WHITE PAPER

Product and service sustainability assessments.

The case of Telefónica: Responsibility by Design Assessment

KREAB

WORLDWIDE

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Summary

Sustainability is impacting the business world through aspects such as new regulations, the integration of ESG criteria in the financial sector and a more aware demand. This has led many companies to rethink their strategic positioning in this area. However, it will not be enough to carry out secondary or tangential measures to the business, as the last few years have seen an increase in the degree of maturity of ESG. International sustainability standards and national commitments has also increased in recent years, which will not make the activity of companies that have not integrated sustainability into their core business viable in the long term. It is therefore necessary for companies to evaluate their products and services - the core of their business - against sustainability criteria.

A case in point is Telefónica's Responsibility by Design. Thus, the company has a methodology for evaluating products and services, which ensures the integration of its Responsible by Design principles into its portfolio of products and services.
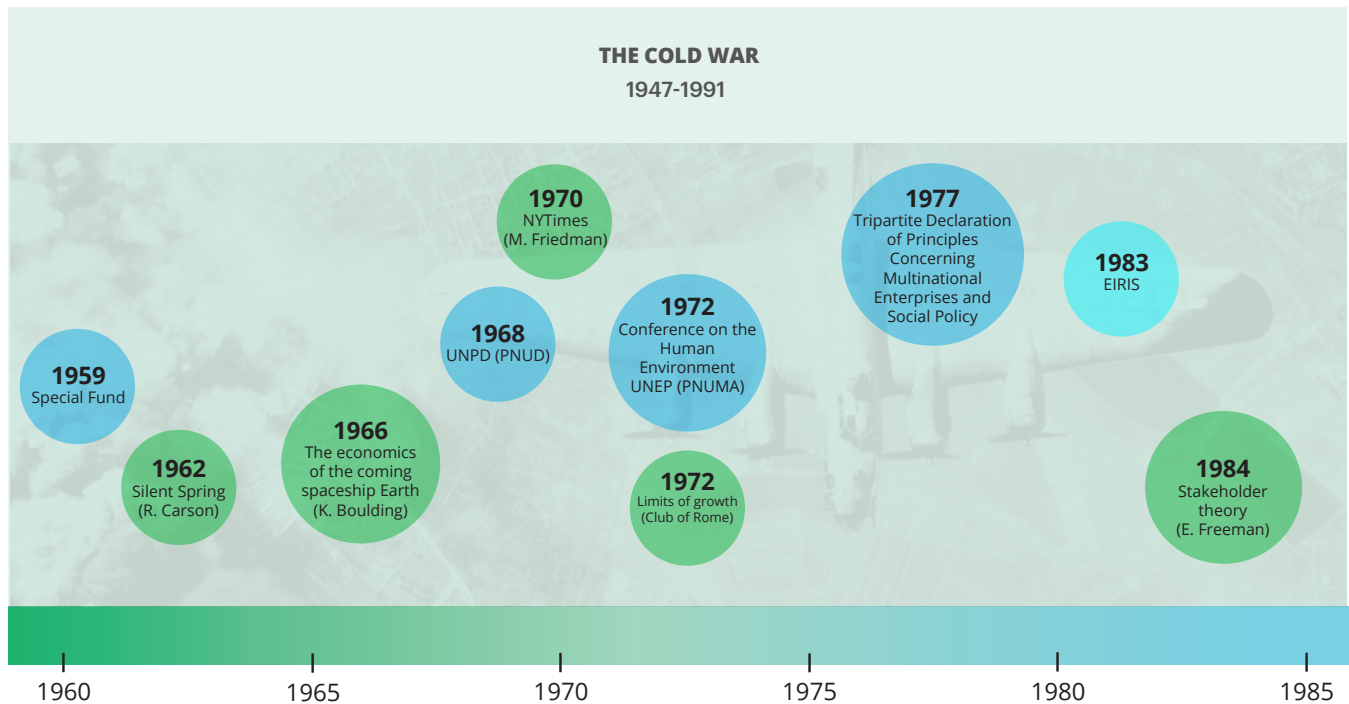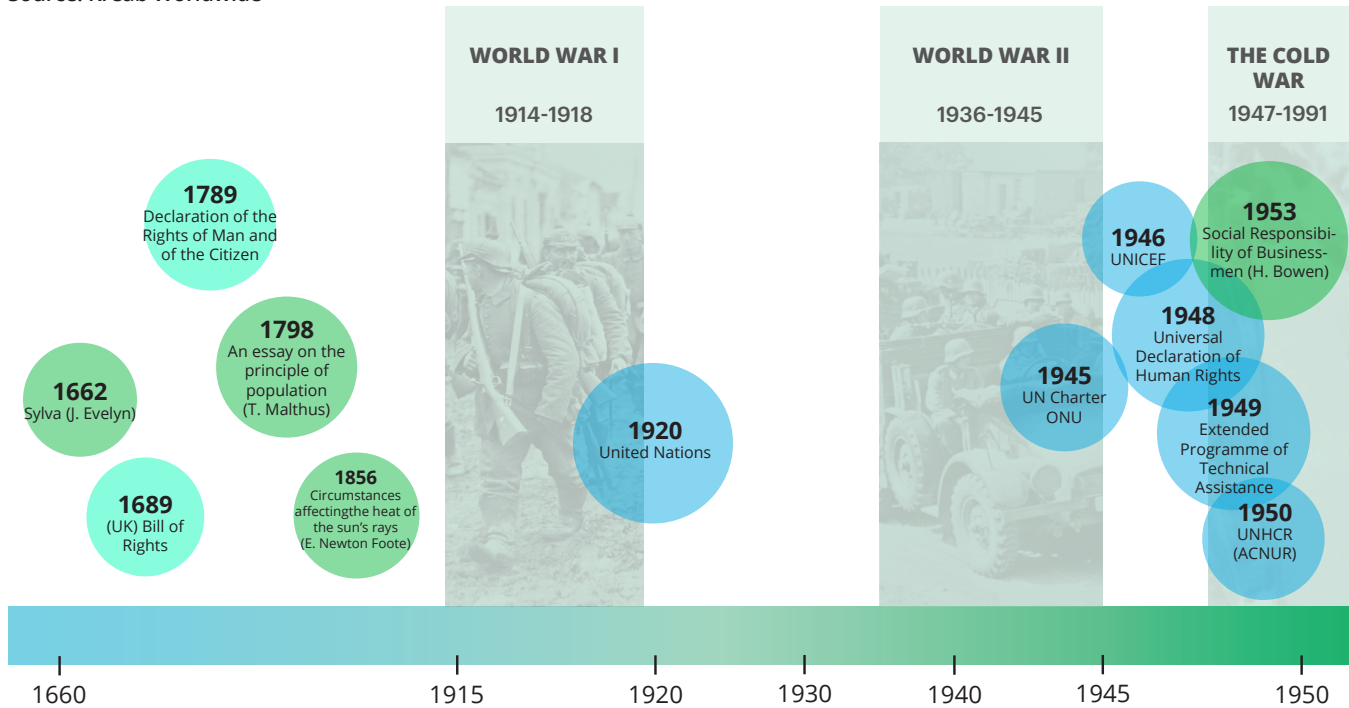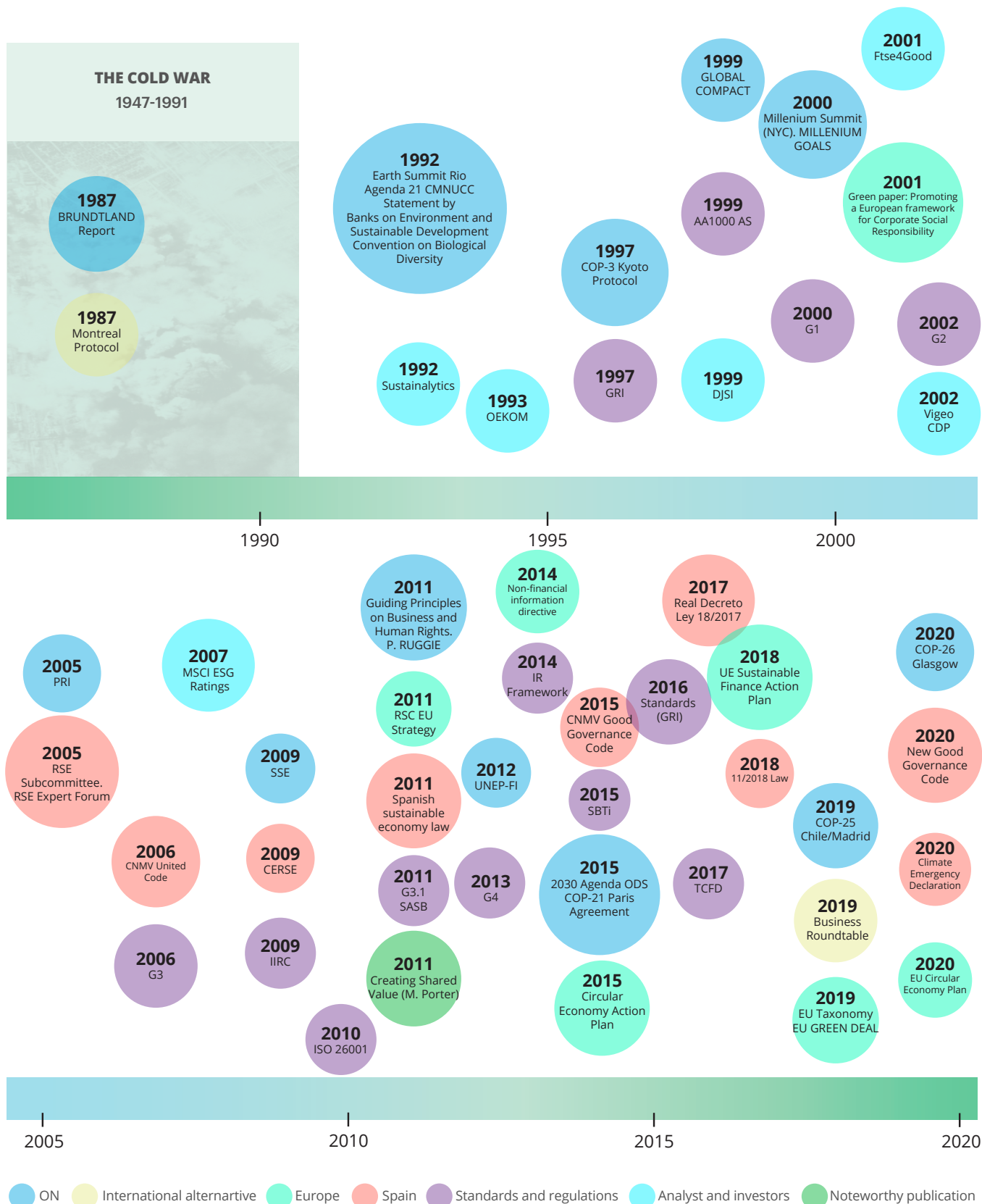
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Sustainability Timeline

Source: Kreab Worldwide

WORLD WAR I

1914-1918

WORLD WAR II

1936-1945

THE COLD WAR

1947-1991

1789
Declaration of the Rights of Man and of the Citizen

1798
An essay on the principle of population (T. Malthus)

1662
Sylva (J. Evelyn)

1689
(UK) Bill of Rights

1856
Circumstances affecting the heat of the sun's rays (E. Newton Foote)

1920
United Nations

1946
UNICEF

1945
UN Charter ONU

1953
Social Responsibility of Businessmen (H. Bowen)

1948
Universal Declaration of Human Rights

1949
Extended Programme of Technical Assistance

1950
UNHCR (ACNUR)

| 1660 | 1915 | 1920 | 1930 | 1940 | 1945 | 1950 |

THE COLD WAR

1947-1991

1970
NYTimes (M. Friedman)

1977
Tripartite Declaration of Principles Concerning Multinational Enterprises and Social Policy

1983
EIRIS

1968
UNPD (PNUD)

1972
Conference on the Human Environment UNEP (PNUMA)

1959
Special Fund

1962
Silent Spring (R. Carson)

1966
The economics of the coming spaceship Earth (K. Boulding)

1972
Limits of growth (Club of Rome)

1984
Stakeholder theory (E. Freeman)

| 1960 | 1965 | 1970 | 1975 | 1980 | 1985 |

● ON ● International alternartive ● Europe ● Spain ● Standards and regulations ● Analyst and investors ● Noteworthy publication

THE COLD WAR
1947-1991

1987
BRUNDTLAND
Report

1987
Montreal
Protocol

1992
Earth Summit Rio
Agenda 21 CMNUCC
Statement by
Banks on Environment and
Sustainable Development
Convention on Biological
Diversity

1992
Sustainalytics

1993
OEKOM

1997
COP-3 Kyoto
Protocol

1997
GRI

1999
GLOBAL
COMPACT

2000
Millenium Summit
(NYC). MILLENIUM
GOALS

1999
AA1000 AS

1999
DJSI

2000
G1

2001
Ftse4Good

2001
Green paper: Promoting
a European framework
for Corporate Social
Responsibility

2002
G2

2002
Vigeo
CDP

1990

1995

2000

2011
Guiding Principles
on Business and
Human Rights.
P. RUGGIE

2014
Non-financial
information
directive

2017
Real Decreto
Ley 18/2017

2020
COP-26
Glasgow

2005
PRI

2007
MSCI ESG
Ratings

2011
RSC EU
Strategy

2014
IR
Framework

2018
UE Sustainable
Finance Action
Plan

2015
CNMV Good
Governance
Code

2016
Standards
(GRI)

2005
RSE
Subcommittee.
RSE Expert Forum

2009
SSE

2011
Spanish
sustainable
economy law

2012
UNEP-FI

2015
SBTi

2018
11/2018 Law

2020
New Good
Governance
Code

2006
CNMV United
Code

2009
CERSE

2019
COP-25
Chile/Madrid

2006
G3

2009
IIRC

2011
G3.1
SASB

2013
G4

2015
2030 Agenda ODS
COP-21 Paris
Agreement

2017
TCFD

2019
Business
Roundtable

2020
Climate
Emergency
Declaration

2011
Creating Shared
Value (M. Porter)

2015
Circular
Economy Action
Plan

2019
EU Taxonomy
EU GREEN DEAL

2020
EU Circular
Economy Plan

2010
ISO 26001

2005

2010

2015

2020

● ON ● International alternartive ● Europe ● Spain ● Standards and regulations ● Analyst and investors ● Noteworthy publication

Towards a sustainable future:

the importance of rethinking our products and services

01

Although the origins of sustainability are rooted in the 17th century, when John Evelyn published one of the pioneering texts on the subject (Sylva, 1662), over the last decade the topic has become more important than ever before. While social issues gained ground during the 20th century by virtue of the Universal Declaration of Human Rights, the Brundtland Report and the Montreal Protocol put the spotlight on the environmental impact of our production model. In the 21st century, alarm bells have been sounding about the need to rethink our socio-economic model. One of the key moments was the year 2015, which saw both the launch of the 2030 Agenda as part of the Sustainable Development Goals (SDGs) and the Paris Agreement reached at COP21.

All the milestones highlighted above have underlined the need to rethink the very paradigm being addressed. In recent years, the importance of sustainability has intensified greatly, due to the pandemic, the ongoing impacts of climate change and the emergence of geo-political conflicts around the world. Analysing and questioning the current state of the production system, while seeking to minimise negative impacts and maximise opportunities, is once again the key to sustainable development. By doing so, we be able to ensure more sustainable production and consumption and avoid environmental collapse. It also presents opportunities to reduce social inequalities, safeguard human rights and better physical and mental health for an increasingly ageing and sedentary society, in a world where decision-making processes have changed significantly from those in place a few decades ago.

Sustainability megatrends

Climate change

Resource scarcity

Biodiversity and ecosystems

Inequality and Human Rights

Demography and health

Decision centres

Source: Kreab Worldwide

1.1 The role of companies

In 2015, the Sustainable Development Goals emerged as the next generation of the Millennium Development Goals (2000). These goals were groundbreaking in terms of calling companies to action and highlighted the need to manage environmental, social and corporate governance issues.

We must bear in mind that a company's relationship with the environment is a two-way process. The business and behaviour of organisations has an impact on their environment and on their stakeholders, but at the same time, companies are dependent on their environment and depend on the behaviour of their stakeholders. As such, sustainability is an aspect that influences the financial performance of companies and has a bearing on their business continuity through various drivers.

Regulator: the EU has been particularly active in developing regulations and policies to facilitate a sustainable transition. Some of them, such as the taxonomy for sustainable activities, focus on creating common criteria for labelling sustainable investments in the capital market. The goal in this regard is to categorise products and services according to their contribution to the EU's sustainability targets.

Capital markets: there is also a growing focus on sustainability in capital markets, especially through the integration of ESG (Environmental, Social and Governance) criteria. In this field, and internationally, the United Nations Principles for Responsible Investment and the assessments carried out by ESG analysts have been particularly significant. They aim to create long-term value through an efficient and sustainable financial system that benefits investors, society and the environment simultaneously. Another noteworthy development is the emergence of new instruments such as green, social and sustainability-linked bonds or loans. These new investment alternatives tie financial conditions to the ESG performance of companies.

Social actors/society: changes in consumer demand and willingness to pay have also made sustainability a more pressing concern for companies. According to a study conducted by the Economist Intelligence Unit (EIU) in collaboration with the World Wildlife Fund (WWF), there was a 71% increase in demand for sustainable goods between 2016 and 2020 (The Economist Intelligence Unit, 2020). This is a trend that continues to grow among new generations of consumers. In addition to the impact on demand, these trends are also on the rise among other company stakeholders, such as employees, who place increasing importance on working for companies with a responsible approach.
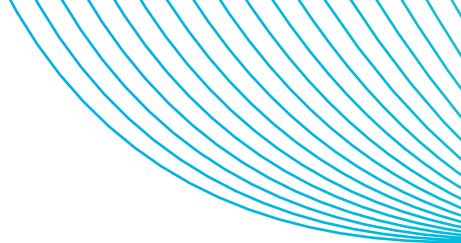
Against this backdrop, sustainability is proving to be a vital aspect of an organisation's core business. Organisations striving to achieve comprehensive sustainability management that takes into account, simultaneously, both impacts and dependencies have in recent years increasingly turned to a double materiality approach, with the EU's Corporate Sustainability Reporting Directive (CSRD) being one example of this. A company should therefore increasingly focus its strategic positioning on important matters from a financial and business continuity point of view, as well as from the perspective of the economic, social and economic impacts it has on its stakeholders and its environment.

In this report, we focus on one of the essential tools for rethinking a company's strategic positioning, the sustainable evaluation of its product and service portfolio. If companies want to incorporate sustainability criteria, they must do so from within the company itself, taking into account its products and services, and not in a peripheral manner or externally. The impact study of Telefónica, the company whose case study is presented below, shows the importance of this approach, as it shows that of the more than 100 billion euros of total impact generated, the largest contribution comes from its products and service

Thus, a sustainability assessment of products and services is a useful tool for internal management and awareness-raising, as it makes it possible to analyze the life cycle of the production activity and to identify impacts, risks and opportunities.

Sustainability matters material from the **double materiality** perspective

Sustainability matters material from the **financial materiality** perspective

Sustainability matters material from the **impact materiality** perspective
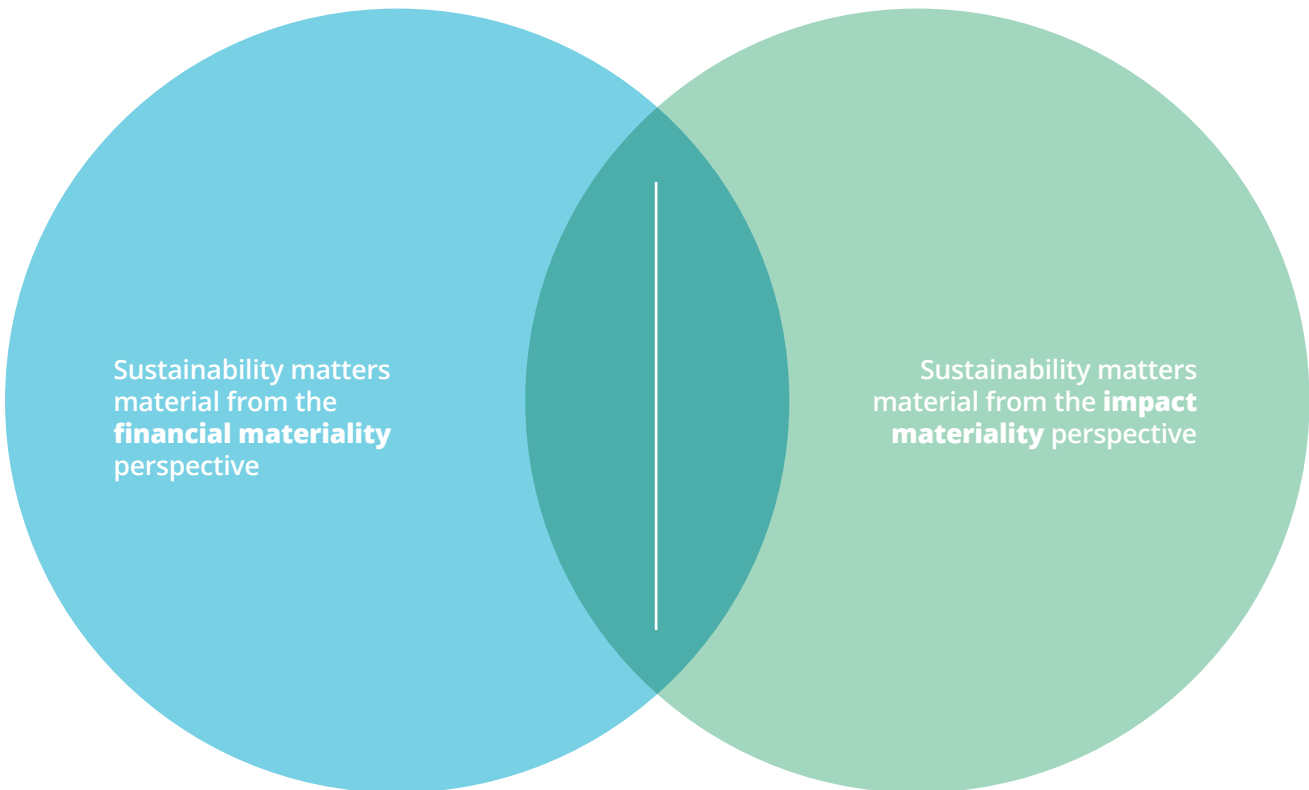
Source: European Financial Reporting Advisory Group (EFRAG)

1.2 Responsible digitalisation

While technology may be the solution to the sustainable transition, developing it appropriately is vital as it has often served as a catalyst for accelerating some of the major challenges to sustainability.

For centuries, humans have relied on technological advances and technology to make progress. This has ranged from the technology of the materials used by early man to the development of the internet in 1969 and, more recently, artificial intelligence (AI). This demonstrates the crucial role that technological development plays in our society and how it has improved our quality of life, making it an unquestionable driving force for change. In recent decades, new tools and knowledge have given rise to digitalisation, which has radically changed the way we live our lives.

Digitalisation has clearly had a positive impact on our society in recent years, but we should not downplay the significance of the risks involved if we do not adopt ethical and responsible principles. Some of the potential negative impacts that new digital knowledge, processes and solutions could have in the medium term include new military technologies, increasing inequality between regions and social groups and growing insecurity linked to the malicious use of digital solutions and AI. Nevertheless, if the digital transformation is built on responsible principles, it will be one of the main drivers for the sustainable transition of the socio-economic system. This is recognised by the European Union, which has pinpointed digitalisation as one of the basic pillars due to its ability to enable sustainable development as part of the Green Deal.

In conclusion, digitalisation may accelerate negative trends if it is not pursued properly and responsibly, but it could also be a tool to solve major global problems and achieve a transition to sustainability.

In order to achieve ethical and sustainable development of digitalization and make sure it provides value to society, we must carefully analyse the production processes of the technology sector. This will enable us to maximise the opportunities that automation offers us, while controlling and reducing the risks posed. The key to making digitalisation a driving force for prosperity is to ensure it is pursued in line with Responsibility by Design principles. Therefore, for technology companies with a purpose oriented towards achieving a positive impact, a sustainable assessment of their portfolio of products and services is particularly important.
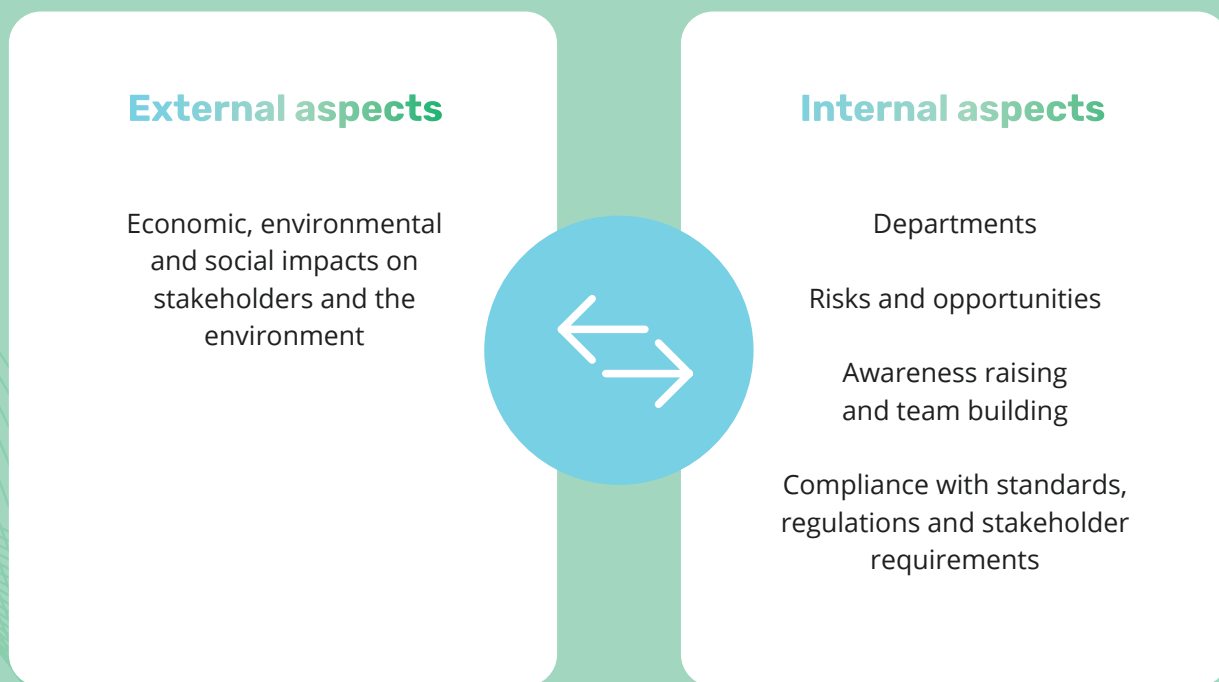
Sustainability from a business standpoint:
assessing products and services

02

Assessing a company's products and services from the perspective of sustainability provides insight into the extent to which its business activity is aligned with its intended impact. They allow a company to identify the products and services with the best potential impact, as well as those where an improvementis needed. Given that sustainability requires a fast-paced transition by companies' business models, this analysis provides a comprehensive picture of the activity and lays the foundations for a sustainability strategy linked to the business.

When assessing the sustainability performance of a product or service, both the impacts on the business itself (financial materiality issues or internal aspects) and on the environment and other stakeholders (external aspects or impact materiality issues) must be taken into account.

External aspects

Economic, environmental and social impacts on stakeholders and the environment

Internal aspects

Departments

Risks and opportunities

Awareness raising and team building

Compliance with standards, regulations and stakeholder requirements

Assessments are important both for products and services in the design phase (ex-ante assessment) and for those already in an organisation's catalogue (ex-post assessment).

Sustainable innovation:
Assessing new products and services from the design phase onwards

The changes in the capital market, by regulators (such as the EU and its taxonomy of sustainable activities) and in demand create an all but imperative need to incorporate sustainability and purpose into the design of new products and services.

The socio-economic system is undergoing a shift in which innovation plays a key role. The new solutions offered by companies must assess and create a positive impact if they want to secure their market position in the long term. Sustainability assessments of products and services under development therefore have a strategic role to play in providing ESG due diligence.

Responsible business:
The importance of including the portfolio of products and services in the analysis

It might seem better to focus the analysis on products and services that are under development, due to it being easier to integrate changes or improvements in their processes during the design phases. However, the truth is that all products and services are, to a lesser or greater extent, have the need to integrate ESG model, so it is crucial to extend the study to the company's entire portfolio. In fact, most impacts of a company's activity stem from its existing operations and products.

In this way, portfolio analysis is key to effectively integrating sustainability into the core of the business, by providing essential information for decision making in terms of strategic direction and implementation.

Finally, it should be noted that sustainability assessments should follow a robust methodology to be externally valid. This means that they should follow the guidelines of bodies such as the World Business Council for Sustainable Development (WBCSD) and the Committee of Sponsoring Organisations of the Treadway Commission (COSO) as well as regulatory impact assessment tools. That said, it is vital for the assessments to be adapted to the business model of the products and services under analysis so as to ensure their internal validity, meaning they should be tailored to the specific features of the production activity.
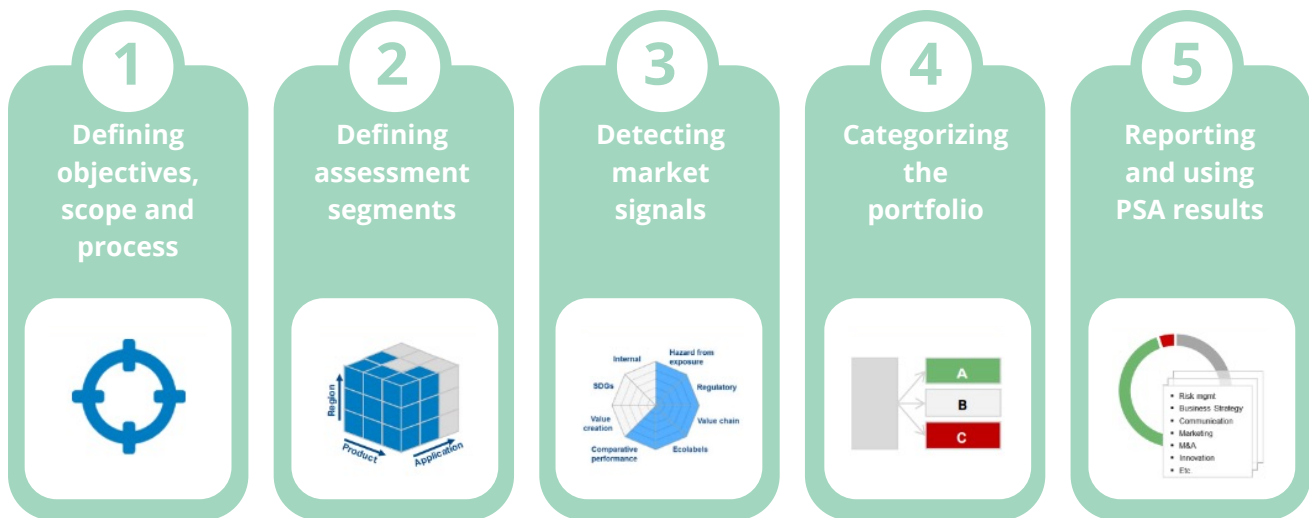
2.1. External validity: WBCSD's Portfolio Sustainability Assessment (PSA) as a frame of reference

In 2017, the WBCSD created a framework for assessing the sustainability of product and service portfolios, called the Portfolio Sustainability Assessment (PSA) methodology. This methodology seeks to take a more practical approach including different inputs such as environmental and social impacts, regulation and market position. Using this type of product and service portfolio analysis has many benefits. In particular, the WBCSD highlights the building of a common understanding of sustainability within organisations that helps drive meaningful change from the heart of the business.

Its framework provides guidance for companies seeking to make portfolio assessments simpler

and improve consistency in their communication, both internally and externally. In terms of methodology, the WBCSD stresses that the process must be simple to understand, implement and execute, and the information used for reporting must be credible and fact-based. Furthermore, in order to create a common understanding of sustainability performance, it requires a certain level of consistency in the value chain of the different products and services. According to the WBCSD, product and service evaluation systems usually follow the following process:

1

Defining objectives, scope and process

2

Defining assessment segments

3

Detecting market signals

4

Categorizing the portfolio

5

Reporting and using PSA results

Source: WBCSD

Defining the objectives, scopes and processes: it should include all company activities, including products, existing services and R&D projects. The report should incorporate how the scope has been chosen and whether certain activities have been excluded, as well as the roadmap for the future.

Defining assessment segments: the assessed products or services can be grouped into segments according to their characteristics, taking into account their position in the value chain. The aim of this step is to take into consideration the specific context of each product and service to be assessed, as a given sustainability aspect may be important for the value chain of some products and services but not of others. The WBCSD stresses that companies should strive to observe the precautionary principle and ensure the efficiency of the process according to the 80-20 rule.

Detecting market signals: the next step is to detect environmental and social challenges and opportunities related to the assessment segment. These include but are not limited to regulations, capital market requirements and activism from the side of supply and demand (eco-labelling or promotion of the SDGs). Specifically, the WBCSD recommends monitoring the following market signals on a regular basis:

- Signals based on the social and environmental impacts of the products and services.

- Signals based on meaningful and measurable stakeholder actions.

- Absolute performance criteria based on comparisons of the characteristics of the assessment segment with the targets of the significant stakeholders in the value chain.

- Life cycle of the products and services.

Categorising products and services: once the prior analysis has been carried out, the WBCSD recommends that products and services undergo an assessment process to categorise them based on how much they contribute to sustainable development.

Reporting and using results: the WBCSD supports companies reporting results publicly and providing details on the methodology used, the scope and the results of the assessment. It is also recommended that these be verified by an independent third party.
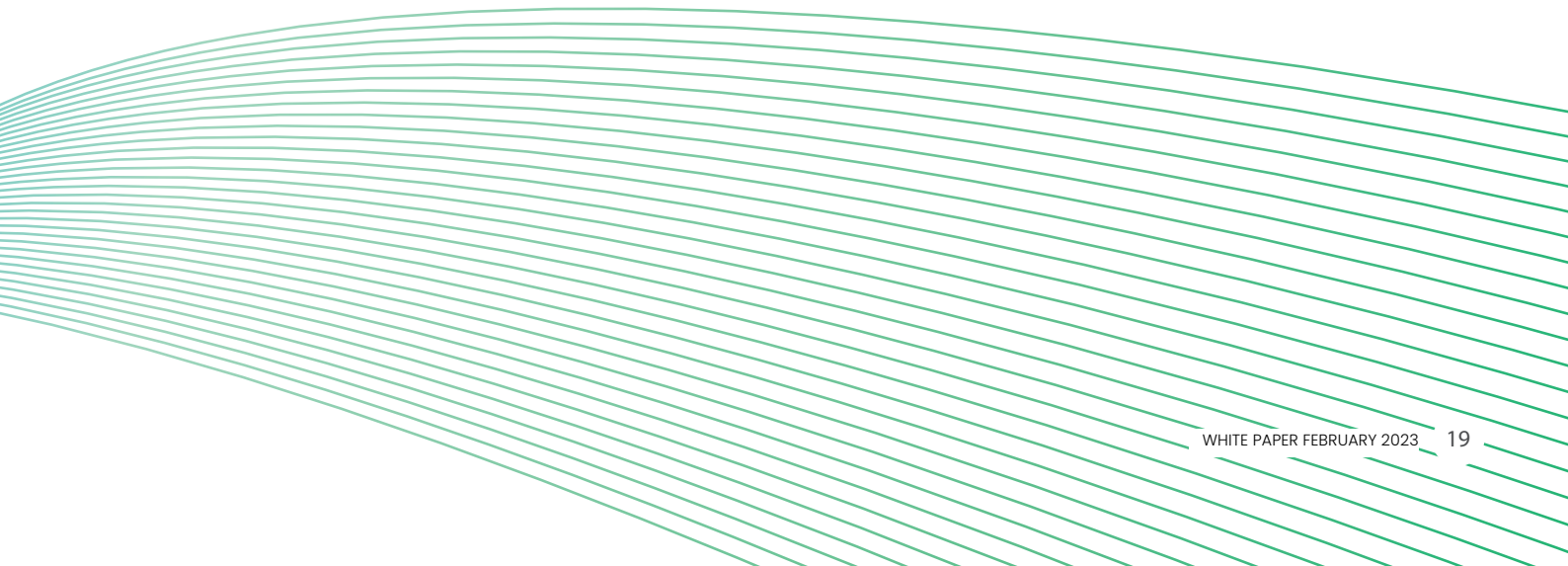
As this methodology includes general guidelines, they should be adapted to the nature of each organisation. Alongside this, other approaches such as Integrated Reporting capitals or specific frameworks for certain aspects of the assessment can be incorporated to provide the assessment with some external scrutiny. For example, the Natural Capital Protocol provides a framework for identifying, measuring and assessing a company's impacts and dependencies with a focus on natural capital.

Likewise, ESG regulations can also be heeded to ensure the alignment of a company's sustainability strategy with the needs of its environment. One example is the draft sustainability reporting standards developed by EFRAG as part of the Corporate Sustainability Reporting Directive (CSRD), which outline the concept of double materiality that companies should incorporate in order to identify risks and opportunities. Similarly, best practices established by ESG analysts such as S&P, Sustainalytics and MSCI, among others, can be taken into account to ensure that the performance of companies with a sustainable portfolio assessment process is externally recognised by these analysts.

In conclusion, the current guidelines for this type of assessment are applicable to all companies in general, but each company will need to adapt and develop the assessment criteria accordingly depending on external criteria and its own idiosyncrasies. All of this is aimed at improving the internal and external performance of the portfolio of products and services in terms of sustainability.

2.2.1. Responsible digitalisation: signals to be considered for the

The strategic importance of digitalisation for the transition to a sustainable model has attracted the interest of leading international institutions and organisations. These organisations have produced standards, ethical frameworks and accountability principles that can be used as a yardstick when assessing the sustainable performance of the solutions in this area.

Taking as a reference the main impacts of the sector identified by organisations such as GSMA, AMETIC, ITU, EIT and the Joint Research Centre of the European Union, Telefónica's Responsibility by Design initiatives are explained in detail in the following section of this report. They represent some of the external signals to be assessed when carrying out a sustainable design assessment.

RESPONSIBILITY TOWARDS CUSTOMERS

One of the main targets of responsible digitalisation is to put people at the centre of technological innovation. To this end, new solutions must be simple, transparent and comprehensive, ensuring that they are accessible to everyone, regardless of their individual conditions or backgrounds. With this aim in mind, companies can rely on external initiatives and institutions, such as the criteria of the Global Network Initiative (which provides guidelines and guidance to the ICT sector to protect the human rights of privacy and freedom of expression), and quality and user satisfaction certifications, such as ISO 9001. Assessments may also factor in the recommendations of the European Consumers' Organisation (BEUC) or the criteria of ESG analysts such as S&P or Sustainalytics.

AI AND BIG DATA PRINCIPLES

With the development and emergence of new technologies such as artificial intelligence (AI) or big data, it is necessary to create new regulations to ensure their proper use. In this regard, there are guidelines such as the AI Ethics Playbook developed by the GSMA, which aims to act as a practical guide to apply ethical principles to AI and to leverage its technological capabilities for the benefit of people and the planet.

The importance of this issue will grow over the coming years as digitalisation becomes more widespread. It is therefore worth considering European policies, the recommendations of bodies such as ITU and developing innovation projects such as SATORI or Sienna.

CARE FOR HUMAN RIGHTS AND SOCIETY

Measuring the risks that products and services could pose to users as well as the socio-economic impact of these solutions is vital. In particular, when it comes to IT solutions, there are new dangers to be taken into account such as fake news, addictions and cyberbullying, all of which are related to the mental health of users. As pointed out by organisations such as the United Nations and Human Rights Watch, companies must take care and prevent these situations from arising. They must also take into account information security standards and other important global criteria, which seek to improve the situation in terms of the digital divide or security.

ENVIRONMENTAL RESPONSIBILITY

The last aspect of sustainable digitalisation to focus on is the environmental impact of products and services. To integrate aspects such as climate change, biodiversity, ecodesign or life cycle analysis into decision making, we can refer to the technical requirements of the EU's green taxonomy, GSMA standards or useful information from other organisations such as ITU or ETSI.

Considering these aspects is important in order to ensure the external validity of a sustainable assessment system for solutions in the field of digitalisation.

2.2. Internal validity: product and service sustainability assessment systems in practice

There are different ways of approaching a sustainability assessment depending on the aspects included, the methodology used, the scope of the products and services and the way the results are presented.

In response to the surge in corporate activism in the wake of the Paris Agreement and the development of quantifiable and verifiable metrics, an environmental perspective has been at the forefront of sustainability assessments of product and service portfolios. However, we also find cases where the economic and social, and even governance, aspects are also included in the process, as in the case Of Solvay or Saint Gobain product assessments.

With regard to the methodology used, there are different perspectives that differ depending on the company's business activity, the information available to it and the geographic areas in which it operates. As such, assessments can be based on aspects such as a life cycle analysis of the value chain of a product or service, an analysis of risks, opportunities and impacts, or ESG due diligence processes in the development phases of products and services. The information required is usually technical references of products and services collected through the company's internal systems, as well as from questionnaires completed by product and service managers.

The most common way of reporting findings is through scoring or labelling systems, whether numerical (Saint-Gobain) or qualitative(L'Oréal), global or by area (Nike), in the form of a spider graph (Boots) or by classification in product clusters (BASF).

ASPECTS ASSESSED

- Environmental
- Social
- Economic
- Ethics and good governance

EXTERNAL METHODOLOGICAL FRAMEWORK

- Life cycle analysis
- Risk and opportunity assessment
- ESG due diligence and compliance
- Impact

INTERNAL INFORMATION SOURCES

- Quantitative and qualitative information on product and service performance
- Questionnaires completed by product managers and technical experts

PORTFOLIO CATEGORISATION

- Global or partial scope
- Specificity:
  - Global (sector-agnostic)
  - Sectorial (sector-specific)
  - Corporate (entity-level)

RESULTS

- Global scoring or scoring by area
- Labelling or labelling of sustainable products and services
- Clustering of products and services

INTERNAL USE

- Diagnosis and strategic alignment of the portfolio with internal targets and external ESG requirements
- Professionalisation and internal management of sustainability
- Training and awareness raising in the areas

EXTERNAL USE

- Transparency and labelling
- Product and service positioning and storytelling
- Sector positioning and ESG leadership

The case of :

Telefónica

Responsibility by Design assessment

03

At Telefónica we have the unwavering aim of being able to make our world more human by connecting people's lives.

Wanting to be able to create products and services where people are not just mere users but instead play a key role in their conception and development, we have proposed a profound change in the way we innovate and design solutions. The aim is to be able to contribute to socio-economic development and inclusion through our services, as well as to protect our planet and natural resources more proactively, thereby guaranteeing the inclusion of the ethical principles and values that the company has voluntarily adopted during the process.

To this end, a new framework has been created called *Responsibility by Design* which includes a number of initiatives that holistically address a cultural transformation within the organisation in the way it approaches, develops and commercialises new digital solutions.

3.1 Conceptual framework for Responsibility by Design

The first thing to note is that the framework we call *Responsibility by Design* is not a technology development methodology or an assessment and impact analysis process for new services. In this regard, this framework moves away from the more academic models such as Responsible Innovation and Responsibility by Design promoted in recent years by some international institutions such as the European Union.

We must initially identify two important concepts, which are sometimes intertwined or confused:

DESIGN WITH PURPOSE:

The process by which we try to ensure that the ultimate aim of the new product we plan to develop is to contribute in a positive way to improving society or the environment, for example, by contributing to one of the Goals of the 2030 Agenda. Design with Purpose is a concept that pursues the ultimate purpose of the product and maximises the positive impact it can have when used. Telefónica has created a range of services bearing a seal named "Eco Smart", which shows the benefits generated by a selection of Telefónica's digital products and services so that its customers can quickly identify how they are contributing to protecting the environment.

RESPONSIBILITY BY DESIGN:

This seeks to ensure that new digital solutions incorporate into their definition and their design all sustainability values, principles and criteria, which the company has adopted as its own, and which will minimise their environmental impact and reduce risks to people or society as a whole during their use. In other words, it is not just what we do things for, i.e. the end goal, but how we do them, the design process.

In our particular approach, Responsibility by Design encompasses each and every one of the activities, initiatives and processes that Telefónica has put in place to transform the organisation's culture and working models. Its ultimate aim is to make anyone who has a direct or indirect relationship with the development of digital solutions aware, from the early stages of the design of a product or service, of the impact it can have on society and the environment. At the same time, the company's corporate values and ethical principles are also incorporated from the design stage.

Under this approach, these ethics and sustainability aspects are on a par with other requirements that were already part of the design of the new products or services, such as legal, privacy, compliance and health and safety aspects, among others.

The main initiatives under Responsibility by Design include the following:

Defining the principles and values that should form part of Responsibility by Design.

General training on sustainability and ethics and specific technical training on specific topics such as accessibility, ecodesign, artificial intelligence (AI), etc.

Adapting the company's internal processes for developing new services.

Assessing the products and services being developed and creating a valuation model to facilitate comparisons and decision making.

Defining a governance model to address ethical issues that arise during developments.

Each of the five initiatives mentioned above are critical to ensuring the ultimate goal of cultural transformation and the model's success.
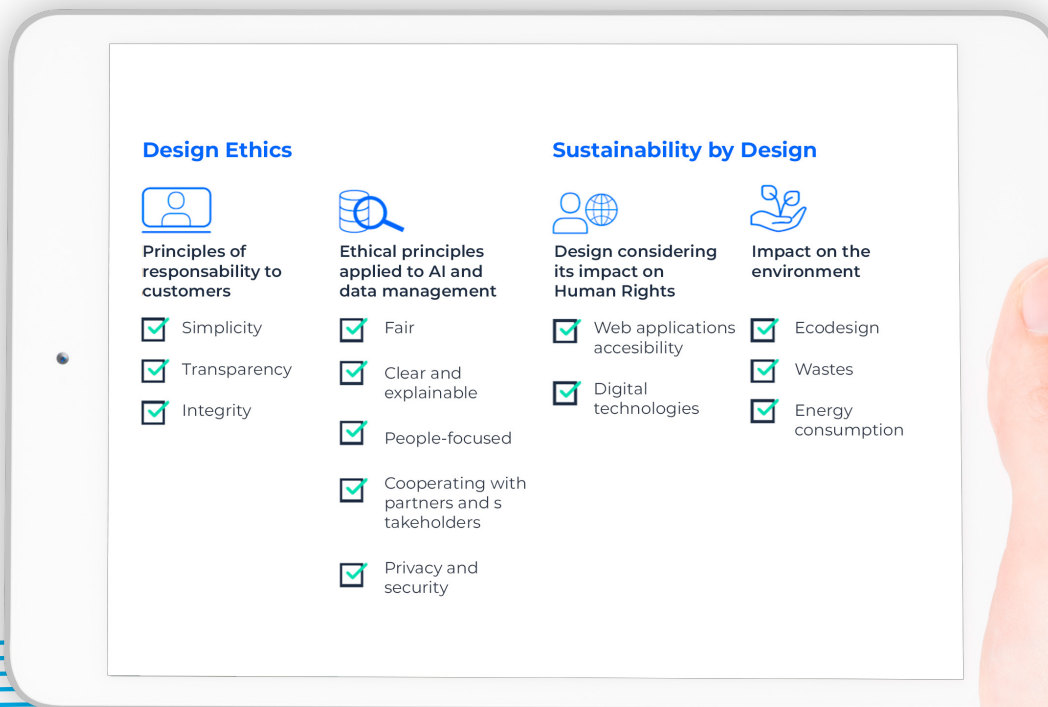
3.1.1 Principles and values in Responsibility by Design

One of the main aspects to take into account when defining a Responsibility by Design framework is that of identifying the values and ethical and sustainability criteria that the company wants to implement in its products and services.

At Telefónica, we decided to define a model that would adapt, on one hand, to the specific characteristics of the technology sector (specifically the telecommunications sector); on the other, to the ethical business principles and the moral and cultural values of the main regions in which we operate, namely Europe and Latin America.

As an organisation, we must ensure that new technologies are aligned with our commitments and values, as well as with those of the societies in which we are present, using as our reference frameworks all those that have been widely accepted by society, such as the Human Rights Principles, the commitments undertaken to protect the environment and the United Nations Sustainable Development Goals.

In our particular case we have decided to incorporate the following pillars:

Design Ethics

Principles of responsability to customers
- [x] Simplicity
- [x] Transparency
- [x] Integrity

Ethical principles applied to AI and data management
- [x] Fair
- [x] Clear and explainable
- [x] People-focused
- [x] Cooperating with partners and s takeholders
- [x] Privacy and security

Sustainability by Design

Design considering its impact on Human Rights
- [x] Web applications accesibility
- [x] Digital technologies

Impact on the environment
- [x] Ecodesign
- [x] Wastes
- [x] Energy consumption

DESIGN ETHICS:

We have focused on ensuring that, in dealing with our customers, we comply with all the ethical principles that we impose on ourselves as a company, including those derived from the use of new technologies (AI).

PRINCIPLES OF RESPONSIBILITY TO CUSTOMERS

The principles of integrity, transparency and simplicity, to be clear and straightforward in our communications and to provide everyone with access to appropriate, correct and truthful information.

ACCESSIBILITY PRINCIPLES

We seek to ensure that all the necessary tools and information are available when signing up for a service, for cancellations or terminations, or when dealing with queries and incidents.

ETHICAL PRINCIPLES APPLIED TO ARTIFICIAL INTELLIGENCE (AI) AND DATA MANAGEMENT

In 2018 we were one of the first companies in the world to publish a set of ethical principles for the use of Artificial Intelligence (AI). Through this Responsibility by Design framework we have managed to adapt these general principles to specific day-to-day issues that can be implemented in software development processes.

TELEFONICA'S AI ETHICAL
PRINCIPLES

Fair

**Clear and
explainable**

People-focused

**Privacy and
security**

**Cooperating with
partners and
stakeholders**

SUSTAINABILITY BY DESIGN:

This section explores aspects that relate more to the impact on people and the environment, through working models that help to address digital inclusion, ensure compliance with human rights and minimise the negative impact that technology can have on the environment.

IMPACT ON THE ENVIRONMENT AND COMMITMENT TO ECODESIGN:

In our commitment to the environment, we seek that the solutions we develop integrate the main standards of energy efficiency and optimization of the use of the necessary raw materials, in addition to foreseeing future models of electronic waste management and promoting the use of more sustainable materials. In short, the aim is to minimise the impact of electronic products and services on the environment and to reduce the energy consumption generated by software products when they are implemented.

DESIGN CONSIDERING ITS IMPACT ON HUMAN RIGHTS:

The aim is to ensure that products do not compromise human rights, and in particular the digital rights of users, at any time.

We must bear in mind that, since 2016, the UN has regarded access to the internet as a fundamental right. This means that the digital divide becomes even more of a key challenge to be tackled, and we must ensure that our digital products can be used by anyone regardless of their abilities. Therefore, including accessibility criteria and requirements for mobile applications and websites following international recommendations is an essential part of design.

3.1.2 Training and adapting internal processes

Once the most significant aspects to be considered have been defined and agreed upon, we can then look to tackle the enormous challenge of shaping and transforming the culture of a company with almost 100 years of history.
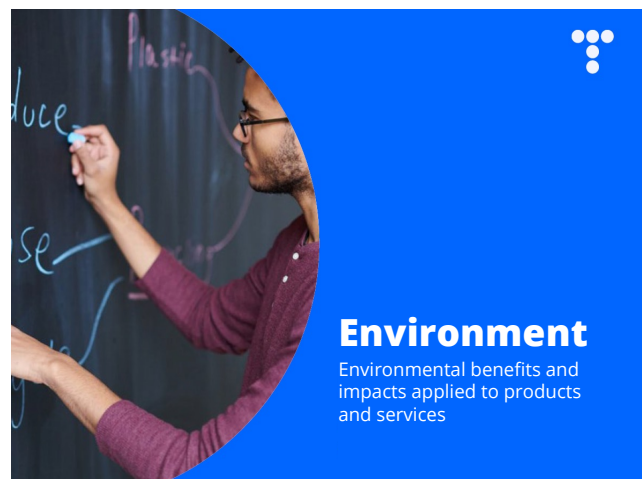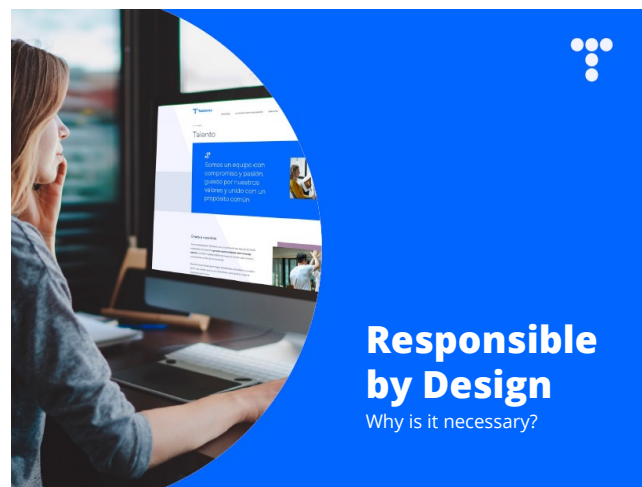
The incorporation of new requirements that must be taken into account when developing products sometimes clashes head-on with traditional business concepts, such as potential increases in development costs or in the time needed to place the new product on the market owing to the incorporation of new features. This is why we highlight the importance of making visible the value that this internal shift can bring about, as well as the importance of updating the quality and management processes followed when developing new solutions, so as to incorporate previously defined ethical and sustainable principles.

Telefónica has proposed an ambitious programme that pursues two targets simultaneously:

- Raising awareness on an internal basis of the weight which must be given to new social and environmental challenges, such as the digital divide or climate change. These are challenges to which large companies in the technology and information sector must have the capacity and responsibility to provide solutions, as the UN has stated.

- Technical training of our professionals on these new issues.

Through face-to-face and online training programmes, informative sessions, dissemination materials, videos and news, the message has been gradually reaching all corners of the organisation. This has in turn allowed it to penetrate all levels, eliminating the natural barriers that any change usually brings about in companies.

The timing of these initiatives with the ongoing media coverage of sustainability issues has helped to further increase awareness among the teams.

Responsible by Design
Why is it necessary?

Environment
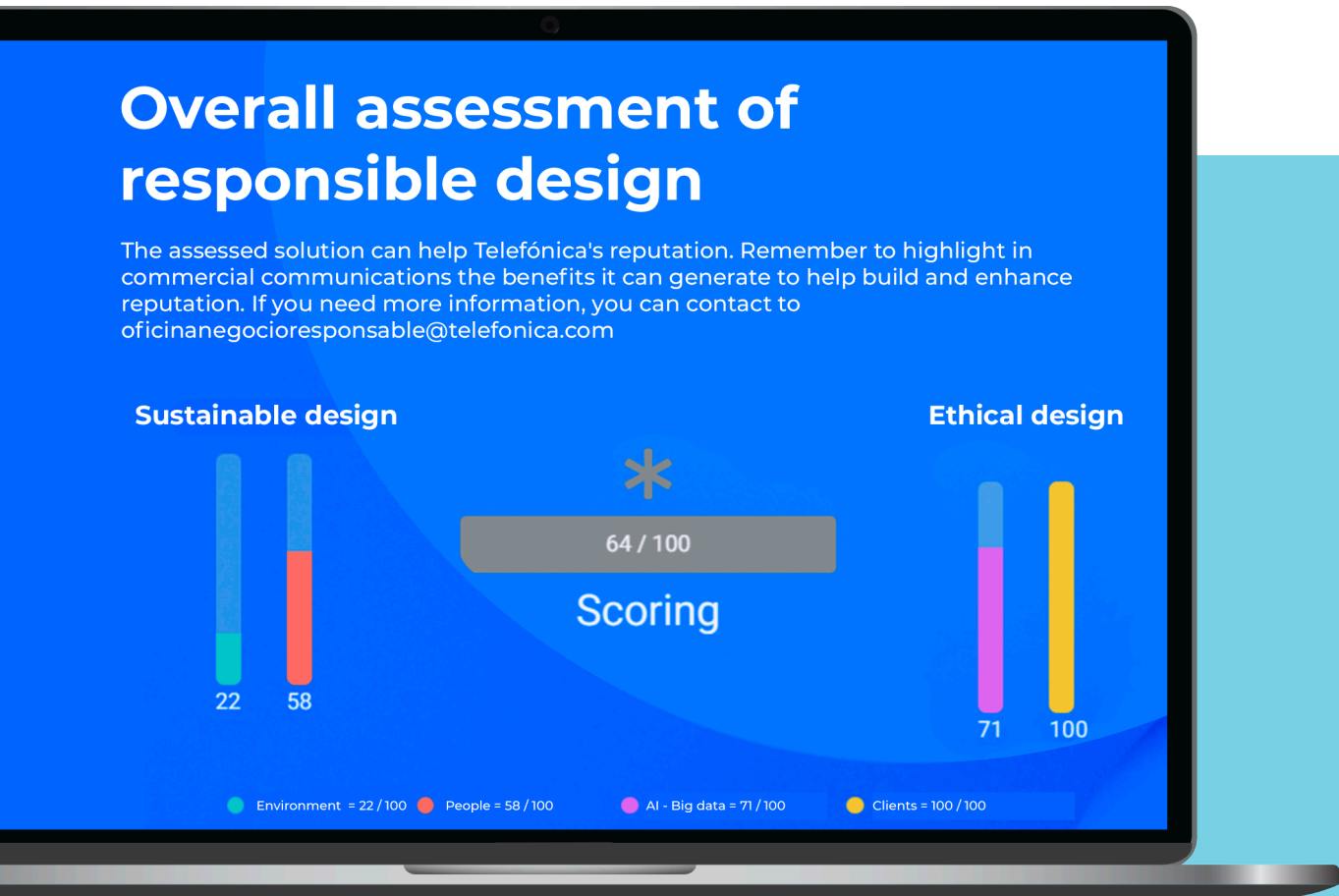Environmental benefits and impacts applied to products and services

3.2 Assessment of products and services and the Responsibility by Design label

Within the transformation of internal quality processes, the most significant aspect is the system that has been developed to assess to what extent the new products and services comply with the pillars of Responsibility by Design.

The main aim is to gain a full picture of how well a service is aligned with Responsibility by Design before it goes to market, thereby ensuring the highest level of quality.

Addiotionally, this assessment system becomes a checklist that helps during the design process so as not to forget the most significant aspects to take into account depending on the type of product we are working on.

The assessment model has been developed on an online platform. Those responsible for design and marketing have access to the platform, where they validate the most important aspects of ethical and

Overall assessment of responsible design

The assessed solution can help Telefónica's reputation. Remember to highlight in commercial communications the benefits it can generate to help build and enhance reputation. If you need more information, you can contact to oficinanegocioresponsable@telefonica.com

Sustainable design

Ethical design

∗

64 / 100

Scoring

22   58

71   100

● Environment = 22 / 100   ● People = 58 / 100   ● AI - Big data = 71 / 100   ● Clients = 100 / 100

sustainable principles. This is done through specific questions related to each of the main pillars (ethical AI, customers, environment, human rights and accessibility).

The assessment questionnaire features 60 questions in total, divided into topics that only need to be answered if they apply to the product in question. For example, questions related to digital accessibility should only be filled in if the product has web interfaces or mobile applications, while only solutions that use Artificial Intelligence (AI) algorithms would need the section of the questionnaire corresponding to that area to be filled in.

In addition to the assessment questionnaire (the content of which is incorporated into and serves as a guide during the design process), we have created a quantitative weighting model for the answers obtained.

Moreover, the tool itself offers valuable insights based on the results to provide guidance on how to improve the solution.

You should note the following recommendation for your product:

A product with a low Net Promoting Score reduces user satisfaction and deteriorates customer relationships.

Identify the type of waste generated (hazardous or non-hazardous) and, if hazardous waste is produced, reduce or eliminate it from the design. If possible, choose materials with a high rate of recyclability or biodegradability. Apply the concept of waste hierarchy, always giving preference to non-generation over recycling. Reuse and recover materials whenever possible.

Digital solutions help in many cases to minimize environmental impacts compared to traditional solutions. Some Telefónica services such as Fleet Management, Smart Energy or Smart Industry make a positive impact by helping our customers to consume fewer resources (electricity, fuel or water) to carry out the same service. For instance, the Buyback program reintroduce into the market millions of fully functional mobile phones that would otherwise have been managed as waste.
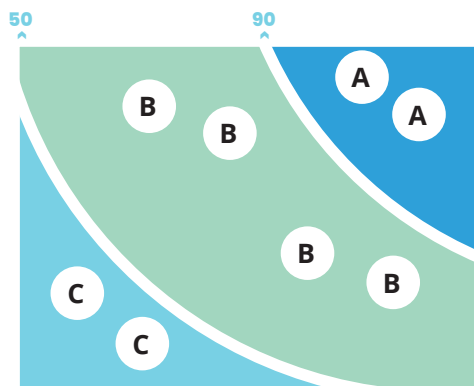
3.3 Defining a governance model to address ethical issues

The last important aspect to highlight is the definition of a governance and management model for the entire Responsibility by Design framework. This model consists of three levels.

- The first level incorporates all pre-defined processes for training, education and assessment of products and services.

- The second level offers a direct support channel to deal with queries and help with more technical issues that require expertise, such as ecodesign matters, accessibility, etc.

- Lastly, the third level is reserved for the escalation of significant issues that have arisen at lower levels, as well as for addressing ethical issues that may arise with any of the products. This third level also provides the ability to track the status of the company's solutions portfolio and the alignment with the Responsibility by Design framework.

EMPLOYEE TRAINING	GOVERNANCE	P&S RESPONSABLES
Level 1 Product Managers	Level 2 Expert Committee	Level 3 Responsible Business Office
Training in Responsible by design	Resolution of doubts by experts in each area	Resolution of critical cases in Responsible Business Office
Simple P&S self-assessment through an online survey		

SUSTAINABLE DESIGN PEOPLE AND ENVIRONMENT

50   90

ETHIC DESIGN AI AND CLIENTS

A. Best practices products
High score in Ethics and Sustainability

B. Responsibles products
These products comply with the principles established by Telefónica.

C. Products that do not meet the minimum requirements
Substantial modifications must be made to be part of the portfolio and then redo the questionnaire.

3.4 Conclusions

Integrating the Responsibility by Design framework is a long and complex process, even more so in the case of a large multinational company. The process that was initiated at Telefónica just a few years ago has been taking shape and is steadily being incorporated into the company's operations overcoming barriers. Commitment not only brings economic benefits but also helps improve people's daily lives. This has been the best catalyst for transformation.

As stated earlier, this framework goes beyond being a purely technical approach and is achieving a transition throughout the organisation, from its very foundations, maintaining the company's status as a point of reference for sustainability. Moving from a theoretical commitment to sustainable development to a practical and tangible reality accomplished through operational change, design and innovation is a major qualitative leap forward.

We are convinced that this is the path that other companies in our sector must also take, so that together we can truly contribute to building a fairer, more inclusive society and offering solutions that help tackle the tremendous challenges we face.

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04

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