España transforma

Executive Summary

March 2024 Update

PERTE For Cutting-edge Health

Plan de Recuperación, Transformación y Resiliencia

1 Cutting-edge health – a priority for the Government of Spain

The Spanish health system is an internationally recognised model characterised by the equality and high quality in the provision of services. However, the pandemic and its consequences on citizens and on the economies of the most developed countries, have demonstrated that the next stage of the health protection and promotion, must be based on a qualitative transformation of the health sector, closely tied to science and innovation.

A high-performance health system must not only be oriented to disease care, but particularly to **health protection in a broad sense, and its interaction with new environmental, demographic, and socio-economic challenges.** The priorities of health promotion and healthcare must remain focused on prevention, diagnosis, treatment, and the rehabilitation of the most common pathologies, many of which are chronic diseases associated with the ageing of population. At the same time, it is also essential to focus on the millions of people with **low prevalence and extremely rare diseases,** whose diagnosis and therapeutic possibilities require the most daringly innovative programs.

The concept of Cutting-edge health, which is coined in this strategic project, refers to the **process of promotion and protection of health, based on the development and incorporation of innovative products and procedures, and digital solutions** that offer added value to the prevention, diagnosis, personalised treatment, and rehabilitation of patients and allow new health challenges to be addressed.

Among the innovative clinical approaches founded on science and innovation is the so-called **Personalized Precision Medicine**, which is understood as a clinical process that **incorporates genomic data from people and combines them with clinical and radiological data, environmental exposure, living habits and socio- economic determinants** along with other relevant health data, with the aim of obtaining more precise and integrated information to take decisions on individual and public health. This process implies the need to develop new **biomarkers**, **diagnostic and predictive tools** and technological solutions based on **Data Science**.

Furthermore, and closely related to Precision Medicine, a number of developments have been made in the field of genetics, molecular biology and tissue engineering, that are leading to an unprecedented therapeutic revolution based on new capacities, to figure out and modify the

information recorded on our genome, our cells and our tissue. The so-called advanced therapy medicines, include genome therapy, cell therapy and tissue engineering, and are the paradigm of therapeutic innovation geared to the needs of each patient, specifically designed for each person.

The innovative clinical approaches of Precision Medicine, and the new advanced therapy medicines, offer a **great opportunity to improve the health of the population**, while opening a huge field to generate **economic value linked to the science, innovation and digitalisation**.

What is cutting-edge health?

It is the **promotion and protection of health** based on the development and incorporation of **innovative products and procedures and digital solutions** that offer **added value** to the prevention, diagnosis, personalised treatment and rehabilitation of patients

Precision Medicine

Advanced therapy medicines

Data Science and Artificial Intelligence

2 The need for a PERTE in the health sector

The Strategic Project for Economic Transformation and Recovery (known as PERTE) for Cutting-edge Healthcare is conceived as one of the twelve **national strategic flagship initiatives** for the economy, due to its knock-on effect and transformative potential, and for society, boosting quality jobs, and at the same time improving the health of the citizens. Scientific knowledge, cutting-edge healthcare innovation and data are identified as key drivers for transformation. This Strategic Programme will act as a principal backbone, and as a "tractor" element to consolidate collective and individual health protection from any threat, regardless of its scale. It is considered as one of the key elements of the socio-economic recovery.

The health sector in Spain is one of the main sectors of the economy, with a clear potential for development and innovation. In 2019, the public health spending in Spain amounted to 75.1 billion euros, which represents 6% of the Gross Domestic Product (GDP). **In 2021, public healthcare expenditure amounted to 87.941 billion euros, representing 7.3% of GDP.**

In the five-year period 2016-2020, total healthcare expenditure increased by 21.5% (21.774 billion euros in absolute terms). While public healthcare expenditure grew by 25% (18.064 billion euros), private healthcare expenditure increased by 12.9% (3.710 billion euros). Consequently, the average annual growth rate of total healthcare expenditure over the quinquennium was 4.3%.

In a context, in which the structure of the pharmaceutical market and conventional models of development and commercialisation of innovative products, raise globally concerns about the sustainability of a health system that guarantees access to cutting-edge health for the whole population, **an entrepreneurial State invests in new models to develop medicines and health products through the public academic sector, explores innovative manufacturing mechanisms and fosters public-private collaboration.**

The PERTE for Cutting-edge Health will create a virtuous circle among the stakeholders with the

aim of rolling out the technological and industrial capacities needed to allow the generation of a high-performance health system aimed at health protection, providing an immediate and flexible response to health challenges, and fostering sustainability. This health system will be **based on Precision Medicine, Advanced Therapy Medicines, and Artificial Intelligence**. To ensure this transformation, it will be necessary to foster the transfer of academic R&D, to the industrial sector through public-private collaboration tools and the promotion of industrial capacities, over innovation in industrial and manufacturing processes.

The health sector in Spain is one of the main engines of our economy, with a clear potential for development and innovation, and job creation.

€87.9 billion spent on public health in 2021 accounting for

of GDP

3 Cutting-edge Health in the Recovery, Transformation and Resilience Plan.

The Recovery, Transformation and Resilience Plan (PRTR) sets out the roadmap for the modernisation of the Spanish economy, the recovery of economic growth and job creation. In this context, the Recovery Plan strengthens public and private investment to give the right direction to the productive model, while boosting the green and digital transitions through 10 lever policies and 30 components.

Within this plan, the lever policy VI refers to "Promotion of science and innovation and strengthening of the capabilities of the National Health System". This lever policy includes among its components the so-called "Institutional reform and capacity-building in the national science, technology and innovation system" (Component 17) which encompasses, among others, a set of actions that are aimed at harnessing the development and innovation potential in the health sector.

Accordingly, Investment 6 (I6), which is structured around health, foresees the design and implementation of a flagship project of Precision Personalized Health. Other reforms and investments of Component 17 are also linked to the aims of this PERTE, such as the implementation of a Complementary National Plan, co-created by the State and the regions, in this case in the Biotechnology Sector (Investment 1 – I1). There are other horizontal initiatives, such as the reform of the Science Law, which will improve scientific careers, along with the transfer of knowledge between the NHS and the industrial sector - Investment 3 (I3) and Investment 5 (I5).

The PRTR addendum has allowed for the inclusion of a new investment in Component 17: Investment 10 (I10), which includes 1) a blending facility, combining loans with grants for companies, 2) public investment in Spanish technological and innovative companies in the healthcare sector, and 3) loans to research centers of the National Health System (NHS) to expand their research and technological development capabilities.

Given the strategic nature of the health sector, the actions included in this PERTE go beyond the field of R&D+i and extend to industry and digital transformation. For this reason, the components of the Recovery Plan related to the PERTE are multiple. All of them contribute to the qualitative transformation of the health sector proposed by the PERTE (see details in Annex I).

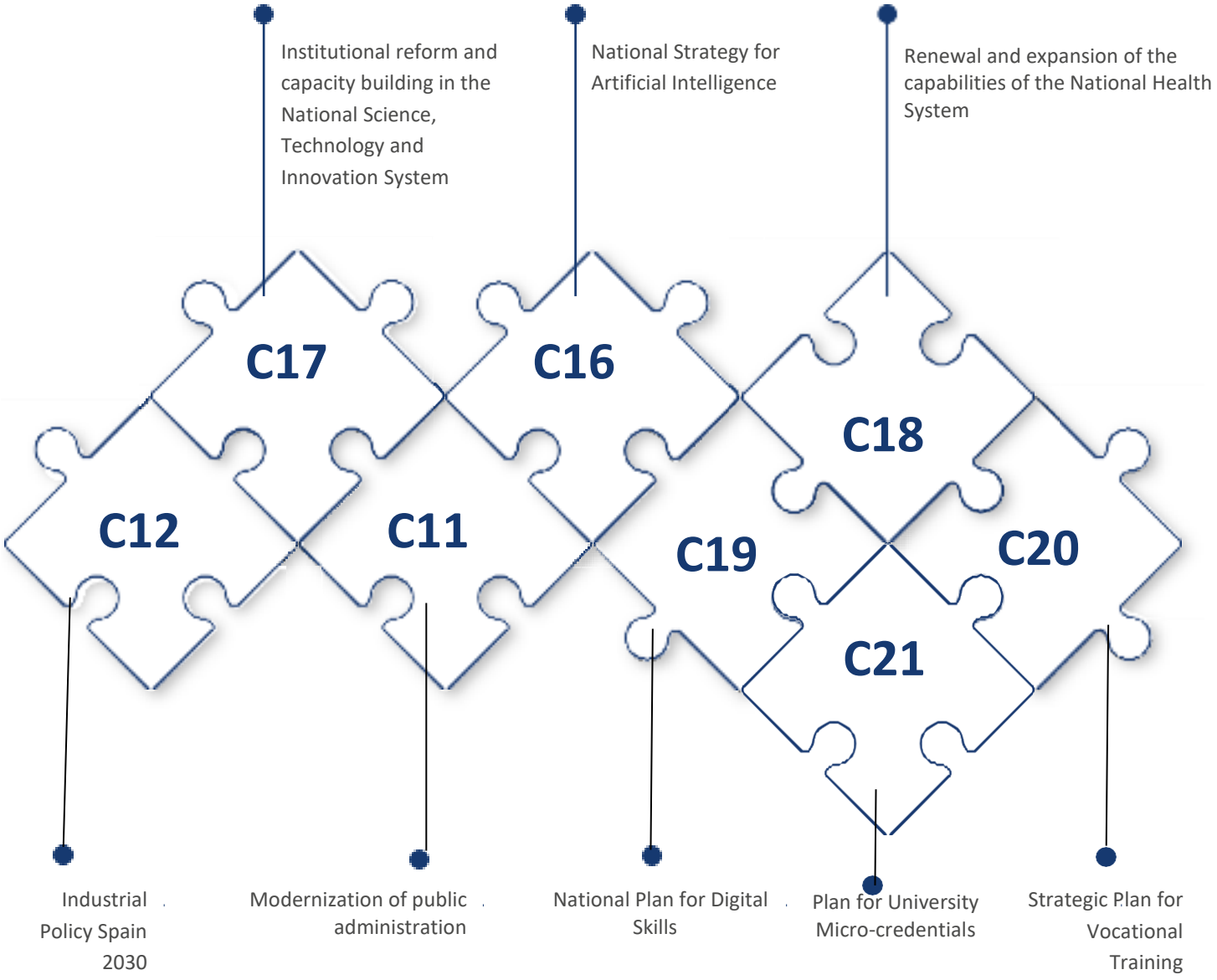
Component 11, called "Modernization of public administration" includes measures for the modernization of digital services offered by the Ministry of Health. Specifically, the Digital Health Strategy proposes the digital transformation of NHS services in three main areas of action: a) the development of digital and smart services; b) the interoperability of health information, and c) the promotion of data analytics.

Component 18 includes the creation of a health data space ("Health Data Lake") under the coordination of the Secretary of State for Digitalization and Artificial Intelligence at the Ministry of Digital Transformation and of Civil Service. The Health Data Lake involves the creation of a repository of health data fed by the different relevant information systems in Health and will allow a massive and intelligent analysis of this data, with real-time response capacity, aimed at protecting health, predicting health situations, as well as enhancing the efficiency of disease diagnosis, treatment, and rehabilitation, under adequate cybersecurity conditions. The Health Data Lake will allow the identification of risk factors, trend analysis, pattern identification, prediction of health risk situations, and resource programming for their management, including Artificial Intelligence algorithms, and using new scalable system architectures and new processing and model discovery tools. Component 18 also incorporates actions aimed at the equitable implementation of Precision Medicine and advanced therapies in the National Health System, such as increasing the common portfolio of public health services to be provided to all citizens (reform 3), specifically the Genomic Medicine services and the "Plan for the Reorientation of Highly Complex Care" in the health system. In this framework, and through the additional funds of the RTRP addendum, funds have been specifically allocated to improve health care for people with rare diseases (including ALS) and their families, to provide the NHS with infrastructure, equipment and interoperable information systems that facilitate it.

The PRTR addendum has also made possible to include a new component, C21.I6, which aims to promote a new offer of university micro-credentials in the period 2024-2026, for the requalification of the adult population through short, flexible, modular training, cumulative and aimed at the acquisition of specific skills and competencies required in the workplace, following the footsteps of the initiatives already launched within the PERTE framework, particularly in sectors or strategic activities, in which there is a deficit of qualified personnel, and/or needs updating and recycling of current personnel due to changes in functions in their jobs.

Complete information on the contribution of the different components of the Recovery, Transformation and Resilience Plan in this PERTE can be consulted in Annex I.

Components of the Recovery Plan related to the Cutting-edge Health PERTE

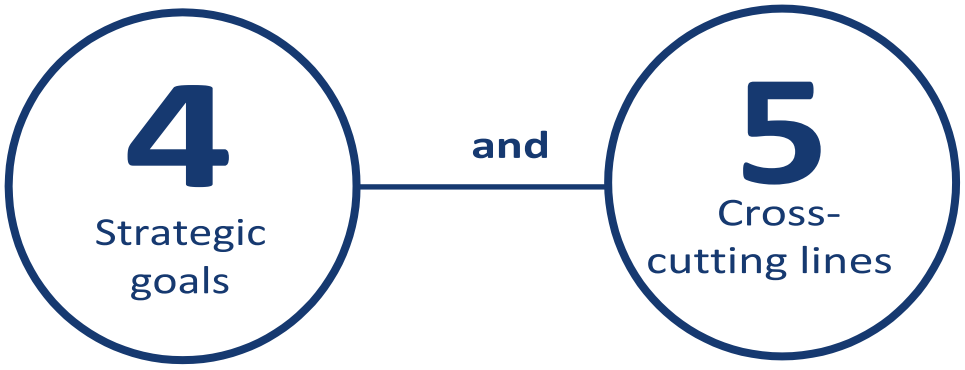


4 Cutting-edge Health PERTE and Recovery Plan

The **general objective** of PERTE focuses on improving the prevention, diagnosis, treatment, or rehabilitation of patients in our National Health System, and **protecting the health of citizens** through Precision Medicine, Advanced Therapy Medicines, Digitalization, and Artificial Intelligence, strengthening the industrial sector and the creation of quality employment.

The PERTE aims to promote the sustainable generation of a renovated, resilient, and prosperous industrial sector, and the creation of transgenerational quality employment through bidirectional and cohesive public-private collaboration, aimed at the protection of collective and individual health through a digitally transformed high-performance health system.

The PERTE is structured following a matrix design, with four strategic goals and five cross-cutting action lines of action to guarantee the achievement of the goals. So, the lines of action are identified as critical elements of success.



Strategic Goals

SG1. Boost the fair implementation of Personalised Precision Medicine in the National Health System as a tool to tackle new health challenges and their interaction with environmental, demographic, and socio-economic challenges, while fostering the strengthening, development and creation of competitive companies based on the generation of knowledge.

SG2. Promote the development of advanced therapy medicines and other innovative and emerging medicines, and facilitate their transfer to clinical practice, through the necessary alliances between academic and business sectors, and strengthen the industrial sector due to the intensive use of knowledge.

SG3. Develop a system of innovative data that involves the collection, processing, analysis, and exploitation of data from different sources to improve prevention, diagnosis, treatment, rehabilitation, and health-oriented research.

SG4. Boost the digital transformation of healthcare, through the application of technology to all activities that imply relations with citizens, and to resources management in all health care areas, with a particular emphasis on strengthening primary care and equality in access to quality healthcare, under conditions of cybersecurity.

Cross-cutting action lines

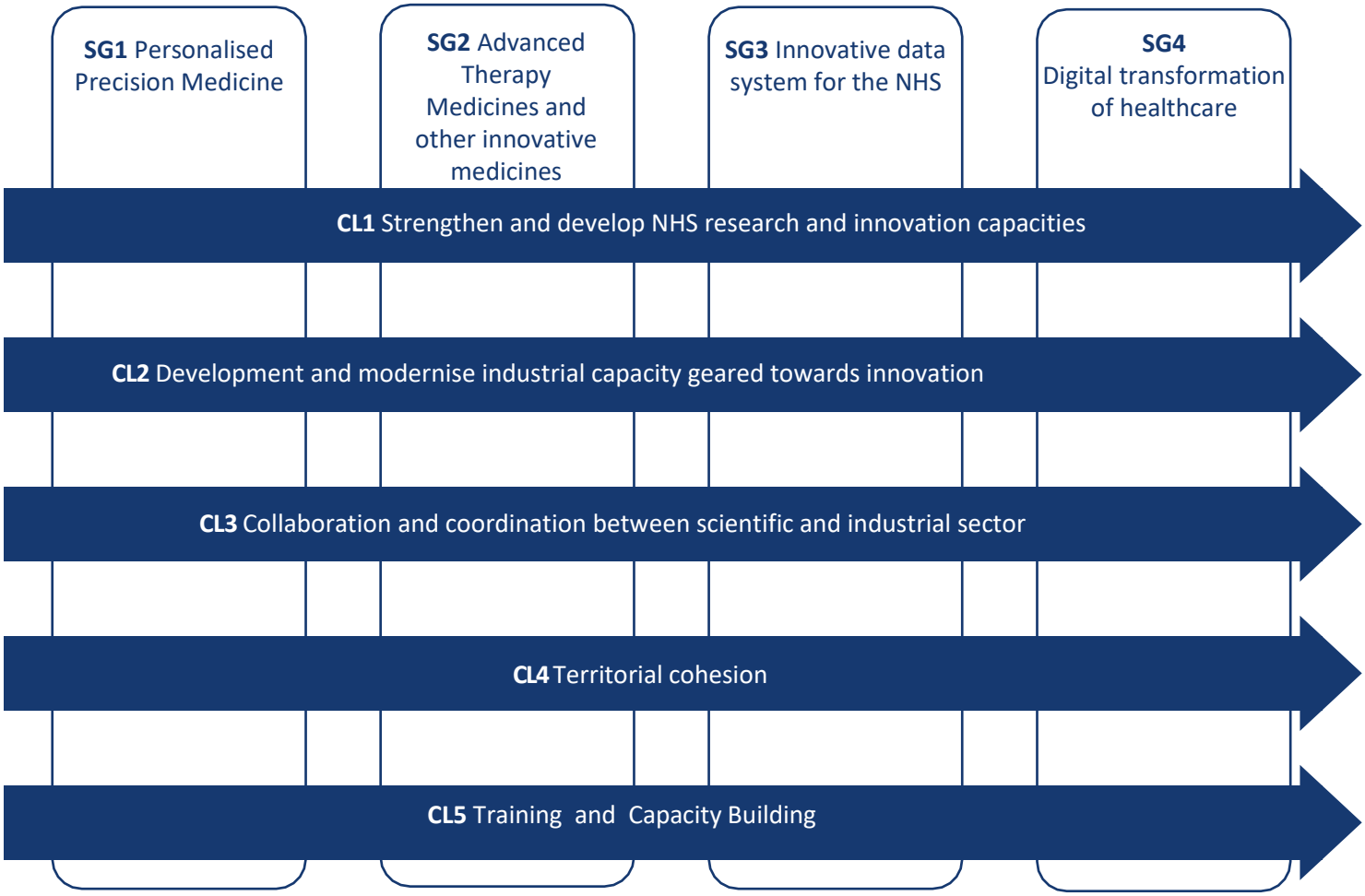
CL1. Strengthen and develop capacities of National Health System centres to maintain Spain's leading position in clinical research and retain the investments made by multinational pharmaceutical companies, bolstering the figure of the health professional researcher.

CL2. Invest in the development, digitalisation and modernisation of industrial capacity and facilitate value chains developments towards diagnostic, therapeutic and rehabilitation innovation with a high added value for both people and public authorities, expanding our industrial autonomy.

CL3. Design and deploy instruments and structures that ensure collaboration and coordination between the scientific and business sector throughout the value chain of innovative products.

CL4. Strengthen territorial cohesion by incorporating all the Autonomous Communities in a transformation process aimed at the whole health system, and which also seeks to foster health innovation and opportunities for technical and industrial development throughout the whole country.

CL5. Strengthen training based on alliances between Industry, NHS centers and research institutions.



Schematic representation of strategic goals and cross-cutting lines

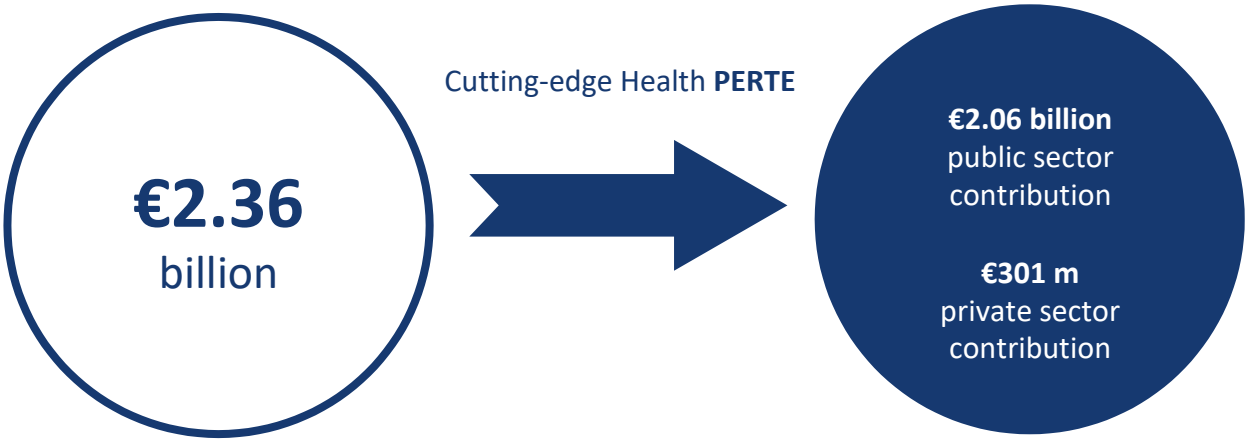
The strategic goals and the cross-cutting lines are **significantly interconnected** and great mutual dependence, so the combined and simultaneous development of each of them is essential. The generation of a high-performance healthcare system, based on Personalised Precision Medicine, demands industrial development and enhanced industrial and business skills which, in turn, requires powerful health R&D+i oriented to citizens' problems and with real transfer capacity to the productive sector. All this, in turn, requires new training curriculas for the development the talent, on which the virtuous circle of this Cutting-edge Health PERTE is based.

5 Budget and tools

The Cutting-edge Health PERTE began in 2021 with a total investment of more than 1,469.32 million euros for the period 2021-2023, with a contribution from the public sector of at least 982.44 million euros.

Since then, other actions with public funds have been incorporated (€396.42 M), and the approval of the PRTR addendum in 2023 meant the incorporation of an additional €830 M.

Therefore, as of the date of this executive summary, the Cutting-edge Health PERTE counts with a total investment of €2,358.61 M€ of which €2,056.89 M is public investment.



This strategic project encompasses and coordinates two investment agendas: one aimed at the scientific academic sector, and the other at the business industrial sector, particularly promoting scientific-business alliances. These investment agendas are structured through the following tools:

1) National call for proposals aimed at the scientific sector, the industrial sector and collaboration projects that combine two investment agendas.

2) Creation of a R&D+i network with legal personality on advanced therapies, that vertebrate the existing initiatives and capacities distributed throughout the whole country for preclinical and early clinical research.

3) Creation of a specific public-private investment vehicle in advanced therapies (public-private trading company), with the participation of companies with production capacity in Spain, for clinical phases 2 and 3.

4) Initiatives for coordination and early identification, of the capacities required in the National Health System.

5) Innovative and pre-commercial public procurement.

6) Agreements with Autonomous Communities, and Agreements at Minsiterial Sectorial Conferences.

7) Private initiatives and projects co-programmed through the Cutting-edge Health Alliance, under the leadership of the industrial sector.

8) Public procurement.

Annex II sets out a summary of the actions and investments associated with this PERTE.

6 Impact and Results

It is foreseen that the Cutting-edge Health PERTE, has the potential to generate a global contribution to GDP of up to 4.34 billion euros and the creation of up to 12,688 new jobs.

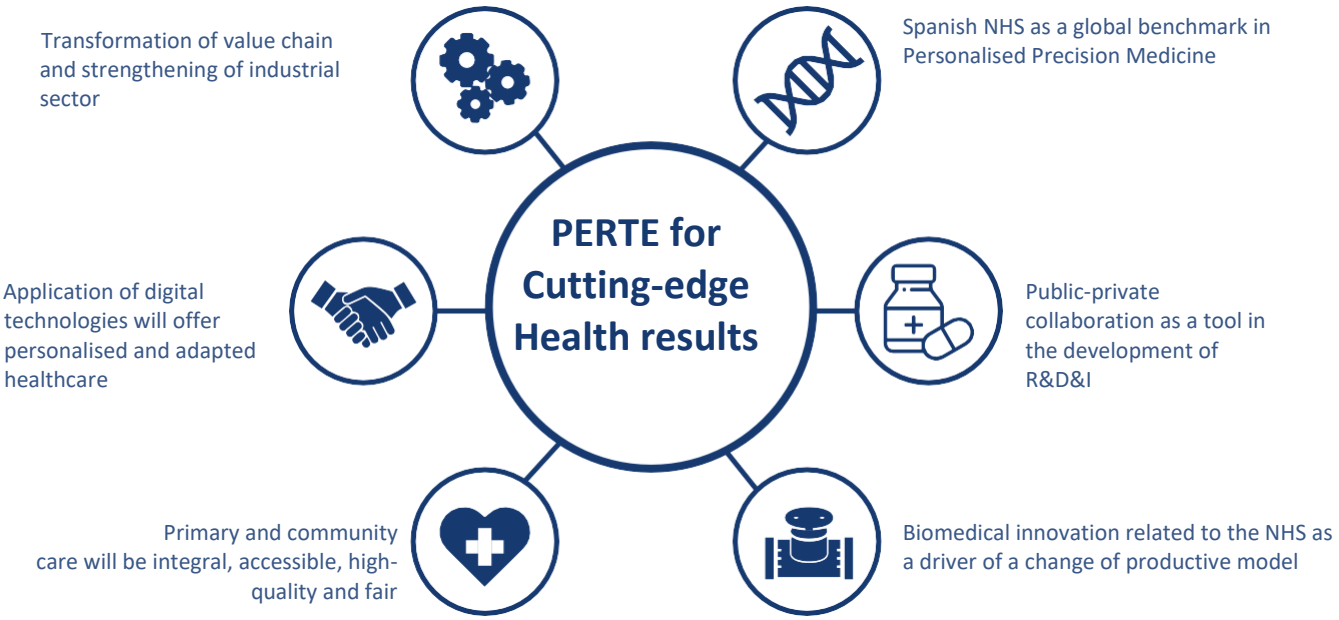
From the health impact perspective, with the actions under this PERTE is estimated the aim is to achieve: a minimum saving of 15% in disability- adjusted life years (DALYs) for each of the pathologies associated, and a reduction of 30% in inter- territorial differences in healthy life years over the age of 65.

It is expected that the following successes occur over the next five years:

- **Biomedical innovation at the National Health System, will be consolidated, as a driving force of the change of productive model**, boosting quality jobs, economic development and strengthening the industrial sector.
- **The Spanish National Health System will become a global benchmark in Precision Medicine** through the massive and smart use of different data sources (biological, environmental, functional, behavioural and others) for health benefits.
- **Public-private collaboration will become a tool used daily in the development of R&D+i from the National Health System**, this will be seen through the tools implemented for the development of advanced therapy medicines and other emerging therapies.
- **The application of digital technologies will allow to offer citizens personalised healthcare,** adapted to their living and health circumstances, with equity in the access, more prevention and remote detection capacities, and continuous healthcare, while providing professionals with transparent access to open data, to collaborate with other health services, and to support decision- making at the health systems.

- The development of new industrial capacities and the modernisation and digitalisation of existing ones will ensure a **more competitive industrial sector**, with the necessary autonomy to quickly offer solutions needed by society.

- **Primary and community care** under the digitally transformed National Health System **will be integral, accessible, high quality and fair.**



Main achievements under the Cutting-edge Health PERTE within 5 years

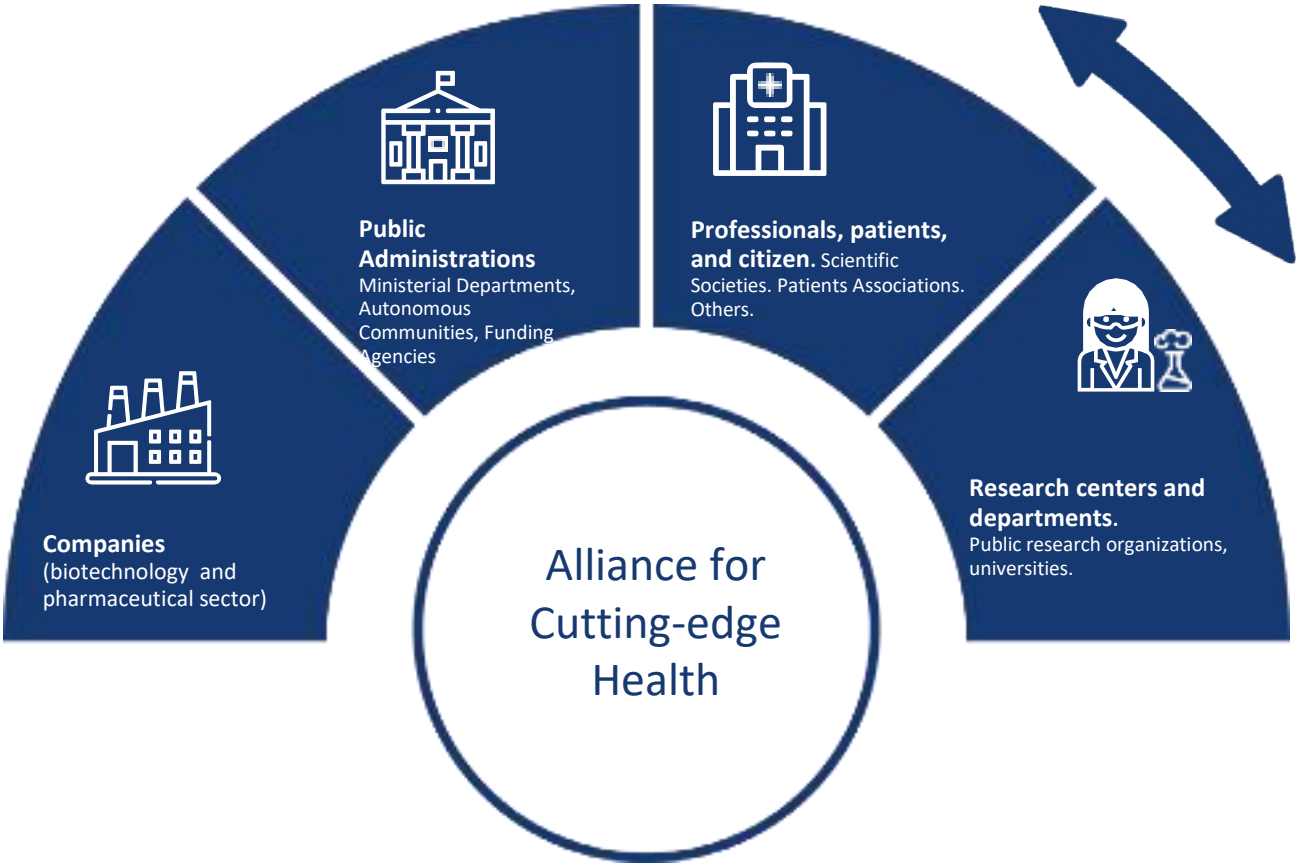
€4.34 billion Contribution to GDP	**12,688 Jobs created**	**Health impacts**
2,176 Innovative actions and transformation of NHS	**9,141** Innovative actions and transformation of NHS	
1,159 Digitalisation	**1,527** Digitalisation	Minimum saving of **15%** of disability-adjusted life years
1,000 Strengthening industrial development	**2,020** Strengthening industrial development	**Reduce 30% Inter- territorial differences** in healthy life years over the age of 65

7 Governance

The interrelations between the different public and private stakeholders and among the different departments of the Central Government that participate in this PERTE, requires a specific structure of governance that makes the collaboration model, effective for the qualitative transformation seek.

As regards coordination between the different departments, a system of **inter-ministerial governance** at state level, is established by setting up a specific working group made up of representatives from all the ministerial departments that participate in this PERTE will serve as a framework for its continuous collaboration and coordination.

In addition, governance is required to integrate public-private collaboration and guarantee ongoing dialogue. To that end, the Cutting-edge Health Alliance is created. This alliance **is chaired by the Minister for Science, Innovation and Universities, and the Minister for Health,** and it includes the interministerial working group and all the stakeholders involved: public authorities, biomedical research centres and departments, hospitals and health centres, along with representatives of companies – from the smallest emerging companies to the largest ones. By doing this, high levels of coordination will be achieved in a space of biomedical research that guarantees the critical elements of success of the PERTE by adopting highly innovative solutions. The Alliance counts with the participation of representatives of both citizens and patients. The Vice-Chairperson of the Alliance will be a person of recognised prestige in the health sector (Commissioner of Cutting-edge health PERTE).


Public Administrations
Ministerial Departments, Autonomous Communities, Funding Agencies
Professionals, patients, and citizen. Scientific Societies. Patients Associations. Others.
Companies
(biotechnology and pharmaceutical sector)
Research centers and departments.
Public research organizations, universities.
Alliance for Cutting-edge Health

8 Timeline

TIMELINE FOR CUTTING-EDGE HEALTH PERTE	BODY	START DATE	END DATE
Actions associated with SG1: Personalised Precision Medicine			
Financing for the generation and transfer of knowledge in the form of R&D+i projects to cater for the needs of research bodies and biotechnology companies			
Carlos III Health Institute (ISCIII) call for Proposals for Personalised Precision Medicine	ISCIII, Ministry of Science, Innovation and Universities	Q3 2021 Q3 2022	Q4 2021 Q4 2022
Joint Missions Science&Health. Personalised Medicine. ADDENDUM	ISCIII, Ministry of Science, Innovation and Universities Ministry of Health	Q1 2024	Q4 2024
Joint Missions Science&Health. Rare diseases, neuromuscular diseases (including ALS). ADDENDUM	ISCIII, Ministry of Science, Innovation and Universities Ministry of Health	Q1 2024	Q4 2026
Measures to improve NHS quality, efficiency and sustainability			
Measures to improve NHS efficiency and sustainability. MPP consolidation in the NHS	Ministry of Health	Q4 2022	Q2 2026
Consolidation of Precision Medicine in the NHS. Implementation of the genomics services portfolio (ADDENDUM)	Ministry of Health	Q1 2024	Q2 2026
Improving healthcare for patients with rare diseases, neuromotor disorders and ALS. (ADDENDUM)	Ministry of Health	Q1 2024	Q2 2026

Incorporation of innovative techniques and technologies in the NHS			
Innovative and pre-commercial public procurement.	CDTI, Ministry of Science, Innovation and Universities	Q2 2022	Q4 2024
Actions associated with SG2: Development of advanced therapies and other innovative medicines			
Financing of clinical research projects geared to the development of medicines at an academic level (independent clinical research)			
ISCIII call for proposals for Independent Clinical Research 2021 - 2024	ISCIII, Ministry of Science, Innovation and Universities	Q1 2021 Q1 2022 Q2 2023 Q2 2024	Q4 2021 Q4 2022 Q4 2023 Q4 2024
Public-private collaboration projects focused on advanced therapies and emerging medicines			
New Science and Innovation Mission aimed at Advanced Therapies and Emerging Medicines	CDTI, Ministry of Science, Innovation and Universities	Q3 2021	Q4 2021
ISCIII-CDTI Joint call for Proposals in Innovation associated with Personalised Medicine and Advanced Therapy Medicines	CDTI-ISCIII, Ministry of Science, Innovation and Universities	Q2 2022	Q4 2022
ISCIII-CDTI Joint call for Proposals in Innovation associated with Personalised Medicine and Advanced Therapy Medicines 2023 "Transmisiones" Program	CDTI-ISCIII, Ministry of Science, Innovation and Universities	Q3 2023	Q4 2023
Creation of an R&D&I network structure for advanced therapies that allows adding and strengthening capabilities			
Advanced Therapy Medicines Center ISCIII (C-TA)	ISCIII, Ministry of Science, Innovation and Universities	Q2 2022	Q4 2024
Call for Collaborative Research Network (RICORS)	ISCIII, Ministry of Science, Innovation and Universities	Q2 2021	Q4 2021
Creation of a Consortium on Advanced Therapy Medicines (CERTERA)	ISCIII, Ministry of Science, Innovation and Universities	Q1 2023	Q4 2024
National Platforms to support R&D and knowledge transfer			
ISCIII National platforms to support research (biobanks-biomodels, ITEMAS, SCREN) 2020[1] y 2023	ISCIII, Ministry of Science, Innovation and Universities	Q1 2021 Q3 2023	Q4 2023 Q4 2023
Public-private co-investment and collaboration instrument			
Advanced therapy medicines company with public investment (public-private company)	Ministry of Science, Innovation and Universities	Q1 2024	Q3 2026

1 Funding of 2021 y 2022

Actions associated with SG3: Innovative data system for NHS and SG4: Digital transformation of healthcare			
Digital Health Strategy of NHS			
Health data lake	SEDIA Ministry of Digital Transformation and Public Function	Q4 2021	Q4 2025
Digital transformation of healthcare in primary and community care	Ministry of Health	Q2 2022	Q2 2026
Personalized Digital Care Plan (ADDENDUM)	Ministry of Health	Q1 2024	Q4 2026
Actions in field of AI			
Missions in AI, Health sector	SEDIA, Ministry of Digital Transformation and Public Function	Q3 2021	Q4 2023
Integration of AI in value chain, Health sector	SEDIA, Ministry of Digital Transformation and Public Function	Q3 2021	Q4 2024
Multidisciplinary centre to apply AI to development of technologies for health (neurotechnology centre)	SEDIA Ministry of Digital Transformation and Public Function	Q3 2021	Q1 2024
Territorial networks of technological specialization - RETECH.	SEDIA Ministry of Digital Transformation and Public Function	Q1 2024	Q4 2025
Spain Talent Hub.	SEDIA Ministry of Digital Transformation and Public Function	Q1 2024	Q4 2025
ENIA Chairs (ENIA = National Artificial Intelligence Strategy)	SEDIA Ministry of Digital Transformation and Public Function	Q1 2024	Q4 2025
Actions related to CL1: Strengthen and develop the capacities of National Health System centres			
ISCIII clinical research platform (SCREN)	ISCIII, Ministry of Science, Innovation and Universities	Q1 2021	Q4 2023
Call for infrastructure and Scientific-Technical equipment	ISCIII, Ministry of Science, Innovation and Universities	Q3 2022	Q4 2022
Creation and strengthening of NHS capacities for clinical research- Clinical Research Units Call. (ADDENDUM)	ISCIII, Ministry of Science, Innovation and Universities	Q1 2024	Q2 2026

Proteomics and metabolomics platform. (ADDENDUM)	ISCIII, Ministry of Science, Innovation and Universities	Q1 2024	Q4 2026
Human Biomonitoring Infrastructure. (ADDENDUM)	ISCIII, Ministry of Science, Innovation and Universities	Q1 2024	Q4 2026
Module for the generation of polytransgenic animals aimed at xenotransplantation research	ISCIII, Ministry of Science, Innovation and Universities	Q1 2024	Q4 2026
Financial aid (loans) to NHS research centers to expand their research and technological development capabilities.	ISCIII, Ministry of Science, Innovation and Universities	Q2 2024	Q2 2026
Actions related to CL2: Develop and modernise industrial capacity geared towards innovation			
MINCOTUR Call for Proposals: Support for industrial innovation and sustainability projects in processes and products in the pharmaceutical sector and for health products	Ministry of Industry and Tourism	Q2 2022 Q2 2023	Q4 2022 Q4 2023
Direct co-investments in the field of bio-health to strengthen technological and industrial capacities (public investment through Innvierte company)	CDTI, Ministry of Science, Innovation and Universities	Q1 2021	Q4 2024
Fund to support productive industrial investment (FAIIP)	Ministry of Industry and Tourism	Q3 2021	Q4 2023
Line of aid for R&D+i projects in the field of connected industry - active financing - "Activa financiación"	Ministry of Industry and Tourism	Q2 2022 Q2 2023	Q4 2022 Q4 2023
Line of support for innovation and sustainability plans in the field of manufacturing industry	Ministry of Industry and Tourism	Q2 2022 Q2 2023	Q4 2022 Q4 2023
Strengthening and internationalization of industrial capabilities in the health sector. IPCEI Health. (ADDENDUM)	CDTI, Ministry of Science, Innovation and Universities	Q1 2024	Q3 2026
Venture capital actions in PERTE for the Cutting-edge Health – Co-investments. (ADDENDUM)	CDTI, Ministry of Science, Innovation and Universities	Q4 2023	Q2 2026
Blending Facility for companies in the health field (Combined Loans and Grants) (ADDENDUM)	CDTI, Ministry of Science, Innovation and Universities	Q2 2024	Q4 2025

Actions related to CL3: Collaboration and coordination between scientific and industrial sector			
Portfolio of innovation projects in health	ISCIII, Ministry of Science, Innovation and Universities	Q1 2021	Q4 2023
System to monitor projects in pre-clinical phases	ISCIII, Ministry of Science, Innovation and Universities	Q1 2021	Q4 2023
Technology transfer funds specialised in Biohealth	CDTI, Ministry of Science, Innovation and Universities	Q2 2021	Q4 2024
Actions related to CL4: Territorial cohesion			
"Complementary National R&D Plan" in biotechnology applied to health (co-investment with Autonomous Communities)	Ministerio de Ciencia, Innovación y Universidades	Q4 2021	Q4 2024
Actions related to CL5: Training			
Support for training in management of health research (ISCIII) 2021-2023	ISCIII, Ministry of Science, Innovation and Universities	Q2 2021 Q2 2022 Q2 2023	Q4 2021 Q4 2022 Q4 2023
Acquisition of digital skills	Ministry of Health	Q1 2022	Q4 2023
Support programme to attract talent	SEDIA, Ministry of Digital Transformation and Public Function	Q4 2023	Q4 2026
Upskilling y Reskilling 2022 y 2023 (vocational training)	Ministry of Education, Vocational Training and Sports	Q2 2022 Q2 2023	Q4 2023 Q4 2024
University Microcredentials	Ministry of Science, Innovation and Universities	Q4 2023	Q4 2026
Training Centres in Cutting-edge Health	-	Q2 2022	Q4 2023

ANNEX I. Components of RTRP associated with PERTE

Table 1 Components of Recovery Plan associated with Cutting-edge Health PERTE

Component of Recovery Plan	Reform or Investment under Recovery Plan	Measure
Component 17 – Institutional reform and capacity- building in the national science, technology and innovation system	Investment 1 – Complementary R&D Plan with Autonomous Communities	Complementary Plan in the field of biotechnology and health.
	Investment 3 – New private, interdisciplinary, public R&D&I projects, concept tests and the award of aid as a result of international competitive calls. Cutting-edge R&D geared to societal challenges. Pre-commercial public procurement	Pre-commercial public procurement.
	Investment 5 – Knowledge transfer	Venture capital, co-investment and investment in companies with strategic technology measures
	Investment 6 - Health	Health. A flagship project in personalised precision medicine with the aim of improving the health of the Spanish people, employing scientific knowledge and innovation.
	Reform 1 – Reform of the Science, Technology and Innovation Law	Reform of Science Law.
	Investment 10 – Loans. (Addendum) Strengthening the capacities of the National System of Science, Technology and Innovation in Health, through a line of financing for companies in the field of health and venture capital actions in the sector, among other measures.	Blending Facility for companies in the health sector combining loans and grants, public investment in Spanish technological and innovative companies in the health sector, and loans to NHS research centres to expand their research and technological development capabilities.
Component 12 – Industrial Policy Spain 2030	Investment 2 – Programme to boost competitiveness and industrial sustainability	Programme to boost competitiveness and industrial sustainability. This investment fundamentally seeks to boost the transformation of strategic value chains in industrial sectors with a major leverage capacity on the economy, encompassing all stakeholders that participate in this value chain, from the smallest emerging companies to largest one, from the academic world to research staff and from service providers to suppliers. Given the structure of industrial companies in Spain, an important component to support SMEs was provided for. Health is among the project to be funded

Component 16 – National Strategy for Artificial Intelligence	R1.1 To boost scientific research, technological development, and innovation in AI. R1.4 To integrate AI in value chains to transform the economy	Calls for grants and other actions to finance large projects that use AI, fostering collaboration between research bodies, large companies, and SMEs in strategic sectors, including the health sector. Programme to support companies to integrate AI and robotics in their value chains.
Component 18 – Renewal and expansion of the capabilities of the National Health System.	Investment 6 – Health data lake	Health data Lake. Generation of a repository of health data which gathers information from different information systems with the aim of facilitating mass data analysis to support and improve diagnostics and treatment. This measure is part of a broader process to boost the digitalisation of health services, interoperability, cybersecurity and online services at a national, European and international level.
	Reform 3 – Strengthening cohesion, equity and universality	Personalised precision health. The flagship project of personalised precision health, described in Investment 6 of Component 17 requires planning, organisation and implementation in the NHS, to which end different lines of action are provided for in Component 18. Noteworthy among these are the contents of Reform 3: increase in the common portfolio of public health services to be provided to the public in general, specifically genome medical services and the Plan to redirect highly complex care in the health system, which seeks to establish specific requirements in a coordinated fashion to provide more effective care for highly complex pathologies.
Component 11 – Modernisation of public administration.	Investment 3 - Digital Transformation and Modernisation of the Ministry of Territorial Policy and the Civil Service and of the administration of the Autonomous Communities and the local authorities	Contribute to strengthening primary and community care under the National Health System and foster its recovery with the aim of it being integral, accessible, high quality, with lasting resolution capacity, and which fosters equality to care for people's health and address the challenges stemming from the health and social crisis caused by the COVID-19 pandemic.
Component 19 - National Plan for Digital skills	Investment 3- Digital skills for employment Investment 4- Digital Professionals	Training programmes in digital skills of the employed, and of the unemployed population to improve their employability and programmes to attract and retain talent in this field.
Component 20 – Strategic Plan for Vocational Training	Vocational Training Plan	Reforms and investments to promote skilling and re-skilling, with a specific emphasis on such priority sectors as the health sector
Component 21 – Plan for the development of university microcredentials.	Investment 6 - Microcredentials	Promote a new offer of university microcredentials, for the up-skilling and re-skilling of the adult population through brief, flexible, modular, cumulative training aimed at acquiring specific skills and competencies required in the workplace.

ANNEX II: Summary of actions and investments

Scope of action	Action	Measure	Public contribution 2021-2023	Public contribution 2024	Public contribution (million euros)	Private investment (million euros)
Actions associated with Specific Goal 1: personalised medicine	Financing for the generation and transfer of knowledge in the form of R&D+i projects to cater for the needs of research bodies and biotechnology companies	ISCIII call for Proposals for Personalised Precision Medicine	111		111	
		Joint Missions Sciencie&Health. Personalised Medicine.		25	25	
		Joint Missions Sciencie&Health. Rare diseases, neuromuscular diseases (including ALS).		20	20	
	Measures to improve NHS quality, efficiency and sustainability	Measures to improve NHS efficiency and sustainability. MPP consolidation in the NHS	40		40[2]	
		Consolidation of Precision Medicine in the SNS. Implementation of the genomics services portfolio.		50	50	
		Improving healthcare for patients with rare diseases, neuromotor disorders and ALS.		50	50	
	Incorporation of innovative techniques and technologies in the NHS	Innovative and pre-commercial public procurement.	58.17		58.17	-

[2] Farmaindustria Agreement Funds. Additional Provision 6 (DA6) Law on guarantees and rational use of medicines and health products approved by Royal Legislative Decree 1/2015, of July 24

Scope of action	Action	Measure	Public contribution 2021-2023	Public contribution 2024	Public contribution (million euros)	Private investment (milllion euros)
Actions associated with SG2: Development of advanced therapies and other innovative medicines	Financing of clinical research projects geared to the development of medicines at an academic level (independent clinical research)	ISCIII call for proposals for Independent Clinical Research 2021 - 2024	46.69	15	61.69	
	Public-private collaboration projects focused on advanced therapies and emerging medicines	New Science and Innovation Mission aimed at Advanced Therapies and Emerging Medicines	31.25		31.25	25
		ISCIII-CDTI Joint call for Proposals in Innovation associated with Personalised Medicine and Advanced Therapy Medicines	20.73		20.73	10
		ISCIII-CDTI Joint call for Proposals in Innovation associated with Personalised Medicine and Advanced Therapy Medicines 2023 "Transmisiones" Program	56		56	10
	Creation of an R&D&I network structure for advanced therapies that allows adding and strengthening capabilities	Advanced Therapy Medicines Center ISCIII (C-TA)	15		15	
		Call for Collaborative Research Network (RICORS)	7.5		7.5	
		Creation of a Consortium on Advanced Therapy Medicines (CERTERA)	45		45	
	Platforms to support R&D and knowledge transfer	ISCIII platforms to support research (biobanks-biomodels, ITEMAS, SCREN) 2020[3] y 2023	48		48	

3 Funding of years 2021 y 2022

Scope of action	Action	Measure	Public contribution 2021-2023	Public contribution 2024	Public contribution (million euros)	Private investment (million euros)
	Public-private co-investment and collaboration instrument	Advanced therapy medicines new company with public investment (public-private company)	36.68		36.68	38.18
Actions associated with SG3: Innovative data system for NHS and SG4: Digital transformation of healthcare	Digital Health Strategy of NHS	Health data lake	100		100	
		Digital transformation of healthcare in primary and community care	230		230	
		Personalized Digital Care Plan		130	130	
	Actions in field of AI	Missions in AI, health sector	27.70		27.70	4.28
		Integration of AI in value chain, health sector	18.60		18.60	6.42
		Multidisciplinary centre to apply AI to development of technologies for health (neurotechnology centre)	70		70	0
		Territorial networks of technological specialization - RETECH.	6		6	
		Spain Talent Hub	10		10	
		ENIA Chairs	2.10		2.10	

Scope of Action	Action	Measure	Public Contribution 2021-2023	Public Contribution 2024	Public Contribution (million euros)	Private Investment (million euros)
Actions related to CL1: Strengthen and develop the capacities of National Health System centres		ISCIII clinical research platform (SCREN)[4]	-	-	-	-
		Call for infrastructure and Scientific-Technical equipment	15		15	
		Creation and strengthening of NHS capacities for clinical research- Clinical Research Units Call.		45	45	
		Proteomics and metabolomics platform		2.4	2.4	
		Human Biomonitoring Infrastructure		1	1	
		Module for the generation of polytransgenic animals aimed at xenotransplantation research		1.6	1.6	
		Financial aid (loans) to NHS research centers to expand their research and technological development capabilities.		27	27	
Actions related to CL2: Develop and modernise industrial capacity geared towards innovation		MINCOTUR Call for Proposals: Support for industrial innovation and sustainability projects in processes and products in the pharmaceutical sector and for health products	27.54		27.54	13.14

[4] The amount of this measure is included in the total allocated for platforms to support R&D and knowledge transfer.

Scope of action	Action	Measure	Public Contribution 2021-2023	Public Contribution 2024	Public Contribution (million euros)	Private Investment (million euros)
Actions related to CL2: Develop and modernise industrial capacity geared towards innovation		Direct co-investments in the field of bio-health to strengthen technological and industrial capacities (public investment through society Innvierte)	30.55		30.55	40
Actions related to CL2: Develop and modernise industrial capacity geared towards innovation		Fund to support productive industrial investment (FAIIP)	7.33		7.33	2.73
		Line of aid for R&D+i projects in the field of connected industry -active financing - "Activa financiación"	0		0	0
		Line of support for innovation and sustainability plans in the field of manufacturing industry	0		0	0
		Strengthening and internationalization of industrial capabilities in the health sector. IPCEI Health.		150	150	50
		Venture capital actions in the PERTE Salud de Vanguardia – Co-investments		30	30	35
		Blending Facility for companies in the health field (Combining Loans and subsidies)		298 (273 loans-25 grants)	298 (273 loans-25 grants)	30
Actions related to CL3: Collaboration and coordination between scientific and industrial sector		Portfolio of innovation projects in health				
		System to monitor projects in pre-clinical phases [5]				

[5] The amount of this measure is included in the total allocated for platforms to support R&D and knowledge transfer.

Scope of action	Action	Measure	Public Contribution 2021-2023	Public Contribution 2024	Public Contribution (million euros)	Private Investment (million euros)
Actions related to CL3: Collaboration and coordination between scientific and industrial sector		Technology transfer funds specialised in field of biohealth	40		40	35
Actions related to CL4: Territorial cohesion		"Complementary R&D Plan" in biotechnology applied to health (co-investment and co-programmed with Autonomous Communities)	37.27		37.27	
Actions related to CL5: Training		Support for training in management of health research (ISCIII) 2021-2023	1.35		1.35	
		Acquisition of digital skills	3		3	
		Support programme to attract talent	3.6		3.6	
		Upskilling y Reskilling 2022 y 2023 (vocational training)	55.63		55.63	
		University Microcredentials	10		10	
		Training Centres in Cutting-edge Health				2
TOTAL: 2 358.61 million euros			PUBLIC FUNDING: 2056.89 million euros 1225.19 MCIU (1094.57 C17PRR + 10 C21 + 120.62 GSB) 741 MITDFP y M Health (360 C11 + 124.40 C16 + 200 C18 + 16.60 C19 + 40 PGE) 34.87 MITUR (27.54 C12 + 7.33 PGE) 55.63 MEFPyD (C20)			301.72 M€

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