Annex 2: Short description of the measures contributing to the digital targets

Index

| Sec | etion 3: Short description of the measures | 2 |
|-----|--|-------|
| | 3.1 Introduction | 2 |
| | 3.2 Description of the measures | 2 |
| | 3.2.1 Basic Digital Skills | 2 |
| | 3.2.2 ICT Specialists | 12 |
| | 3.2.3 Connectivity | 21 |
| | 3.2.4 Semiconductors | 40 |
| | 3.2.5 Edge-nodes | 49 |
| | 3.2.6 Quantum computing | 54 |
| | 3.2.7 Take up of digital technologies | 56 |
| | 3.2.8 Digital late adopters | 65 |
| | 3.2.9 Innovative businesses/scale-ups (unicorns) | 76 |
| | 3.2.10 Digitalisation of public services: there is 100 % online accessible provisi of key public services | |
| | 3.2.11 Digitalisation of public services: 100 % of Union citizens have access to their electronic health records | |
| | 3.2.12 Electronic identification (eID) | . 106 |

Section 3: Short description of the measures

3.1 Introduction

This section provides an in-depth description of the implemented measures, highlighting their connection to digital goals and target groups. It includes a list of specific activities, both completed and planned, along with a comprehensive implementation timeline in the national roadmaps. Budget details, distinguishing between national and EU funds, or human resources deployed are also provided, as well as the expected impact and its timing.

3.2 Description of the measures

3.2.1 Basic Digital Skills

Name of the measure: Basic digital skills for citizens at risk of digital exclusion

Responsible unit: Red.es **New measure:** Yes

Short description: The measure aims to provide digital skills training to citizens at risk of digital exclusion, in order to reduce the different digital divides, with the over 60s, the disabled, vulnerable groups and citizens with low digital skills being the main target audience of this programme. Different instruments will be articulated to achieve the participation of foundations, entities, and companies, that have local, regional and national capacity, both in urban and rural areas and with sufficient experience in raising awareness of people at high risk of digital exclusion so that they are trained in these skills.

List of concrete actions implemented/planned: (06/2023) Call for grants prepared

Digital target: Basic Digital Skills: at least 80 % of those aged 16-74 have at least basic digital skills.

Link to the target: This program directly addresses the goal of equipping at least 80% of individuals aged 16-74 with basic digital skills. By targeting citizens at risk of digital exclusion, particularly those in vulnerable groups who may lack digital literacy, the program provides essential digital ills training. This widespread access to training in both urban and rural areas aim to raise the overall level of digital skills among the populace, hence making a substantial contribution to reaching the target.

Reference to RRP or other relevant documents/strategies: Component 19: National Digital Skills Plan (digital skills) C19.I1 Transversal Digital Skills.

Tentative timeline: 2023-2025.

Budget allocated or planned and, if relevant, other resources – including human resources – allocated:

Public investment: EUR 45 million / Planned: EUR 45 million

- Thereof from EU sources: EUR 45 million / Planned: EUR 45 million

Expected impact and related timing: Training 214,285 people at risk of digital exclusion in basic digital competences until the end of 2025.

Name of the measure: CODI Program

Responsible unit: High commissioner on child poverty/
Ministry of Social Rights and Agenda 2030

New measure: Yes

Short description: The CODI program – Digital Competences for Children-, seeks to reduce the digital divide by addressing the problem early on and providing digital literacy training opportunities for children and adolescents in situations of vulnerability. Through CODI, 950,000 children and adolescents will be trained in digital skills by 2025 through two modalities: on the one hand, providing basic digital skills to children between 10 and 13 years of age; and, on the other hand, initiating the teaching of advanced digital skills to adolescents between 14 and 17 years of age, promoting employability with a gender perspective. The program will be developed in non-school hours and periods, integrated in extracurricular activities or during the summer period, will combine face-to-face and online training and will correspond to 50 hours of training for each student.

The funds distributed under this Program will enable the Autonomous Communities and Cities to develop their own training programs. The Ministry of Social Rights and Agenda 2030 will develop a digital platform that will have contents with a maximum of 90 hours of training, will be available in the official languages and will comply with the principle of universal accessibility. The autonomous communities and the cities of Ceuta and Melilla may make use of this platform in their territories or set up other training mechanisms, as long as the curricular content is respected and the necessary data to follow up the program is guaranteed.

List of concrete actions implemented/planned:

- (11/2022) The Council of Ministers has approved the agreement authorizing the proposed territorial distribution of funds, amounting to 50 million euros, among the Autonomous Communities (CCAA) and the cities of Ceuta and Melilla.
- (05/2023) Tender with a budget of 998,250€ (VAT included) for the design and development of a platform and a didactic methodology, virtual and face-to-face, with appropriate content for each age group of children. In award phase.

Digital target: Basic Digital Skills: at least 80 % of those aged 16-74 have at least basic digital skills.

Reference to RRP or other relevant documents/strategies: Component 19. National Digital Capacities Plan. C19.I1 Transversal Digital Skills.

Tentative timeline: November 2022 - December 2025

Budget allocated or planned and, if relevant, other resources – including human resources - allocated:

Public investment: EUR 222 million / Already allocated: EUR 50 million - Planned: EUR 172 million

- Thereof from EU sources: EUR 222 million / Already allocated: EUR 50 million -Planned: EUR 172 million

Expected impact and related timing: Through this program, it is expected to provide digital skills training to 950,000 children and adolescents by the year 2025.

Name of the measure: State Network of Digital Training Centres

Responsible unit: Education and | **New measure:** Yes

Vocational Training Ministry

Short description: The establishment of a national network of Digital Training Centres aims to provide citizens with the opportunity to develop transversal digital skills. This initiative offers training opportunities regardless of an individual's place of residence or prior education, thereby facilitating access to education that is compatible with various personal, work, and social commitments. Among other goals, this initiative seeks to digitally empower citizens, offering activities specially designed to help individuals conduct secure online communications and transactions using their own electronic devices. It also aims to promote 'digital literacy' as a tool for new training and learning opportunities. In the context of digital empowerment of citizens, this initiative allows local entities to establish digital training units. These units are created as additional resources capable of implementing actions to ensure increasingly personalized attention in this field. These resources reinforce the principles of equality, non-discrimination, and access to training for continuous qualification and requalification.

List of concrete actions implemented/planned:

(15/11/2022) Agreement of the Council of Ministers authorizing the proposal for distribution to Autonomous Communities, in the 2022 budget year, for the creation of a Network of Digital Training Centres, within the framework of the national network of digital skills, for an amount of 29,505,000 euros.

(3/5/2022) Agreement of the Council of Ministers authorizing the proposal for territorial distribution to Autonomous Communities, in the 2023 budget year, for the creation of a Network of Digital Training Centres, within the framework of the national network of digital skills, for an amount of 29,301,107.88 euros.

Call for subsidies on a competitive basis: Order EFP/440/2023, of 24 April, by which the regulatory bases are established and the call for the creation of a State Network of Digital Training Centres in Local Entities is made, for an amount of 12,495,000.00 euros.

Digital target: Basic Digital Skills: at least 80% of those aged 16-74 have at least basic digital skills.

Link to the target: This program contributes to achieving the goal of at least 80% of those aged 16-74 having basic digital skills by offering accessible, inclusive digital training across all demographics. It consists of creating a network of digital training centres in the Autonomous Regions to train digital citizens in basic digital skills through modular learning itineraries that may include different types of actions: specific actions for digital inclusion, support, seminars, face-to-face, hybrid and online learning, workshops, etc.

Reference to RRP or other relevant documents/strategies: Component 19: National Digital Skills Plan (digital skills) C19.I1 Transversal Digital Skills.

Tentative timeline: The programme started in December 2022 and is expected to be available until at least the end of 2024.

Budget allocated or planned and, if relevant, other resources – including human resources – allocated: Public investment: EUR 84 million / Already allocated: EUR 71million - Planned: EUR 13 million

Thereof from EU sources: EUR 84 million / Already allocated: EUR 71 million - Planned: EUR 13 million

Expected impact and related timing: This measure is set to run until 2024 with the following expected impact:

- Creating a network of 501 digital training centres.
- That each of these centre's trains at least 100 people.

Name of the measure: Generation D Campaign

Responsible unit: SEDIA New measure: Yes

Short description: The measure consists of a campaign to communicate and raise public awareness of the need for training in digital skills, as well as to have an overall picture of the current level of the Spanish population when tackling digital tasks, through a series of actions carried out by the Spanish public broadcaster RTVE, through an agreement reached among RTVE, Red.es and SEDIA. This initiative is actively incorporating digital learning actions into popular TV and Radio shows, including a prime-time TV program that debuted in March 2023, featuring senior women promoting digital literacy throughout Spain. In addition, an ongoing 10-month bus tour, started in spring 2023, is visiting Spanish communities with limited digital access, offering guidance and customized improvement roadmaps to enhance their digital skills.

List of concrete actions implemented/planned:

• 11/2022 Presentation of the Pact for Generation D, which brings together public-private collaboration actions in favour of improving the digital skills of the Spanish population. The cross-cutting "Generation D" broadcasts begin on various RTVE and RNE programmes.

- 02/2023 Presentation Gala of the Campaign and the opening of the Generation D Channel on RTVE Play.
- 02/2023"Desafio Digital" pills begin broadcasting on several RTVE channels. 86 pills have been produced and 2030 TV broadcasts.
- 03/2017 "Brigada Tech" programme begins broadcasting. 13 episodes have been broadcast.
- 03/2017 The proximity actions start with a fleet of six buses that travel around the country with games and educational activities to test the digital skills of citizens. 66,120 citizens have participated.

Digital target: Basic Digital Skills: at least 80 % of those aged 16-74 have at least basic digital skills.

Reference to RRP or other relevant documents/strategies: Component 19: National Digital Skills Plan (digital skills) C19.I1 Transversal Digital Skills.

Tentative timeline: November 2022 - December 2023. The campaign started in November 2022 is expected to be available until at least the end of 2023.

Budget allocated or planned and, if relevant, other resources – including human resources – allocated: Public investment: EUR 16 million / Already allocated: EUR 13,1 million - Planned: EUR 2.9 million

- Thereof from EU sources: EUR 16 million / Already allocated: EUR 13.1 million - Planned: EUR 2.9 million

Expected impact and related timing: The aim is to achieve a high uptake impact among citizens, especially in strategic segments of the population in order to build citizens' loyalty in terms of contact with the opportunities offered by Generation D, so that they are aware of the importance of lifelong learning in digital skills.

Name of the measure: Generation D Portal

Responsible unit: SGTED **New measure:** Yes

Short description: The Generation D Pact is a large-scale public-private commitment to boost digital skills in Spain. It focuses on a big social movement to raise awareness among the Spanish population on the need to be digitally competent in order not to be left behind, so as to reduce the digital gap.

The Generation D Portal is a collaborative space open to participation, to publicize the initiatives and opportunities for the acquisition, development, and improvement of digital skills. In this way all the citizens that access the portal can benefit from its content.

List of concrete actions implemented/planned:

- Generation D Pact Kick-off (30th November 2022)
- Generation D Portal main features implemented:
 - Self-assessment questionnaire

- o Private area for entities and citizens
- Space for Digital Competences training initiatives

Digital target: Basic Digital Skills: at least 80 % of those aged 16-74 have at least basic digital skills.

Link to the target: Through the Generation D Portal, the public and private sectors reinforce their commitment to reach a society where every person has at least basic digital skills.

Reference to RRP or other relevant documents/strategies: Component 19. National Digital Skills Plan C19.I1 Transversal digital skills.

Tentative timeline: The program started in November 2022 and is expected to be available until at least December 2025.

Budget allocated or planned and, if relevant, other resources – including human resources – allocated: Human resources: 4 people.

Expected impact and related timing: 889,460 people sensitized in digital competences by Q4 2025.

Name of the measure: Challenge Based Learning

Responsible unit: SGTED **New measure:** Yes

Short description: This measure aims to provide an online learning service that includes the creation and maintenance of a learning management system, as well as the instructional design and the dynamization of experiences of challenge-based learning for the improvement of digital competences for citizens.

At least 168 learning pathways will be created, and the platform will be sized for at least 100.000 users yearly. Every learning pathway will be made up of modules of at least 7,5 hours up to a total of 150 learning hours. 4 editions of each learning pathway will be dynamized.

The service will cover the 6 performance levels (A1/A2/B1/B2/C1/C2) and the 5 areas (Information and Data Literacy, Digital Content Creation, Communication and Collaboration, Safety, Problem Solving) defined in the DigComp 2.2 (European Digital Competence Framework for Citizens).

List of concrete actions implemented/planned:

- Tender publication (June 2023)
- Tenderer selection (September 2023)
- Platform development (October 2023-February 2024)
- Learning Service in progress (March 2024 December 2025)

Digital target: Basic Digital Skills: at least 80% of those aged 16-74 have at least basic digital skills.

Link to the target: The aim of this measure is to provide a public platform to train citizens in digital competencies so that at least 80% of the Spanish population has at least basic digital skills level.

Reference to RRP or other relevant documents/strategies: Component 19: National Plan for Digital Skills C19. I1 "Transversal digital skills".

Tentative timeline: Starting in September 2023 and expected to finish in June 2026.

Budget allocated or planned and, if relevant, other resources – including human resources – allocated: Public investment: EUR 23 million / Already allocated: EUR 0 million - Planned: EUR 23 million

-Thereof from EU sources: EUR 23 million / Already allocated: EUR 0 million - Planned: EUR 23 million

Expected impact and related timing: By Q4 2025, it is expected that 100,000 people will have improved their digital competences by means of this service.

Name of the measure: Digital Transformation of Education (Plan #DigEdu)

Responsible unit: INTEF **New measure:** Yes

Short description: The Digitalisation and Digital Competencies Plan for the Educational System (Plan #DigEdu) is aimed at progressing and enhancing the digitization of education. This is achieved by improving the digital competence of teachers and transforming schools into digitally competent organizations. The plan also aims for every school to have an integrated digital plan in their educational project to structure collective strategies for organizational and academic transformation. It includes the certification of the digital competence of 540,000 teachers.

List of concrete actions implemented/planned:

- Equipping educational centres and students with digital media, avoiding digital divides
- To guarantee teacher training in advanced digital competencies for education
- Digital plans development for public schools
- Increasing the digital training of students, introducing computational thinking and programming throughout the educational curriculum

Digital target: Basic Digital Skills: at least 80% of those aged 16-74 have at least basic digital skills.

Link to the target: Through the digitization of the educational system, both in the early childhood as well as in university careers or professional training, a greater and faster adaptation to digital technologies will be achieved, and therefore a much more apt society in them. In this regard, this measure will contribute to fulfil the goal by 2030 that at least 80% of people between the ages of 16-74 have at least basic digital skills.

Reference to RRP or other relevant documents/strategies: Component 19. National Digital Skills Plan C19.I2 Digital transformation of education.

Tentative timeline: The programme started in July 2021 and is expected to run until December 2025.

Budget allocated or planned and, if relevant, other resources – including human resources – allocated: Public investment (from EU sources): EUR 1412 million / Already allocated: EUR 1004 million / Planned: EUR 408 million

- Thereof from EU sources: EUR 1412 million / Already allocated: EUR 1004 million / Planned: EUR 408 million

Expected impact and related timing:

- Digitally equipping 240,000 classrooms in state funded schools by Q4 2025 and providing 300,000 digital connected devices to state funded schools by Q4 2025.
- Train 700,000 teachers and certify 80% of them as digitally competent by Q3 2024.
- Digital plans development for 22,000 public schools by Q3 2024.

Name of the measure: Uni-Digital Plan

Responsible unit: General Subdirectorate of University
Research Activity and Monitoring of the University System

New measure: Yes

Short description: The objective of the UniDigital Plan is to promote digitization in higher education, including several measures aimed at improving the technological and digital capacities and skills of universities, to:

- To have adequate technical, material, and human resources to modernize the Spanish university system, significantly improving the relationship between the digital world and the academic environment.
- Stimulate innovation and digital transformation from the university, enabling universities to become central players in the digital transformation processes that are taking place in our societies.
- To develop strategic projects in the field of educational innovation, launching a selected set of strategic projects in the field of digital training that function as prototypes, and that operate at inter-university levels.

The objective is to monitor and disseminate, via the website of the Ministry of Universities, the evolution of the "Digital Index for Universities", to increase the Index by at least 10 % for the university system as a whole in 2023, compared with 2019.

List of concrete actions implemented/planned:

• ICT infrastructure and service projects, aiming to provide coordinated and centralized resources and services for the entire system. The key action here is extending 100-gigabyte fibre optics to all public university campuses.

- Improving and updating digital equipment both in university classrooms and in servers for teaching. It also includes actions to reduce the digital gap between teachers, service administration staff, and students.
- Projects to develop proprietary software for universities, promoting innovation and digital transformation, rather than purchasing commercial packages.
- Digital Education Projects for the establishment of learning analytics platforms, enrichment of existing educational technologies, and creation of digital procedures for personalized education that contribute to proposing alternative training itineraries.
- Support and incentives for digitalizing teaching: contents and other resources development, repositories, etc.
- Digital service platforms aimed at improving and adapting other university management services, such as digital certification procedures or inter-university intermediation services to facilitate interoperability between universities.
- Strategic and coordination measures with the aim of digitalizing education and establishing an observatory for university digital transformation, as well as boosting the development of sparsely populated areas in Spain using UNED as a territorial development agent.

Digital target: Basic Digital Skills: at least 80% of those aged 16-74 have at least basic digital skills.

Link to the target: As this measure aims to carry out ICT infrastructure and services projects and software development projects at the university level, will allow to narrow the digital divide between academic staff and students improving services and equipment for remote teaching. Moreover, investing in fostering cross-university digital innovation projects, which may be extended and replicated on a larger scale, will be able to provide support to the national distance education university (UNED) to enhance higher education opportunities in depopulated areas.

Reference to RRP or other relevant documents/strategies: Component 21. Modernization and digitization of the educational system, including early education for 0-3 years. Investment 5 (C21.I5) Improvement of digital infrastructures, equipment, technologies, teaching, and university digital evaluation.

Tentative timeline: The program started in 2019 and is expected to run until the end of 2023.

The budget allocated or planned and, if relevant, other resources – including human resources – allocated: Public investment: EUR 150.91 million / Already allocated: EUR 150.91 million

Thereof from EU sources: EUR 150.91 million / Already allocated: EUR 150.91 million

Expected impact and related timing:

Increasing by the end of 2023, the university digitization index by 10% compared to 2019, which means an increase in measures linked to it.

- Number of classrooms enabled for digital teaching.
- Number of professors using digital systems for teaching.
- Number of recipient students of equipment loans or access to connectivity.
- Number of projects for teaching technologies.
- Digital competence of teaching staff.
- Extending 100-gigabyte fibre optics to all public university campuses.
- Reinforcement of cybersecurity in universities through a DNS firewall.

3.2.2 ICT Specialists

Name of the measure: FP-Digital Plan

Responsible unit: Education and Vocational Training
Ministry

New measure: Yes

Short description: The FP-Digital Plan aims to address the growing supply of jobs in the digital field that require an intermediate qualification, launching various actions to modernize and digitize the training offer. Among its actions are the flexibility and accessibility of vocational training through a "modular offer in companies"; training in digitization of vocational training teachers; the availability of specific digital resources; the creation of digital management tools that guarantee massive data management; the transformation of professional training spaces into technological spaces and support for digital entrepreneurship projects in the field of professional training centres.

List of concrete actions implemented/planned:

- Collaboration agreement between the Ministry of Education and Vocational Training and technology companies for the creation of a technology hub in order to update the training offer and detect the necessary profiles.
- A tender is being processed for the creation of digital resources for the creation of simulators and digital twins for an amount of 52M € which is not yet resolved.
- Two tenders are expected to be processed in the second half of 2023 for:
 - Creation of a digital management tool for the accreditation of professional skills acquired through work experience, for an amount of 1M euros.
 - Creation of digital tools for the management of vocational training for employment associated with the National Catalogue of Qualifications and the Register of Citizens' Vocational Training Life, for an amount of 1M euros.
- In addition, a specific module on applied digitization will be included in all the training programmes of the vocational training degrees, and in the rest of the vocational training degrees and offers, all those elements of digitization for a correct performance of the professional field will be included.
- 11 new specialization courses in ICT areas.

Digital target: ICT Specialists: at least 20 million ICT specialists are employed within the Union, while promoting the access of women to this field and increasing the number of ICT graduates.

Reference to RRP or other relevant documents/strategies: Component 19: National Digital Skills Plan (digital skills) C19.I2

Tentative timeline: 2022-2025

The programme started in December 2022. The programme is expected to be available until at least the end of 2025.

Budget allocated or planned and, if relevant, other resources – including human resources – allocated:

Public investment: EUR 110 million / Already allocated: EUR 54 million - Planned: EUR 56 million

- Thereof from EU sources: EUR 110 million / Already allocated: EUR 54 million - Planned: EUR 56 million

Expected impact and related timing: Updating the training offers of the vocational training system by 2025.

Name of the measure: DIGITALIZATE PLUS

Responsible unit: FUNDAE | **New measure:** Yes

Short description: Digitalizate Plus (https://digitalizateplus.fundae.es) is a portal for training services aimed at the professional and personal development of workers, citizens and SMEs. Its aim is to provide digital skills and other skills, allowing access to personalized, quality courses appropriate to each profile, group and sector.

Digitalízate Plus gives free access to training resources, seminars, podcasts and other training contents provided by large companies, mainly from the technology sector and public business entities, which have signed collaboration agreements within the framework of the Digitalízate project. The contents range from first steps in digital tools, negotiation skills, programming classes to more complex contents such as artificial intelligence.

In addition, Digitalízate Plus, through its search engine, facilitates access to all the training offer framed within the state calls for public training subsidies for employed workers, promoted within social dialogue.

If the person indicates his/her professional group and sector, the search engine can filter by the characteristics and contents of desired training.

In addition, on the platform one can find all the training centres that have at least one training course open for registration for the calls for public training subsidies published by SEPE, whether face-to-face or virtual training.

List of concrete actions implemented/planned:

The following actions have been implemented:

- Course search engine
- Digitize area (for large companies)
- Area for SMEs
- Area for trainers
- Training centres search engine
- Google Scholarships area

The following actions have been planned:

- Incorporation of new training catalogues
- Integration of self-diagnostic tools

- Improvement of areas
- Development of a mobile app

Digital target: ICT Specialists: at least 20 million ICT specialists are employed within the Union, while promoting the access of women to this field and increasing the number of ICT graduates.

Link to the target: Digitalízate Plus is a free training portal that provides personalized courses and resources to enhance digital skills and other abilities. It collaborates with technology companies and public entities to offer a diverse range of training contents, including digital tools, negotiation skills, programming, and artificial intelligence. The platform facilitates access to training subsidies and aims to increase the number of ICT specialists, with a focus on promoting gender diversity in the field.

Reference to RRP or other relevant documents/strategies: Component 11: Modernization of Public Administrations. C11.I02. P9. PROVISIONAL.SI01.01 Modernization of Public Administrations

Tentative timeline: January 2021 - December 2025

Budget allocated or planned and, if relevant, other resources – including human resources – allocated: Public investment: EUR 1.5 million / Planned: EUR 1.5 million

-Thereof from EU sources: EUR 1.5 million / Planned: EUR 1.5 million

Expected impact and related timing: The number of people trained and of SMEs with access to digitalisation tools is expected to continue growing. The objective is to reach all citizens and the entire business network.

The project will be completed by December 2025.

Name of the measure: Chair on AI (Cátedras ENIA)

Responsible unit: SGIATHD New measure: Yes

Short description: The Artificial Intelligence Chairs program aims to create a set of chairs attached to universities, and in collaboration with companies, to develop AI in different fields of application. It seeks to promote research, training, dissemination, and public-private collaboration in AI, strengthening the offer of higher education in this technology, the transfer of research results to the productive fabric and the generation of a critical mass of highly qualified professionals who contribute to the Technological transition of the Spanish economy.

The specific collaboration for the creation of the new chair aims to carry out research, transfer, dissemination, teaching, and innovation activities around the social and ethical challenges related to the development of Artificial Intelligence technologies as part of the digital transformation that our country faces.

Among the activities contemplated within the collaboration agreement is the organization and holding of seminars related to the subject, the preparation of research

papers and training activities for professors and collaborators linked to the chair; or the support of publications on topics that are the object of study of the same, among others.

List of concrete actions implemented/planned: In November 2022, funding for 32 university-business chairs in AI and cybersecurity was announced, covering topics such as aeronautics and aerospace, agriculture, data economics, language technologies, robotics, green algorithms, law, responsible AI and ethics, geopolitics, music and arts, sustainable development, public sector, health sciences and demographic challenge.

Digital target: ICT Specialists: at least 20 million ICT specialists are employed within the Union, while promoting the access of women to this field and increasing the number of ICT graduates.

Reference to RRP or other relevant documents/strategies: Component 16. National Artificial Intelligence Strategy C16.R1 National AI Strategy

Tentative timeline:

- April 2022: launch of the expression of interests for the creation of university-industry chairs in artificial intelligence (133 expressions of interest from public and private entities).
- November 2022: Call for proposals published:
 https://www.boe.es/boe/dias/2022/12/01/pdfs/BOE-A-2022-20163.pdf
- March 2023: 26 proposals were submitted by both public and private universities. Proposals are currently being evaluated by an external scientific committee.
- October 2023: selected proposals will be announced, and activities will start.

It is expected to be available until Q1 of 2026.

Budget allocated or planned and, if relevant, other resources – including human resources – allocated:

Public investment: EUR 16 million / Planned: EUR 16 million

- Thereof from EU sources: EUR 16 million / Planned: EUR 16 million

Private investment (if known): Planned EUR 4 million

Expected impact and related timing: The objective is to foster IA research, dissemination and training in specific subjects, with public-private collaboration as the focus of this measure. In this sense, Chairs should count on the contribution of the private sector, including co-funding through private investment and the presentation of a sustainability plan to ensure the subsistence of the Chair beyond the funded period.

Around 15 to 20 university-business chairs are expected to be funded by this program, and action plans are expected to run during 2024, 2025 and 2026.

Name of the measure: SpAIn Talent Hub

Responsible unit: SGIATHD **New measure:** Yes

Short description: The SpAIn Talent Hub initiative aims to establish an information hub to attract and retain talent in the artificial intelligence field. This initiative will seek Spanish talent abroad across academic sectors, with a particular emphasis on retaining AI scientific talent in Spain, thus achieving a critical mass on AI research know-how that can be seamlessly integrated int the industry value chain. Social impact investments will be prioritized, thereby promoting the inclusion of female entrepreneurs and talent.

The creation of this hub will serve as a nexus for researchers and companies, both Spanish and foreign, providing information on grants, job opportunities, investment potential in Spain, and collaboration possibilities. A forthcoming protocol agreement, aiming to advance a European-impact university union focused on creating value in productive sectors and reinforcing digital and innovative ecosystems support networks, will complement this initiative. This agreement will last for four years, with an option for extension upon completion for the same period.

List of concrete actions implemented/planned:

Implemented:

• Monterrey Institute of Technology and University of Oviedo:

Objective Development of a protocol to be signed in the near future, by means of which they will advance towards a university union with a European impact focused on creating value in the value creation in the productive sectors and the reinforcement of support networks for the digital and innovative digital and innovative ecosystems. The agreement will last four years, extendable after the end of the term for the same period.

Planned (call launch scheduled July 2023): Call has been published in collaboration with the State Research Agency through the definition of a specific action line for artificial intelligence in its research consolidation programme.

Planned: Transfer resolution to several Spanish universities to develop talent retention programmes and an AI incubator that will support AI talent hub.

Digital target: Take up of digital technologies: The digital transformation of businesses where at least 75 % of Union enterprises having taken up one or more of the following, in line with their business operations: cloud computing services, big data, artificial intelligence.

Link to the target: The SpAIn Talent Hub initiative promotes the target of business digital transformation by cultivating AI expertise. By creating an information hub, it aids in the development and uptake of AI, enabling Union businesses to adopt digital technologies. Additionally, by encouraging foreign investment and company establishment in Spain, it provides resources necessary for businesses to integrate AI, cloud computing, and big data into their operations.

Reference to RRP or other relevant documents/strategies: Component 16. National Artificial Intelligence Strategy C16.R1 National AI Strategy.

Tentative timeline:

- July 2023: Grant program call published.
 https://www.pap.hacienda.gob.es/bdnstrans/GE/es/convocatoria/703678
- July 2023:
- August 2023: Call for proposals closed.
- December 2023: call resolved.
- The program will start in Q1 2024 and is expected to be available until at least Q1 2026.

Budget allocated or planned and, if relevant, other resources – including human resources – allocated:

Public investment: EUR 10 million / Planned: EUR 10 million

- Thereof from EU sources: EUR 10 million /Planned: EUR 10 million

Expected impact and related timing: The call, expected to be launched in July 2023 will help to fund around 30 research projects with the compromise of reserving a fixed research position in the universities hosting those projects by the end of the funding period (January 2026).

| Name of the measure: Haz Project | | | | | |
|---|------------------|--|--|--|--|
| Responsible unit: Culture and Sports Ministry | New measure: Yes | | | | |

Short description: The Haz Project is a new "hub" for training in advanced digital skills in the audiovisual sector, aimed at training young active professionals who want to deepen their knowledge and the unemployed active population in the audiovisual sector.

The Haz Project proposes four lines of learning:

- Continuous training in subjects such as sustainability in audiovisual productions, fiction scripts, creation and executive production of fiction series (showrunner), and more.
- Approved and recognized professional training in 3D animation, production, and audiovisual show production.
- HAZ Masters, designed to improve digital skills in professional areas and knowledge transfer, such as, for example, the master's degree in 360° reporting.
- Specialized courses, of short duration, highly specialized and constantly updated.

List of concrete actions implemented/planned:

- (03/2022) Published in the BOE through Royal Decree 219/2022, of 29 March, which regulates the direct granting of a subsidy to the Radio y Televisión Española, S.A., for training in digital skills for the audiovisual sector.
- (3/2023) First edition of the master of permanent training in reporterism 360° Zaragoza it has 16 students.
- (3/2023) presentation of the Haz project within the ix international congress of the Spanish language, held in Cádiz.
- (4/2023) presentation of the permanent training master in international reporterism.
- (5/2023) presentation of the permanent training master's degree in journalism 360° Sevilla
- (5/2023) the first 2 self-training pills "voces maestras" are released.
- (6/2023) production of the first specialization courses.

Digital target: ICT Specialists: at least 20 million ICT specialists are employed within the Union, while promoting the access of women to this field and increasing the number of ICT graduates.

Link to the target: Proyecto Haz aims to train 40,800 people in advanced digital skills in the audiovisual sector, with the objective of enabling them to work as professionals in this field. In this way, it contributes to the increase the share of ICT specialists in employment (in particular of broadcasting and audiovisual technicians).

Reference to RRP or other relevant documents/strategies: Component 19. National Digital Skills Plan (digital skills) C19.I3 Digital skills for employment.

Tentative timeline: March 2023- December 2025. The programme started in March 2023, and it is expected to be available until at least the end of 2025.

Budget allocated or planned and, if relevant, other resources – including human resources – allocated: Public investment: EUR 76.87 million / Already allocated: EUR 38.43 million - Planned: EUR 38.44 million

-Thereof from EU sources: EUR 76.87 million / Already allocated: EUR 38.43 million - Planned: EUR 38.44 million

Expected impact and related timing: To train 40,800 people in advanced digital skills in the audiovisual sector, with the objective of enabling them to work as professionals in this field until the end of 2025.

Name of the measure: Hacker Talent

Responsible unit: INCIBE **New measure:** Yes

Short description: Hacker Talent is a program of the National Cybersecurity Institute (INCIBE) aimed at promoting technical education and employability in cybersecurity. This initiative arises as a necessity to reduce the existing gap between the demand for

cybersecurity professionals and the supply of professionals. It also aims to help society as the information of users and organizations must be stored and managed securely. The program strives to recruit, train, and employ workers in the cybersecurity sector, aiming to establish a solid foundation of cybersecurity specialists. As part of a sector where the demand for professionals grows each year.

INCIBE sets three main goals within this initiative:

- 1.- Attract Talent in the field of cybersecurity.
- 2.- Train Talent in different cybersecurity topics such as malware analysis, forensic analysis, pentesting, etc. using a practical methodology.
- 3.- Job skilling the students in order to facilitate their integration into the labour market.

List of concrete actions implemented/planned:

- Delivery of short technical cybersecurity seminars in secondary and higher education centres and also online.
- Participation in the European Cybersecurity Challenge (ECSC) project, promoting and training young talent in cybersecurity.
- Publication of Web content for the promotion of cybersecurity talent.
- Training in different areas of cybersecurity through various MOOCs.
- Cybersecurity training for people with disabilities or underrepresented groups.
- Diagnosis of the workforce in cybersecurity in Spain.
- Have a training platform where MOOCs can be published.

Digital target: ICT Specialists: at least 20 million ICT specialists are employed within the Union, while promoting the access of women to this field and increasing the number of ICT graduates.

Link to the target: The Hacker Talent program aids in reaching the goal of employing at least 20 million ICT specialists in the Union. It achieves this by attracting, training, and employing individuals in cybersecurity, directly expanding the pool of ICT specialists. The program's broader education and training objectives support greater inclusivity, including enhancing women's participation in ICT.

Reference to RRP or other relevant documents/strategies: Component 15. Digital connectivity, promotion of cybersecurity and deployment of 5G C15.I7 Cybersecurity: Strengthening the capacities of citizens, SMEs and professionals; and Promotion of the sector ecosystem.

Component 19 National Plan of Digital Competences (digital skills). C19.I4. Digital professionals. Scholarship programs for digital talent.

Tentative timeline: Since there are several initiatives, not all of them have the same start and end dates. The first initiative started with was the publication of the Public Invitation for Cybersecurity training for people with disabilities, which took place in December 2021. However, the vast majority of initiatives are scheduled to end in December 2025.

The programme started in December 2021 and a review of the programme conditions will take place in early Q4 2023 (revised conditions would be available as of end Q4 2023). The programme is expected to be available until at least the end of 2025.

Budget allocated or planned and, if relevant, other resources – including human resources – allocated:

C19.I4

Public investment: EUR 40.7 million / Already allocated: EUR 40.55 million - Planned: EUR 0.15 million

Thereof from EU sources: EUR 40.7 million / Already allocated: EUR 40.5 million - Planned: EUR 0.15 million

C15.I7

Public investment: EUR 4.5 million / Already allocated: EUR 4.5 million

Thereof from EU sources: EUR 4.5 million / Already allocated: EUR 4.5 million

Expected impact and related timing:

- More than 11,000 students trained in technical cybersecurity courses of, at least, 250h
- More than 30,000 people received at least one of the short technical cybersecurity seminars.
- More than 800 teenagers participating in the Spanish competition to be part of the Spanish National Team.
- More than 50 contents published.

3.2.3 Connectivity

Name of the measure: UNICO - Banda Ancha

Responsible unit: SETID **New measure:** No

Short description:

The UNICO program stands for Universalización de Infraestructuras Digitales para la Cohesión (i.e., Digital Infrastructure Universalization for Cohesion, in English). The "Banda Ancha" (Broadband) subprogram is aimed at telecommunications operators, and its objective is the deployment of very high-speed broadband infrastructures, capable of providing services at symmetrical speeds of at least 300 Mbps, scalable to 1 Gbps.

This program is a continuation of the New Generation Broadband Extension Program (PEBA-NGA) that this Secretary of State has been developing since 2014. Given the success of the previous program, it is considered necessary to continue making progress in providing very high-speed coverage to the population located in the most rural, remote or dispersed areas, in order to promote social, economic and territorial cohesion. For this reason, the new program has been adapted to address the particular problems of these deployments in the last 10% of the population, with modifications in the identification system of eligible areas, with a much more detailed granularity, and increasing the connectivity objectives aiming to make Gigabit connectivity available to all citizens and businesses by 2030.

List of concrete actions implemented/planned:

- The 2021 call of the UNICO-Banda Ancha program was favourably resolved for 52 projects for the deployment of ultrafast broadband networks, one for each province or autonomous city in Spain, representing a total investment amount of 479,456,480 euros, awarding 249,930,122 euros in grants.
- The 2022 call of the UNICO-Banda Ancha program awarded a total amount of 244,607,771.49 euros in grants for the deployment of 50 ultrafast broadband network projects, one for each Spanish province, with a total investment of 388,150,093 euros.
- A new call has been planned for 2023, allocating a total amount of 150 million euros

Digital target or general objective:

Gigabit Connectivity

Link to the target or objective:

By deploying ultrafast broadband infrastructure, the program aims to achieve the target set in the Digital Spain 2026 Agenda of very high-speed coverage for 100% of the population by 2025 and also contribute to the objective of gigabit connectivity for the entire population by 2030.

Reference to RRP or other relevant documents/strategies:

This program is aligned with the implementation of the Digital Spain Agenda, whose first strategic axis is Digital Connectivity, which seeks to guarantee adequate digital

connectivity for the entire population, promoting the disappearance of the digital divide between rural and urban areas. The objective is that 100% of the population has 100 Mbps coverage in 2025.

The national Digital Infrastructures and Connectivity Plan for society develops the mentioned first axis of the Digital Spain 2026 Agenda. The objective is the use of connectivity and digitalization as tools to contribute to closing the existing digital gaps for socioeconomic, gender, generational, territorial or environmental reasons.

The program is also part of the C15. I1: Promote territorial structuring through network deployment: Extension of ultra-fast broadband, of the Recovery, Transformation and Resilience Plan.

In particular, it contributes to the achievement of two milestones:

- Milestone #236: Award all contracts, grants and transfer of funds to execute actions aimed at providing ultra-fast broadband connectivity in white and grey areas with symmetrical speeds of 300 Mbps, upgradeable to symmetrical of 1 Gbps, except in remote rural areas, where specific projects are required.
- Milestone #237: Completion of ultra-fast broadband extension projects, in accordance with the criteria established for the award of the program.

Tentative timeline:

The program started in 2021, and it is expected to be finished by the end of 2023 (award of aid). Projects have to be finished by December 31, 2025.

Budget allocated or planned and, if relevant, other resources – including human resources – allocated:

Public investment: EUR 645 million / Already allocated: EUR 495million - Planned: EUR 150 million

Thereof from EU sources: EUR 645 million / Already allocated: EUR 495 million
 Planned: EUR 150 million

Private investment: EUR 373 million

Expected impact and related timing:

Coverage of nearly 2 million premises present in the target areas of the projects already awarded in the 2021 and 2022 calls with fixed networks at more than 300 Mbps, symmetrical and scalable at 1 Gbps. This figure will be increased with around 250,000 additional premises as a result of the 2023 call. This represents a total impact of about 1% coverage increase at the end of 2025, all these premises located in rural, remote and/or isolated areas.

Name of the measure: UNICO – Banda Ancha Interconexión

Responsible unit: SETID New measure: No

Short description:

The UNICO program stands for Universalización de Infraestructuras Digitales para la Cohesión (i.e., Digital Infrastructure Universalization for Cohesion, in English). Within the UNICO "BA" (Banda Ancha, i.e., Broadband) Interconexión (Interconnection) there are two programs: Terrestrial and Submarine.

The objective of UNICO "Banda Ancha Interconexión Terrena" (Terrestrial Interconnection Broadband) subprogram is the deployment of very high-speed broadband infrastructures through fiber optics at a ground level. In particular, this subprogram focuses on 2 specific areas where terrestrial interconnection is required: defense – including training centers; and health.

The objective of UNICO "Banda Ancha Interconexión Submarina" (Submarine Interconnection Broadband) subprogram is the deployment of very high-speed broadband infrastructures through fiber optics at a submarine level. In particular, this subprogram focuses on submarine cables between Canary Islands (La Palma-Tenerife; Hierro-Tenerife and Tenerife-Gran Canaria) and within the Ministry of Defense, in a project called I3D (Infraestructura Integral de Información, Integral Information Infrastructure, in English).

List of concrete actions implemented/planned:

Evolution of expenditure on aid granted:

- Actual expenditure 2021:
 - o €27.72M on the La Palma-Tenerife submarine connection
- Actual expenditure 2022:
 - o €17.3M on the I3D project of the Ministry of Defense
 - o €11M to enable 1 Gigabit connectivity for Military Training Centres of the Ministry of Defense through fibre-optics
 - o €104.27M to implement the dedicated transport network of the Integral Information Infrastructure of the Ministry of Defense (I3D)
 - ⊕9.7M to reinforce redundancy and capacity of the optical terrestrial network RedIRIS in Tenerife and La Palma islands islands
- Allocated expenditure 2023:
 - o €20.6M on the Hierro-Tenerife and Tenerife-Gran Canaria submarine connection
 - o €1.3M for connectivity projects in hospital centres of the Ministry of Defense
 - o €13.7M for the improvement of communications in state-owned dams and the creation of a secured virtual private network through fibre optics

Digital target or general objective:

Gigabit Connectivity.

Link to the target or objective:

By deploying digital infrastructure, the program aims to achieve the target set in the Digital Spain 2026 Agenda of very high-speed coverage for 100% of the population by 2025 and also contribute to the objective of gigabit connectivity for the entire population by 2030.

Reference to RRP or other relevant documents/strategies:

This measure is aligned with the implementation of the Digital Spain 2026 Agenda, whose first strategic axis is Digital Connectivity, which seeks to guarantee adequate digital connectivity for the entire population, promoting the disappearance of the digital divide between rural and urban areas. The objective is that 100% of the population has 100 Mbps coverage in 2025.

The UNICO Banda Ancha Interconexión Terrestre is part of the Recovery, Transformation and Resilience Plan in the C15.I2: Improving connectivity in reference centres, socio-economic drivers and sectoral digitalisation tractor projects. In particular, it contributes to the achievement of milestone #238: Improving connectivity in key centres and sectors.

The UNICO Banda Ancha Interconexión Submarina will contribute to Component 15 of the Recovery, Transformation and Resilience Plan, specifically to investment 5 - Deployment of cross-border digital infrastructures. The program will contribute to milestones:

- #241: Award of projects regarding the improvement of cross-border digital infrastructure connectivity.
- #242: Completion of the aforementioned projects.

Tentative timeline:

The UNICO Banda Ancha Interconexión Terrestre projects have to be finished by the end of 2024.

The UNICO Banda Ancha Interconexión Submarina program started in 2021, and it is expected to be finished by Q2 2026.

Budget allocated or planned and, if relevant, other resources – including human resources – allocated:

Public investment: EUR 205.6 million / Already allocated: EUR 170 million - Planned: EUR 35.6 million

- Thereof from EU sources: EUR 205.6 million / Already allocated: EUR 170 million - Planned: EUR 35.6 million

Expected impact and related timing:

Concerning the terrestrial program, the indicated actions will lead to more than 5.500 digitalisation projects to improve the connectivity up to 1Gbps in key centres and sectors.

Concerning the submarine program, the indicated actions will lead to improve crossborder digital infrastructure, by deploying optical submarine cables to guarantee redundancy in the communications. Name of the measure: Conectividad Gigabit Motores Socioeconómicos

Responsible unit: SETID **New measure:** No

Short description:

This measure includes two programs: UNICO Demanda CCAA Public Services and UNICO Demanda CCAA Industry and Companies. The UNICO program stands for Universalización de Infraestructuras Digitales para la Cohesión (i.e., Digital Infrastructure Universalization for Cohesion, in English).

1. The "Demanda CCAA Public Services" subprogram will finance broadband infrastructure with speeds of at least 300 Mbps, scalable to 1 Gbps in reference centres such as hospitals, health centres, educational and training centres and other centres in which public services are provided and strengthen their connectivity.

Measures will be implemented to enhance the connectivity and equipment of centres that allow access to essential, welfare and social services such as hospitals, health centres, educational and training centres and other reference centres and public services in the various provinces. Work will be carried out in coordination with the General Secretariat for the Demographic Challenge for the definition and scope of the calls.

2. The "Demanda CCAA Industry and Companies" subprogram will strengthen connectivity in industrial parks, logistics centres and areas of concentration of economic activity, located in white areas or grey areas for next-generation access (NGA).

The program will include both the deployment of broadband that allows speeds of 300 Mbps, scalable to 1 Gbps, and the interconnection of centres or facilities with each other.

List of concrete actions implemented/planned:

On the Public Services front:

- The budget of the program is 150 million euros and has been transferred to the Autonomous Communities for distribution and execution.
- So far, 7,310 actions of 9,000 planned have already been executed.

On the Industry and Companies front:

- The budget of the program is 100 million euros and has been transferred to the Autonomous Communities for distribution and execution.
- So far, 876 actions out of 1,600 planned have been executed.

Digital target or general objective:

Gigabit Connectivity.

Link to the target or objective:

By deploying broadband infrastructure, the measure aims to achieve the target set in the Digital Spain 2026 Agenda of very high-speed coverage for 100% of the population by 2025 and also contribute to the objective of gigabit connectivity for the entire population by 2030.

Reference to RRP or other relevant documents/strategies:

This measure is aligned with the implementation of the Digital Spain 2026 Agenda, whose first strategic axis is Digital Connectivity, which seeks to guarantee adequate digital connectivity for the entire population, promoting the disappearance of the digital divide between rural and urban areas and advancing in the universalization of ultra-fast (gigabit) coverage throughout the national territory, as well as contributing to the transformation of productive sectors.

The measure is also part of the Recovery, Transformation and Resilience Plan in the C15.I2: Improving connectivity in reference centres, socio-economic drivers and sectoral digitalisation tractor projects.

In particular, it contributes to the achievement of milestone #238: Improving connectivity in key centres and sectors.

Tentative timeline:

The measure started in 2021, and it is expected to be finish by the end of 2024.

Budget allocated or planned and, if relevant, other resources – including human resources – allocated:

Public investment: EUR 250 million / Already allocated: EUR 250 million – Planned: EUR 0 million

- Thereof from EU sources: EUR 250 million / Already allocated: EUR 250 million

Expected impact and related timing:

On Public Services side: Coverage of 9.000 reference centres across Spain with fixed networks at more than 300 Mbps, symmetrical and scalable at 1 Gbps.

On Industry and Companies side: Provide 1,600 small industrial and business facilities at a connectivity speed of 1-Gigabit by 2024.

Name of the measure: FEDER Motores Socioeconómicos

Responsible unit: SETID **New measure:** Yes

Short description:

Direct aid program to subsidize socioeconomic drivers (end users with high connectivity needs) so that they can have a broadband connection at more than 1 Gbps in locations that do not have this type of service provided by telecommunications operators.

This program is financially supported by ERDF (FEDER in Spanish) funding.

List of concrete actions implemented/planned:

No actions are planned so far since the program is expected to start in 2024.

Digital target or general objective:

Gigabit Connectivity.

Link to the target or objective: By deploying broadband infrastructure, the program aims to contribute to the objective of gigabit connectivity for the entire population by 2030.

Reference to RRP or other relevant documents/strategies:

The program is part of the ERDF funds program. This measure is aligned with the implementation of the Digital Spain 2026 Agenda, whose first strategic axis is Digital Connectivity, which seeks to guarantee adequate digital connectivity for the entire population, promoting the disappearance of the digital divide between rural and urban areas and advancing in the universalization of ultra-fast (gigabit) coverage throughout the national territory, as well as contributing to the transformation of productive sectors.

Tentative timeline:

The program is expected to start in 2024, and it is expected to be finished by 2029.

Budget allocated or planned and, if relevant, other resources – including human resources – allocated:

Total investment: EUR 8 million

- Public investment: EUR 7 million / Already allocated: EUR 0 million Planned: EUR 7 million
 - Thereof from EU sources: EUR 6 million / Already allocated: EUR 0 million Planned: EUR 6 million
 - Thereof from national sources: EUR 1 million / Already allocated:
 EUR 0 million Planned: EUR 1 million
- Private investment: EUR 1 million

Expected impact and related timing:

By 2029, the program is expected to deliver approximately 54 projects of connectivity and it is expected that 270 companies achieve a high digital intensity.

Name of the measure: Sistema Información para Despliegue BA (IBA)

Responsible unit: SETID **New measure:** No

Short description: The IBA is geo referential information system that facilitates the deployment of broadband infrastructures. This project arises as a result of the European

guidelines aimed at promoting the deployment of high-speed networks, with special emphasis on reducing the costs derived from such deployments.

The objectives are to:

- Provide georeferenced information on infrastructures and civil works for the deployment of gigabit electronic communications networks.
- Provide information on rules, regulations, processes, procedures and administrative procedures for obtaining permits.
- Facilitate access to Public Administration systems to streamline procedures for granting civil works permits.
- Improve the management of administrative procedures and procedures.
- Strengthen the coordination within the Public Administration institutions.
- Promote the digital relationship of citizens with the Public Administrations.
- The system must also be integrated with the UNICO Datos system, SETID's GIS system where the telecommunications access infrastructures will be located (fixed networks in a first phase and mobile networks later).

The system will include:

- PIU: The purpose of the PIU (Punto de Información Único, Single Information Point in English) system is to provide information on physical infrastructure and civil works, information on applicable conditions and procedures, and information on permits and licenses.
- PGU: The purpose of the PGU system (Punto de Gestión Único Single Management Point in English) is to create a single management point through which it is possible to reduce administrative burdens and costs, facilitate the dialogue of operators with the Administration and simplify compliance with administrative procedures.
- AAD: The purpose of the AAD system (Automatización y Análisis de Datos, Data Automation and Analysis in English) is to facilitate data exploitation and decision making based on the conclusions obtained from the analysis of different data sets (structured, unstructured, geospatial, etc.), resulting in three types of analysis: descriptive, predictive and prescriptive.
- CYA: The purpose of the CYA (Configuración y Administración del Sistema, System Configuration and Administration in English) system is to ensure the configuration and proper functioning of all functionalities and services of the IBA system.

List of concrete actions implemented/planned:

The project has not been allocated, but there are advanced conversations with different public companies to deliver on aspects such as:

- Definition of the functional scope of the system.
- Technical office for the support to the preparation of specifications and monitoring of the project (PMO).

 Development and implementation of the Geo referential information system that facilitates the deployment of broadband infrastructures, including software licenses.

Digital target or general objective:

Gigabit Connectivity.

Link to the target or objective:

By easing the deployment of broadband infrastructure, the measure aims to contribute to the objective of gigabit connectivity for the entire population by 2030.

Reference to RRP or other relevant documents/strategies:

This measure is aligned with the implementation of the Digital Spain 2026 Agenda, whose first strategic axis is Digital Connectivity, which seeks to guarantee adequate digital connectivity for the entire population, advancing in the universalization of ultrafast (gigabit) coverage throughout the national territory, as well as contributing to the transformation of productive sectors.

The program is also part of the C15. I1: Promote territorial structuring through network deployment: Extension of ultra-fast broadband, of the Recovery, Transformation and Resilience Plan.

Tentative timeline:

The measure started in 2023, and it is expected to be finish by the end of 2025.

Budget allocated or planned and, if relevant, other resources – including human resources – allocated:

Public investment: EUR 4.7 million / Already allocated: EUR 4.7 million - Planned: EUR 0 million

Thereof from EU sources: EUR 4.7 million / Already allocated: EUR 4.7 million - Planned: EUR 0 million

Expected impact and related timing:

The SIP is expected to be completed by 2025.

Name of the measure: Obligaciones Banda 700 MHz

Responsible unit: SETID **New measure:** No

Short description:

One of the objectives in the promotion of 5G technology is the availability of radio spectrum enabled for 5G services. Specifically, to provide the market with the 5G priority bands, including the 700 MHz band (694 to 790 MHz).

The 700 MHz band has been identified as one of the priority bands for the introduction of 5G-based services in Europe.

Once the 700 MHz band is released from its previous use for the digital terrestrial television service, thus achieving the so-called second digital dividend, its tender process was carried out in order to make these frequencies available to the market for electronic communications services.

List of concrete actions implemented/planned:

The 700 MHz band has been released from its previous use (digital terrestrial television service) and has been allocated through a tender to the operators in July 2021.

The tender process includes roll out obligations.

Digital target or general objective:

5G Coverage

Link to the target or objective:

With this action, one of the key bands for 5G network and services deployment has been made available to telecommunications operators.

Reference to RRP or other relevant documents/strategies:

The program is part of the Digital Spain Agenda and the national Strategy for the promotion of 5G Technology.

The program is also part of the Recovery, Transformation and Resilience Plan in the C15.R2: 5G Roadmap: Spectrum Management and Allocation, Deployment Burden Reduction, Cybersecurity Law, 5G and Support to Local Entities.

In particular, it contributes to the achievement of two milestones:

- #231: Liberalization of the 700 MHz frequency band
- #232: Allocation of the 700 MHz frequency band

Tentative timeline:

2022 - 2025

Budget allocated or planned and, if relevant, other resources – including human resources – allocated:

Public investment: EUR 15 million / Already allocated: EUR 15 million

Thereof from EU sources: EUR 15 million / Already allocated: EUR 15 million

Private investment: EUR 1,010 million

Expected impact and related timing:

The liberalization and allocation have been successfully completed.

Rollout obligations:

| | Dic 2022 | Jun 2024 | Jun 2025 | |
|----------------------|----------|----------|----------|---|
| Telefonica | 30% | 70% | 100% | Municipalities with +20,000 inhabitants |
| Vodafone & Orange | 30% | 70% | 100% | Municipalities with +50,000 inhabitants |

Name of the measure: Obligaciones asociadas a la rebaja de tasas

Responsible unit: SETID **New measure:** No

Short description:

COVID-19 has produced a reduction in revenue expectations of the 5G business, especially in the business segment and in vertical sectors. This exceptional and unpredictable event has meant that operators are unable to value their 5G assets, there has been a lag in user adoption and industrial sectors are unable to benefit from the transformative capacity of 5G.

The operators will experience a delay in the value enhancement of the spectrum awarded in the 3.5GHz and 700MHz bands, combined with the depreciation of their assets.

Operators must amortize the cost of their licenses in the period of validity of them. This program is intended to compensate operators for the lack of income associated with 5G verticals and for a proportional part of the amortization of their frequencies during the pandemic.

A reduction of fees for the reservation of the right to use the radioelectric spectrum of € 45M per year in the 5G priority bands for two years would be equivalent to a compensation in the amortization of 44% or 58% during the same two years.

List of concrete actions implemented/planned:

Evolution of expenditure on aid granted:

• Expenditure 2021: €30M

• Expenditure 2022: €30M

Allocated expenditure 2023: €22.6M

Digital target or general objective:

5G Coverage

Link to the target or objective:

With this action, operators will be compensated for the impact of the pandemic on their 5G business. This will help to sustain the objectives in terms of 5G coverage.

Reference to RRP or other relevant documents/strategies:

The program is part of the Recovery, Transformation and Resilience Plan in the C15.R2: 5G Roadmap: Spectrum Management and Allocation, Deployment Burden Reduction, Cybersecurity Law, 5G and Support to Local Entities.

In particular, it contributes to the achievement of the milestone #233: Entry into force of the legal act on the reduction of taxation of the 5G spectrum.

Tentative timeline:

2022 - 2025

Budget allocated or planned and, if relevant, other resources – including human resources – allocated:

Public investment: EUR 82.6 million / Already allocated: EUR 82.6 million --

Planned: EUR 0 million

Thereof from EU sources: EUR 82.6 million / Already allocated: EUR 82.6 million

- Planned: EUR 0 million

Private investment: EUR 135 million

Expected impact and related timing:

During 2022-2025, operators expect to deploy more than 2,250 5G base stations in the 3.5GHz band and more than 1,900 5G base stations in the 700 MHz band, covering more than 1,000 municipalities between 10,000 and 50,000 inhabitants.

Name of the measure: UNICO - 5G Redes Backhaul

Responsible unit: SETID **New measure:** No

Short description:

The UNICO program stands for Universalización de Infraestructuras Digitales para la Cohesión (i.e., Digital Infrastructure Universalization for Cohesion, in English). The "UNICO 5G Redes - Backhaul" subprogram aims to provide backhaul connection through optical fiber. In particular, the connection will be provided to those sites of electronic communications networks of mobile wireless broadband services (public mobile telephone networks) that:

- are part or are expected to be part of the network that will provide 5G services,
- do not currently have fibre optic backhaul connection that allows to face current and foreseeable future services as a result of the implementation of the capabilities and characteristics of 5G networks, and
- such provision of fibre backhaul is not foreseen in the next three years.

The selected sites are located in municipalities below 5,000 inhabitants.

Fiber connection is the technology that optimally satisfies the technical requirements, in terms of speed, capacity, latency, reliability and coverage for the deployment of 5G services.

List of concrete actions implemented/planned:

- November 2022: Regulatory Bases and First Call published with a budget of EUR 450 million.
- July 2023: provisional resolution of the call published.
- August 2023: final resolution of the call with EUR 447,3 million awarded with a total investment of EUR 718,8 million.
- December 2025: projects completion

Digital target or general objective: 5G Coverage: all populated areas should be covered by a next-generation wireless high-speed network with performance at least equivalent to that of 5G.

Link to the target or objective:

This action contributes to the objective of extending the coverage of mobile networks to all territorial areas, with the necessary capacity to support the new services and applications allowed by 5G technology, and it facilitates that the benefits provided by 5G technology can also reach rural areas, to contribute to their economic development and the reduction of the digital divide.

Reference to RRP or other relevant documents/strategies:

This measure is aligned with the implementation of the Digital Spain 2026 Agenda, whose second strategic axis points to boost 5G technology as a key task for the economic development and digital transformation of the country. Specifically, it contributes to the objectives set for 2026 of (1) continuing leading the deployment of 5G to increase economic productivity, social progress and territorial cohesion; and (2) accelerating the deployment of 5G in areas where operators' traditional deployment models do not cover.

As part of the Digital Spain 2026 Agenda, the national Strategy for the promotion of 5G Technology includes actions related to the 5G deployment in population centers and in transport corridors, and to the deployment of an adequate transmission network for 5G communications.

The measure is also part of the Recovery, Transformation and Resilience Plan in the C15.I6: 5G deployment: networks, technological change and innovation. In particular, it contributes to the partial achievement of two milestones:

- +243: Award of 5G deployment projects in the main national and cross-border transport corridors (4,000 sites) and in certain areas with the aim of reaching 75% population coverage by 2025 in the 5G preference bands (7,000 new 5G sites and 4,000 sites upgraded to 5G connectivity). In particular, this program will contribute to upgrade 4,000 sites to 5G connectivity.
- #244: Completion of the aforementioned projects.

Tentative timeline: The program started in 2023, and projects have to be finished by Q2 2026.

Budget allocated or planned and, if relevant, other resources – including human resources – allocated:

Public investment: EUR 447.3 million / Already allocated: EUR 447.3 million -

Planned: EUR 0 million

Thereof from EU sources: EUR 447.3 million / Already allocated: EUR 447.3 million

- Planned: EUR 0 million

Private investment: EUR 271.5 million

Expected impact and related timing:

This measure contributes to achieve 75% population coverage by 2025 in the 5G preference bands, upgrading to 5G connectivity more than 8,000 existing sites with fibre backhaul connection by the end of 2025, that is the deadline for projects completion.

Name of the measure: UNICO 5G Redes Activas

Responsible unit: SETID **New measure:** No

Short description: The UNICO program stands for Universalización de Infraestructuras Digitales para la Cohesión (i.e., Digital Infrastructure Universalization for Cohesion, in English). The "UNICO 5G Redes Activas" (5G Active Networks) subprogram aims to provide active and passive equipment and, where appropriate, the additional infrastructure necessary for the provision of 5G Standalone services with the value-added characteristics of edge computing and network slicing and with a minimum speed of 100 Mbps for the downlink and 5 Mbps for the uplink, in geographical areas located in municipalities with less than 10,000 inhabitants in which it has been identified that it does not currently exist, and it is not expected to be provided in the next three years coverage of 4G mobile communications networks that provide at least 50 Mbps downstream.

List of concrete actions implemented/planned:

- March 2023: The measure was pre-notified to the Commission by the Spanish authorities for its analysis of the compatibility with the scheme of State aid.
- June 2023: The Commission raised no objections to the aid on the grounds that it is compatible with the internal market.
- June 2023: Publication of regulatory bases of "UNICO 5G Redes Activas" measure.
- September 2023: Modifications introduced to the regulatory framework of the measure to better adapt it to the market in Spain taking into account the current context of this market.
- October 2023: 1st Call of the program is published.

Digital target or general objective:

5G Coverage: all populated areas should be covered by a next-generation wireless high-speed network with performance at least equivalent to that of 5G.

Link to the target or objective:

The measure aims to reduce the digital divide between territories and to strengthen and attract businesses and population by providing 5G connectivity with added-value characteristics in rural areas that would not be covered in the coming years – since operators focus on urban areas that provide greater benefit.

Reference to RRP or other relevant documents/strategies:

This measure is aligned with the implementation of the Digital Spain 2026 Agenda, whose second strategic axis points to boost 5G technology as a key task for the economic development and digital transformation of the country. Specifically, it contributes to the objectives set for 2026 of (1) continuing leading the deployment of 5G to increase economic productivity, social progress and territorial cohesion; and (2) accelerating the deployment of 5G in areas where operators' traditional deployment models do not cover.

As part of the Digital Spain 2026 Agenda, the national Strategy for the promotion of 5G Technology includes actions related to the 5G deployment in population centers and in transport corridors, and to the deployment of an adequate transmission network for 5G communications.

The measure is also part of the Recovery, Transformation and Resilience Plan in the C15.I6: 5G deployment: networks, technological change and innovation. In particular, it contributes to the partial achievement of two milestones:

- #243: Award of 5G deployment projects in the main national and cross-border transport corridors (4,000 sites) and in certain areas with the aim of reaching 75% population coverage by 2025 in the 5G preference bands (7,000 new 5G sites and 4,000 sites upgraded to 5G connectivity).
- #244: Completion of the aforementioned projects.

Tentative timeline:

The program starts in 2023, and projects have to be finished by Q2 2026.

Budget allocated or planned and, if relevant, other resources – including human resources – allocated:

Public investment: EUR 544 million / Already allocated: EUR 0 million - Planned: EUR 544 million

- Thereof from EU sources: EUR 544 million / Already allocated: EUR 0 million

- Planned: EUR 544 million

Private investment: EUR 325 million

Expected impact and related timing:

In 2026, upon completion of the projects, it is expected to increase mobile coverage with 5G services by at least 3% for municipalities with less than 10,000 inhabitants and by 5% for secondary roads and other areas such as natural parks, renewable energy generation facilities, etc.

Name of the measure: FEDER 5G muy rurales

Responsible unit: SETID **New measure:** Yes

Short description:

Aid program for operators of mobile telecommunications network infrastructures, to provide 5G coverage to areas in which, due to their high rurality, they have been left out of the coverage provision plans developed within the framework of the PRTR.

These areas still lack adequate mobile broadband coverage to access the most relevant services of general economic interest for very rural areas, such as: public administration, schools and other educational institutions, health centers, public transport and energy supplies, among others.

It will also facilitate the completion of 5G coverage in the national sections of transport corridors (roads and railways) in those areas where market failure is proven, and coverage is not available. These will mainly be corridors in rural areas.

This program is financially supported by ERDF (FEDER in Spanish) funding.

List of concrete actions implemented/planned:

No actions are planned so far since the program is expected to start in 2025.

Digital target or general objective:

5G Coverage: all populated areas should be covered by a next-generation wireless high-speed network with performance at least equivalent to that of 5G.

Link to the target or objective:

The measure aims to reduce the digital divide between territories and strengthen and attract businesses and population by providing 5G connectivity in rural areas that would not be covered in the coming years – since operators focus on urban areas that provide greater benefit and there is more demand.

Reference to RRP or other relevant documents/strategies:

These efforts are aligned with the implementation of the Digital Spain 2026 Agenda, whose second strategic axis points to the promotion of 5G technology as a key task for the economic development and digital transformation of the country.

Tentative timeline:

The program is expected to start in 2026 and finish by 2029.

Budget allocated or planned and, if relevant, other resources – including human resources – allocated:

- Public investment: EUR 95 million / Already allocated: EUR 0 million Planned: EUR 95 million
 - Thereof from EU sources: EUR 80 million / Already allocated: EUR 0 million Planned: EUR 80 million
 - Thereof from national sources: EUR 15 million / Already allocated:
 EUR 0 million Planned: EUR 15 million
- Private investment: EUR 15 million

Expected impact and related timing:

The program is expected to last from 2026 to 2029, and to deliver on 770 sites, which is equivalent to approximately 145,182 additional homes with 5G coverage.

Name of the measure: UNICO 5G Redes ADIF

Responsible unit: SETID **New measure:** No

Short description: The UNICO program stands for Universalización de Infraestructuras Digitales para la Cohesión (i.e., Digital Infrastructure Universalization for Cohesion, in English). The "5G Redes" (5G Networks) subprogram aims to provide active and passive equipment and, where appropriate, the additional infrastructure necessary for the provision of 5G.

This subprogram grants aid to "ADIF" (Administrador De Infraestructuras Ferroviarias), the public entity responsible for administering rail infrastructure in Spain. The objective of the subprogram is the construction of new assets and expansion of existing ones to promote the deployment of 5G technology in certain lines of the railway network in the shortest possible time. Specifically, they would be deployed in areas where there is no presence of operators, even though several years have elapsed since the inauguration of the railway line, and in which consequently it can be considered that coverage is not provided by the market and there is therefore a market failure.

The railway sections are Albacete-Alicante; Barcelona-Figueras; Olmedo-Orense; Plasencia-Caceres-Badajoz; Antequera-Granada and all the tunnels in the aforementioned lines.

List of concrete actions implemented/planned:

- 2021: Allocation to ADIF of €70.3M
- 2022: Allocation to ADIF of additional €16.6M, after the detailed study of the projects (77 new locations are planned, amounting to 350)
- 2023: Allocation to operators for the delivery of the projects
- 2025: End of the projects

Digital target or general objective:

5G Coverage: all populated areas should be covered by a next-generation wireless high-speed network with performance at least equivalent to that of 5G.

Link to the target or objective:

The measure aims to provide 5G connectivity to rail corridors.

Reference to RRP or other relevant documents/strategies:

This program is aligned with the implementation of the Digital Spain 2026 Agenda, whose second strategic axis points to boost 5G technology as a key task for the economic development and digital transformation of the country. Specifically, it contributes to the objectives set for 2026 of (1) continuing leading the deployment of 5G to increase economic productivity, social progress and territorial cohesion; and (2) accelerating the deployment of 5G in areas where operators' traditional deployment models do not cover.

As part of the Digital Spain 2026 Agenda, the national Strategy for the promotion of 5G Technology includes as measures 5 and 6 5G deployment in population centers and in transport corridors, and as measure 7 the deployment in 5G of an adequate transmission network.

The program is also part of the Recovery, Transformation and Resilience Plan in the C15.I6: 5G deployment: networks, technological change and innovation. In particular, it contributes to the partial achievement of two milestones:

- #243: Award of 5G deployment projects in the main national and cross-border transport corridors (4,000 sites) and in certain areas with the aim of reaching 75% population coverage by 2025 in the 5G preference bands (7,000 new 5G sites and 4,000 sites upgraded to 5G connectivity).
- #244: Completion of the aforementioned projects.

Tentative timeline:

The program started in 2021, and projects have to be finished by Q2 2026.

Budget allocated or planned and, if relevant, other resources – including human resources – allocated:

Public investment: EUR 87 million / Already allocated: EUR 87 million - Planned: EUR 0 million

- Thereof from EU sources: EUR 87 million / Already allocated: EUR 87 million - Planned: EUR 0 million

Expected impact and related timing:

By the end of 2025, upon completion of the projects, it is expected to achieve mobile coverage with 5G services in 5 high-speed rail corridors (Albacete-Alicante Barcelona-Figueras; Olmedo-Orense; Plasencia-Caceres-Badajoz; Antequera-Granada and all the tunnels in the aforementioned lines).

3.2.4 Semiconductors

Name of the measure: IPCEI Microelectrónica

Responsible unit: SETID **New measure:** No

Short description:

IPCEI ME/CT, was jointly prepared and notified by fourteen Member States: Austria, Czechia, Finland, France, Germany, Greece, Ireland, Italy, Malta, the Netherlands, Poland, Romania, Slovakia and Spain. This new IPCEI aims to strengthen the European electronics industry, focusing on the design ecosystem, supply chain capabilities and the first industrial deployment of advanced semiconductor technologies.

The Member States will provide up to $\in 8.1$ billion in public funding, which is expected to unlock additional $\in 13.7$ billion in private investments. As part of this IPCEI, 56 companies, including small and medium-sized enterprises and start-ups, will undertake 68 projects.

Spain has four direct and six associated partners and will allocate up to EUR 390 million of public funds from RRF. However, Secretariat of State for Telecommunications budget is EUR 111.5 million covering one direct partner. While Ministry of Industry is financing three direct partners and six associated partners with EUR 250 million.

List of concrete actions implemented/planned:

IPCEI ME/CT pursues to ensure further development of the microelectronics and communication technologies value chain by enabling the scaling-up of advanced technologies. IPCEI ME/CT, amongst other things, seeks to contribute to maintaining and boosting the competitiveness of the value chain, as well as ensure that the microelectronics and communication technologies ecosystem remain of strategic importance for the Union also in the future. Therefore, IPCEI ME/CT is a key driver to reach Digital Decade objective to reach 20% of semiconductors production.

Digital target or general objective:

Semiconductors: reach at least 20%, in value terms, of the world's production of cutting-edge and sustainable semiconductors by 2030

Link to the target or objective:

By investing across the semiconductors value chain, this program will contribute to the objective of producing cutting edge semiconductors in the Union is at least 20% of world production in value.

Reference to RRP or other relevant documents/strategies:

This measure contributes to the following components and milestones of the Recovery, Transformation and Resilience Plan:

- Component 15, Investment 5 Deployment of cross-border digital infrastructures. The program will contribute to milestones:
 - o #241: Award of projects for advanced processor and semiconductor

- o #242: Completion of the aforementioned projects
- Component 12, Investment 2 Programme to boost competitiveness and industrial sustainability
 - #185: Budget execution of PERTES and innovative projects for the transformation of industry

This program will also contribute to the first axis of the PERTE Chip.

Tentative timeline:

The program will start in 2023 and will last until 2026.

Public investment: EUR 361.5 million

- Secretariat of State for Telecommunications: EUR 111.5 million / Already allocated: EUR 0 million Planned: EUR 111.5 million
 - Thereof from EU sources: EUR 111.5 million / Already allocated: EUR 0 million - Planned: EUR 111.5 million
- Ministry of Industry: EUR 250 million / Already allocated: EUR 0 million Planned: EUR 250 million
 - Thereof from EU sources: EUR 250 million / Already allocated: EUR
 0 million Planned: EUR 250 million

Private investment: EUR 500 million

Expected impact and related timing:

- The program will start in 2023 and will last until 2026. The expected impact in the European industry is summarized in the following bullets:
 - o IPCEI ME/CT will reduce the fragmentation of the Union's R&D&I activities in the area of microelectronics and communication technologies by coordinating technological roadmaps and national strategies.
 - Create beyond global state-of-the-art microelectronics and connectivity solutions enabling the digital transformation.
 - Contribute to the first industrial deployment of strategic technologies that offer an alternative to current microelectronics devices, thereby increasing Union's technological presence in the global microelectronics domain.
 - Enable the most energy-efficient and resource-saving microelectronics systems.
 - Contribute to the development of competences and skills, with the aim
 of attracting private investments and supporting new skilled jobs in
 cutting-edge technologies inside the Union.

Name of the measure: UNICO I+D Microprocesadores BSC

Responsible unit: SETID **New measure:** No

Short description:

The UNICO program stands for Universalización de Infraestructuras Digitales para la Cohesión (i.e., Digital Infrastructure Universalization for Cohesion, in English). The subprogram on microprocessors at Barcelona Super Computing Centre (BSC) consists of executing an experimental development project, starting from a TRL 4/5 and reaching two prototypes of Chip, in different phases of development (TRL 6).

It is expected that this program will boost the generation of research and development of Spanish and European technology. This initiative will carry out the initial designs and prototypes of advanced processors, which will be the basis for the next European supercomputers. These developments should lead to the manufacture of chip prototypes.

In addition, it will be necessary to acquire other prototypes different from chips that include these technologies during the execution time of the action, allowing their evaluation with the software environments developed and with applications from different fields of science, engineering, and artificial intelligence, as well as more industrial applications.

List of concrete actions implemented/planned:

In 2022, the amount of 50,000,000€ was allocated to this project. During the 2023-2025 period, BSC will work on the production of two prototypes, including one at TRL 6.

Digital target or general objective:

Semiconductors: reach at least 20%, in value terms, of the world's production of cutting-edge and sustainable semiconductors by 2030.

Link to the target or objective:

By directly investing in designs and prototypes of advanced processors, and the production of TRL 6 chip, this program will directly contribute to the objective of producing cutting edge semiconductors in the Union is at least 20 % of world production in value.

Reference to RRP or other relevant documents/strategies:

They contribute to Component 15 of the Recovery, Transformation and Resilience Plan, specifically to investment 5 - Deployment of cross-border digital infrastructures. The program will contribute to milestones:

- #241: Award of projects for advanced processor and semiconductor
- #242: Completion of the aforementioned projects.

This program will also contribute to the first axis of the PERTE Chip.

Tentative timeline:

2023-2026

Budget allocated or planned and, if relevant, other resources – including human resources – allocated:

Public investment: EUR 50 million / Already allocated: EUR 50 million - Planned:

EUR 0 million

Thereof from EU sources: EUR 50 million / Already allocated: EUR 50 million -

Planned: EUR 0 million

Expected impact and related timing:

With the aim of developing technologically compatible chip prototypes with future European supercomputers, including the Marenostrum 6 supercomputer in 2028, the activity plan for the period 2023 - 2025 is as follows:

- 1. Production of a first prototype vector accelerator chip
- 2. Production of a second chip prototype, non-marketable, that improves the previous one and whose objective is to be a viable prototype (TRL 6) so that a subsequent evolution of the same chip enables the start of an industrialization process oriented to the commercial system in 2028

Name of the measure: Cátedras Chip

Responsible unit: SETID **New measure:** No

Short description: Through the call for grants "Cátedras Chip", Spain intends to finance the creation of university-company chairs in research in the area of microelectronics whose activity is focused on research, dissemination and training in different areas of application of microelectronics that includes the first and second axes of the PERTE Chip.

Recent studies show that the distribution of research groups in the academic field is very fragmented. Most groups in the Spanish ecosystem are small and scattered. This fragmentation is accentuated in the area of semiconductors and microelectronics, where there is a lack of thematic diversity in the areas of application that are leading and of priority interest to business areas.

List of concrete actions implemented/planned:

The action plan is structured in a single program, for which there may be room for funding from 1) newly created chairs and 2) existing chairs that intend to expand their research, their public-private collaboration or training through the support of the calls for grants.

- Q2 2023: Publication of 2023 call of the PERTE Chips Chair Program
- Q4 2023: Call instructed and resolved

Digital target or general objective:

Semiconductors: reach at least 20%, in value terms, of the world's production of cutting-edge and sustainable semiconductors by 2030.

Link to the target or objective:

It is intended to improve the excellence of Spanish research in the field of semiconductors and microelectronics, improving the offer of university studies in semiconductors and microelectronics through the training actions of the chairs, and in this way, to achieve an increase in Spanish talent in the different areas of work associated with chips. This program contributes to solve the lack of skills in semiconductors in EU.

Reference to RRP or other relevant documents/strategies:

It contributes to Component 15 of the Recovery, Transformation and Resilience Plan, specifically to investment 8 - PERTE Chip: Strengthening the scientific and technological ecosystem. Increased design capabilities. The program will contribute to milestone: at least 10 university-company chairs PERTE CHIP. Chairs and microelectronics talent.

Tentative timeline:

2023-2027 (RRP funds until Q2 2026).

Budget allocated or planned and, if relevant, other resources – including human resources – allocated:

Public investment: EUR 80 million / / Already allocated: EUR 0 million - Planned: EUR 80 million

- Thereof from EU sources: EUR 80 million / Already allocated: EUR 0 million - Planned: EUR 80 million (2023)

Private investment: EUR 12 million (estimated)

Expected impact and related timing: 13 new chairs created by 2026.

Name of the measure: Misiones CDTI

Responsible unit: SETID New measure: No

Short description:

The Centro para el Desarollo Tecnológico y la Innovación (CDTI), Centre for Innovation and Technological Development in English, will finance R+D projects, framed in one of the areas of improvement foreseen for each mission:

- Research and development in cutting-edge microelectronic design and alternative architectures.
- Development and strengthening of an integrated photonics ecosystem in Spain.

In particular, the first mission will promote R + D + I around cutting-edge microelectronic design, with special interest in the design of systems based on microprocessor cores of alternative architectures (such as RISC-V), so that progress is made in future generations of chips. The scope of this mission not only refers to the design of the microprocessor core and its digital peripherals, but also to the design of

elements of another nature that complete a system-on-chip (SoC), which may include communication interfaces, sensors and actuators or power elements.

List of concrete actions implemented/planned:

The deadline for submitting applications and documentation began on June 5 and ended on July 17, 2023.

The evaluation is currently under way.

Digital target or general objective:

Semiconductors: reach at least 20%, in value terms, of the world's production of cutting-edge and sustainable semiconductors by 2030 in the UE.

Link to the target or objective:

The promotion of R+D+I in the area of microelectronic design will contribute to the objective of producing cutting-edge semiconductors in the Union is at least 20 % of world production in value.

Reference to RRP or other relevant documents/strategies:

It contributes to Component 17 of the Recovery, Transformation and Resilience Plan, "Institutional reform and strengthening the capacities of the national System of Science, Technology and Innovation" specifically to investment 3 – Interdisciplinary Public-private projects R+D+i, Proofs of concept and granting of aid as a result of international competitive calls. The program will contribute to milestone #262: Q2 2024 Approval of 3,100 R+D projects that must be linked to the green and digital transition in a proportion of at least 35%.

It is also part of the State Plan for Scientific and Technical Research and Innovation (2021-2023).

Finally, this program will also contribute to the first axis of the PERTE Chip.

Tentative timeline:

2023-2025 - The projects must end by September 30, 2025.

Budget allocated or planned and, if relevant, other resources – including human resources – allocated:

Public investment: EUR 60 million / Already allocated: EUR 0 million - Planned: EUR 60 million

- Thereof from EU sources: EUR 60 million / Already allocated: EUR 0 million - Planned: EUR 60 million

Private investment: It will depend on the intensity of the aid, which will be defined by state aid legislation.

Expected impact and related timing:

It is aimed at R&D research projects that enhance scientific capabilities in the field of microelectronics and semiconductors, stimulate public-private collaboration and

improve the knowledge base and technology of Spanish companies. It is expected to spend the whole budget in R&D projects until Q3 2025.

This is one of the pillars of the PERTE Chip, approved a year ago by the Council of Ministers with the aim of making Spain one of the European benchmarks in the semiconductor and microelectronics industry. These grants, awarded on a competitive basis, have a budget of 60 million euros financed by the Next Generation EU funds and will strengthen the existing ecosystem of design centres in Spain and attract new players.

Name of the measure: PERTE Chip

Responsible unit: SETID **New measure:** No

Short description:

The PERTE Chip is configured as a strategic initiative that aims to develop the scientific, design and production capabilities of the microelectronics and semiconductor industry in our country so that an important multiplier effect is generated not only in the technological sectors, but in the whole of the Spanish economy. Through this investment, the aim is to strengthen the scientific and technological ecosystem of the semiconductor industry, focusing on the development of research, development and innovation in the sector as a whole, including the creation and improvement of cleanroom infrastructure, the generation and attraction of talent or the reinforcement of specific areas such as integrated photonics or RISC-V. among others.

List of concrete actions implemented/planned:

The PERTE Chip is a comprehensive initiative to support the entire Spanish semiconductor value chain. It is structured in 4 components and 11 actions as follows:

Component one: Bolstering scientific capacity: EUR 1,165 million

- Action 1: Development of R&D&i on alternative architecture microprocessors: EUR 475 million.
- Action 2: Development of R&D&i on integrated photonics: EUR 150 million.
- Action 3: Development of R&D&i on quantum chip development: EUR 40 million.
- Action 4: Budget line for the IPCEI on Micro-electronics and Communication Technologies, EUR 500 million.

Component two: Design Strategy: EUR 1,330 million

- Action 5: Creation of fabless alternative architecture microprocessor design companies, EUR 950 million.
- Action 6: Creation of test pilot lines, EUR 300 million.

• Action 7: Creation of a network for education, training and skills-building in relation to semiconductors: EUR 80 million.

Component three: Construction of fabrication plants ins Spain: EUR 9,350 million

- Action 8: Creating fabrication capacity at sizes below 5 nm: EUR 7,250 million.
- Action 9: Creating fabrication capacity at sizes above 5 nm: EUR 2,100 million.

Component four: Stimulating the ICT Manufacturing Industry in Spain: EUR 400 million

- Action 10: ICT manufacturing industry incentive scheme, EUR 200 million.
- Action 11: Creation of a chips Fund, EUR 200 million.

Governance: EUR 5 million

Special Commissioner for Semiconductors: EUR 5 million.

TOTAL PERTE CHIP BUDGET: EUR 12,250 MILLION.

These figures represent the total budget estimation for the period 2022-2027. However, only the actions not included in other files will be described and taken into account in the following paragraphs. Hence, we will exclude IPCEI ME/CT (\in 361.5M), Chip Chairs (\in 80M), CDTI Missions (\in 60M) and UNICO I+D Microprocessors (\in 50M).

Evolution of aid granted:

- Allocated expenditure 2023: EUR 270,000,000€
- Allocated loans 2023: EUR 800,000,000€

The publication of the aid instruments to reinforce R + D + i, as well as for the construction and reinforcement of white room facilities will be expected in Q4 2023, while the award in Q1 2024.

On the other hand, EUR 800 million will be transferred to Sociedad Estatal de Microelectrónica y Semiconductores (SEMyS) so that this public enterprise could finance the semiconductor industry by loans, equity and quasi-equity instruments.

Digital target or general objective:

Semiconductors.

Link to the target or objective:

By investing across the semiconductors value chain, this program will contribute to the objective of producing cutting edge semiconductors in the Union is at least 20 % of world production in value.

Reference to RRP or other relevant documents/strategies:

They contribute to Component 15 of the Recovery, Transformation and Resilience Plan, specifically to investment 8 - PERTE Chip: Strengthening the scientific and technological ecosystem. Increased design capabilities. The program will contribute to milestones:

- #454: PERTE CHIP. Strengthening scientific capacities, design and innovative manufacturing: award.
- #455: PERTE CHIP. . Strengthening scientific capacities, design and innovative manufacturing: disbursement.
- L63: CHIP Financing Facility: Formal approval of the Financing Mechanism.
- L64: CHIP Financing Facility: Legal agreements signed with final beneficiaries (I).
- L65: CHIP Financing Facility: Legal agreements signed with final beneficiaries (II).
- L66: CHIP Financing Facility: Ministry has completed the investment.

Tentative timeline:

2022-2026

Budget allocated or planned and, if relevant, other resources – including human resources – allocated:

Public investment: EUR 948.5 million / Already allocated: EUR 270 million - Planned: EUR 678.5 million

- Thereof from EU sources: EUR 948.5 million / Already allocated: EUR 270 million - Planned: EUR 678.5 million

Public loans: EUR 10,750 million / Already allocated: EUR 800 million - Planned: EUR 9,950 million

- Thereof from EU sources EUR 10,750 million / Already allocated: EUR 800 million - Planned: EUR 9,950 million

Private investment: EUR 35 billion (estimated)

Expected impact and related timing:

Multiplier effect in the Spanish industry as a whole.

A significant step forward to boost the semiconductor sector in Spain.

3.2.5 Edge-nodes

Name of the measure: IPCEI CIS

Responsible unit: SETID New measure: No

Short description:

The IPCEI – CIS (Cloud Infrastructure and Services) will leverage the program UNICO R&D Cloud to:

- 1. Enable multi-vendor cloud-edge continuum.
- 2. Drive IT security and resilience.
- 3. Strengthening the EU's digital industry.
- 4. Increase energy efficiency.
- 5. Establish an open, global and federated reference architecture for cloud-based mobile telecommunications edge computing and enabled by 5G and future generations.
- 6. Develop European open-source technologies.
- 7. Develop technologies for improving and processing data secure with privacy.
- 8. To provide an open and accessible infrastructure in Europe.
- 9. Implement highly scalable use cases for industry and services.
- 10. Generate positive knock-on effects in different sectors.
- 11. Foster skills and competencies.

The IPCEI-CIS will include the realization of a first industrial deployment with different use cases.

List of concrete actions implemented/planned:

Launching Spanish projects inside European IPCEI – CIS. Currently, Spain has 3 direct participants and 6 indirect participants.

Digital target or general objective:

Edge Nodes: 10,000 climate neutral highly secure edge nodes should be deployed in the EU.

Link to the target or objective:

The program will contribute to develop data processing infrastructures, data exchange tools, architectures and governance mechanisms to allow for a successful data exchange and to federate energy-efficient and reliable cloud infrastructures and related services. It will also contribute to strengthen Europe's industrial position in the global cloud and edge computing market, addressing in particular the trend towards increasing distribution and decentralisation of data processing capabilities and the need to enable a federated and vendor-agnostic cloud ecosystem.

Reference to RRP or other relevant documents/strategies:

Component 15 of the Recovery, Transformation and Resilience Plan, specifically to investment 5 - Deployment of cross-border digital infrastructures. The program will contribute to milestones:

- #241: Award of projects for New Generation of Cloud and Edge Infrastructures and Services
- #242: Completion of the aforementioned projects

Tentative timeline:

The program was prenotified in 2022 and it is expected to be finished by the end of 2023 (award of aid) once the Decision from the Commission is published. Projects must be finished by 30th June 2026, according to CID #242 objective.

Budget allocated or planned and, if relevant, other resources – including human resources – allocated:

Public investment: EUR 116 million / Already allocated: EUR 0 million - Planned: EUR 116 million

- Thereof from EU sources: EUR 116 million / Already allocated: EUR 0 million - Planned: EUR 116 million

Expected impact and related timing:

IPCEI-CIS projects intend to prepare technology and service providers for a deployment of a thousand nodes (that is the share of the 10,000 target for Europe that might correspond to Spain) with a minimum first industrial deployment:

• As it is currently planned, it will be covered with more than 100 near and far nodes deployed as part of FID phase from the different Spanish Companies participating in the IPCEI CIS.

On the other hand, IPCEI CIS will contribute to accelerate the switch of Cloud and Edge digital infrastructures to full renewable energy and to place Europe in a leading position for energy efficiency. These investments will enable to support the goal of climate neutrality by 2030 for the datacentre industry and complement the Climate Neutral datacentre Pact.

- Research and potential inclusion of Green Hydrogen.
- Edge nodes will incorporate a 100% option to use renewable energy.
- Power usage effectiveness in cooling with Geothermal energy.
- Sustainability in operations, in a fully decarbonized model (certified 0% carbon footprint operations) with the use of natural refrigerants.
- Secure protocols and standards will guarantee a safety environment for development and use of digital services and applications.
- Sectors like Tourism, Health, Industry, Manufacturing, Media, gaming and Entertainment or Smart cities are widely distributed throughout the national geography. Having a limited coverage in a few regions would create a new digital divide, favouring companies and sectors with better conditions for

parameters like latency or jitter in certain areas, and not delivering or providing a bad experience in others. During the FID, all the nodes will be open to future customers and providers to test and validate their services and use cases whatever is the region in which they are located.

Name of the measure: UNICO I+D Cloud

Responsible unit: SETID **New measure:** No

Short description:

The UNICO program stands for Universalización de Infraestructuras Digitales para la Cohesión (i.e., Digital Infrastructure Universalization for Cohesion, in English). In particular, this program aims to increase the leadership of Spanish research groups in Cloud computing, promoting digital transformation through research, development and innovation in the field of this technology.

List of concrete actions implemented/planned:

- Aid granted for € 41M to 9 public research centres and public Universities for funding 16 innovative projects on Cloud computing.

Digital target or general objective:

Edge Nodes: 10,000 climate neutral highly secure edge nodes should be deployed in the EU.

Link to the target or objective:

UNIDO I+D Cloud is aimed at increasing the leadership of Spanish research groups in cloud computing. Research and development (R&D) initiatives on cloud computing technologies face very different challenges. The commitment to green IT seems to be reinforced by global warming and rising energy resources. Moreover, new models of distribution and deployment of massive cloud services, both commercial and governmental, are being investigated to optimize their use, including edge nodes. Finally, support for the development and maintenance of cloud services and edge nodes deployment is a domain of enormous importance due to its impact on the adoption of these technologies in professional environments.

Reference to RRP or other relevant documents/strategies:

Component 15 of the Recovery, Transformation and Resilience Plan, specifically to investment 5 - Deployment of cross-border digital infrastructures. The program will contribute to milestones:

- #241: Award of projects for New Generation of Cloud and Edge Infrastructures and Services
- #242: Completion of the aforementioned projects.

Tentative timeline:

2023 - 2026

Budget allocated or planned and, if relevant, other resources – including human resources – allocated:

Public investment: EUR 41 million / Already allocated: EUR 41 million – Planned: EUR 0 million

Thereof from EU sources: EUR 41 million / Already allocated: EUR 41 million - Planned: EUR 0 million

Expected impact and related timing:

The beneficiaries are 9 centres presenting 16 projects. The state aid is in public-private partnership mode which forces the beneficiaries to subcontract between 65 and 75% of the funds allocated to them. Key impacts are shown below:

- Federated learning-based solutions for electricity distribution networks.
- Machine Learning as a Service (MLaaS) at the edge for secure, scalable, fair and energy-efficient processing of personal and B2B data. It is crucial for edge nodes deployment.
- Platforms for the development and distributed execution of complex analytics and artificial intelligence (AI) pipelines with real-time requirements for edgeto-cloud environments.
- Urban decision making and management through Digital Twins based on artificial intelligence, cloud, IoT, edge, and high-performance simulation (HPC) technologies. With special emphasis on edge nodes deployment.
- Creation of an open platform for access, capture, storage, and decentralized exchange of health data in real time for a Clinical Health Department (targeting 350,000 inhabitants) for cloud-edge computing of predictive, decision-making and Artificial Intelligence systems.

Name of the measure: FEDER Servicio Computacional

Responsible unit: SETID **New measure:** Yes

Short description:

Aid program aimed at private companies for the implementation and launch of Data Centres in disadvantaged areas in Spain for the provision of state-of-the-art cloud services (*Cloud Edge Computing*).

These Data Centres will allow the storage of information; they will be connected to high-speed networks; they will have a high level of redundancy; they will enable the virtualization of computing machines; they will be integrable with other reference providers of cloud services and all in accordance with international standards. The action includes both the implementation of *new Data Centres* and the integration and adaptation of existing possible ones with other reference providers of cloud services in

the areas identified as disadvantaged, tending to greater availability and greater efficiency, as a general rule.

This program is financially supported by ERDF (FEDER in Spanish) funding.

List of concrete actions implemented/planned:

No actions are planned so far since the program is expected to start in 2025.

Digital target or general objective:

Edge Nodes: 10,000 climate neutral highly secure edge nodes should be deployed in the EU.

Link to the target or objective:

This program will provide state-of-the-art cloud services to Spanish companies, ultimately supporting the deployment of secure edge nodes in line with Digital Decade's objective.

Reference to RRP or other relevant documents/strategies:

This program is aligned with Digital Spain 2026 Plan, which aims to position Spain as a leader in the cloud edge computing.

Tentative timeline:

The program starts in 2025 and is expected to finish by the end of 2029.

Budget allocated or planned and, if relevant, other resources – including human resources – allocated:

Total investment: EUR 55 million

- Public investment: EUR 47 million / Already allocated: EUR 0 million Planned: EUR 47 million
 - Thereof from EU sources: EUR 40 million / Already allocated: EUR 0 million Planned: EUR 40 million
 - Thereof from national sources: EUR 15 million / Already allocated:
 EUR 0 million Planned: EUR 7 million
- Private investment: EUR 7 million

Expected impact and related timing:

By 2029, assuming that there are approximately 100 companies engaged in this activity in Spain, it is considered that it is possible to obtain aid from 10% of them i.e., 10 companies will be granted aid.

3.2.6 Quantum computing

Name of the measure: Quantum Spain

Responsible unit: SEDIA **New measure:** Yes

Short description: This program promotes and strengthens the national Quantum Computing ecosystem, aiming at creating the first Quantum computing environment in south Europe. It is a pioneering project whose work will be to boost and finance a competitive and complete quantum computing infrastructure in Spain.

The Quantum Spain project has three objectives:

- 1) To create a high-performance quantum computer, based on a superconducting current-based cubic technology approach.
- 2) To create a remote cloud access service to the quantum computer, to allow academia, industry and the public sector to experiment with the new quantum algorithms.
- 3) Develop useful quantum algorithms, applicable to real problems. These algorithms will have special emphasis on the development of "quantum machine learning", in deep connection with the advances in Artificial Intelligence.

Digital target: Quantum computing: Secure, resilient, performant and sustainable digital infrastructures where the Union has, by 2025, its first computer with quantum acceleration, paving the way for the Union to be at the cutting edge of quantum capabilities by 2030.

Link to the target or objective: The target of this measure is that by 2025, the Union has its first computer with quantum acceleration, paving the way for the Union to be at the cutting edge of quantum capabilities by 2030. Therefore, Quantum Spain works directly towards achieving this goal by building adequate Quantum Computing infrastructure in Spain.

Reference to RRP or other relevant documents/strategies: Component 16: national strategy of Artificial. R4.2 Reinforcement of supercomputing capabilities intelligence.

Tentative timeline: The programme started in January 2022 and is expected to run until December 2025.

Budget allocated or planned and, if relevant, other resources – including human resources – allocated:

Public investment: EUR 22 million / Already allocated: EUR 22 million

- Thereof from EU sources: EUR 22 million / Already allocated: EUR 22 million

Expected impact and related timing: It is expected that upon the completion of the Quantum Spain project a quantum-based infrastructure will be accessible to the Spanish research community and the industry ecosystem. As part of the services provided the RES will develop a set of algorithms to provide added-value services to the quantum users.

Additionally, it is expected the development of training material and sessions, in order to improve the quantum capabilities of the different stakeholders.

Quantum Spain will be the cornerstone where the Spanish quantum strategy will be based.

3.2.7 Take up of digital technologies

Name of the measure: Integration of AI in value chains

Responsible unit: Red.es **New measure:** Yes

Short description: This program seeks to promote the process of digitization, innovation and the incorporation of artificial intelligence within the value chains of companies and SMEs in Spain, facilitating the integration of this technology in the productive structure, the economy and society. Funding is provided for industrial research and experimental development projects involving technologies like AI, IoT, big data, cloud computing, cybersecurity, blockchain, and more.

Up to three projects per applicant are financed, with particular attention to those that aid in bridging the gender and digital divide, as well as those contributing to territorial cohesion.

List of concrete actions implemented/planned:

• Call for aid 2021: C005/21-ED

Digital target: Take up of digital technologies: The digital transformation of businesses where at least 75 % of Union enterprises having taken up one or more of the following, in line with their business operations: cloud computing services, big data, artificial intelligence.

Link to the target: This program is directly aligned with the target of take up of digital technologies, encouraging the integration of advanced technologies within the value chains of companies and SMEs. By funding up to three projects per applicant, the program enables more enterprises to adopt cloud computing services, big data, and AI in alignment with their business operations.

Reference to RRP or other relevant documents/strategies: Component 16. National Artificial Intelligence Strategy C16.R1 National AI Strategy.

Tentative timeline:

Call for Aids 2021

Publication: 09/09/2021

• Concession of Aids: September 2022

End of projects: May 2024

Budget allocated or planned and, if relevant, other resources – including human resources – allocated:

• Public investment: EUR 105 million / Already allocated: EUR 105 million

• Thereof from EU sources: EUR 105 million/Already allocated 105 million

• Private investment: EUR 245.5 million

Expected impact and related timing: 213 companies of which 109 are SMEs are developing projects that integrate AI into their value chains.

Name of the measure: Artificial Intelligence R&D Missions

Responsible unit: SGIATHD **New measure:** Yes

Short description: The Artificial Intelligence R&D Missions aid program finances industrial research or experimental development projects in the field of artificial intelligence to address major social challenges in highly relevant sectors with a high capacity for disruption and impact. The projects should be aimed at the application of Artificial Intelligence in five key sectors: agriculture, health, environment, employment, and energy of the 21st century.

The R&D Missions in Artificial Intelligence program will fund projects submitted as collaborations, requiring a consortium of at least one large business, one research and knowledge dissemination entity, and five SMEs. SMEs could finance up to 80% of their budget for low technological maturity projects, and up to 60% for medium technological maturity projects. The maximum support for large businesses will range between 65% and 40%.

List of concrete actions implemented/planned:

Five IA collaborative projects were funded in the areas of agriculture, energy, and medicine:

- Agrarian: Artificial Intelligence applied to the value chain of agricultural production 2050.
- Federated Artificial Intelligence Network to accelerate Health Research.
- Digitalisation and integrated management of personalised medicine.
- AI for early diagnosis and treatment of diseases with a high prevalent disease in ageing.
- Advanced Smart Technologies for Sustainable Energy transition.

Digital target: Take up of digital technologies: The digital transformation of businesses where at least 75 % of Union enterprises having taken up one or more of the following, in line with their business operations: cloud computing services, big data, artificial intelligence.

Link to the target: The measure is focused on both low technological maturity (known as industrial research) and medium technological maturity (experimental development). The final goal is that businesses implement that technology in their functioning. In this sense, this measure is aligned with the goal of digital transformation of businesses where at least 75 % of Union enterprises having taken up one or more of the following, in line with their business operations: (i) cloud computing services; (ii) big data; (iii) artificial intelligence (AI).

Reference to RRP or other relevant documents/strategies: Component 16. National Artificial Intelligence Strategy C16.R1 National AI Strategy.

Tentative timeline: The programme started in 2021. Global Concession Resolution Published 20/12/2021. The programme is expected to be available until at least Q1of 2026.

Budget allocated or planned and, if relevant, other resources – including human resources – allocated:

Public investment: EUR 50 million / Already allocated: EUR 50 million

-Thereof from EU sources: EUR 50 million / Already allocated: EUR 50 million

Private investment (if known): EUR 18 million

Expected impact and related timing:

78 entities participate out of 22 different provinces in the five selected projects, funded with 50M€.

Name of the measure: Spanish Network of Excellence in AI (Red de Excelencia en IA)

Responsible unit: SGIATHD **New measure:** Yes

Short description: The Spanish Network of Excellence in AI aims to coordinate national research and offer specialized training. Managed by the Ministry of Universities, the network incorporates existing AI research centres, with programs aimed at developing novel techniques and tackling underexplored sectors. The network seeks to attract leading thinkers to solve complex AI challenges and is poised to contribute high transformative impact.

This initiative modernizes Spain's research efforts and establishes a robust digital transformation foundation. research groups, composed of interdisciplinary units with diverse backgrounds, will be formed to maximize research innovation. Funding will be allocated based on criteria like relevance to identified interest areas, innovation, impact, researchers' experience, and their work plan.

List of concrete actions implemented/planned: Grant program managed by the Ministry of Universities.

It is also planned a transfer resolution of 2M€ for the development of a multidisciplinary research project on AI in the eHealth area to be coordinated by CIBER, a Spanish network of excellence in that area.

Digital target: Take up of digital technologies: The digital transformation of businesses where at least 75% of Union enterprises having taken up one or more of the following, in line with their business operations: cloud computing services, big data, artificial intelligence.

Link to the target:

The Spanish Network of Excellence in AI enhances the adoption of digital technologies by fostering AI research and training. This strengthens AI expertise available to businesses for digital transformation, aiding in the goal of 75% of Union enterprises adopting technologies like AI, big data, or cloud computing.

Reference to RRP or other relevant documents/strategies:

Component 16. National Artificial Intelligence Strategy C16.R1 National AI Strategy.

Tentative timeline:

- July 2023: Grant program has been published: https://www.boe.es/eli/es/o/2023/07/07/uni777
- July 2023: Resolution of transfer for CIBER project expected to be signed.
- September 2023: Proposal submission period closed.
- December 2023: Call resolved by the end of 2023. Research projects will start on 2024.

Budget allocated or planned and, if relevant, other resources – including human resources – allocated:

Public investment: EUR 31 million / Planned: EUR 31 million

- Thereof from national sources: EUR 15 million / Planned: EUR 15 million
- Thereof from EU sources: EUR 16 million / Planned: EUR 16 million

Expected impact and related timing: The grant call expects to fund about 16 multidisciplinary and cooperative research projects (maximum 2M€ grant) in eight research AI areas, such as AI & Ethics, Sustainable AI or AI & Healthcare. Projects will run during 2024 and 2025.

| Name of the measure: RETECH | |
|---|------------------|
| Responsible unit: SGEDD/Regional Governments | New measure: Yes |

Short description: The RETECH initiative articulates various regional projects aimed at digital transformation and specialisation, ensuring coordination and co-governance to promote trans-regional projects aimed at regional specialisation.

The goal of the project is to achieve a high economic and social impact through the involvement of SMEs, companies and large corporations in the technology sector, startups, the third sector, local entities and other institutional agents.

This initiative, which stems from co-governance, is a response to the project proposals made by the Autonomous Communities in recent months, comprising the funding of 13 projects aimed at advancing the take-up of advanced digital technologies:

• Spain Living Lab (AI Mission). It will create an open innovation ecosystem to develop Artificial Intelligence in the tourism sector (coordinated by the Canary

- Islands and with the participation of the Balearic Islands, Andalusia, Aragon, Navarre, Asturias and Castilla-La Mancha). Total budget of 43.9 million euros.
- Artificial Intelligence Value Chain. Promotion of the use of artificial intelligence and data technology in the industrial business fabric (coordinated by the Basque Country, with the participation of the Community of Madrid and Galicia). Total budget of 55.6 million euros.
- Territorial Network of Artificial Intelligence Hubs (Value Chain). Creation of a
 network to generate business talent dedicated to the field of Artificial
 Intelligence, through training and new educational programmes and itineraries
 to develop products, services and tools offered by Artificial Intelligence
 (coordinated by Catalonia, with the participation of the Valencian Community
 and the Balearic Islands). Total budget of 38.7 million euros.
- TechFabLab (Entrepreneurship Networks). This will provide consultancy and training opportunities in companies, identification and promotion of locallybased initiatives by the largest companies in each region. (Coordinated by La Rioja, with the participation of Aragon, Navarra, Cantabria, Valencia and Catalonia). Total budget of 42 million euros.
- Networked Agri-Food Platform. Creation of a transversal Artificial Intelligence platform applied to the agri-food sector to accelerate the process of digital transformation in the sector. An interregional system will be established for the negotiation, marketing and transparency of food products and an exhaustive collection of data on the production, marketing and consumption process (coordinated by Castilla-La Mancha, with the participation of Castile and Leon, Extremadura and La Rioja). Total budget of 27 million euros.
- Infrastructure for the Spanish Blockchain Network. Construction of a nationwide technological network based on Blockchain technology, aligned with the European infrastructure in this field (coordinated by the Community of Madrid, with the participation of Asturias and the Canary Islands). Total budget of 18 million euros.
- Acceleration of entrepreneurship and innovation ecosystems based on Digital Twins. It will develop virtual recreations based on the territory, to make predictions and simulations, improve the provision and management of public services (coordinated by La Rioja, with the participation of Castilla-La Mancha, Extremadura, Galicia and Navarra). Total budget of 23.7 million euros.
- Project Plan for the Digitalisation and Artificial Intelligence of the Prehistoric Heritage of Cantabria and Asturias. Combination of digitisation technologies and artificial intelligence tools to optimise the management of prehistoric heritage in Spain, covering research, conservation and dissemination (coordinated by Cantabria and with the participation of Asturias). Total budget of 12.9 million euros.
- Digital Entrepreneurship Networks. Development and specialisation of the ICT sector in digital entrepreneurship for the emergence of disruptive and innovative solutions with a driving capacity in each territory (coordinated by Andalusia, with the participation of Madrid and Ceuta). Total budget of 23.6 million euros.
- Smart Digital Health. Acceleration of the digital transformation in the field of healthcare robotics to create a data space that allows companies in the health

sector to design better products and services in order to achieve personalised medicine for each patient. (Coordinated by Murcia). Total budget of 8 million euros.

- RETECHFOR. Technological and territorial network to provide the forestry sector with data, forest monitoring and environmental disaster reduction as levers for the development of the Forest Bioeconomy, through the development of services and products to improve the coordination of agents and decisionmaking in prevention, extinction and restoration plans for natural disasters (coordinated by Castilla y León and with the participation of the Canary Islands). Total budget of 28.4 million euros.
- Knowledge Heritage Network. Innovative technological actions related to cultural heritage through the development of a platform for data collection and interpretation, the creation or strengthening of a network of intelligent cultural heritage laboratories (coordinated by Castile and Leon, with the participation of Aragon and Galicia). Budget of 15.9 million euros.
- Entrepreneurial ecosystem for an intelligent rural and marine territory (TriRuralTech). Implementation of a network of excellence for the promotion of entrepreneurship in rural areas, with a regional rural data space, a Big Data intelligence platform connected to local and regional platforms for the management of digital services (coordinated by Extremadura and with the participation of the Balearic Islands, Cantabria and Murcia). Total budget of 7.6 million euros.

List of concrete actions implemented/planned:

- Creation of the RETECH initiative and invitation to Regional Governments (01/08/2022).
- Central Government's Approval of financing the 13 projects (28/03/2023).

Digital target: The digital transformation of businesses where at least 75 % of Union enterprises having taken up one or more of the following, in line with their business operations: cloud computing services, big data, artificial intelligence.

Link to the target: The funded projects under this program facilitate the incorporation of digital technologies in multiple sectors. Each project focuses on developing and implementing AI solutions, data handling, and digital twins, which directly encourage businesses to adopt cloud computing services, big data, and AI.

Reference to RRP or other relevant documents/strategies: The whole RETECH initiative is part of the Recovery and Resilience Plan (RRP), specifically aligned to Spain 2030 Industrial Policy Strategy (Component 12), SMEs support and modernization (Component 13), Tourism modernization (Component 14) and AI National Strategy (Component 16).

Tentative timeline: The program schedule is planned as follows:

- Projects scheduled to start in Q1 2023 and ending by Q4 2025.

Budget allocated or planned and, if relevant, other resources – including human resources – allocated:

Public investment: EUR 345.8 million / Planned: EUR 345.8 million

- Thereof from EU sources: EUR 258.8 million / Planned: EUR 258.8 million
- Thereof from regional sources: EUR 87 million / Planned: EUR 87 million

Expected impact and related timing: Promoting the deployment of Data Spaces, the take-up of AI, cloud, Big Data, and the accomplishing of España Digital and RRP objectives. Indirect impact will be the increase of companies using advanced technologies.

Name of the measure: Valle de la Lengua (Data Space for Spanish Language)

Responsible unit:

New measure: Yes

SGEDD/Gobierno de La Rioja

Short description: Valle de la Lengua is a project whose objective is to transform the Spanish language into a development tool in a digital and globalized scenario. It is an emblematic initiative to promote economic development, ensure social cohesion, and provide an effective response to the demographic challenge.

This initiative is part of the Strategic Projects for Economic Recovery and Transformation (PERTE) of the New Economy of Language, which aims to promote the new digital economy based on natural language in Spain. It leverages the potential of Spanish and co-official languages as factors for economic growth and international competitiveness in areas such as Artificial Intelligence, translation, education, cultural production and dissemination, research, and science.

List of concrete actions implemented/planned: The Valle de la Lengua encompasses a set of actions, including the creation of data spaces:

- Creation of a data space for the new economy of language.
- Creation of an oral corpus of the Spanish language.
- Creation of a use case pilot for the data space of scientific production.

Digital target: The digital transformation of businesses where at least 75 % of Union enterprises having taken up one or more of the following, in line with their business operations: cloud computing services; big data; artificial intelligence.

Link to the target: The funded project facilitates the incorporation of digital technologies in language industry. It will facilitate the digitalisation and internationalization of companies involved in creating Data Space for the new economy of language, whose will be encouraged to adopt cloud computing services, big data, and AI.

Reference to RRP or other relevant documents/strategies: Component 12 Industrial Policy Spain 2030. Investment 1: "Sectoral Data Spaces to digitised strategic production sectors".

Tentative timeline:

- General Action Protocol signed by the Government of Spain and the Government of La Rioja: 07/12/2022.
- Official Collaboration Agreement signed: 03/06/2023.

Budget allocated or planned and, if relevant, other resources – including human resources – allocated:

Public investment: EUR 44.67 million / Already allocated: EUR 44.67 million

- Thereof from EU sources: EUR 20.8 million / Already allocated: EUR 20.8 million
- Thereof from regional sources: EUR 23.87 million / Already allocated: EUR 23.87 million

Expected impact and related timing: The linguistic infrastructure generated by this project will allow for a qualitative leap in the digitalisation of Public Administration. It will facilitate the digitalisation and internationalization of companies, making the language industry more competitive by taking advantage of the opportunities currently offered by Artificial Intelligence and Language Technologies. Additionally, it will generate new qualified job positions not only in the value chain of the language economy but also in other sectors such as tourism, culture, heritage, etc.

Project starts in Q2-2023 and will be finished by Q4-2025.

Name of the measure: Grants Program for Demonstrators and Use Cases in Sectoral Data Spaces

Responsible unit: SGEDD **New measure:** Yes

Short description: The primary aim of the Program is to facilitate the establishment of Sectorial Data Spaces in Spain through the provision of grants for demonstrators and use cases.

The key beneficiaries of these grants are Innovative Business Associations for the demonstrators and for the use cases, other enterprise will be included. Both sub programs prioritize the participation of small and medium-sized enterprises (SMEs)...Both subprograms prioritize the participation of small and medium-sized enterprises (SMEs). To be eligible for these grants, companies must meet the requirements specified in the grant regulations. The allocation of financial assistance will be determined based on the evaluation of their compliance with the stipulated criteria.

These grants are of a partial nature, as their coverage ranges from 25% to 60% of the project costs. The program regulation basis is expected to be published in July 2023 and the deadline for the implementation of demonstrators and uses cases for the Sectorial Data Spaces extends until 2025.

List of concrete actions implemented/planned:

The Implementation of these grants is scheduled as follows:

• Publication of Regulation Basis (July 2023)

- Call for proposals (End 2023)
- Concession of the grants (2024)
- Execution and supervision (2024-2025)

Digital target: The digital transformation of businesses where at least 75 % of Union enterprises having taken up one or more of the following, in line with their business operations: cloud computing services; big data; artificial intelligence.

Link to the target: These projects will allow companies to participate in the sectorial data spaces created and therefore it will promote their use of cloud, IA and big data technologies.

Moreover, it is closely linked to the development of the European Data Economy, specifically aimed at enhancing the Spanish Data Economy. It is crucial that the Spanish Data Economy, during its development and in the future, becomes interconnected with the Data Economy of other Member States. The interoperability of these Sectorial Data Spaces is a fundamental requirement specified in the regulatory basis.

Reference to RRP or other relevant documents/strategies: Component 12 Industrial Policy Spain 2030. Investment 1: "Sectoral Data Spaces to digitise strategic production sectors".

Tentative timeline: The regulatory basis will be published in Q3 2023 and the call for proposals in Q4 2023. During 2024 and 2025 both subprograms will be executed by the beneficiaries and supervised by the SGEDD.

Budget allocated or planned and, if relevant, other resources – including human resources – allocated:

Public investment: EUR 150 million / Planned: EUR 0 million

- Thereof from EU sources: EUR 150 million / Planned: EUR 150 million

Expected impact and related timing: Direct impact in the deployment of Data Spaces in those projects involved in the Use Cases subprogram, whereas those involved in the demonstrator subprogram will show more advances in time.

By the end of 2025 are expected to have already deployment at least 4 Data Spaces in strategic areas such as agro-food, mobility health & commerce, among others.

3.2.8 Digital late adopters

| Name of the measure: Digital Kit program | |
|--|------------------|
| Responsible unit: SGEDD / Red.es | New measure: Yes |

Short description: The objective of the Digital Kit program is to support SMEs in the adoption of digital solutions available in the market to achieve a significant advance in the level of digital maturity.

Beneficiary SMEs applying for these aids receive a digital voucher with a financial sum, which they can allocate according to their specific needs. They must select from various digital solution categories provided by expert businesses, also known as digitalizing agents, that will deliver services from the catalogue.

In order to obtain the Digital Kit subsidy, companies must register in the Acelera Pyme platform and complete a digital maturity self-diagnostic test. This test aims to identify the digital solutions most suitable for each SME.

The implementation of the Digital Kit program will help to promote:

- Electronic commerce.
- The digitalisation of the relations of the SMEs with the Administration, with their clients and providers.
- The digitalisation of SMEs internal processes.
- The implementation of electronic invoicing.

List of concrete actions implemented/planned:

- March 2022: Call for segment 1 opened (companies from 10 to less than 50 employees) with a budget of EUR 600 million.
- September 2022: Call for segment 2 opened (companies from 3 to less than 10 employees) with a budget of EUR 500 million.
- October 2022: Call for segment 3 opened (companies from 0 to less than 3 employees) with a budget of EUR 500 million.
- Planned; September 2023: Call for SMEs types not covered in the first 3 calls: Communities of properties, Professional civil partnerships, Shared-ownership agricultural holdings, and Civil companies with a commercial purpose, for all 3 segments (companies from 0 to less than 50 employees) with a budget of EUR 100 million.
- Planned; (pendant approval from the European Commission, by the end of 2023): Call for segments 4 and 5 will open (companies from 50 to 250 employees) with an estimated budget of 350 million.

Digital target: The digital transformation of businesses where at least 75 % of Union enterprises having taken up one or more of the following, in line with their business operations: cloud computing services, big data, artificial intelligence.

Link to the target: A large number of solutions offered in the Digital Kit contribute to the adoption of cloud and big data (BI & Analytics, client management software,

process management software, virtual office services, etc.), therefore contributing to the take up of advances digital technologies.

Reference to RRP or other relevant documents/strategies: Component 13. Promotion of SMEs C13.I3 Digitalisation and Innovation.

Tentative timeline: This programme started in 2021 and is expected to run until December 2026.

After the first call of the programme in March 2021 (companies from 10 to less than 50 employees), the second call (companies from 3 to less than 10 employees) took place in September, while the third call (companies from 0 to less than 3 employees) was opened in October.

Budget allocated or planned and, if relevant, other resources – including human resources – allocated:

Public investment from: EUR 3,067 million / Already allocated: EUR 1,200 million - Planned: EUR 1,872 million

- Thereof from EU sources (Next Generation): EUR 3,067 million / Already allocated: EUR 1,200 million - Planned: EUR 1,872 million

Expected impact and related timing: As it has been reported to the European Commission the expected impact by the end of 2023, 350,000 SMEs will receive funding and increase their level of digitalisation (11% of the total number of SMEs in Spain), and an additional 325,000 SME to receive funding and increase their level of digitalisation by the end of 2025 (19.5% of the total number of SMEs). Given the result of 675,000 SMEs impacted by the end of the programme.

So far, more than 294,176 grants have been awarded and more than EUR 1,200 million have been distributed to SMEs for their digitalisation. The beneficiary companies belong mainly to the commerce and hospitality sector, and digitization categories more implemented, by order, are websites (26%), process management (15%), social media management (16%), bi & analytics (6%), client management (8%) and cybersecurity (5%).

Name of the measure: Acelera pyme

Responsible unit: Red.es **New measure:** Yes

Short description: Acelera pyme aims to build a reference ecosystem for the digital transformation of SMEs, with the goal of contributing to the digitization and modernization of SMEs.

To this end, the programme includes a series of actions (complementary to the Digital Kit program) detailed below:

• Acelera pyme platform: This new portal was created with the aim of contributing as a boost to the digital transformation of SMEs and the self-employed in order to promote their growth and improve their competitiveness. All this, facilitating access to new analysis tools and content that allow SMEs to advance in their development

and technological transformation of their processes. It contains a digital self-diagnosis test that SMEs must complete in order to obtain the Digital Kit subsidy.

- Acelera pyme offices: This is a space, both physical and virtual, where SMEs and the self-employed receive advice of innovative methodologies to optimize the operation of their businesses through the incorporation of ICTs in their processes.
- Support and advice service for the digital transformation of SMEs (workshops and seminars): Seminars and workshops on topics related to the digital transformation of SMEs, providing advice and support in decision-making when addressing their transformation processes.

List of concrete actions implemented/planned:

- Platform: http:// Acelerapyme.gob.es
- Acelera Pyme offices:
 - o 27 offices resulting of the call for aids C009/20-ED that has been providing services along two years from May 2021.
 - o 56 offices for rural areas resulting of the call for aids C029/22-ED: provision of the service from September 2022 till September 2024.
 - o 34 offices resulting of the call for aids C032/22-ED that has just started providing services for the next two years (Jun 2023-2025).

Digital target: Digital late adopters: more than 90% of SME with at least basic level of digital intensity.

Link to the target: The aim of this measure is to provide participants with the necessary knowledge and skills to enter the labour market as agents of digital transformation, developing and implementing the SME Digitization roadmap.

Budget allocated or planned and, if relevant, other resources – including human resources – allocated:

Public investment: EUR 43 million / Already allocated: EUR 43 million:

- Acelerpyme.gob.es platform: EUR 4 million

- Acelerapyme offices: EUR 39 million

- Thereof from EU sources: EUR 43 million / Already allocated: EUR 43 million

Expected impact and related timing:

Acelerpyme.gob.es platform impact till July 2023:

- Visits: 26,604,495

- Registered users: 4,952,605

- Digital maturity test carried out: 602,498

- Advanced Digital Maturity test carried out: 240,296

Acelerpyme offices impact till July 2023:

- SMEs that had received individual advise for digitalisation: 32,695

- SMEs that had participate in group activities: 44,767

Name of the measure: Industria Conectada 4.0 Strategy

Responsible unit: MINCOTUR | **New measure:** Yes

Short description:

The **Industria Conectada 4.0** strategy seeks a triple objective:

- 1. To increase the industrial value added and the qualified job within the industry.
- 2. To stimulate the industrial model of the future for the Spanish industry, in order to boost the future industrial sectors of the Spanish economy and increase their growth potential developing the local offer of digital solutions.
- 3. To develop differential competitive levers to stimulate the Spanish industry and boost its exports.

List of concrete actions implemented/planned:

- **ACTIVA Industria 4.0 Program**: This program is focused on SMEs of the manufacturing industry in order to boost their transition to Industry 4.0.
- **ACTIVA Crecimiento Program**: This program is focused on all kinds of SMEs with the capacity for business growth.
- **ACTIVA Ciberseguridad Program**: This program is focused on all kinds of SMEs willing to improve or enhance their cybersecurity processes.
- **ACTIVA Startups Program**: This program supports the collaboration between startups and companies with potential for innovation.
- **HADA tool**: Online app that enables companies to get an assessment of their digital maturity status.
- Congreso de Industria y Pyme: Congress focused on both digitalisation/enabling technologies and challenges of the industry as whole and spanish SMEs.
- **Premios Nacionales Industria Conectada 4.0**: National awards that recognize the efforts of manufacturing companies into their digital transformation.

Digital target: Digital late adopters: more than 90% of SME with at least basic level of digital intensity.

Reference to RRP or other relevant documents/strategies:

Component 13. Promotion of SMEs C13.I2 Growth of SMEs.

Tentative timeline: The **Industria Conectada 4.0** strategy started in 2015 and is expected to continue in the future with no final time horizon.

Budget allocated or planned and, if relevant, other resources – including human resources – allocated:

Public investment: EUR 101 million / Already allocated: EUR 101 million

- Thereof from EU sources: EUR 101 million / EUR 101 million
- **ACTIVA Industria 4.0 Program**: 50 hours of personalized advice to SMEs in order to boost their digital transformation. Each program's cost is entirely subsidized with RRF funds and is worth 7,400 euros (in-kind support). The total allocated budget coming from RRF funds is up to 30.92 million Euros.
- **ACTIVA Crecimiento Program**: 50 hours of personalized advice to SMEs in order to boost their growth and competitiveness. Each program's cost is entirely subsidized with RRF funds and is worth 6,150 euros (in-kind support). The total allocated budget coming from RRF funds is up to 20.25 million Euros.
- **ACTIVA Ciberseguridad Program**: 20 hours of personalized advice to SMEs in order to establish their own cibersecurity plan. Each program's cost is entirely subsidized with RRF funds and is worth 2,140 euros (in-kind support). The total allocated budget coming from RRF funds is up to 12.19 million Euros.
- **ACTIVA Startups Program**: this program supports the collaboration between startups and companies with potential for innovation. The total allocated budget coming from RRF funds is up to 37.64 million Euros.

Expected impact and related timing:

So far, a relevant number of SMEs have benefited from the different ACTIVA Programs:

- 960 SMEs have benefited from ACTIVA Industria 4.0 Program
- 955 SMEs have benefited from ACTIVA Crecimiento Program
- 275 SMEs have benefited from ACTIVA Ciberseguridad Program
- 464 SMEs have benefited from ACTIVA StartUps Program

Name of the measure: Agents of Change

Responsible unit: SGEDD **New measure:** Yes

Short description: This program offers subsidies to companies from 10 to 249 employees to hire young employees with an expertise on SME digitalisation. The final aim of the program is to promote the digitalisation of these SMEs, promoting the hiring of young digitalisation specialists, which are very demanded by big companies, while SMEs usually suffer from more difficulties competing for these specialists. The subsidies amount to a maximum of 20,000 euros per company, in monthly payments of up to 1,000 euros.

The implementation of the 'Agents of Change' program will contribute to:

- Identify digitization opportunities of the SMEs.
- Carry out organizational and cultural change.

- The digitalisation of SMEs internal processes.
- The digital transformation of SMEs.

List of concrete actions implemented/planned:

- December 2022: Regulatory Bases and First Call published with a budget of EUR 121 million
- April 2023: Open period for admission of applications
- September 2023: First vouchers delivered to SMEs
- November 2023: Expected first formalized contracts between SMEs and experts
- Before end 2023: Second Call planned with a budget of EUR 179 million

Digital target: Digital Late Adopters: more than 90% of Union SMEs reach at least a basic level of digital intensity.

Link to the target: The final aim of the programme is to promote the digitalisation of these SMEs, promoting the hiring of digitalisation specialists, which are very demanded by SMEs in order to help them with the digital transformation. The digital expert hired will help the SME to create the roadmap to digitalize the company, including the acquisition and implementation of new technologies such as cloud, IA or bid data as part of their business operation process.

Reference to RRP or other relevant documents/strategies: Component 13. Promotion of SMEs and Investment 3: Digitalisation and Innovation.

Tentative timeline:

The regulatory basis (Orden ETD/1345/2022) of the program were published in December 2022 and it will finish at December 2025.

After the first call publication of the program in December 2022, and the opening of the call in April 2023. The second call is expected to be open before Q4 2023

Budget allocated or planned and, if relevant, other resources – including human resources – allocated:

Public investment: EUR 300 million / Already allocated: EUR 121 million - Planned: EUR 179 million (before 2024)

- Thereof from EU sources: EUR 300 million / Already allocated: EUR 121 million / Planned: EUR 179 million

Expected impact and related timing: 15,000 SMEs receive funding and formalize contracts with trained specialist (Agents of Change) before Q3 2024 which contribute to their digital transformation before Q4 2025. This will increase the number of SMEs with at least a basic level of digital intensity.

Name of the measure: Generation D SMEs

Responsible unit: EOI **New measure:** Yes

Short description: This measure aims to provide skills in digital transformation for people from management teams and other areas of SMEs so that they can drive the digital transformation of their companies and thereby improve productivity and their chances of growth and internationalization. By doing so, this measure addresses significant digital skills mismatches in SMEs and micro-enterprises' workforce. Trained managers are expected to drive the digital transformation of their companies by hiring ICT specialists and providing training to their employees, covering three areas in which Spain performs below the EU average.

The program is managed through grants to leading training entities in Spain, which will provide the training throughout the country. Interested individuals can apply for a "training voucher" that allows them to enrol in one of these entities. The training includes 140 hours of instruction and 10 hours of tutoring, combining face-to-face and virtual modalities. It aims to develop knowledge and skills to identify areas of digitalisation opportunity and determine the actions and means to address them. The training will be free for participants, and in its first phase, it is aimed at executives of SMEs located in Spain with between 10 and 250 employees, applying to a maximum of 2 directors per company.

List of concrete actions implemented/planned:

- First phase (60% of the budget) has been published and training entities have been selected. Enrolment process is being carried out. 1st call for grants awarded to 28 training entities to train 56,740 people from management teams. Nowadays, the training companies are starting to launch the training programmes. Budget allocated: 147,524,000€
- Second phase (40% of the budget) will be published by Q3 2023. This 2nd call for grants is currently being processed to train 37.820 people from management teams. Committed budget: 98,332,000€

Digital target: Digital Late Adopters: more than 90% of Union SMEs reach at least a basic level of digital intensity.

Link to the target: The aim of this measure is providing the people of SME management teams with the knowledge and skills necessary to promote the digital transformation management of their companies and thereby improve productivity and their possibilities of growth and internationalization.

Reference to RRP or other relevant documents/strategies: Component 19: National Plan for Digital Skills C19.I3 "Digital Skills for Employment".

Tentative timeline: The program started in December 2022 and is expected to finish in December 2025.

Budget allocated or planned and, if relevant, other resources – including human resources – allocated: Public investment: EUR 256 million / Already allocated: EUR 147,5 million – Planned: EUR 98,33 million.

Thereof from EU sources: EUR 256 million / Already allocated: EUR 147.5 million - Planned: EUR 98.33 million.

Expected impact and related timing: By Q4 2025, it is expected that 94 548 people will have been trained.

Name of the measure: DigitalICEX

Responsible unit: Information technology directorate

New measure: No

Short description: Digital tools to improve access for companies to the services offered by ICEX. That is:

- Tools that allow creating an ICEX virtual environment that enables organizing networking and business matching activities and show rooms in a virtual environment.
- Digitization of ICEX's training offerings.

List of concrete actions implemented/planned:

Regarding tools that allow creating an ICEX virtual environment: that enables organizing networking and business matching activities and show rooms in a virtual environment.

- Definition of projects to be addressed and preparation and processing of tenders for their implementation.
- The new process automation platform (Appian) is underway.

Regarding the digitization of ICEX's training offerings.

- Definition, design, and content of the on-line platform.
- Definition, design, preparation, and processing of associated tenders: Campus ICEX LXP, SIS Tool, Edition and Transformation of the Internationalization Manual 3rd Ed., Marketing Plan and Campus Content Factory.
- New dictionary map of company internationalization competencies.

Digital target or general objective: Digital late adopters: more than 90% of SME with at least basic level of digital intensity.

Link to the target or objective: DigitalICEX employs digital tools to enhance ICEX's services for companies. This includes a virtual environment for networking and showrooms, and digitizing ICEX's training. Actions include introducing the Appian platform, designing online training platforms, and updating resources. The goal is to boost digital adoption, aiming for 90% of SMEs to achieve basic digital intensity.

Reference to RRP or other relevant documents/strategies: Component 13. Promotion of SMEs C13.I3 Digitization and Innovation of SMEs.

Tentative timeline: Tools implemented by 31/12/2024.

Budget allocated or planned and, if relevant, other resources – including human resources – allocated:

Public investment: EUR 5.2 million / Already allocated: EUR 5.2 million

Thereof from EU sources: EUR 5.2 million / Already allocated: EUR 5.2 million

Expected impact and related timing: The improvement of access to ICEX's services catalogue, 100% digitised, is expected to incorporate approximately 2,000 new clients yearly to ICEX services.

Name of the measure: RETECH Ciberseguridad

Responsible unit: New measure: Yes

INCIBE

Short description: Territorial Networks of Technological Specialization (RETECH) are a tool to make digital transformation a reality throughout the territory, making the most of the potential of each region. Its objective is to launch territorial digital transformation projects jointly driven by several regions that will allow supporting tractor projects, fostering regional leadership and cooperation in the promotion of tractor projects of high territorial and economic impact, promoting 9 lines of action (Artificial Intelligence and other enabling digital technologies applied to industries, Digital Twins, Digital Health, FashionTech, GreenTech, Cybersecurity, Digital Entrepreneurship Networks, Technology with social impact and RuralTech).

RETECH Ciberseguridad is a strategic initiative of the country for the development of the cybersecurity ecosystem (capabilities, industry, R+D+i, talent, etc.), which, with the coordination of INCIBE, will bring together 15 autonomous communities in its first phase.

The main objectives of the RETECH initiative are:

- 1. Contribute to closing the existing territorial gap.
- 2. To articulate regional projects aimed at digital transformation and specialization.
- 3. Promote leadership and interregional cooperation in the promotion of driving projects of high territorial and economic impact.
- 4. Generate or promote disruptive initiatives based on the different visions, experiences and knowledge acquired by regional administrations.
- 5. Promote tractor effects in the territory as a whole to move towards new models of more sustainable and inclusive development.

List of concrete actions implemented/planned: The launch of the project took place on March 24, 2023, at an event in which the memorandums of understanding were signed with the participating autonomous communities and which make up 3 participating NODES:

- NODE 1 - Cybersecurity Nodes Network ("ARGOS Network"): Whose objective is to boost and strengthen the national cybersecurity ecosystem and increase the global adoption of cybersecurity, mainly by companies, based on the generation of specialized

capabilities and the networking of different regional cybersecurity nodes. This project is made up of the Autonomous Communities of Castilla y León (as coordinator of the node and with actions in the aerospace and mobility fields), the Basque Country (smart industry and energy), Andalusia (health and smart cities) and Madrid (health).

- NODE2 Deployment of the Innovation and Competence Centre in health sciences, Smart Transportation, connected industry and operational excellence, with the aim of expanding, developing and promoting the technological and industrial cyber capabilities necessary to ensure digital security in the strategic areas determined by each of the Autonomous Communities that make up this node, consisting of Catalonia (as node coordinator), the Valencian Community and Galicia.
- NODE3 CIBERREG Impulso a la Ciberseguridad desde los territorios: Which aims to be a unique and collaborative work environment with a high degree of participation of Autonomous Communities so that, based on the actions and experiences of each region, the working groups and forums created to share progress collaboratively allow a qualitative advance in the adoption of the principles of cybersecurity in the economic fabric of each territory. This project is made up of the Autonomous Communities of Navarra (as coordinator of the node and with actions for SMEs and citizens, green energy, food and electric and connected mobility), Asturias (Industry 4. 0, defence and agri-food companies), Canary Islands (tourism, SMEs and self-employed and construction), Cantabria (industry, blue economy, agri-food, health and culture and tourism), Castilla-La Mancha (ICT companies), Extremadura (rural environment, SMEs and self-employed and citizenship), Balearic Islands (tourism) and Murcia (agri-food).

Digital target or general objective: Digital late adopters: more than 90% of SME with at least basic level of digital intensity.

Link to the target or objective: RETECH contributes to the main objective of Europe's Digital Decade. It is aligned with these 4 cross-cutting axes (skills, digital transformation of companies, secure and sustainable digital infrastructures and digitization of public services) and will enhance the capillarization at regional level of the measures implemented in the field of cybersecurity and digitization.

Reference to RRP or other relevant documents/strategies: Component 15. Digital connectivity, promotion of cybersecurity and deployment of 5G C15.I7 Cybersecurity: Strengthening the capacities of citizens, SMEs and professionals; and Promotion of the sector ecosystem.

Component 19 National Plan of Digital Competences (digital skills). C19.I4. Digital professionals. Scholarship programs for digital talent.

Tentative timeline: The relevant intermediate milestones will be established in the Annual Operating Plans derived from the signing of the agreements and intermediate measurements and indicators will be established for the validation and verification of the fulfilment of such milestones.

Once the Agreements that make up the RETECH initiative have been signed, the Annual Operating Plan for the first year will be planned annually and must be approved within two months of the signing of the respective Agreement. For the 2024, 2025 and 2026 annuities, the Plan will be prepared by the Bilateral Commissions before

December 1 of the previous annuity and must be approved by the Agreement Monitoring Committee before December 15.

The execution term of the RETECH Cybersecurity program will be assimilated to the completion terms of C15.I7 (June 30, 2026) and C19.I4 (December 31, 2025), in each case.

Budget allocated or planned and, if relevant, other resources – including human resources – allocated:

Thereof from EU sources: EUR 110,719,008/ Planned: EUR 110,719,008

Thereof from Comunidades Autónomas sources: EUR 38,235,796.51 / Planned: EUR 38,235,796.51

The budget is already planned and will be allocated according to the budget items transcribed in the respective Agreements.

Expected impact and related timing: The estimated impact and the temporality of the same, will be determined in the Annual Operational Plans and depending on the projects that are finally carried out within each node and each Autonomous Community.

- The RETECH Cybersecurity programs will develop initiatives focused on attracting and generating talent to the cybersecurity sector, through training in cybersecurity at both the supply and demand levels. Likewise, initiatives will be launched with the aim of training and raising the awareness of citizens in basic cybersecurity skills for an appropriate and safe use of new technologies.
- In the axis of digital transformation of companies, RETECH Cybersecurity programs will launch initiatives to promote entrepreneurship and acceleration of cybersecurity companies, increase the global adoption of cybersecurity measures, from the design and the other stages in the development of new solutions and awareness at the level of companies, SMEs and self-employed in the use of digitization with a secure and sustainable approach.
- In the axis of secure and sustainable digital infrastructures, actions will be implemented to help improve capabilities (infrastructure, equipment and resources) at regional and local level, improving the deployment of new technologies with the cybersecurity factor by default. Likewise, innovation and research actions will be promoted in the field of ICT cybersecurity.

3.2.9 Innovative businesses/scale-ups (unicorns)

Name of the measure: FOND-ICO Next Tech

Responsible unit: ICO, AXIS,
SEDIA

New measure: No

Short description. Fond-ICO Next Tech is a joint initiative of the Instituto de Crédito Oficial and the Secretary of State for Digitalisation and Artificial Intelligence.

The goal of this fund is to promote the development of high-impact innovative digital projects and investment in scale-ups by strengthening public financing instruments, attracting international funds and boosting the venture capital sector. It is constituted as a fund of funds aimed at either supporting other private venture capital funds that invest primarily in scaleups, or participating directly in the capital of such companies.

It aims to mobilize up to 8,000 million euros in public-private partnerships with the Spanish venture capital sector by taking stakes and subscribing commitments in companies/funds specialized primarily in digital and artificial intelligence sectors.

List of concrete actions implemented/planned As of June 15, 2023, Fond-ICO Next Tech has approved 9 investment commitments for €1 364.3 million, which include:

- Four operations in funds, for a total amount of €310 M.
- Four direct investments in companies, amounting to €54.3 million.
- Commitment to participate in a pan-European initiative (ETCI) to set up a large fund of funds at a European level to compete with countries such as the United States or China (€400 million in the first phase, with the possibility of increasing the amount to €1 000 million).

Digital target: Innovative businesses/scale-ups (unicorns): The digital transformation of businesses where the Union facilitating the growth of its innovative scale-ups and improving their access to finance, leading to at least doubling the number of unicorns.

Link to the target or objective: Fond-ICO Next Tech is focused on the creation of larger funds in order to provide the financing rounds necessary for the growth of scale-ups, and the development of highly innovative sectors (in the digital and artificial intelligence fields), including edge computing, cloud computing, green algorithms, biometrics and digital identity, blockchain technology, etc. Therefore, this measure is expected to contribute directly to the achievement of the transformation of businesses.

Reference to RRP or other relevant documents/strategies: The measure is included in Investment 7 of Component 13 of the Recovery, Transformation and Resilience Plan of Spain.

It is also included in the "Agenda España Digital". Specifically, it is framed as a measure within axis 6: "Digital transformation of the company and digital entrepreneurship" and measure 26: "Modernization of the financial architecture for supporting digital entrepreneurship".

Tentative timeline: The fund was established in June 2021 with contributions from the Instituto de Crédito Oficial and the first investment was approved in February 2022.

Following the approval of the addendum to the Spanish Recovery Plan, the Fund will be endowed with €4,000 million to finance operations approved as of January 2022 and is expected to be available until 2026.

The objective established in the addendum to the RRP is the approval of 100% of the total amount of the fund, up to 4,000 million euros, in 2026. It is estimated that the amount subscribed on that date would be 50% of the total fund.

Budget allocated or planned and, if relevant, other resources – including human resources – allocated: Public investment: EUR 4,000 million / Already allocated: EUR 1,364.3 million - Planned: EUR 2.635.7 million

Thereof from EU sources: EUR 4,000 million / Already allocated: EUR 1,364.3 million - Planned: EUR 2,635.7 million

Private investment (if known): at least EUR 4,000 million

Expected impact and related timing: In the field of startups and SMEs, it has been highlighted how access to financing is a barrier to the development and growth of projects. Specifically, 20% of scaleups end up moving their headquarters to other regions and markets in which to grow. The Next Fund aims to help reduce this gap.

Name of the measure: Oficina Nacional de Emprendimiento

Responsible unit: Red.es **New measure:** No

Short description: Creation of a virtual platform that acts as a meeting point, brings together efforts and serves as a reference for SMEs, freelancers and start-ups in all matters relating to innovative entrepreneurship.

List of concrete actions implemented/planned: The platform will enable the following objectives to be met through the actions listed below:

- Favouring innovative entrepreneurship in Spain: support and information on administrative procedures (creation and procedures for companies, student startups, integration with different departments of the Public Administrations), on programmes, grants and public and private calls for innovative entrepreneurship, on scaling and international projection, provision of tools for start-ups, etc.
- Attracting international talent: information on visas, conditions for setting up in Spain, formalities and procedures, tax and social security information, etc.
- Offer training resources in areas such as methodologies and business management, financing, legal and bureaucratic matters, digitalisation, internationalisation, etc.
- Promote technological development and its financing: sectorial information, calls for grants, financing, etc.
- Facilitate collaboration between the innovative entrepreneurial ecosystem: connection with European initiatives, connection and collaboration between agents of the ecosystem.
- Promote entrepreneurial culture: contents and resources related to women, rural environment, STEM/entrepreneurship in the educational system, entrepreneurship with social impact.

Digital target or general objective: Innovative businesses/scale-ups (unicorns): The digital transformation of businesses where the Union facilitating the growth of its innovative scale-ups and improving their access to finance, leading to at least doubling the number of unicorns.

Link to the target or objective: The National Entrepreneurship Office will be put into operation as a virtual point in which to centralize all the information related to digital and innovative entrepreneurship. At the same time, it will allow establishing networks of contacts between the different agents of the ecosystem, facilitating the link between companies, entrepreneurship support centres and investors.

By maximizing the information available to companies, offering training in business services, including digitalisation and innovation, and allowing collaboration between agents, it will become a transversal project to promote and improve the ecosystem in Spain.

Reference to RRP or other relevant documents/strategies: The measure is included in Investment 1 of Component 13 of the Recovery, Transformation and Resilience Plan.

It is also included in the "Agenda España Digital". Specifically, it is framed as a measure within axis 6: "Digital transformation of the company and digital entrepreneurship" and measure 25: "Promotion of digital entrepreneurship and start-up".

Tentative timeline: The development of the platform has already been put out to tender and the deadline for receipt of bids has passed. Once the contract is awarded and formalized, development of the platform is expected to begin in September 2023, with a first version of the platform available by the end of 2023. The platform will continue to be fed with content and new services for at least the next three years.

Budget allocated or planned and, if relevant, other resources – including human resources – allocated: It has a total allocated budget of EUR 60 million

Public investment: EUR 60 million / Already allocated: EUR 5.7 million - Planned: EUR 54.3 million

- Thereof from EU sources: EUR 60 million / Already allocated: EUR 5.7 million - Planned: EUR 54.3 million

Expected impact and related timing: As a measure included in the Recovery, Transformation and Resilience Plan, it is subject to the fulfilment of a target: "support of at least 12,000 active users on the virtual platform ONE - National Entrepreneurship Office".

However, it is expected that, over the next few years, the number of users on the platform benefiting from the services offered will be higher than the target.

Name of the measure: ENISA Emprendedoras Digitales

Responsible unit: SEDIA, New measure: No

ENISA

Short description: The ENISA Emprendedoras Digitales financing line aims to support and promote, through financing, female digital entrepreneurship projects, reducing the existing gender gap in this area.

To this end, it will mobilize up to a total of 51 million euros in participative loans. The loans will have a minimum amount of 25,000 euros up to a maximum of 1,500,000 euros for each beneficiary company.

The participative loans may be obtained by SMEs and scale-ups in which one or more women hold a relevant position of leadership or power within the company: in the shareholding, in the administrative body or as part of the management team. This line is aimed at both newly created companies and those that are considering a consolidation, growth or internationalization project.

List of concrete actions implemented/planned:

As of June 16, 2023, the status of ENISA Emprendedoras Digitales is as follows:

- 2021 Agreement: 69 loans signed and disbursed in the amount of €11,779,000.
- 2022 Agreement: 73 loans signed (59 disbursed and 14 pending disbursement) for an amount of €11,160,000 (€8,894,000 corresponding to funds already disbursed and €2,266,000 to those pending disbursement).

Digital target or general objective: Innovative businesses/scale-ups (unicorns): The digital transformation of businesses where the Union facilitating the growth of its innovative scale-ups and improving their access to finance, leading to at least doubling the number of unicorns.

Link to the target or objective: ENISA Emprendedoras Digitales is a line of financing aimed at promoting innovative business projects with a high technological content led by women. Therefore, it is expected that this measure will directly contribute to the development, growth and consolidation of innovative leading to at least doubling the number of unicorns.

Reference to RRP or other relevant documents/strategies: The measure is included in Investment 1 of Component 13 of the Recovery, Transformation and Resilience Plan.

It is also included in the "Agenda España Digital". Specifically, it is framed as a measure within axis 6: "Digital transformation of the company and digital entrepreneurship" and measure 26: "Modernization of the financial architecture for supporting digital entrepreneurship".

Tentative timeline: The programme started in 2021 and is expected to allocate 51 million euros until the end of 2023.

Budget allocated or planned and, if relevant, other resources – including human resources – allocated:

Of the \in 17 million per year to be transferred to ENISA in the period 2021-2023 (\in 51 million in total), \in 12 million correspond to funds from the RRM (\in 36 million in total), while \in 5 million come from the regular budget (\in 15 million in the total of the three fiscal years) of the Ministry of Economic Affairs and Digital Transformation.

Public investment: EUR 51 million / Already allocated: EUR 34 million - Planned: EUR 17 million

- Thereof from national sources: EUR 15 million / Already allocated: EUR 10 million Planned: EUR 5 million
- Thereof from EU sources: EUR 36 million / Already allocated: EUR 24 million Planned: EUR 12 million

Expected impact and related timing: The funding line should contribute to meeting the CID 195 objective: at least 200 women supported through lending by ENISA by Q4 2023.

Name of the measure: Desafía Program

Responsible unit: Red.es **New measure:** Yes

Short description: The Desafía Program aims to facilitate small Spanish companies to enter the most innovative technological ecosystems in the world. Desafía is focused on advising and accompanying Spanish companies towards innovative business ecosystems, as well as connecting with key agents, through experts within each ecosystem.

These are three immersion and support programs for start-ups:

- Desafía San Francisco: The Desafía San Francisco initiative will consist of a preparation period for the selected startups, followed by an immersion program in Silicon Valley to scale faster and globally. The main objective of the program is to provide an opportunity for the startups to explore Silicon Valley and generate networking opportunities, thus nurturing an entrepreneurial mindset.
- Desafía Tel Aviv: The objectives of the program are both the immersion of entrepreneurs in the Israeli business ecosystem, so that they acquire the experience and knowledge necessary to expand their business with the greatest chance of success, and to accelerate the insertion of Spanish start-ups in the Israeli market.
- Desafía Berlin: for Spanish companies in the mobility and automotive sectors, designed to help them scale faster by accelerating their internationalization process.
- Desafía London: an intensive program for cleantech startups, with elite executive training and networking opportunities. The experience includes an immersion in the United Kingdom's Golden Triangle: London, Oxford and Cambridge, offering workshops, visits and post-immersion follow-up.
- Desafía New York: Spanish startups and SMEs in the field of cybersecurity will participate in workshops, meetings and activities that not only inspire them but help them assess the strategic position of the company, plot improvements to ramp-up

growth, define a roadmap based on strategic and tactical considerations, start working on it and having direct contact with potential clients in the USA or abroad.

List of concrete actions implemented/planned:

- Prior preparation activities for companies: training activities and advice necessary to take advantage of the immersion program (presentation of the ecosystem, public speaking techniques, success stories, etc.).
- Immersion program: training and consultancy days in the specific ecosystem (introduction to key agents in the ecosystem, meetings with potential clients, collaborators or investors, presentation of the idiosyncrasy, technological and economic indicators, success stories, etc.).
- Actions to create a community of companies participating in every Desafía program.
- Individualized expert advice service for entry into the reference ecosystem, as a transversal service to the previous activities.

Digital target: Innovative businesses/scale-ups: The digital transformation of businesses where the Union facilitating the growth of its innovative scale-ups and improving their access to finance, leading to at least doubling the number of unicorns.

Link to the target: The Desafía Program catalyses innovative businesses and scale-ups in Spain through expert guidance and ecosystem connections. It fosters digital transformation, innovation, and improved access to finance, propelling the growth of these scale-ups. By linking to global tech ecosystems, Desafía drives innovation, facilitating the creation of potential unicorns and bolstering Spain's technological growth and competitiveness.

Reference to RRP or other relevant documents/strategies: Component 13. Promotion of SMEs C13.I5 Internationalization.

Tentative timeline: The initiative started in 2011 (under the name 'Spain Tech Centre') only in San Francisco. In 2014 the activities pivoted to what it is now. The current name was launched in 2019 along with the new Desafía Tel Aviv. In 2023 Desafía Berlín and Desafía London started activities. In Q4 2023 Desafía Nueva York will be launched. The program will be ended by Q4 2024.

Budget allocated or planned and, if relevant, other resources – including human resources – allocated:

Public investment (2022 onwards): EUR 3,5 million / Already allocated: EUR 0,6 million - Planned: EUR 2,9 million

- Thereof from national sources: EUR 1,6 million / Already allocated: EUR 0,3 million Planned: EUR 1,3 million
- Thereof from EU sources: EUR 1,9 million / Already allocated: EUR 0,3 million Planned: EUR 1,6 million

Expected impact and related timing: ~100 startups and SMEs will participate in the different Desafía programs by the end of 2024.

Name of the measure: The Innovative Business Groups Support Program (AEI)

Responsible unit: MINCOTUR | **New measure:** Yes

Short description: The Innovative Business Groups Support Program (AEI) seeks to enhance the competitiveness of small and medium enterprises by providing public resources to bolster innovation and business strategies. These strategies are developed by Innovative Business Clusters, which unify companies and research centres, fostering a collaborative environment for the development of joint innovative projects.

The types of activities and projects that may receive support from the program will be specified in each call, and can include the following:

- Support activities for the operation of Innovative Business Clusters (Line 1).
- Technical feasibility studies (Line 2).
- Digital Technologies Projects (Line 3).

The current phase of this program is focused on supporting digitization projects of the value chain of the different industrial sectors (clusters recognized as AEIs by the Ministry of Commerce, Industry and Tourism), with a double objective:

- Modernize the Spanish economy by promoting value chain digitization projects.
- Help SMEs in this task since they are the weakest link in the chains.

So far, 107 clusters have been created throughout Spain that link more than 10,000 companies, of which 80% are SMEs with a volume of employment of more than 2 million workers.

List of concrete actions implemented/planned-

- In October 2021, the first call of the Recovery, Transformation and Resilience Plan was launched with a budget of €20,000,000.
- In February 2022 the ordinary call for proposals of €8,000,000 of national budget was launched.
- In June 2022 the second call for proposals of €50,000,000 of the Recovery Plan budget was launched.
- In 2023, a single call for proposals has been published with a national budget (€7,560,000) and a Recovery Plan budget (€46,440,000).

Digital target: Innovative businesses/scale-ups (unicorns): The digital transformation of businesses where the Union facilitating the growth of its innovative scale-ups and improving their access to finance, leading to at least doubling the number of unicorns.

Reference to RRP or other relevant documents/strategies:

Component 13. Promotion of SMEs C13.I3 Digitization and Innovation of SMEs.

Tentative timeline: The programme was launched in 2007 and a review of the programme conditions took place in 2014. A new Regulation was approved during the

last quarter of 2021 (Order ICT/1117/2021, of 9 October 2021) to enable Next Generation funding (in addition to State Budget).

- National Recovery Plan (component 13 "Boosting SME", Investment 3, Digitalisation and innovation, which aims to equip SMEs with the necessary skills and tools to contribute to the digital transition and meet the challenges arising from it) approved €115 million of investment for the period 2021-2023 (€20 million in 2021, €50 million in 2022 and €45 million in 2023).

Budget allocated or planned and, if relevant, other resources – including human resources – allocated:

From 2021 Public investment: EUR 139 million / Already allocated: EUR 139 million

- Thereof from national sources: EUR 24 million / Already allocated: EUR 23.56 million
- Thereof from EU sources: EUR 115 million / Already allocated: EUR 115 million

Expected impact and related timing:

Approximately 85% of the entities benefiting from the programme are SMEs.

Through this programme by the end of 2025, 1,133 SMEs will have completed actions aimed at increasing their use of digital technologies.

Name of the measure: Innovative Public Procurement

Responsible unit: INCIBE | **New measure:** Yes

Short description: Innovative Public Procurement is a tool to drive innovation and competitiveness, using public demand for products, services, and supplies to implement public policies and execute mandates of purchasing entities. The Innovative Public Procurement Initiative by INCIBE, with a funding of 224 million, aims to carry out a series of actions to boost R&D and the creation of products and solutions in the field of cybersecurity through Public Procurement of Innovation.

The initiative aims to cover actions such as joint R&D programs between INCIBE and leading industrial companies, and the creation of remote cybersecurity solutions by a wide range of SMEs. It focuses on developing cybersecurity solutions for strategic sectors and SME's and enhancing public sector services. Furthermore, it promotes the development of highly innovative technological solutions by SMEs and entrepreneurs to boost cybersecurity capabilities across various fields and pave the way for future solutions.

List of concrete actions implemented/planned:

- Since June 2021 to June 2022: process of preliminary market consultation (https://www.incibe.es/industria-cpi/consulta-preliminar).
- July 1, 2022: publication of the first tender of the initiative, with bid code CPP001/22 (https://contrataciondelestado.es/wps/wcm/connect/aad408a3-03eb-4588-babb-031f135632bd/DOC_CN2022-941884.html?MOD=AJPERES).

- October 1, 2022: publication of the second tender of the initiative, with bid code CPP002/22
 - (https://contrataciondelestado.es/wps/wcm/connect/49014db0-eae6-4862-904c-a8bac9e8796e/DOC_CN2022-205633.html?MOD=AJPERES).
- April 2, 2023: publication of the third tender of the initiative, with bid code CPP001/23 (https://contrataciondelestado.es/wps/wcm/connect/01a63c21-6993-4655-b8b5-dab6cdf822de/DOC_CN2023-584694.html?MOD=AJPERES).
- June 2023: starting of signing of contracts between INCIBE and successful bidders.
- Since signing of contracts to June 2026: execution of contracts.

Digital target: Innovative businesses/scale-ups (unicorns): The digital transformation of businesses where the Union facilitating the growth of its innovative scale-ups and improving their access to finance, leading to at least doubling the number of unicorns.

Link to the target: This initiative boosts innovation and cybersecurity capabilities in businesses, including scale-ups. By funding and promoting the development of new cybersecurity solutions, it facilitates the digital transformation of these entities, enhancing their growth potential. This improves access to finance, increase their valuation, and contribute to the emergence of new unicorns, thus aligning with the target of doubling the number of unicorns.

Reference to RRP or other relevant documents/strategies: Component 15: Digital Connectivity, promotion of cybersecurity and deployment of 5G C15.I7 Cybersecurity: Strengthening the capacities of citizens, SMEs and professionals; and Promotion of the sector ecosystem.

Tentative timeline: The programme started in 2021 and will end in June 2026.

Budget allocated or planned and, if relevant, other resources – including human resources – allocated:

Public investment: EUR 213,4 million / Already allocated: EUR 117,4 million - Planned: EUR 96 million (estimated additional to those funds already allocated).

Thereof from EU sources: EUR 213,4 million / Already allocated: EUR 117,4 million - Planned: EUR 96 million (estimated additional to those funds already allocated).

Private investment: EUR 39 million / Already allocated: EUR 31 million - Planned: EUR 8 million (estimated additional to those funds already allocated).

Expected impact and related timing: Approx. 100 companies (over 80% SMEs) receive funding to invest in R&D&i in cybersecurity, and as a result they develop over 130 innovation projects in cybersecurity until the end of June of 2026.

Name of the measure: INCIBE Emprende

Responsible unit: INCIBE New measure: Yes

Short description: INCIBE Emprende is an entrepreneurship program tailored for start-ups and entrepreneurs with cybersecurity-oriented projects and ideas. The program encompasses and promotes various activities aiming to foster cybersecurity entrepreneurship in Spain at every stage. These include:

- #INCIBEinspira, which is designed to identify entrepreneurial talent and encourage initiatives that address cybersecurity challenges and opportunities.
- CiberEmprende aligns with the incubation phase, aiming to attract and promote innovative talent in cybersecurity as well as cybersecurity support within the innovation process to seed-stage ideas and projects, contributing to business development.
- Cybersecurity Ventures is an acceleration program for start-ups, offering to cybersecurity start-ups and to start-ups from other sectors that requires cybersecurity support, individualized guidance through a roadmap that outlines the acceleration plan and identifies value-creation milestones in the start-up.
- Express acceleration, tutors the implementation of a cybersecurity component in a SME.

List of concrete actions implemented/planned:

- Recruitment actions
- Incubation actions
- Acceleration actions

Digital target: Innovative businesses/scale-ups (unicorns): The digital transformation of businesses where the Union facilitating the growth of its innovative scale-ups and improving their access to finance, leading to at least doubling the number of unicorns.

Link to the target: INCIBE Emprende program supports innovative businesses and scale-ups in achieving digital transformation and improving access to finance. By targeting entrepreneurship in cybersecurity and cybersecurity in the entrepreneurship, it encourages the development of innovative solutions and the growth of this innovative scale-ups. Contributing to the goal of increasing the number of unicorns and facilitating the cybersecurity growth of innovative scale-ups as well as the cybersecurity innovation.

Reference to RRP or other relevant documents/strategies: Component 15. Digital connectivity, promotion of cybersecurity and deployment of 5G C15.I7 Cybersecurity: Strengthening the capacities of citizens, SMEs and professionals; and Promotion of the sector ecosystem.

Tentative timeline: The programme will start in the fourth quarter of 2023 and will end on June 30, 2026.

Budget allocated or planned and, if relevant, other resources – including human resources – allocated:

INCIBE Investment Planned: EUR 76.12 million from EU sources (31.12 million for

grants and 45 for actions)

Private investment: EUR 19,285 million TOTAL Program: EUR 95,405 million

Expected impact and related timing:

Recruitment: September 2023- June 2026

• Talks: 1,842

• Workshops: 718

• Events: 343

Incubation: September 2023 – June 2026

• 75 editions (15-20 entrepreneurs for edition)

Acceleration: September 2023 – June 2026

• 62 editions (8 – 10 start-ups for edition)

Express acceleration: September 2023 – June 2026

• 435 Pymes (SMEs)

Name of the measure: NEOTEC

Responsible unit: CDTI **New measure:** No

Short description: The objective of the program is providing financial support to companies implementing new business projects that require the use of technologies or knowledge developed from the research activity, and in which the business strategy is based on the development of technology. To contribute to entrepreneurship and accelerate the transfer of knowledge from public research organizations and universities.

The most relevant aspect of the proposals presented in this line is the business strategy based on technology development (technology must be the company's competitive differentiation factor), based on the creation of its own R&D lines.

Through the NEOTEC program:

- Up to 70% of the eligible project budget can be funded.
- The maximum grant amount is 250,000 euros per beneficiary.
- Projects that involve hiring at least one PhD holder can receive funding up to 85% of the eligible budget, with a maximum grant amount of 325,000 euros per beneficiary.

List of concrete actions implemented/planned:

- The call for 2023 is currently in the evaluation process.
- Estimated resolution: final quarter 2023.
- New call planned for 2024.

Digital target: Innovative businesses/scale-ups (unicorns): The digital transformation of businesses where the Union facilitating the growth of its innovative scale-ups and improving their access to finance, leading to at least doubling the number of unicorns.

Link to the target: This program aids innovative companies in adopting technologies from research, driving technology-based business strategies. This aligns with the goal of supporting digital transformation in businesses and promoting innovative scale-ups, by improving finance access and encouraging growth, thereby doubling the number of highly valued startups.

Reference to RRP or other relevant documents/strategies:

Component 17. Institutional reform and strengthening of the capacities of the national science, technology, and innovation system C17.I5 Knowledge transfer.

Tentative timeline: In 2002, the first aid from the NEOTEC Program was approved through the granting of reimbursable aid. This type of aid was in force until 2014, when the program was rethought and transformed into an annual subsidy program. For the moment, NEOTEC plans to continue with the current format.

Budget allocated or planned and, if relevant, other resources – including human resources – allocated:

Public investment (2015-2023): EUR 240 million / Already allocated: EUR 200 million – Planned: EUR 40 million.

- · Thereof from national sources: EUR 133.55 million / Already allocated: EUR 128.55 million Planned: EUR 5 million
- · Thereof from EU sources: EUR 106.45 million / Already allocated: EUR 71.45 million Planned: EUR 35 million

Expected impact and related timing: According to the results obtained in the impact evaluation of the NEOTEC programme for the year 2022, NEOTEC is a financial tool that has been proved very valuable in the transfer and generation of knowledge and in the exploitation of this knowledge through companies that, although they need to strengthen their market positioning, show good signs (survival, access to financing and stability in the generation of employment) to achieve it.

Name of the measure: Innova Invest

Responsible unit: Executive management of invest in Spain

New measure: No

Short description: The INNOVA INVEST program supports foreign investment in R&D in Spain, through a line of subsidies aimed at companies with foreign capital. The program is design in such a way to encourage integration of these companies and their R&D activities into the Spanish productive and research ecosystem.

List of concrete actions implemented/planned:

2 calls for grants. Investment projects need to exceed €500,000, with a maximum support per beneficiary of €800,000. Projects are selected through competitive competition according to the criteria set forth in the call. The intensity of the aid will depend on the type of project and the size of the company, ranging from 25% to 70% of the project's expenditure.

Digital target or general objective: Innovative businesses/scale-ups (unicorns): The digital transformation of businesses where the Union facilitating the growth of its innovative scale-ups and improving their access to finance, leading to at least doubling the number of unicorns.

Link to the target or objective: The INNOVA INVEST program encourages foreign R&D investment in Spain, integrating foreign-capital companies into Spain's research ecosystem. This aligns with the aim to double the number of innovative scale-ups, or unicorns, in the Union.

Reference to RRP or other relevant documents/strategies: Innova Invest receives European Funds support through the Spanish Plan de Recuperación, Transformación y Resiliencia (Componente 13: Plan de impulse a la PyME).

Tentative timeline: Second call in 2023. Funds allocated by 31/12/2024.

Budget allocated or planned and, if relevant, other resources – including human resources – allocated:

Public investment: EUR 10 million / Already allocated: EUR 4.9 million - Planned: EUR 5.1 million

-Thereof from EU sources: EUR 10 million / Already allocated: EUR 4.9 million - Planned: EUR 5.1 million

Expected impact and related timing: The selected projects include R&D activities related to software, robotics, electric vehicle components, digital printing platforms, bioprocessing of cultured meat, artificial intelligence, blockchain or green hydrogen, all of them deeply related to the digital realm.

Name of the measure: Programa de Ampliación de la Base Exportadora (PABE)

Responsible unit: ICEX **New measure:** No

Short description: The PABE initiative is a strategic measure designed to bolster Spain's technological and international business landscape. It encompasses three pivotal projects: the development of an Autodiagnosis tool for self-assessment, the establishment of the APIEM consulting service to aid businesses in internationalization, and the launch of a modernized ICEX website. These projects not only involve the procurement of software and design services but also the nationwide expansion of the APIEM service, reflecting Spain's commitment to fostering a robust global business ecosystem.

List of concrete actions implemented/planned:

Regarding the self-diagnosis tool:

 Hiring and implementation of software and licenses for the exploitation of selfdiagnosis tool.

Regarding APIEM:

- Hiring consulting services for the provision of the service in all areas of Spain.
- Start of service in all areas.

Regarding new website:

Hiring of design, layout, user experience and positioning services.

Digital target or general objective: Innovative businesses/scale-ups (unicorns): The digital transformation of businesses where the Union facilitating the growth of its innovative scale-ups and improving their access to finance, leading to at least doubling the number of unicorns.

Link to the target or objective: The PABE initiative bolsters digital transformation, aiding innovative businesses in Spain. Through tools like Autodiagnosis, APIEM consulting, and a new ICEX website, it aims to enhance finance access for scale-ups, targeting a twofold increase in unicorns in line with the Union's goals.

Reference to RRP or other relevant documents/strategies: This set of initiatives receive European Funds support through the Spanish Plan de Recuperación, Transformación y Resiliencia (Componente 13: Plan de impulse a la PyME).

Tentative timeline: Tools implemented by 31/12/2024.

Budget allocated or planned and, if relevant, other resources – including human resources – allocated:

Public investment: EUR 6.25 million / Already allocated: EUR 6.25 million

-Thereof from EU sources: EUR 6.25 million / Already allocated: EUR 6.25 million

Expected impact and related timing: On broad terms, the objective of PABE is to increase the number of Spanish exporters, providing SMEs with no or little experience in exporting with personalized guidance.

The goal is to have all tools implemented by 31/12/2024. APIEM should reach 2 000 companies.

Name of the measure: Digital Innovation Hubs Support Program (PADIH)

Responsible unit: MINCOTUR | **New measure:** Yes

Short description: The PADIH foresees two parallel and complementary instruments, both integrated in the framework of the Recovery, Transformation and Resilience Plan (RTRP), aimed at ensuring the maximum participation of Spanish digital innovation hubs in the European EDIH network promoted by the Digital Europe Programme, always with the ultimate goal of supporting the digital transformation of SMEs using their services.

- 1. Orden ICT/1296/2022, 22 de December, which establishes the regulatory bases for the granting of aid (€22.7 million) to small and medium-sized enterprises within the Support Programme for Digital Innovation Hubs, within the framework of the Recovery, Transformation and Resilience Plan, and the first call for applications.
- 2. Real Decreto 174/2023, 14 March, which regulates the direct granting of subsidies (€15 million) to digital innovation centres within the Support Programme for Digital Innovation Hubs (PADIH), within the framework of the Recovery, Transformation and Resilience Plan.

List of concrete actions implemented/planned:

- Initial advice for the implementation of technologies.
- Testing and experimentation.
- Training for the acquisition of basic knowledge for the implementation and subsequent management of the technology.
- Advice in the search for funding for the implementation of the technology.
- Support for access to innovation networks and ecosystems.

Digital target: Innovative businesses: The digital transformation of businesses where the Union facilitates the growth of its innovative scale-ups and improving their access to finance and technology.

Reference to RRP or other relevant documents/strategies: Component 13. Promotion of SMEs C13.I3 Digitization and Innovation of SMEs.

Tentative timeline: The program started in December 2022 and is expected to be available until the end of 2025.

Budget allocated or planned and, if relevant, other resources – including human resources – allocated:

Public investment: EUR 37,590 million / Planned: EUR 37 590 million

-Thereof from EU sources: EUR 37,590 million / Planned: EUR 37,590 million

Orden ICT/1296/2022 (€22,59 million) Real Decreto 174/2023 (€15 million)

Expected impact and related timing: So far, 25 EDIHs have been created throughout Spain that will provide services to, at least, 1,250 SMEs until the end of 2025, as established in the Recovery, Transformation and Resilience Plan.

3.2.10 Digitalisation of public services: there is 100 % online accessible provision of key public services

Name of the measure: My Citizen Folder

Responsible unit: SGAD New measure: Yes

Short description: My citizen folder is developed with the aim of offering a general access point to basic citizen information, with simple and accessible language, which will offer all its services from a mobile app. It offers a unified access to consult the files in process in the different Administrations at local, regional and General State Administration level. Its main objective is to facilitate the relationship of citizens with the Public Administrations. The goal is that most of the state's digital public services will be accessible via mobile by the end of 2025.

This measure also has a roadmap, in which new functionalities and updates are expected until the second half of 2024. Among them, a digital onboarding system through video conferencing for the generation of credentials with a high security level stands out, enable the consultation of the birth certificate and its download, be able to make complaints to the state security forces and bodies, enable identification through the digital wallet and be able to consult the expiration and implementation of notices of the European Health Card, among others.

https://masinformacioncarpeta.carpetaciudadana.gob.es/infocc/dam/jcr:76a2eb87-0d97-4330-9607-299d3621d4e3/Hoja_de_Ruta_Mi_Carpeta_Ciudadana_v3_4.pdf

List of concrete actions implemented/planned:

- Launch of the beta version "My Citizen Folder" **DONE**
- Launch of the first official version of "My Citizen Folder" **DONE**
- Incorporation of new functionalities in the App: calculation of employment situation and benefits, supporting downloads, history of receipts and environmental label, incorporation of electronic notifications (Junta de Andalucía and Junta de Castilla y León) and configuration of notices and news in APP in real time and consultation of degree of dependence **DONE**
- New version of My Citizen Folder: consult the exchanges of personal data made between public administrations, confirm being up to date with tax obligations, alerts of the fiscal calendar, and electoral calendar, etc. **DONE**
- Mobile Application browser **TO DO**
- Consult of digital medical history of the National Health System TO DO
- Electronic Registration functionality in the App. **TO DO**
- Registration with video identification service in Clave **TO DO**
- Virtual assistant in APP TO DO
- Consultation of powers of attorney **TO DO**
- First local entities incorporated into the consultation of the status of files and electoral census **TO DO**

• Extension of the local entities and autonomous communities incorporated into the consultation of the status of files - **TO DO**

Digital target: Digitalisation of public services: there is 100% online accessible provision of key public services.

Link to the target or objective: My Citizen Folder aims to simplify the relationship through the internet and improve the interaction between the administration and citizens in an accessible, proactive and personalised way from any device. Thus, it contributes to the general goal of facilitating the online interaction with public administrations ensuring user-centricity, security and accessibility of digital public services, and contributes to the target by fostering cooperation between different Administrations to make public services easily available online.

Reference to RRP or other relevant documents/strategies: The project "My Citizen Folder" is defined in Axis 5 of "España Digital" and developed as measure 1 of the Digitalisation Plan of Public Administrations, in its Axis 1 for the Digital Transformation of the General State Administration.

Component 11: Modernization of Public Administrations. C11.I1 Modernization of Public Administrations.

Tentative timeline: The pilot program for the implementation of My Citizen Folder developed over October, November and December 2022 and the App was launched on 15 December 2022.

Budget allocated or planned and, if relevant, other resources – including human resources – allocated:

Public investment: EUR 0.73 million / Already allocated: EUR 0.73 million

- Thereof from EU sources: EUR 0.73 million / Already allocated: EUR 0.73 million

Expected impact and related timing: According to the last data available, the number of downloads is 1,407,241 and 10,024,440 accesses and 1,935,553 new users.

The expected impact is to achieve a centralization of information from the different Administrations in a single place to facilitate consultation and access by citizens and move the administration towards an inclusive, transparent, open, and citizen-centred model.

Name of the measure: GovTechLab

Responsible unit: SGAD **New measure:** Yes

Short description: The GovTechLab (GTL) is a framework for introducing innovation in the public sector using technology. It aims to bring the solutions of innovative companies closer to the public sector and vice versa; and on the other hand, introduce a culture of innovation in government development teams.

It is noteworthy that these laboratories seek innovation within public administrations, as opposed to citizen laboratories that act outside administrations. Therefore, they are designed to introduce changes in the internal ways of doing.

A GovTechLab benefits, in the first instance, citizens because they benefit from the improvement of services through innovation introduced in the administration.

What is expected from a GovTechLab?

- The development of innovative solutions. This involves the identification of challenges in the public sector and the proposal of ideas competition.
- Foster collaboration between government, the technology industry, and the citizen. Bringing innovative startups closer to the Administration and vice versa.
- Provide public employees with an environment conducive to experimentation.
- Play an important role in spreading the use of new technologies and best practices in GovTech.

List of concrete actions implemented/planned:

- Collaborate in the GovTech4all consortium **DOING**
- Launch activities in the project to promote the use of a clear language in the portals of the AGE **DOING**
- Develop a mini-site with information related to precise and plain language DOING
- Start-up of a validator node in the European Blockchain Service Infrastructure, managed by the General Secretariat for Digital Administration **DOING**
- Coordination of the EBSI-NE consortium for the evolution of the European blockchain infrastructure **DOING**
- Develop the GTL virtual space of information and to manage the shuttle TO
 DO
- Pilot testing for confidential computing **DOING**
- Identify and publish three challenges related to new technologies **TO DO**
 - Develop a pilot project of micro credentials for the homologation of degrees and skills in collaboration with ANECA of the Ministry of Universities.
 - o Proposal of a pilot program of identification credentials or representation of company and professional qualifications for exchange with the administration.
 - Apply blockchain technologies to the different processes of the supply chain, from distribution to inventory planning and management.
- Organize a workshop on enabling technologies for age TO DO
- Expansion of the map of capabilities in emerging technologies **TO DO**
- Explore the possibility of using new technologies for communication with the citizen **TO DO**

Digital target or general objective: Digitalisation of public services: there is 100 % online accessible provision of key public services.

Link to the target or objective: This initiative aims to modernize public administration, ensuring it is inclusive, efficient, user-friendly, accessible, and

transparent, aligning with the Digital Decade's goal of enhancing the accessibility of public services.

Reference to RRP or other relevant documents/strategies: The GovTechLab is defined in Axis 5 of "España Digital" and developed as Measure 3 of the Digitalisation Plan of Public Administrations, in its Axis 1 for the Digital Transformation of the General State Administration.

Component 11: Modernization of Public Administrations. C11.I1 Modernization of Public Administrations.

Tentative timeline: The programme started in October 2022 and a review of the programme conditions will take place at the beginning of the fourth quarter of 2025. The programme is expected to be available at least until the end of 2025.

Budget allocated or planned and, if relevant, other resources – including human resources – allocated:

Public investment: EUR 4.9 million/ Already allocated: EUR 4.9 million - Planned: EUR 4.9 million

- From EU sources: EUR 4.9 million / Already allocated: EUR 4.9 million - Planned: EUR 4.9 million

Expected impact and related timing: Analysis of the most frequently used pages by citizens when using Administration services. Enhance communication with citizens using a plainer language. Make innovation a fundamental part of work culture in Government Departments.

Name of the measure: App Factory

Responsible unit: SGAD **New measure:** Yes

Short description: The objective of this measure is to promote the development of quality mobile apps with which to improve access to public services, bring the administration closer to citizens and facilitate a more fluid and close relationship.

The goal is that by the end of 2025, half of the public services are available on mobile apps. Through the creation of a development factory for mobile applications and services for citizens, it aims to facilitate the more proactive interaction channels, thereby bringing administration to citizens' mobile devices.

We work will be done with the open-source developer community to provide citizens with a marketplace of administrative mobile applications. Not only will it promote a smoother, closer relationship, but it will also maximize the information gathered from users for the development of personalized services or sending alerts and notifications, establishing more proactive interaction channels.

List of concrete actions implemented/planned:

• Award of the open specifications of App Factory – **DONE**

- Launch of new App DEHú Single enabled electronic address: this tool aims to facilitate citizens access to notifications and communications issued by the adhered Public Administrations **DONE**
- Launch of new App QEDU What to study and where at the university: this tool offers a set of data that will allow students to have relevant information when deciding the university degree, they are going to study **DONE**
- Launch of new App FACe this tool will allow the submission of invoices in electronic format to those entities that accept the receipt of invoices in electronic format – **DOING**
- Launch of new App Cita previa this tool will offer flexibility and convenience in the processing of appointments with a greater integration with the appointment management system in face-to-face appointments **DOING**
- Launch of new App Catastro **DOING**
- Launch of new App Juego Seguro **TO DO**
- Carrying out generic ministerial procedures such as resources, complaints and suggestions, accessibility, etc. integrated in APP Mi Carpeta Ciudadana – TO DO
- API management platform available **TO DO**

Digital target or general objective: Digitalisation of public services: there is 100 % online accessible provision of key public services.

Link to the target or objective: The initiative to develop high-quality mobile applications for public services is a significant step towards achieving 100% online accessible provision of key public services, it increases accessibility and inclusivity, allowing citizens to engage with public services at their convenience.

Reference to RRP or other relevant documents/strategies: App Factory is defined in Axis 5 of "España Digital" and developed as Measure 1 of the Digitalisation Plan of Public Administrations, in its Axis 1 for the Digital Transformation of the General State Administration.

Component 11: Modernization of Public Administrations. C11.I1 Modernization of Public Administrations.

Tentative timeline:

Budget allocated or planned and, if relevant, other resources – including human resources – allocated:

Public investment: EUR 56.9 million / Already allocated: EUR 38 million - Planned: EUR 18.9 million

- Thereof from EU sources: EUR 56.9 million / Already allocated: EUR 38 million - Planned: EUR 18.9 million

Expected impact and related timing: The goal is for at least 50% of all digital public services to be accessible via mobile by the end of 2025.

Name of the measure: Intelligent Automation Service (RPA)

Responsible unit: SGAD **New measure:** Yes

Short description: A common intelligent automation service of the General State Administration will be promoted in order to facilitate to the different ministerial departments the adoption of these technologies with the aim of improving the quality, quantity, and efficiency of management services and processes through technologies such as RPA (Robotic Process Automation), Artificial Intelligence...

Within this service, the main automations that stand out are:

- Automation of the requirements of the call for the granting of aid from the Digital Kit to SMEs and self-employed, benefiting a more efficient and agile obtaining of applications.
- Automation of the Wage Guarantee Fund (FOGASA) in the cataloguing, classification and extraction of telematic notifications in the courts of justice, freeing it from administrative tasks and centralizing the attention of the civil servants on the needs of citizens and companies.
- Intelligent management of processes through the development of an e-Grant platform with capacity for the gradual and agile incorporation of aids and subsidies from the General State Administration for the population and applicant companies.
- Intelligent management of processes through the e-Procurement tool for internal management of public procurement files for the processing of contracts within the General State Administration.

List of concrete actions implemented/planned:

- Deployment in production of Instituto Cervantes: Student enrolment process –
 DONE
- Platform preparation for clients: SEPE, MINECO **DONE**
- Implementation of the first Agents of Change procedure for the Corporate Grant Management Platform (eGrant) **DONE**
- Development of the 4th Call Digital Kit **DONE**
- Geiser File Management Automation **DOING**
- Duero Hydrographic Confederation: Registration and updating of files in the electronic office **DOING**
- Development for Ministry of Universities: Homologation of foreign degrees. DOING
- FOGASA: New categorization rules **DOING**
- FOGASA: Implementation of extraction algorithms for new types of documents
 DOING
- Artificial Intelligence extraction with WATSON/DECIPHER DOING

New use cases in functional design: ICAC – creation of files for requesting refund of undue income, General Directorate of the Public Treasury – attention to the citizen investor of public debt... - TO DO

Digital target: Digitalisation of public services: there is 100% online accessible provision of key public services.

Link to the target or objective: By implementing an intelligent automation system, key public services become more efficient and accessible online. The new platform expedites administrative tasks across multiple ministerial departments, thus achieving 100% online accessibility.

Reference to RRP or other relevant documents/strategies: Intelligent Automation Service is developed as Measure 5 of the Digitalisation Plan of the Public Administrations, in its Axis 1 for the Digital Transformation of the General State Administration.

Tentative timeline: from 2022 onwards.

Budget allocated or planned and, if relevant, other resources – including human resources – allocated: Public investment: EUR 14.9 million / Already allocated: EUR 13.8 million - Planned: EUR 1.1 million

- Thereof from EU sources: EUR 14.9 million / Already allocated: EUR 13.8 million - Planned: EUR 1.1 million

Expected impact and related timing: A more agile resolution of administrative procedures and formalities will be achieved in order to offer agile and accessible services to citizens.

Name of the measure: SOC

Responsible unit: SGAD **New measure:** Yes

Short description: This measure consists of building a Cybersecurity Operations Centre for the entire General State Administration and its apparatus whose mission will be to protect against cybersecurity threats. The goal is to reinforce the ability to prevent and react to security incidents and increase the ability to track and detect cybersecurity threats in a more efficient, centralised manner, an effort destined to translate into significant money, work and time savings.

List of concrete actions implemented/planned:

- Launch of Cybersecurity Operations Centre **DONE**
- Published on the CCN-CERT portal with all the information from the AGE Security Operations Centre - DONE
- A work process will be established for security considerations in planning Digital innovation - TO DO

- Artificial intelligence tools will be included and cloud computing for risk analysis in COS platform - TO DO
- There is a lack of competent cybersecurity experts. A specific line of training
 will be created in the field of digitalisation and cybersecurity. that includes
 technologies such as cloud computing, artificial intelligence, cryptosystems, the
 Internet of Things, robotics, augmented reality, etc. TO DO

Digital target: Digitalisation of public services: 100% online accessible provision of key public services.

Link to the target or objective: Building a Cybersecurity Operations Centre ensures continuous online availability of public services, bolsters public trust in digital platforms, and centralizes security efforts for efficiency, supporting the 100% online accessibility goal.

Reference to RRP or other relevant documents/strategies: The project "Cybersecurity Operations Centre" is defined in Axis 5 of "España Digital" and developed as measure 9 of the Digitalisation Plan of Public Administrations, in its Axis 1 for the Digital Transformation of the General State Administration.

Component 11: Modernization of Public Administrations. C11.I1 Modernization of Public Administrations.

Tentative timeline: December 2024 for the implementation AI tools.

Budget allocated or planned and, if relevant, other resources – including human resources – allocated:

Public investment: EUR 66.7 million / Already allocated: EUR 56.2 million - Planned: EUR 10.5 million

- From EU sources: EUR 66.7 million / Already allocated: EUR 56.2 million - Planned: EUR 10.5 million

Expected impact and related timing: The expected impact is to at least double the economy by 2030, and the proportion of cyber specialists must increase significantly to meet the necessary future targets.

Reducing accidents by predicting and preventing attacks.

Name of the measure: New Digital Services and Platforms to improve the active and passive labour market service

Responsible unit: Spanish
Public Employment Service

Short description: Development of innovative and digital services that allow an efficient and effective management of employment services, programs, and policies by National Employment System.

Transformation and modernization of the Spanish Public Employment Service (SEPE) electronic site and the management systems and platforms to delivery digital services for jobseekers and subsidies perceivers.

List of concrete actions implemented/planned:

- Transform the SEPE website to offer better, more personalized digital services, citizen's personal areas, one-click procedures, more services.
- Digitize the catalogue of services and procedures of the National Employment System, using cutting-edge technologies such as SAP S4/Hana, incorporating intelligent automation and data analysis. An Integrated Management System for serving citizens.

Digital target: Digitalisation of public services: there is 100% online accessible provision of key public services.

Link to the target or objective: Both actions will facilitate the access to the public employment services by jobseekers, incorporating more simplification and personalization for them; and will help to the public employees to delivery more effective and efficient services.

Reference to RRP or other relevant documents/strategies: The project "Digital transformation in employment support" is defined in Axis 5 of "España Digital 2026" and developed as measure 12 of the Digitalization Plan of Public Administrations, in its Axis 2 for the Digital Transformation of the General State Administration.

Component 11: Modernization of Public Administrations. C11.I1 Modernization of Public Administrations.

Tentative timeline:

- Transform the SEPE website: December 2025.
- The Integrated Management System: December 2030.

Budget allocated or planned and, if relevant, other resources – including human resources – allocated:

Public investment: EUR 100 million, already allocated: EUR 30 million, planned EUR 70 million

- Thereof from EU sources: already allocated EUR 30 million
- Thereof from national sources: planned EUR 70 million

Expected impact and related timing: Increase the digitalization and efficiency of job search by 10%, Reduce fraud by detection by 10%.

3.2.11 Digitalisation of public services: 100 % of Union citizens have access to their electronic health records

Name of the measure: Improving governance, quality and standardization of health data

Responsible unit: SGSDII **New measure:** Yes

Short description: The Spanish National Health System has an Interoperable Electronic Medical Record system, where relevant clinical information is collected to guarantee that health care to citizens by health professionals is carried out at all times with due quality guarantees and security, regardless of the Spanish territory in which the citizen requests this assistance. The entire protected population can access this system, and, at this time, it has clinical information on more than 91% of citizens. This system has as legal support a set of health laws and a Royal Decree of specific development. The system fully complies with European and Spanish regulations on the protection of personal data.

The measure consists of making use of the governance mechanisms defined in the SNS Digital Health Strategy, published in December 2021

(https://www.sanidad.gob.es/ciudadanos/pdf/Estrategia de Salud Digital del SNS.pdf), and complying with existing regulation, promoting coordination and participation in the definition, evolution and improvement of the service, the search for data quality and the use of exchange standards. Through this structure, government and communication are articulated at different levels of dialogue, thereby promoting the participation and distribution of information of interest about the service for the entire SNS and the professionals, both healthcare, technological and managers, involved.

Likewise, within the already existing structures, specifically the Digital Health Commission dependent on the Interterritorial Council of the SNS, and its two subcommittees, the SNS Information System Subcommittee and the Subcommittee on Services and Technologies for Digital Health, Work is being done to improve the quality of the information exchanged at source, adapting it to the common standards established for the SNS and approved by the Digital Health Commission. The recent creation of a reference terminology server for the SNS will facilitate the normalization and standardization of information, allowing healthcare professionals to use common terms by having a single, centralized reference point used throughout the SNS.

Likewise, the SNS Data Office is in the development phase, with the aim of achieving high performance of the health data that operates in the SNS, so that a beneficial wealth of knowledge is generated at the service of individual health and collectively, under the principles of ethics, quality, privacy, security and efficiency.

Its mission is to organize a management framework and conditions for sharing and use of health data, in line with the guidelines and actions defined in the European Data Strategy (European Commission, Feb 2020) and in the SNS Digital Health Strategy. providing service to the entire SNS and supporting the Ministry of Health in its role in the governance of health data.

The draft Regulation of the European Health Data Space (EEDS) will establish the mandatory nature of the exchange of clinical data between EU member countries (it is currently, voluntary for countries to join cross-border interoperability services in the

field of health) to primary use, and will regulate the secondary use of the data, establishing a series of user rights and requirements that health data records must meet, in addition to a new governance model that supports the new situation.

List of concrete actions implemented/planned:

- Creation of the Digital Health Commission of the Interterritorial Council of the SNS.
- Assignment of the HCDSNS working group to the Digital Health Commission, with representation of members of its two subcommittees.
- Creation of the Digital Health History working group within the Primary Care Digital Transformation Plan, with the participation of the Autonomous Communities, INGESA and the Ministry of Health.
- Development of the SNS Data Office and its governance throughout the SNS.
- Update of the Royal Decree on the Minimum Data Set of SNS Clinical Reports (CMDIC) to adapt the reports exchanged through HCDSNS to the state of science, EU guidelines and improve quality by defining terminologies and coding to follow.
- Implementation of a single reference terminology server to support standardization and interoperability in the SNS.

Digital target or general objective: Digitalisation of public services: 100% of Union citizens have access to their electronic health records.

Link to the target or objective: The extension of the Interoperable Electronic Health Record to the entire EU necessarily requires establishing common parameters throughout the SNS. The decentralization of powers in Spain requires that the different Autonomous Communities and INGESA have a common reference for all. Governance in this context is critical, as is the establishment of common standards and normalization. The measure will contribute to identifying possible difficulties that can be solved in a common manner throughout the SNS, as well as improving information and communication to citizens and professionals of the different aspects related to the measure.

Reference to RRP or other relevant documents/strategies: The measure is contemplated in the Digital Health Strategy 2021-2026, mainly in intervention area 3 (Health Care: accessibility to services, resolution capacity, personalization, continuity of care and patient safety. Digital clinical history and enhancement of health imaging for diagnosis, prognosis and treatment) and 5 (Interoperability of information at a national and international level). The interoperability of clinical data, together with prescription and dispensing data, insurance data and data associated with health professionals in Spain is a CID milestone of component 11. I2 of the Recovery Plan. (Milestone 165. The central administration and regions shall have fully interoperable platforms allowing for the exchange of social security data and information on the following domains: i) primary care, ii) hospitalisations, iii) health professionals, pharmaceutical prescription/dispensation) The improvement of the digital health story is also defined collaboratively between the Ministry and the CCAA in the Digital Transformation Plan for Primary and Community Care, financed by C11.I3 of the Recovery Plan and included in the PERTE "Vanguard Health).

Tentative timeline: The governing bodies are already created and fully operational. Specifically, the Digital Health Commission was created in 2021. The development of the SNS Data Office is underway, with plans for its full operation in 2024.

The update of RD 572/2023 CMDIC was published on July 5, 2023.

The Terminology Server has been available since August 2023 and is evolving to expand it in 2024.

Budget allocated or planned and, if relevant, other resources – including human resources – allocated: Planned budget for the entire program: EUR 9 million.

Public investment: EUR 9 million / Planned: EUR 9 million

- Thereof from EU sources: EUR 9 million / Planned: EUR 9 million

The measure is mainly carried out with own human resources, as well as IT teams for the development, maintenance, evolution and operation of the service, financed with funds from the Recovery, Transformation and Resilience Plan.

This investment does not include the investments made by the Autonomous Communities to use themselves the standardization and normalization services offered by the Ministry, nor the integration with their own information systems.

Expected impact and related timing: The governance bodies will contribute to the achievement of the rest of the measures associated with the goal.

Name of the measure: Incorporating clinical data into EU interoperability models

Responsible unit: SGSDII New measure: Yes

Short description: The Spanish National Health System has an Interoperable Electronic Medical Record system, where relevant clinical information is collected to guarantee that health care to citizens by health professionals is carried out at all times with due quality guarantees. and security, regardless of the Spanish territory in which the citizen requests this assistance. Currently, 91% of citizens can access this system. This system has as legal support a set of health laws and a Royal Decree of specific development. The system fully complies with European and Spanish regulations on the protection of personal data.

The extension to 100% of EU citizens and the full interoperability of clinical data is one of the essential objectives of modern medicine. Its benefit affects each citizen, as an individual and, at the same time, society as a whole. In this sense, the application of the greater knowledge generated, not only to direct or primary care, but also by the dumping of this data to specific health data spaces, where data analysis tools are applied, with respect to legislation of national and European personal data, benefit both professionals, researchers and health managers and, without a doubt, the protagonists, who are the citizens, increasing the guarantee of success in their care.

The draft Regulation of the European Health Data Space (EEDS) will establish the mandatory nature of the exchange of clinical data between EU member countries (it is currently voluntary for countries to join cross-border interoperability services in the

field of health) to primary use, it will regulate the secondary use of the data, it will establish a series of user rights and requirements that health data records must meet, in addition to a new governance model that supports the new situation.

List of concrete actions implemented/planned:

- Participation in the European groups for the technical and semantic definition of interoperability (eHealth Network).
- Carry out technical pilots and implementation of services in the field of crossborder cooperation programs.
- Continue with the incorporation of Spain into European interoperability (Patient Summary exchange).
- Actions necessary to establish the European Health Data Space (EEDS). The regulation that will regulate it is currently in the definition phase.

Digital target or general objective: Digitalisation of public services: 100% of Union citizens have access to their electronic health records.

Link to the target or objective: The extension of the Interoperable Electronic Health Record in the SNS is the basis for its extension to the entire EU. Participation in the European technical and semantic definition groups is a fundamental pillar to contribute to the definition of the common and necessary aspects to ensure interoperability with the rest of the EU countries. In this sense, the CCAA and Ingesa, with the coordination of the Ministry of Health, continue to incorporate health data interoperability services with the rest of the EU countries. Currently 9 Autonomous Communities have access to the cross-border service, which means that 78.16% of the Spanish population with the right to healthcare in the SNS has access to this service.

Likewise, the future EEDS Regulation will also regulate aspects that will necessarily have to be implemented by each member state in their national spheres.

Reference to RRP or other relevant documents/strategies: The measure is contemplated in the Digital Health Strategy 2021-2026, mainly in intervention area 3 (Health Care: accessibility to services, resolution capacity, personalization, continuity of care and patient safety. Digital clinical history and enhancement of health imaging for diagnosis, prognosis and treatment). and 5 (Interoperability of information at the national and international level). The interoperability of clinical data, together with prescription and dispensing data, insurance data and data associated with health professionals in Spain is a CID milestone of component 11. I2 of the Recovery Plan. (Milestone 165. The central administration and regions shall have fully interoperable platforms allowing for the exchange of social security data and information on the following domains: i) primary care, ii) hospitalisations, iii) health professionals, pharmaceutical prescription/dispensation). Collaborative between the Ministry and the CCAA in the Digital Transformation Plan for Primary and Community Care, financed by C11.I3 of the Recovery Plan and included in the PERTE "Vanguard Health).

Tentative timeline: The work associated with this measure has already begun and is scheduled to be completed by 2025/2026, except for the necessary adaptations to comply with the EEDS Regulation, currently in the drafting phase, which will be carried out after publication. Of himself. Intermediate milestones: approval of the European Health Data Space Regulation; incorporation of different countries and CCAA to the EU PS exchange service.

Budget allocated or planned and, if relevant, other resources – including human resources – allocated: Planned budget for the entire program: EUR 20 million.

Public investment: EUR 20 million / Planned: EUR 20 million

- Thereof from EU sources: EUR 20 million / Planned: EUR 20 million

The measure is mainly carried out with own human resources, as well as IT teams for the development, maintenance, evolution and operation of the service, financed with funds from the Recovery, Transformation and Resilience Plan.

This investment does not include the investments made by the Autonomous Communities to facilitate the digitisation of healthcare in Spain.

Expected impact and related timing:

Availability of the EU HER (ePS) for citizens of all Autonomous Communities in 2025/2026.

3.2.12 Electronic identification (eID)

Name of the measure: New digital identity model (ID-Wallet)

Responsible unit: (SGAD) | **New measure:** Yes

Short description: The main objective of this program is to create a **new digital identity model** for citizens, thereby improving their capacity to access and engage with digital services offered by public administrations, all while prioritizing data security and privacy. To achieve this objective, a **National Digital ID-Wallet** will be developed, a state-of-the-art electronic identification solution enabling citizens to securely store their digital credentials for identity verification, along with other pertinent personal attributes such as academic qualifications.

Advantages:

- It will allow simple, accessible and secure access to the digital services of public administrations for all citizens.
- It will enable a self-sovereign identity where the citizen has the control of their data.

List of concrete actions implemented/planned:

- Implementation of a pilot of a Digital Wallet in a closed user environment –
 DOING
- Development of a National Digital Id-Wallet **DOING**
- Evolution of the National Id-Wallet according to the eIDAS regulation and incorporation of new use cases – PLANNED

Digital target or general objective: 100% of citizens having access to secure, privacy-enhancing eID by 2030.

Link to the target or objective: This initiative aims to modernize the identification model in public services. Moreover, this initiative is oriented to remove the barriers of the previous identification model for cross-border services. at the same time giving the citizen control over their identity data.

Reference to RRP or other relevant documents/strategies:

It is defined in Axis 5 of "España Digital" and developed as Measure 4 of the Digitalisation Plan of Public Administrations, in its Axis 1 for the Digital Transformation of the General State Administration.

Component 11: Modernization of Public Administrations. C11.I1 Modernization of Public Administrations.

Tentative timeline: The plan is to finalize the development of a Minimum Viable Product (MVP) at the outset of 2024. The rollout of the solution is scheduled for 2024, with subsequent integration of various use cases.

Budget allocated or planned and, if relevant, other resources – including human resources – allocated: Planned budget for the entire program: EUR 16.7 million

Public investment: EUR 16.7 million / Planned: EUR 16.7 million

- Thereof from EU sources: EUR 16.7 million / Planned: EUR 16.7 million

Expected impact and related timing: The impact of this initiative aligns with the goals of the European Digital Decade. It means that any EU citizen, resident, or business who wishes to do so will be able to use a Digital ID-Wallet to verify their identity or confirm certain personal information. This ID-Wallet will be used to access various services in both the public and private sectors across the EU.

