical area is classified according to the three wage groups defined by Telefónica.

- Executives
- Middle Management
- Other professionals

For these, the average wage is calculated on the basis of the personnel expenses in each region and in accordance with the ratio of the average wages in each wage band of the Telefónica Group. Based on this analysis, the total economic amount invested in payroll is calculated, considering this amount as the gross value of the total impact generated by wages. The calculation of a pair of adjustments for the weighting of this gross figure is then applied, in accordance with the two established levels.

The minimum cut-off defined by the Interprofessional Minimum Wage (SMI) of each region, assuming a negative adjustment on those wages that do not reach these wage levels. This adjustment becomes a penalty that negatively weights the impact generated through wages. The living wage is defined by reference to the calculation developed by MIT. The calculator developed by this institution only analyses geographical areas of the USA, so its results have been extrapolated, starting with data from Massachusetts as one of the most similar geographical areas in terms of demographics and economic development to the rest of the geographies to be covered, with the aim of obtaining a ratio that establishes the relationship between the living wage and the Interprofessional Minimum Wage, which is equivalent to 1.55. This percentage ratio is applied as a multiplier of the Interprofessional Minimum Wage (SMI) of the areas in which Telefónica operates, to achieve an extrapolation of the living wage. This calculation is applied in all regions except the UK, where the value has been defined according to the figure provided by the Living Wage Foundation, an organisation that defined annually the value of the average living wage per hour in this country in 2020-2021.

#### Health and safety of workers

In order to conduct this measurement exercise accurately, we looked at the annual incident rates and the occupational disease rate for the last financial year:

- The first provides information on the number of recordable workplace injuries in each of the five regions in which the company operates (Spain, Germany, Brazil, UK and Hispam).
- The occupational disease rate is calculated as the total number of occupational diseases in relation to the total annual working hours. Once these figures have been identified, their economic costs are assessed. For this purpose, the data collected by Leigh's article in 2011 was used, which establishes that the cost of the average occupational injury is €259,176.32, and that of an occupational disease, €31,629.46.

Both figures give the total cost of injury or illness. On the other hand, once the costs associated with the health and safety variable have been assessed, the economic value of the positive impact of promoting health among workers is calculated.

To this end, the investment made by Telefónica through the private insurance that offers to its employees is evaluated. The total number of employees for each region is taken into account, as well as the percentage of these employees covered by such private insurance.

#### Indicators

- Total number of employees
- N° of workers who are part of the minority group concerned (women)
- Proportion of minority workers: % working population of the minority group (in this case women) in each geographical area
- Optimal number of workers expected from the minority group
- Total unadjusted wage
- Annualised living wage
- Negative living wage adjustment
- Adjusted living wage
- Annualised minimum wage (regional data)
- Positive adjustment for minimum wage
- Adjusted minimum wage

- Total impact generated through quality impact on pay
- Annual incident rate
- Associated incident costs
- Total cost of injury or illness
- Total number of employees
- Percentage of employees covered by the Health and Safety Management System
- Economic value of a health insurance plan
- Economic value of total social contributions paid by the company in the unit concerned
- Impact generated through health promotion
- Total Health and Safety Impact

#### • Sources

- <u>Consolidated Management Report 2021</u>
- Labour force (female), World Bank data
- Sustainable Development Goals and Targets Sustainable Development (un.org)
- Accounting for Organizational Employment Impact (Harvard Business School)
- Living wage calculation developed by MIT Living wage (calculator)
- Definition of a living wage. Global Compact
- The Calculation, de la Living Wage Foundation
- A conceptualization of sub-living wages (Harvad Business School)
- Economic burden of occupational injury and illness in the United States Leigh 2011
- Economic value of a health insurance plan
- Percentage of social security contributions of the employee and the company •
- The importance of health and safety at work ASIPREX
- Costs of public and private Health Insurance in Germany (expatrio.com)
- How Much Will A Business Health Insurance Scheme Cost Per Employee? <u>Guide] : Drewberry™ (drewberryinsurance.co.uk)</u>

# Contribution to associations and institutions promoting sustainable development



## Cultural Programmes

<ul> <li>What we measure and why it is relevant</li> </ul>	Telefónica, through the activities of its Foundation, contributes to digital culture, understood as the set of practices, customs and forms of social interaction carried out using digital technology resources such as the internet.
Calculation	Based on the total budget of Fundación Telefónica - €67.7 million in 2021 - the percentage allocated to digital culture (31.54%) is applied. The result is multiplied by the return on financial investment in digital culture (1.40%).
• Indicators	<ul> <li>Total budget of Fundación Telefónica</li> <li>Percentage of total budget allocated to digital culture</li> <li>Budget allocated to digital culture</li> <li>Economic return on financial investment in culture</li> <li>Total impact generated by Fundación Telefónica's culture programme</li> </ul>
• Sources	<ul> <li><u>Consolidated Management Report 2021</u></li> <li><u>Fundación Telefónica 2020 Annual Report</u></li> <li><u>Calculating the Social Impact of Culture</u></li> <li><u>The digital cultural sector took a "five-year giant leap" in 2020 I Culture</u> and entertainment / Agencia EFE</li> </ul>



## Volunteering programmes

<ul> <li>What we measure and why it is relevant</li> </ul>	The culture of corporate volunteering has very positive effects both on the working environment and on the incentivisation of talent, including in the perception of the brand by customers and other stakeholders or investors.
• Calculation	Fundación Telefónica has conducted an impact measurement exercise using the methodology based on the Haldane model (2014) and the measurement models of the International Labour Organisation.
	We use as a reference the calculation of the impact of volunteering in 2019, which is the base year from which the calculation was made last year, so as not to carry over errors, and we make a rule of three by calculating the economic impact of the 2021 figure.
	The calculation of the total impact data for volunteering activities in 2019 is calculated using the Total Value Methodology based on the Haldane Model 2014 (according to the True Value report 2019).
<ul> <li>Indicators</li> </ul>	<ul> <li>Economic value of the Volunteering programme</li> <li>N° of corporate volunteers 2019</li> <li>N° of corporate volunteers 2021</li> <li>Total impact of corporate volunteering activities</li> </ul>
Sources	<ul> <li>Total Value Methodology based on the Haldane Model 2014</li> <li>International Labour Organisation measurement models</li> <li><u>Fundación Telefónica 2020 Annual Report</u></li> </ul>





## Security services

<ul> <li>What we measure and why it is relevant</li> </ul>	Data protection through investment in cybersecurity has become one of the most important issues for the successful development of any business.
<ul> <li>Calculation</li> </ul>	Firstly, we start with data on the Telefónica Group's total turnover in security services for each of the five regions in which it operates. This figure is multiplied by the return on investment in security (McAfee Report 2017), giving the total impact in terms of internet safety and responsible use of technology.
<ul> <li>Indicators</li> </ul>	<ul> <li>Return on investment in cybersecurity</li> <li>Total impact generated in terms of internet safety and responsible use of technology</li> </ul>
• Sources	<ul> <li><u>Consolidated Management Report 2021</u></li> <li><u>McAfee Report 2017</u></li> <li><u>The importance of cybersecurity in business I ITCL</u></li> <li><u>Spanish cybersecurity and incident management teams</u></li> </ul>



#### Cyber risks

• What we measure and why it is relevant

Today, services such as telecommunications, the digitalisation of products and services, as well as network deployments have become essential elements and tools for the correct and tools for proper functioning of life and productivity. However, this increase in the use of new technologies, as well as of network technologies, as well as the internet and telecommunication services, brings with it certain threats and dangers whose rates of occurrence have also increased.

Calculation

In order to measure the negative impact of this inappropriate use of technology, we have collected the following data from the five geographical areas in which we operate:

• Firstly, we have identified the figures for the economic impact of cybercrime in each country (McAfee report), in terms of percentage of GDP: 0.84% of GDP in European geographical areas, and 0.43% of GDP in Brazil and Latin America.

As we are not able to estimate how much could be attributable to Telefónica, we calculate the percentage of Telefónica in the overall ICT sector in each region.

The impact of the ICT sector in each region is multiplied by the GDP of each region, resulting in the economic contribution of the ICT industry. Telefónica's estimated percentage of the sector's total impact, based on turnover

Indicators

#### • GDP

- Economic impact of cybercrime (% of GDP)
- Total economic impact of cybercrime
- Weight of ICT industries by country
- Economic contribution of the ICT industry
- Telefónica billing
- Telefónica's weight in the ICT sector
- Total impact in terms of fraudulent use generated by Telefónica through its activity

• Sources

- PIB (US\$ a precios actuales) | Data (bancomundial.org)
- Economic Impact of Cybercrime No Slowing Down Report (mcafee.com)
- Facturación del sector TIC en España
- Facturación del sector TIC UK
- Facturación del sector TIC en Alemania
- Facturación sector TIC en Brasil
- Coronavirus: impact on online usage in the U.S. Statistics & Facts
- INTERPOL report shows alarming rate of cyberattacks during COVID-19
- Digital Economy Report (unctad.org)

Measuring the *social and environmental* impact of Telefónica 2022

