

# RIS

# 3

**RIS<sup>3</sup> CASTILLA Y LEÓN**  
2021-2027

UPDATE FOR THE  
PERIOD 2025-2027

## **RESEARCH AND INNOVATION STRATEGY FOR SMART SPECIALISATION (RIS3) OF CASTILLA Y LEÓN 2021-2027**



**Junta de  
Castilla y León**

# RESEARCH AND INNOVATION STRATEGY FOR SMART SPECIALISATION (RIS3) OF CASTILLA Y LEÓN 2021-2027

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### **APPROVAL AND VALIDITY**

The Research and Innovation Strategy for Smart Specialisation of Castilla y León 2021-2027 was approved by at a meeting of the Governing Body of the Autonomous Community of Castilla y León on 23 September 2021. After the mid-term review, the update of RIS3 2021-2027 for the period 2025-2027 has been approved by the Government of Castilla y León on January 30, 2025 and will be valid until the approval of the next strategy.

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# **ESTRATEGIA RESEARCH AND INNOVATION STRATEGY FOR SMART SPECIALISATION (RIS3) OF CASTILLA Y LEÓN 2021-2027**

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UPDATE FOR THE PERIOD 2025-2027  
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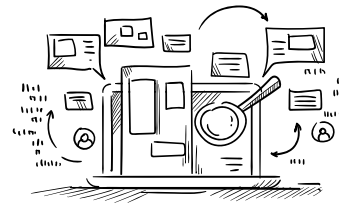


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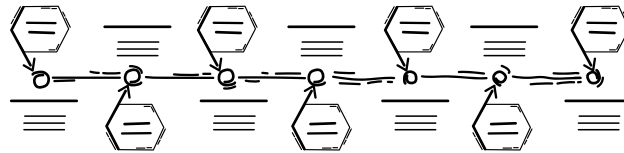
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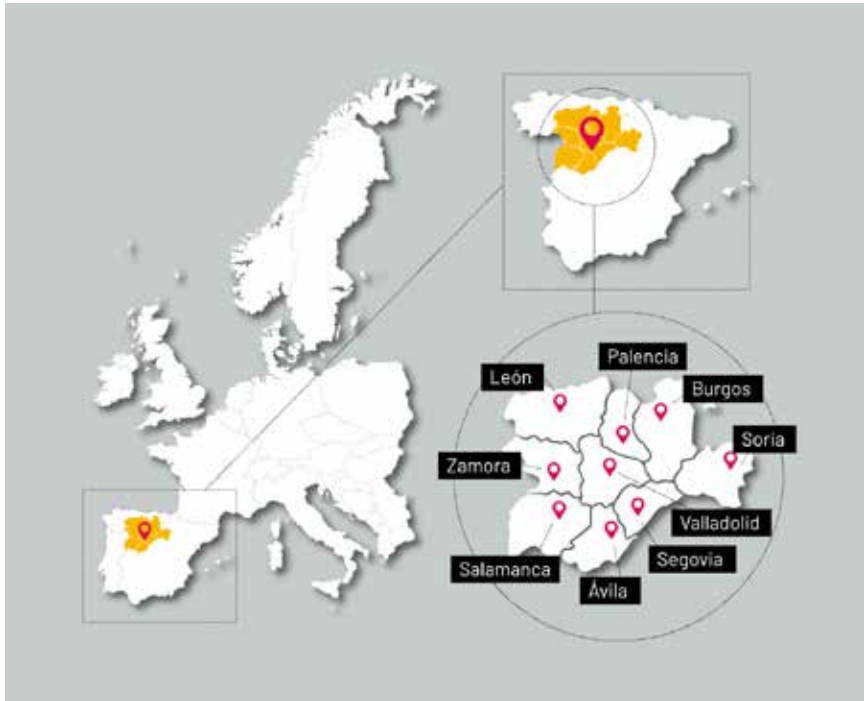
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# Castilla y León

## Castilla y León

has a surface area of 94,224 km<sup>2</sup>, making it the largest autonomous community in Spain and one of the largest regions in Europe. The territory is divided into nine provinces and 2,248 municipal districts (approximately 30% of the national total). Castilla y León borders with nine other Spanish autonomous communities and with Portugal, making it Spain's largest communications hub, given its strategic location on the axis of the European diagonal.

PICTURE 1. LOCATION OF CASTILLA Y LEÓN AND TERRITORIAL DISTRIBUTION



Castilla y León has 2.4 million inhabitants, which is 5% of the total population in Spain (source: INE, Instituto Nacional de Estadística). Given its considerable size, this Autonomous Community has a geographically disperse population, especially in rural areas. Despite the net decrease in population in recent years, the region's net migration is positive and underwent significant change between 2021 and 2022, showing an increase in the number of people moving to Castilla y León compared to those leaving the region.

In 2022, the working population reached a total of 1.02 million people with 54.05% labour force participation (below the average labour force participation rate in Spain of 58.40%) and an unemployment rate of 8.90% (below the Spanish average of 12.99%).

The services sector has the highest number of people in work, with 71.46% of the total in 2022. That is followed by industry, with a participation rate of 15.48%, construction with 6.63% and agriculture with 6.43%.

Castilla y León's Gross Domestic Product (GDP), at market prices in 2022, totalled 64,227 million euros, accounting for 4.77% of Spain's GDP. In terms of growth, Castilla y León's GDP showed an annual growth rate of 3.1% in 2022.

Exports of goods in Castilla y León in 2021 totalled 15,826.1 million euros<sup>1</sup>. Castilla y León is a net exporting community, with a positive trade balance.

Total expenditure on R&D as a percentage of GDP in 2022 was 1.35% compared to 1.44% nationally. This indicator has followed an upward trend and even surpassed the national average in 2018 and 2019, but the trend was interrupted by the Covid-19 pandemic. Although still far from achieving the EU's objectives, these data put Castilla y León among Spain's leading regions, specifically in fifth place, after the País Vasco, Madrid, Navarra and Cataluña.

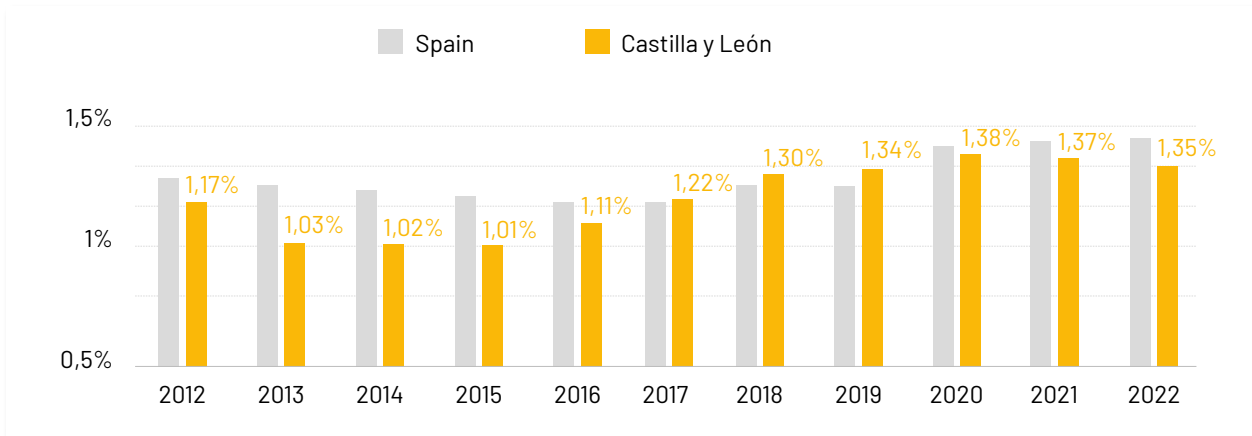
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<sup>1</sup> Source: D.G. Presupuestos, Fondos Europeos y Estadística de la Junta de Castilla y León.



GRAPH 1. CASTILLA Y LEÓN'S TECHNOLOGICAL EFFORT.

Source: R&amp;D Survey. INE



The business sector concentrates the highest expenditure on internal R&D, with 59.89% of the total in 2022, followed by Higher Education, with 31.39% and the Public Administration with 8.64%. The significant amount of spending on R&D by the business sector and the university system is a characteristic feature of the region.

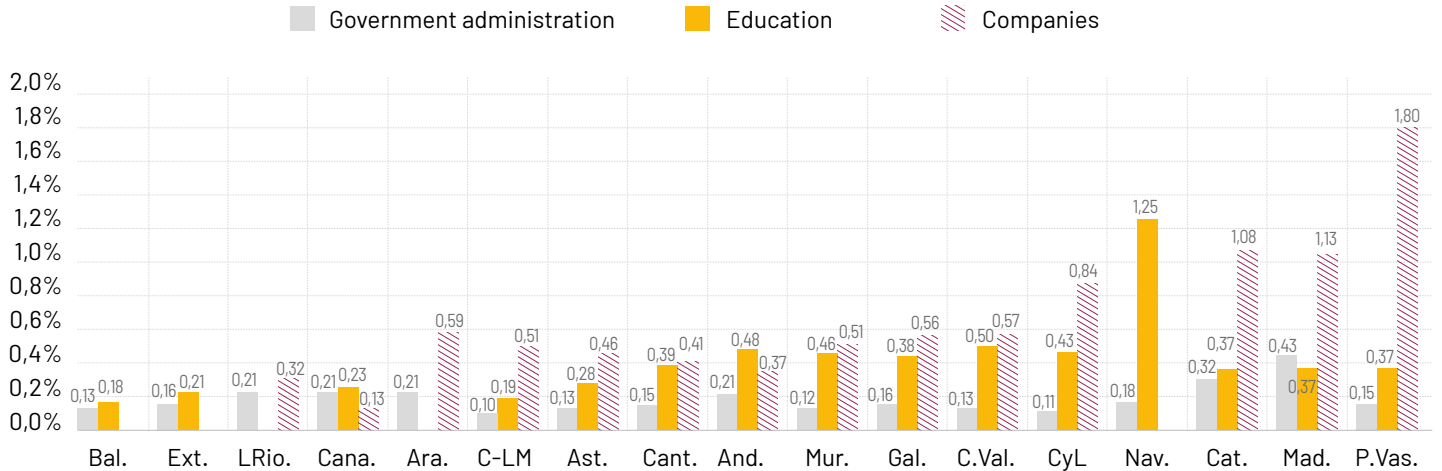
In terms of Castilla y León's position in Europe on the matter of innovation, the most recent edition of the Regional Innovation Scoreboard (RIS) 2023, shows the region is among the moderate innovators (-), and ranks 157th among the

243 European regions. Nevertheless, the value of the index for Castilla y León has risen from 74.6 in 2016 to 85.6 in 2023, placing it third for innovation performance in relation to the average for Spain's Autonomous Communities in this period according to data from the Ministry of Science, Innovation and Universities.

Castilla y León also comes fifth for expenditure on innovative activities, with product innovation at the forefront. Expenditure by companies is quite high in Castilla y León, only exceeded by Comunidad de Madrid, Cataluña, País Vasco and Navarra.

GRAPH 2. EXPENDITURE ON INNOVATION ACTIVITIES BY SELF-GOVERNING REGION OR AUTONOMOUS CITY. 2022.

Source: Own elaboration with data from Spanish regional accounts and the R&D Survey. INE.



In addition, the region's size, geographical dispersion and low population density in certain areas hinder the deployment of telecommunication infrastructures from both the physical perspective (geography) and the financial one (lack of profitability for operators). However, since January 2012, when broadband came under the universal service obligation in Castilla y León, this service is available to almost all citizens in our region.

According to statistics from the INE, in 2023, 79.7% of households in Castilla y León had

a computer. 94.9% of homes in Castilla y León have Internet access and in 94.9% of cases the Internet access is broadband.

With data from 2022, 98.86% of companies with over 10 employees in Castilla y León have computers, of which 98.39% have Internet connection and 89.30% of those have Internet via 3G mobile broadband or faster networks. 94.17% of companies use Electronic Administration: in 90.50% of cases for income tax returns and in 84.32% of cases for making Social Security payments.

# Introducción

## Castilla y León's

Research and Innovation Strategy for Smart Specialisation (RIS3) for the period 2021-2027 has been built on the progress made with RIS3 2014-2020 and is a further step towards transforming our economy and our society. This transformation faces the challenges of digital transition and green transition, as well as the need to make Castilla y León competitive, sustainable and resilient.

The RIS3 strategies are agendas for economic transformation based on research and innovation, defining priorities to generate competitive advantages which make the most of business opportunities and market developments, avoiding the duplication and fragmentation of efforts. Both the definition of RIS3 2021-2027 and the update have followed the methodology proposed by the European Commission, already used in the period 2014-2020, reinforcing participation of the actors in what is known as the quadruple helix model of innovation (companies, R&D centres, public authorities and society) The process of producing and updating a smart specialisation strategy is cyclical.

PICTURE 2.WORK METHODOLOGY



RIS 2021-2027 is an endgame strategy because it seeks outputs at economic and social level, but it is also an open, evolving strategy because it gathers mechanisms for introducing a continuous process of discovery of business opportunities, based on participative governance. This process will enable our Community to adapt and even anticipate opportunities which, making use of scientific and technological changes, will help to better develop the shared vision.

In its deployment, RIS3 2021-2027 is the initial planning element for the region's R&D&i and Information Society policies, reflecting the guidelines the different sector and horizontal plans, programmes and initiatives must align with in the 2021-2027 period, developed in the sphere of their competences by the government of Castilla y León's various directorates. ●

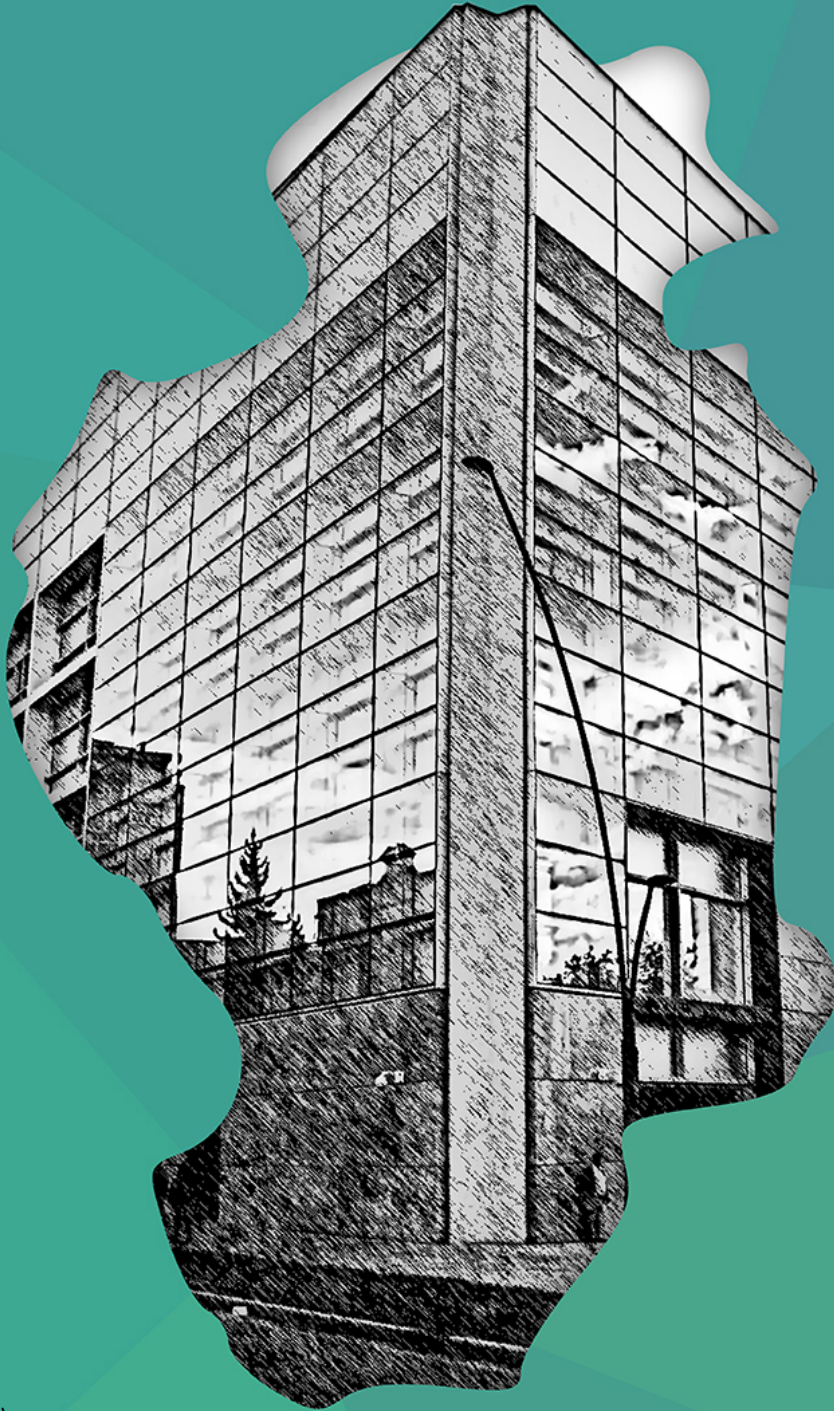






**Diagnostic**





*Edificio CENIEH (Burgos)*

# Context<sup>1.1</sup>

**Castilla y León** was a pioneer among European territories in formulating strategies linked to technology and innovation, with the start up in 1997 of its Regional Technology Plan. From that moment, this Autonomous Community consolidated its own science and technology system, thanks to the development of infrastructures, a legal framework, an institutional support architecture in the Castilla y León regional government and various planning elements including the previous RIS3 2014-2020.

The Research and Innovation Strategy for Smart Specialisation of Castilla y León 2021-2027 was produced in the context of the green and digital transitions. At the same time, RIS3 2021-2027 was defined in a context influenced by the impact of the Covid-19 pandemic, which after the healthcare crisis triggered a global socio-economic crisis. Added to this were the effects of the Russian invasion of Ukraine and the impact of the conflict on Europe due to our energy dependency and the distortions the conflict has caused in supply chains.

Together with the objective of competitiveness, these last few years have highlighted the importance of having an economy and a society that

are resilient to future threats and the need to recover the European Union's technological sovereignty, reducing its dependence on foreign markets.

The RIS3 2021-2027 update reviews the new European, national and regional context. In addition, our Autonomous Community took on the commitment to contribute to the UN's Agenda 2030 for Sustainable Development. Castilla y León's RIS3 2021-2027 contributes most significantly to the following Sustainable Development Objectives.

PICTURE 3. SUSTAINABLE DEVELOPMENT OBJECTIVES: CONTRIBUTION FROM RIS3





# 1.1.1 The EU, Spain and the Autonomous Community's strategic context

## The EU's strategic context

**The** European Union's strategic context is primarily defined by the EU's *Strategic Agenda for 2024-2029*, which includes three major priorities: "A free and democratic Europe", "A strong and secure Europe" and "A prosperous and competitive Europe". This third priority is the one that defines the strategic context for science and technology policies, with clear commitments to reducing harmful dependencies; improving capacity in key technologies for the future; green and digital transitions and promoting a favourable environment for innovation, training and education.

In 2020, the *New Industrial Strategy for Europe* was launched. This vision was based on two fundamental elements: the EU Green Deal and Vision for European Industry until 2030. The Green Deal is supplemented by other more sector-based strategies such as the European Commission's 2030 *Climate and Energy* strategy and the *Circular Economy Action Plan*. Further-

more, the Vision for European Industry 2030 (*Industrial Strategy for Europe 2030*) committed to leadership in technology and the sustainability of European industry, the promotion of strategic value chains and the creation of an EU-wide competitive ecosystem.

In addition to industrial policy, digital transformation is one of the European Union's priorities: *The 2030 Digital Compass: the European way for the Digital Decade* is the European Commission's path to the "Digital decade" until 2030. *The Digital Europe Programme 2021-2027* supplements the European context for the Digital Agenda, committing to strategic capabilities in five areas: supercomputing, artificial intelligence, cybersecurity, advanced digital skills and broad use of advanced technologies in the economy and society.

In 2024, in response to the challenge of European technological sovereignty, the Eu-

European Union created the Strategic Technologies for Europe Platform and the STEP programme.

The European context is enormous, but we can end here by mentioning other elements that supplement this new Strategic Agenda for Europe, especially the New European Innovation Agenda, the R&D&i fra-

mework programme *Horizon Europe* and other programmes dedicated to strengthen capabilities, education and training <sup>2</sup>, such as the *European Research Area Policy Agenda* and the *European Education Area*, or the *European Skills Agenda* (Pact for skills) which in turn includes the *European Strategy for Universities*, to name the most pertinent ones.

## Spain's strategic context

**W**ithin the specific framework of formulating the RIS3 2021-2027 of Castilla y León, the main national reference is the *Estrategia Española de Ciencia, Tecnología e Innovación (EECTI- Spanish Strategy for Science, Technology and Innovation) 2021-2027* and the *Plan Estatal de Investigación Científica, Técnica y de Innovación 2024-2027* (National Scientific, Technical and Innovation Plan).

In the sphere of the Digital Agenda, the national reference framework for RIS3 is the *España Digital 2026* (Digital Spain) plan. The update of the España Digital agenda has included priorities for the coming months and two new

cross-cutting themes referring to the Strategic Projects for Economic Recovery and Transformation (Proyectos Estratégicos para la Recuperación y Transformación Económica - PERTE) and the Territorial technological specialisation initiative (*RETECH* - Redes territoriales de especialización tecnológica).

In relation to green transition, clean energies and climate change, in February 2019, the Spanish Government approved the Energy and Climate Strategic Framework (*Marco Estratégico de Energía y Clima*), developed through the Spanish Strategy on Climate Change and Clean Energy

<sup>2</sup> These elements have funding programmes like ERASMUS+, COSME and EFSI.

(*Estrategia Española de Cambio Climático y Energía Limpia*), the National Integrated Energy and Climate Plan (*Plan Nacional Integrado de Energía y Clima - PNEIC*) and the Fair Transition Strategy (*Estrategia de Transición Justa*). In this context, the Spanish Circular Economy Strategy, the National Strategy for Green Infrastructure and Connectivity and Ecological Recovery (*Estrategia Nacional de Infraestructura Verde y de la Conectividad y Restauración Ecológica*) and the Hydrogen Route Map (*Hoja de Ruta del Hidrogeno*) were also approved.

The national strategic framework is completed by the Spain Entrepreneurial Nation Strategy (*Estrategia España Nación Emprendedora*), the Connected Industry 4.0 Strategy (*Estrategia Industria Conectada 4.0*), the Plan for Transfer and collaboration to accelerate innovation (*Plan de Transferencia y colaboración para acelerar la innovación*) and Spain's National AI Strategy (*Estrategia Nacional de Inteligencia Artificial de España - ENIA*).

## The Autonomous Community's strategic context

**T**he main reference framework for the RIS3 of Castilla y León is the Fourth Framework Agreement for Industrial Competitiveness and Innovation in Castilla y León 2021-2027 (*IV Acuerdo Marco para la Competitividad e Innovación Industrial de Castilla y León 2021-2027*) with the overall aim of promoting a change in the production model for Castilla y León towards modernisation, digitalisation and the green transition.

The Entrepreneurship and Innovation Strategy for Castilla y León 2027 (*Estrategia de Emprendimiento e Innovación de Castilla y León - EEI 27*) is the route map shared by the actors in the entrepreneurial and innovation ecosystem who will direct the actions in the forthcoming years of the Institute for Business Competitiveness in Castilla y León (ICECYL) in these matters.

The Business-University Knowledge Transfer Plan (*Plan TCUE 2024-2027*) is aimed at moving towards an integrated model of stable, sustainable knowledge transfer between universities and businesses which is an essential part of strategic planning for universities in Castilla y León.

The Strategic Plan for Research and Innovation in Health in Castilla y León (*Plan Estratégico de Investigación e Innovación en Salud de Castilla y León - PEIISCYL 2023-2027*) will deploy the R&i roadmap for health in Castilla y León in the next few years.

The Castilla y León Talent Strategy 2031 (*Estrategia de Talento 2031 de Castilla y León*) and the Government of Castilla y León's Integral Talent Action Plan 2024-2027 (*Plan de Acción Integral de Talento de la Junta de Castilla y León 2024-2027*)

promote the generation, attraction and loyalty building of talent as a factor in business competitiveness and transformation and economic growth, consolidating a sustainable talent ecosystem to address the challenges of Castilla y León.

In addition, R&D&i and digitalisation are an essential part of sector plans and strategies that integrate RIS3 actions in different spheres. These include the Circular Economy Strategy for Castilla y León (*Estrategia de Economía Circular*

*de Castilla y León*), the Second Master Plan for Industrial Promotion in Castilla y León (*II Plan Director de Promoción Industrial de Castilla y León 2021-2025*), the Fifth Business Internationalisation Plan (*V Plan de Internacionalización Empresarial 2022-2025*), the Sector Plan for the Habitat in Castilla y León (*Plan Sectorial del Hábitat de Castilla y León*) and the Strategic Plan for Social Services in Castilla y León (*Plan Estratégico de Servicios Sociales de Castilla y León 2022-2025*).

TABLE 1. STRATEGIC REFERENCE FRAMEWORKS OF PARTICULAR SIGNIFICANCE FOR THE RIS3 2021-2027 UPDATE.

EUROPE	<ul style="list-style-type: none"> <li>➡ EU Strategic Agenda 2024-2029</li> <li>➡ New EU Industrial Strategy</li> <li>➡ European Green Deal</li> <li>➡ A vision for the European Industry 2030               <ul style="list-style-type: none"> <li>• SME strategy for a sustainable and digital Europe</li> <li>• Programme and Platform, Strategic Technologies for Europe Platform (STEP)</li> </ul> </li> <li>➡ Digital Compas@s 2030.               <ul style="list-style-type: none"> <li>• Digital Europe 2030</li> <li>• New AI Act</li> </ul> </li> <li>➡ New European Innovation Agenda               <ul style="list-style-type: none"> <li>• EU Research Agenda</li> <li>• European Education Area</li> <li>• European Strategy for Universities</li> </ul> </li> </ul>
SPAIN	<ul style="list-style-type: none"> <li>➡ Spanish Strategy for Science, Technology and Innovation               <ul style="list-style-type: none"> <li>• National Plan for Scientific and Technical Research and Innovation 2024-2027</li> </ul> </li> <li>➡ Digital Spain Plan 2026</li> <li>➡ Plan for Recovery, Transformation and Resilience               <ul style="list-style-type: none"> <li>• Strategic Projects for Economic Recovery and Transformation (PERTE)</li> <li>• Territorial Networks for Technological Specialisation (RETECH)</li> </ul> </li> <li>➡ Transfer and collaboration plan to accelerate innovation</li> </ul>
CASTILLA Y LEÓN	<ul style="list-style-type: none"> <li>➡ Entrepreneurship and Innovation Strategy 2021-2027</li> <li>➡ University-Business Knowledge Transfer Plan (Plan TCUE)</li> <li>➡ Castilla y León's Strategic plan for Research and Innovation in Health (PEIISCYL) 2023-2027</li> <li>➡ Talent Strategy 2031 and the Castilla y León Government's Integral Action Plan for Talent 2024-2027.</li> <li>➡ Castilla y León's Strategic plan for Social Services 2022-2025</li> <li>➡ Castilla y León's Circular Economy Strategy 2021-2030.</li> <li>➡ Sectoral Habitat Plan</li> </ul>

# Mid-term<sup>1.1.2</sup> evaluation of RIS3: main conclusions

**Given** that smart specialisation requires the application of policies closely tailored to the specific contexts of each territory and experimentation with innovative approaches, progress in these new proposals (avoiding one-size-fits-all recipes) is only possible when there is a monitoring system and an evaluation plan. Consequently, in this smart specialisation scheme, evaluation is a key element for readjusting strategies and improving the expected impacts.

RIS3 2021-2027 has an evaluation plan, contained in its Management Guide, which includes an ex ante evaluation, a mid-term evaluation and an ex post evaluation. In the first half of 2024, the mid-term evaluation was carried out.

The results show that the most highly valued aspects of the evaluation were the strategic definition of RIS3 and the good implementation, with a very good overall evaluation of the instruments, together with strategic coherence with the territory and with the national and international frameworks of reference and Good Governance.

The aspects that were rated good with the opportunity for some improvement were:


- ✧ The development of Flagship Initiatives to drive RIS3 priorities in a process of participatory governance is considered very positive, although there have been some delays in introducing them and it will be necessary to ensure they are transformative and have a market vision.
- ✧ The instruments to support research, innovation and digitalisation are generally considered adequate, but some aspects of the implementation of actions by the general directorates executing them must be reviewed:
  - ➔ Rationalise administrative management.
  - ➔ Promote the continuity of projects, with improvements in the calendar for publishing calls and selecting proposals.
  - ➔ Increase the budget for calls for proposals, improving thematic areas and promoting collaboration, so that without ceasing to support small projects, there is a commitment to projects with a larger scope, also taking into consideration the driving force they have on the sector.
  - ➔ A clear commitment to excellence and knowledge transfer.
  - ➔ Inclusion of new thematic areas in research grants.

- ✦ More detailed definition of RIS3, more specific consideration of the instruments and greater ownership of the coordination model by Local Government Departments.


The aspects that require particular attention are the promotion of RIS3 as the main strategy for the Autonomous Community, improved internal and external communication, reinforcement of leadership and strategic coordination in the Digital Agenda for Castilla y León.

## SWOT <sup>1.1.3</sup> analysis

The mid-term evaluation of RIS3 2021-2027 reviewed the analysis of Strengths, Weaknesses, Opportunities and Threats. The updated analysis uses the following colour code.

 **GREEN:** improvement since 2021.


 **DARK BLUE:** no significant changes since 2021.


 **LIGHT BLUE:** new aspects to consider in the SWOT analysis.

### STRENGTHS

- ➔ Experience in the design and launch of regional R&D&i strategies linked to the Information Society and currently, with a focus on smart specialisation.
- ➔ Strategic coherence with the territory and the national and international frameworks of reference.
- ➔ Good positioning in certain areas of the economy in international value chains (food and agriculture, transport) and good starting position in relation to other territories in aspects related to quality of life (no overcrowded cities, natural and cultural heritage) and sustainability.
- ➔ Advanced level of support infrastructures for R&D&i: technology centres, science and technology parks, clusters and digital hubs. New structures to support collaboration and specialisation: Noddo (network of technology centres), Biomedical Research Institutes, vertical accelerators and some progress in structures for research excellence.
- ➔ R&D&i system reorganised around specialisation priorities.
- ➔ Powerful regional university system, reinforced by the presence of Institutes of Spain's High Council for Scientific Research (CISIC) and established models of collaboration between actors which will facilitate progress in the smart specialisation of Castilla y León.



 **GREEN:** improvement since 2021.

 **DARK BLUE:** no significant changes since 2021.

 **LIGHT BLUE:** new aspects to consider in the SWOT analysis.

## OPPORTUNITIES



- ⇒ There is potential and interest in integrating actions between sectors and priority areas for action to enable the development of transformative projects and new economic activity linked to regional smart specialisation and the challenges indicated by Europe. The launch of Flagship Initiatives in Cybersecurity, Aerospace, Health, Bioeconomics and Habitat.
- ⇒ Ongoing mobilisation of actors, both public and private in the quadruple helix model of innovation in the context of defining RIS3 and with the vocation to secure permanent involvement. This ongoing involvement has begun to materialise in the governance of Flagship Initiatives.
- ⇒ Active involvement of RIS3 management bodies and European Fund managers who establish the basis for compliance with the authorising conditions stipulated in the Rules for the period 2021-2027 Significant steps are being made towards good governance through the Technical Management Group and the Coordination Committee.
- ⇒ Strengthening the role of the Commissioner for Science and Technology with the creation of a Technical Office with personnel and own resources.
- ⇒ Communication of RIS3 and the image of R&i in Castilla y León, improving communication to citizens, communication directed at attracting talent, investors and businesses; and internal communication in the Castilla y León Regional Government.
- ⇒ Strengthen leadership and strategic coordination in the Digital Agenda.



**GREEN:** improvement since 2021.



**DARK BLUE:** no significant changes since 2021.




**LIGHT BLUE:** new aspects to consider in the SWOT analysis.


## ◇ WEAKNESSES


- ⇒ Loss and ageing of the population. High percentage (2/3) of the region's municipal districts are areas of demographic decline..
- ⇒ Reduced number of companies.
- ⇒ Need to foster greater coordination and establishment of synergies and complementarities between existing skills and infrastructures.
- ⇒ Although it has increased significantly in recent years, much more progress needs to be made in the relationship university-business-society and in knowledge transfer. Since 2021, the business world has been working more closely with universities. In addition to the TCUE Programme, the role of regional technology centres has also been strengthened in the context of knowledge transfer, with particular focus on SMEs
- ⇒ Still little tailoring of university education and vocational training to business requirements, especially to address the challenges of digitalisation and the circular economy. Significant effort from vocational training through dual vocational training and collaboration with the business world to tailor the training on offer. Universities have updated their offer of degrees and masters degrees in response to companies' demands for certain profiles .
- ⇒ Lack of STEM vocations in the educational sphere, where there is also a gender gap
- ⇒ RIS3 should be promoted as a strategy for the Region: clear commitment and guidelines at high level in the government departments.





 **GREEN:** improvement since 2021.

 **DARK BLUE:** no significant changes since 2021.

 **LIGHT BLUE:** new aspects to consider in the SWOT analysis.

## THREATS

- ⇒ Talent delocalisation risk due to the global upsurge in remote working.
- ⇒ Rise in Europe of policies to integrate entire value chains in the same territory, which will hinder the development of certain key sectors for the economy of Castilla y León (food and agriculture, automotive, capital goods, etc.)
- ⇒ The smallest companies risk losing their competitiveness unless they move forward on the road to digitalisation and have the appropriate connectivity infrastructure to do so.
- ⇒ Insufficient awareness of RIS3 as a framework strategy for the coordinated deployment of the R&D&i and digitalisation policy among the directorates of Castilla y León's government due to the traditional culture of separation of own competencies, duties and planning. ●



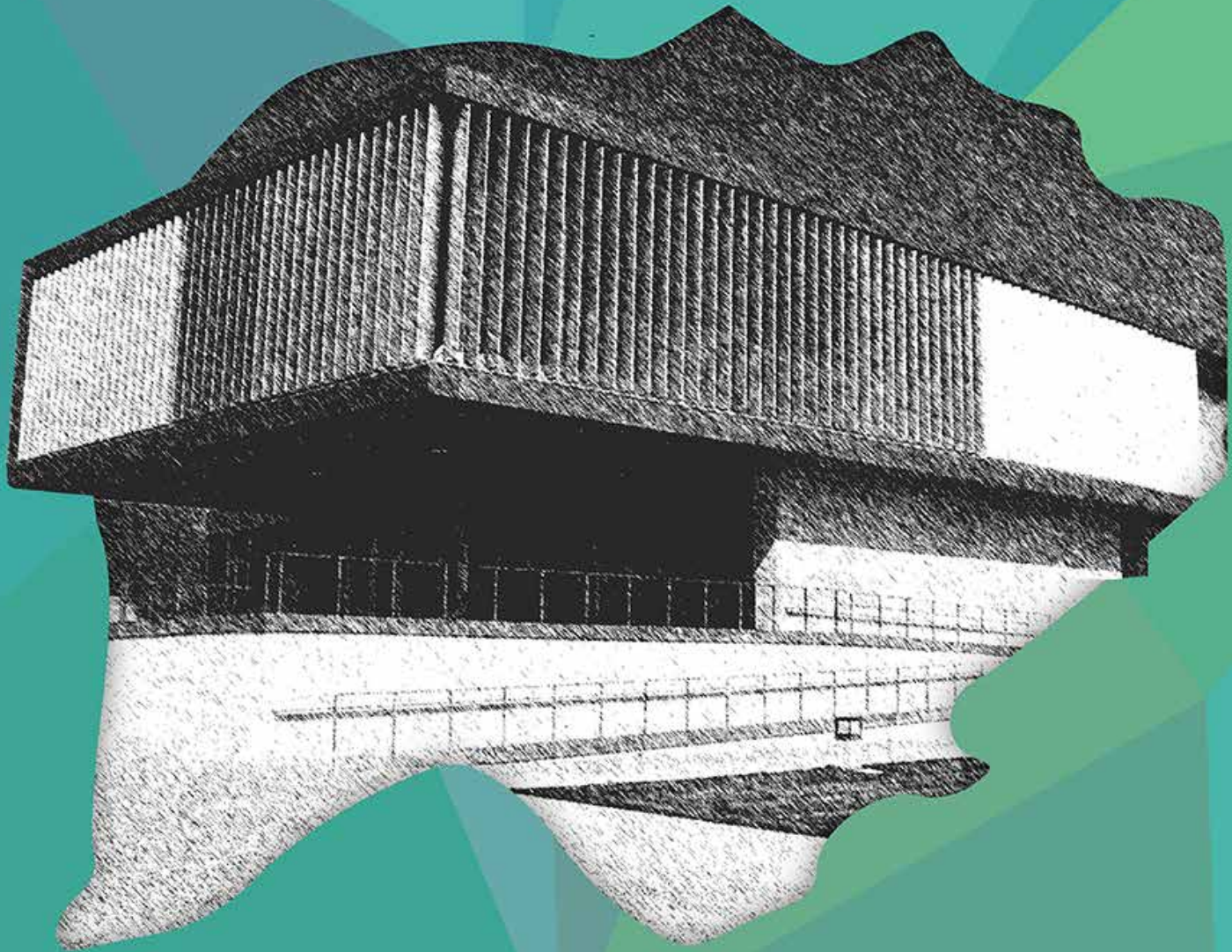






# RIS3 Strategy.

## Update for the period 2025-2027



*Edificio CLPU (Salamanca)*

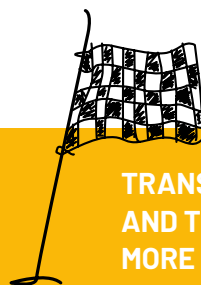
# Vision and <sup>2.1</sup>mission

**The** Vision for the strategy is the horizon towards which R&i and Digital Agenda actions are to be directed in Castilla y León in the coming years. The statement has been constructed and contrasted during the participatory process for RIS3 and it condenses the shared vision of the actors in the science, technology, business and social system in Castilla y León. This vision reflects the strengths we are most proud of, such as having a territory with quality of life, an exemplary educational system, opportunities for training and personal and professional development in various spheres and with very competitive sectors globally.

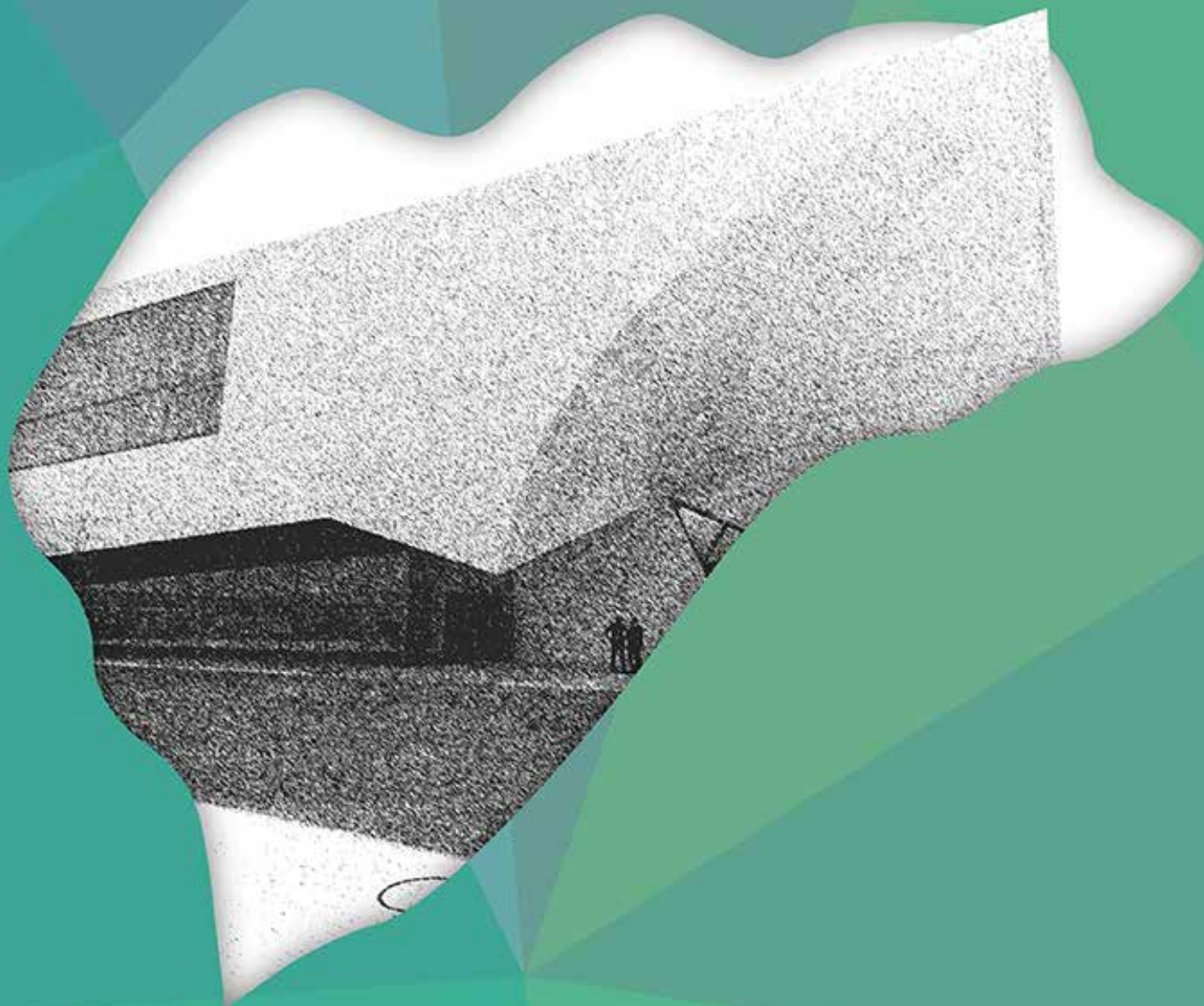


**CASTILLA Y LEÓN, A TERRITORY WITH QUALITY OF LIFE, TALENT AND SKILLS THAT PROMOTE A PERMANENT TRANSFORMATION BASED ON ITS COMPETITIVE ADVANTAGES.**

As for the Mission, it identifies the path to follow to achieve the region's vision by 2027. Formulated by a participatory process during the elaboration of the strategy and its mid-term evaluation, it continues to be valid for the 2025-2027 period. ●



**TRANSFORMATION OF SOCIETY AND THE ECONOMY TOWARDS A MORE DIGITAL, SUSTAINABLE MODEL CONSOLIDATING AN ECOSYSTEM THAT APPLIES INNOVATIVE SOLUTIONS TO OVERCOME THE CHALLENGES FACING CASTILLA Y LEÓN**

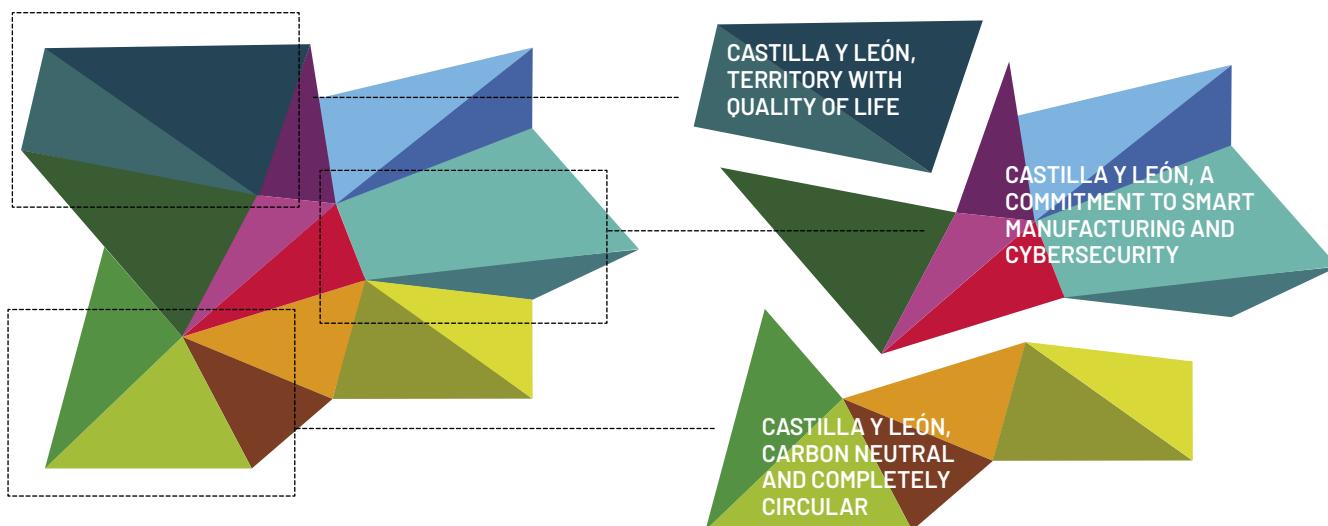




# Smart specialisation priorities for Castilla y León

Castilla y León's RIS3 2021-2027 establishes **three main specialisation priorities**, understood as vectors of transformation for the economy and society which align the efforts in different economic sectors and the region's scientific and technological skills with the vision for 2027

The three investment priorities continue in force in the period 2025-2027 with some updates in priority thematic areas.





## Priority: Castilla y León<sup>2.2.1</sup>, territory with quality of life

**This** major priority focuses on one of the distinctive characteristics of Castilla y León: there are no overcrowded cities, an incomparable cultural heritage and an internationally recognised cultural and gastronomic offering. A diverse, well-preserved natural heritage, is connected with towns and cities so citizens can enjoy it and it provides natural resources such as food and natural medicines, in line with the new trends in demand.

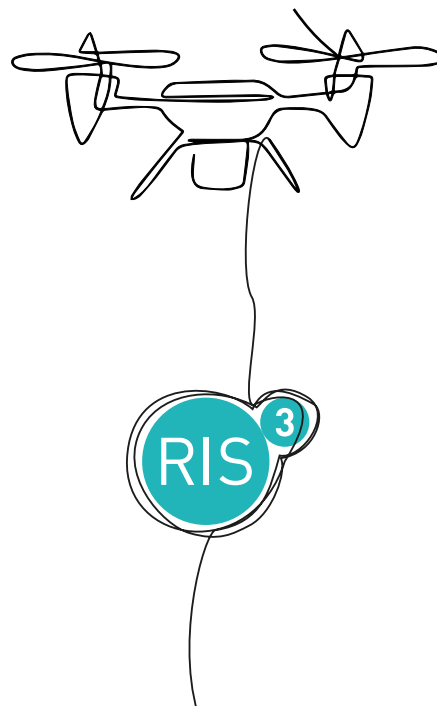
Castilla y León is a leader in food quality marks and has a food and agriculture industry and sector with many opportunities to make the most of global trends to position itself in previously identified niches (changes in demand, health and quality of life, etc.).

At the same time, the characteristics of the population itself (ageing demographic) and the territory of the region (population centres far from urban environments) make it an ideal territory for positioning itself in significant global trends in health and socio-health care.

In addition, Castilla y León has unique characteristics to lead new habitat concepts in the design of a sustainable and quality environment

for people, benefiting from public-private collaboration in the Habitat sector.

The broad natural, cultural and historical heritage of the region allows economic activity to be generated from its value, not only from the tourist point of view, but also from the perspective of innovation and technological development to facilitate the efficient management of our heritage, as well as to restore and maintain it.



## Priority Thematic Areas

*Important!*

**Food and agriculture sector** Innovation and technology for positioning in niches related to changes in demand; "3S" foods (safe, sustainable and healthy); New technologies for labelling, packaging and traceability..

**Innovative socio-healthcare and care services:** Telemedicine and telecare, including robotic devices for nursing care; Solutions based on AI and other advanced digital technologies; Development of technological platforms for the provision of integral services.

**Silver Economy:** Products and services for the elderly and pre-elderly population.

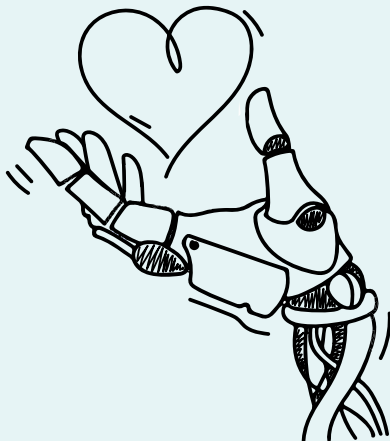
### **New business opportunities in**

**biomedicine:** Application of personalised and precision medicine; Geroscience: ageing, degenerative and chronic diseases; Cancer; Infectious diseases; mental health; Rare diseases and undiagnosed conditions; new diagnostic technologies and therapeutics; Humanisation and care; Interoperability; Spaces for shared data and new technologies in healthcare management.

**New habitat concepts** in the design of a sustainable, quality environment for people in urban and rural areas; Rewilding of rural and urban environments, Zero-energy building and town planning; Smart services in the territory (smart cities and smart rural territory).

### **Innovative formulas for experiential**

**tourism** in the areas of culture, gastronomy, nature and language, based on technological innovation, social innovation and sustainability. Innovative management of natural, heritage and cultural resources.

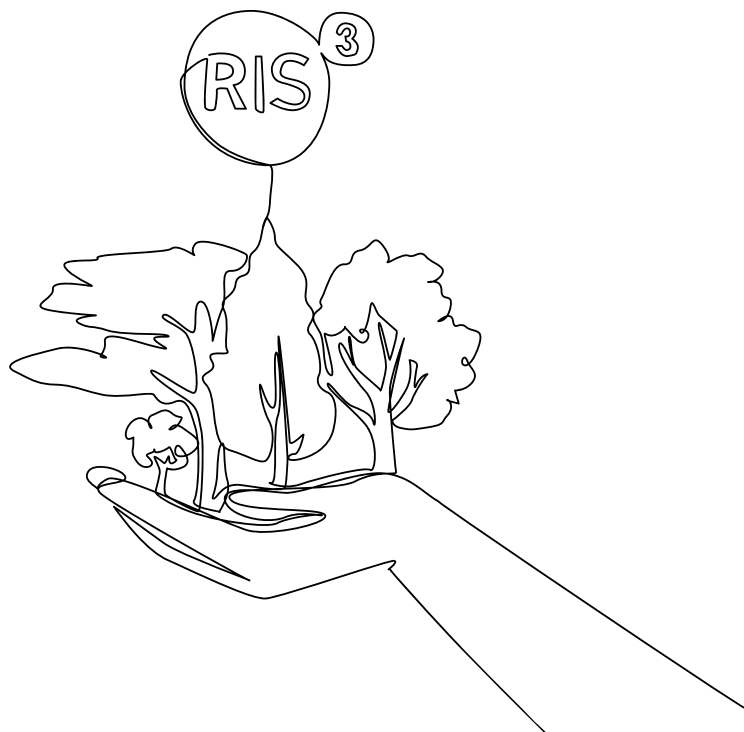


## Castilla y León<sup>2.2.2</sup>, carbon neutral and completely circular

**Castilla y León** is a territory with excellent environmental and biodiversity indicators and is a model territory in spheres such as bioeconomy or for leading responses to global challenges, such as climate change, biodiversity loss and environmental pollution. The focus of this priority is the decarbonisation of activities (productive and non-productive), fostering the introduction of more circular processes and economies throughout the value chain, including the primary sector, processing sector and commercialisation.

Castilla y León's commitment to the bioeconomy is the first area in this priority given the size of its agricultural, livestock and forestry sectors, the importance of the food and agriculture industry and strengths in biotechnology R&D. Secondly, this priority contemplates sustainable transport and mobility as essential elements for the green transition. This priority also includes furthering green innovation and the industrial environment in the modernisation of all sectors of the regional economy. Another essential area in this priority is the promotion of sustainability in agricultural, forestry, livestock

and mining activities, promoting the circular economy and minimizing the carbon footprint. Finally, given that Castilla y León is one of the main Spanish regions for generating renewable energies in Spain, technological innovation in these areas can enable the region to become one of Europe's leaders in renewable gasses, exporting knowledge and technology internationally.



## Priority Thematic Areas

*Important!*

**Bioeconomy:** Developing bioproducts and biomaterials for industrial application, Developing technologies and processes for integral recovery (zero waste), innovative bio-based industrial processes.

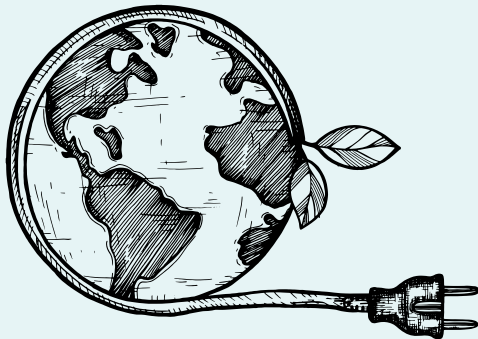
**Sustainable transport and mobility:** Developing electrified, connected, autonomous and sustainable vehicles; Use of recycled materials or light biomaterials and with new functionalities in rural and urban mobility.

**Green innovation and industrial sustainability in the modernisation of the economy:** Decarbonisation, green design, introduction of eco-efficient technologies, promotion of the circular economy.

Innovative sustainable approaches to **primary sector** activities, preserving biodiversity, promoting the circular economy and minimising the carbon footprint. Profitable business models in regenerative agriculture.

Innovation in the management, generation and decentralised distribution of **renewable energies** and self-consumption.

Desarrollo Developing competitive technologies to generate, distribute, store and use **hydrogen, and the manufacture of green methanol and other bio-fuels** as vectors for the energy transition and the region's economic development together with the adaptation and strengthening of the distribution network.



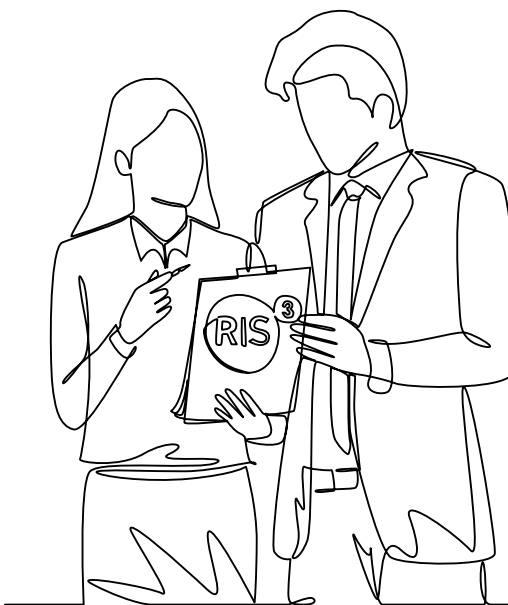
## Castilla y León<sup>2.2.3</sup>, a commitment to smart manufacturing and cybersecurity

**Industry** and the economy in general are facing a new digital context the application of advanced technologies where the ability to adapt is key. The first area of this priority consists in the applied development of deep technology and digital technology to achieve more flexible and efficient processes and the development of better products, services and business models, enabling companies in general and industry in particular to take up the global challenge of industry 4.0 This priority also includes incorporating innovation based on advanced digitalisation concepts in the primary sector: developing Agriculture and Livestock 4.0, Forestry 4.0 and Mining 4.0.

At the same time, connectivity and digitalisation require progress in cybersecurity where Castilla y León is precisely a pioneering region, with its robust ecosystem of knowledge actors, IT companies and technological services.

Finally, this priority includes the application of technologies to the sphere of Aerospace which, in addition to their application in the sec-

tor are highly useful for competitive development and improving efficiency in key areas such as agriculture, the automotive industry and nature conservation.



## Priority Thematic Areas

*Important!*

### **Application of advanced digital technologies in industry in strategic sectors with high growth potential:**

AI, 5G Networks, Data and metadata analysis, the Internet of Things (IoT), high performance and cloud computing, virtual reality, collaborative robotics, digital twins; and other digital technologies specifically considered as strategic for Europe on the STEP platform <sup>3</sup>.

### **Advanced Manufacturing throughout the value chain:**

Introduce smart production processes, use emerging technologies, advanced electronics, new materials and integrate the concepts of efficiency and sustainability.



Introduce innovation and technology based on digital transformation in the primary sector to improve competitiveness, productivity and sustainability. **Agriculture and Livestock 4.0, Forestry 4.0, Mining 4.0.**

**Cybersecurity:** Industrial Cybersecurity solutions Cyber threat capture, analysis and predictive intelligence platforms. Security operations centres in sectors of interest. Develop data spaces to enable the generation of business models.

**Development and application of aerospace technology:** Develop new aeronautical materials and associated processes. Sustainable mobility in aerospace. Develop advanced applications related to the activity of satellites, high altitude balloons and platforms (HAB, HAP), unmanned aerial vehicles and remotely piloted aircraft (UAV, RPA) and ground segments to support the operation of these elements.

<sup>3</sup> This priority includes, in particular, projects with the STEP seal.  
[https://strategic-technologies.europa.eu/index\\_en](https://strategic-technologies.europa.eu/index_en)





*Edificio MUSAC (León)*

# RIS3 objectives<sup>2.3</sup> for the period 2025-2027

The Research and Innovation Strategy for Smart Specialisation of Castilla y León 2021-2027 has three objectives deployed in ten action points.

## STRATEGIC OBJECTIVES AND ACTION POINTS RIS3 2021-2027

OBJETIVES	ACTION POINTS
<p><b>OBJECTIVE 1:</b> develop the specialisation priorities</p> <ul style="list-style-type: none"> <li>• Castilla y León, territory with quality of life</li> <li>• Castilla y León, carbon neutral and fully circular.</li> <li>• Castilla y León, a commitment to advanced manufacturing and cybersecurity.</li> </ul>	<ol style="list-style-type: none"> <li>1.1. Promote and support Flagship Initiatives in a framework of public and private collaboration.</li> <li>1.2. Reinforce participatory governance for smart specialisation.</li> </ol>
<p><b>OBJECTIVE 2:</b> Improve and strengthen the research and development ecosystem in Castilla y León to foster specialisation.</p>	<ol style="list-style-type: none"> <li>2.1. Develop and maintain skills for smart specialisation.</li> <li>2.2. Increase R&amp;i of companies in the region.</li> <li>2.3. Promote and support entrepreneurship around R&amp;i.</li> <li>2.4. Develop research excellence and promote knowledge transfer.</li> </ol>
<p><b>OBJECTIVE 3:</b> Digital Agenda for Castilla y León: benefitting from the advantages of digitalisation.</p>	<ol style="list-style-type: none"> <li>3.1. Digital connectivity and infrastructures.</li> <li>3.2. Digital transformation of companies.</li> <li>3.3. Digitalisation of public services.</li> <li>3.4. Digital skills.</li> </ol>



## 2.3.1 Objective 1. Develop the specialisation priorities

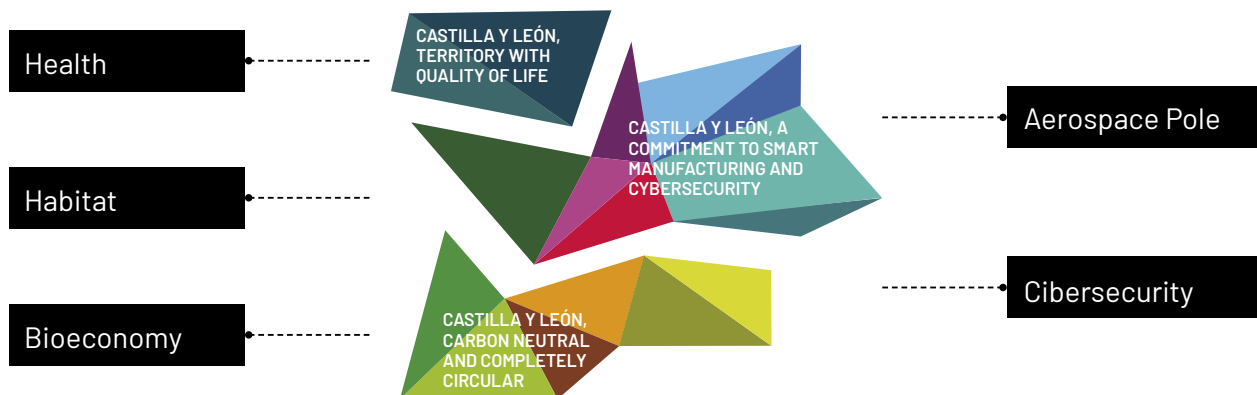
**Prioritisation** continues to be one of the essential concepts of the smart specialisation strategies, aiming to strengthen more powerful, results-oriented innovation ecosystems. Objective 1 of the RIS3 2021-2027 of Casti-

lla y León aims to concentrate business and institutional efforts and the region's scientific and technological capabilities in a multidisciplinary, multi-sector and integrative way, overcoming barriers between areas and sectors of action.

### Promote and support Flagship Initiatives in a framework of public and private collaboration

**Flagship** Initiatives are designed as clear commitments from the Administration in collaboration with the business sector in Castilla y León, and are one of the main elements for de-

veloping the priorities, concentrating resources and aligning instruments. There are currently five Flagship Initiatives in place.



Furthermore, and as the main new feature for the period 2025-2027, identifying Transformative Challenges is part of the Flagship Initiatives, because as defined in RIS3, they are ambitious projects with a clear impact on the economy and society of Castilla y León, with a

market vision (Technology Readiness Levels -TRLs 5-9) and which arise from the initiative of actors in the process of entrepreneurial discovery (companies, technology centres, research centres and universities, the Administration and society in general).

## Strengthen participatory governance for smart specialisation

**F**or the period 2025-2027 and aligned with European Commission guidelines, the RIS3 of Castilla y León will take a further step towards developing participatory governance in the context of the Flagship Initiatives, with a focus on the Open Discovery Process (ODP)

where, in addition to ongoing dialogue and interaction between the actors involved to identify high potential areas for innovation, mechanisms for open collaboration and the joint creation of innovative solutions from a more global perspective will be launched.

## 2.3.2 Objective 2. Improve and strengthen the research and innovation ecosystem of Castilla y León

### Develop and maintain skills for capacities specialisation

**This** first point focuses on the generation of skills, given that achieving smart specialisation requires an R&i system for generating knowledge, developing innovative solutions and implementing them in the market and society. This

requires the availability of talent, necessary infrastructures for the specialisation and a system of education and training that is interconnected and linked to R&D&i<sup>4</sup>.

<sup>4</sup> Note: This section and the following ones contain a short description of the lines of action which are described more exhaustively in the document updating RIS3 2021-2027 and the Management Guide. are described more exhaustively in the document updating RIS3 2021-2027 and the Management Guide.

And in this same line, the region's Administration will continue working to establish collaboration agreements and framework agreements to facilitate the entry of our companies,

researchers, research and technology centres and universities into consortia, networks and platforms of interest for the smart specialisation of the region.

### LINES OF ACTION

#### INNOVATI PEOPLE ON

- ➔ Train and hire researchers, offering opportunities throughout their research careers and hiring support technicians.
- ➔ Promote research activity in the loyalty and talent capture programme for residents who complete their specialised healthcare training in Spain's National Health System.
- ➔ Produce and develop a training plan in health research and innovation.
- ➔ Train managers for R&D&i and facilitate their incorporation in companies and other entities in the Castilla y León research system.
- ➔ Continue fostering the consolidation of biomedical research.
- ➔ Practical training in innovative entities: Promote Talent Grants for Castilla y León.

#### R&i STRUCTURES

- ➔ Financing R&i structures, including the public universities of Castilla y León (Infrared programme, investments in research and support for knowledge transfer structures), Singular Scientific-Technical Infrastructures (ICTS)(CENIEH - National Centre for Research into Human Evolution), CLPU (Pulsed Laser Centre) and SCAYLE (Supercomputing Centre of Castilla y León), Biosanitary Research Institutes and ICSCYL.
- ➔ Creation and regulation of the Registry and the Network of the Technology Centers of Castilla y León and the financing of its consolidation as an instrument for the transfer of technology.
- ➔ Consolidation of the Castilla y León government's own infrastructures: ITACYL (Castilla y León Institute of agricultural technology), the Bioincubator in Boecillo and the Centre for the Conservation and Restoration of Cultural Assets in the sphere of cultural heritage.

#### EDUCATION AND TRAINING

- ➔ Reinforce the drive to develop STEM vocations in Primary and Secondary Education and Vocational Training.
- ➔ Link between education and business in the area of Vocational Training and Higher Education and promotion of innovative chairs: university-enterprise-society.
- ➔ Broadening of Dual Vocational Training and promotion of industrial doctorates in R&D in the context of national action.

## Increase R&i of companies in the region

**O**ne of the pillars of business competitiveness is technological development and innovation, and so, in the context of this strategic action

point different lines of work will be addressed to contribute to competitiveness in the region's productive system on the basis of innovation and

the generation of economic activity in innovative products, processes and services with financial instruments tailored to the new needs.

And in this same line, the region's Administration will continue working to establish co-

laboration agreements and framework agreements to facilitate the entry of our companies, researchers, research and technology centres and universities into consortia, networks and platforms of interest for the smart specialisation of the region.

## LINES OF ACTION

### INNOVATION

- ➔ Development of lines to assist R&D&i.
- ➔ Diffusion, communication and training (technical, management, sustainability, digitalisation, entrepreneurship, etc.) to promote collaboration and innovation throughout value chains in the priority areas for Castilla y León.
- ➔ Boost and consolidate the Projects Bank in rural areas.
- ➔ Promote open innovation and collaboration between large firms based in Castilla y León and SMEs and entrepreneurs in the region.
- ➔ Development of programs for the contracting of advanced innovation service.

### FINANCIAL INSTRUMENTS

- ➔ Continue moving towards the sophistication of existing financial instruments to support R&D&i in the region.

### PARTICIPATION IN NATIONAL AND INTERNATIONAL PROGRAMMES

- ➔ Support for participation in national and international projects and programmes. A mechanism to promote them would be cofunding of international R&D&i programmes by the region's government.
- ➔ Development and introduction of Complementary R&D&i Plans with other Autonomous Communities.

### INSTITUTIONAL COLLABORATION

- ➔ Clear commitment in recent years by the regional government, which will continue to work in the context of signing international collaboration agreements and conventions, especially with a focus on European regions.
- ➔ The exchange of knowledge and good practices, in common challenges such as decarbonisation, digitalisation, boosting the circular economy, European technological sovereignty, mitigating the effects of climate change, the demographic challenge, talent etc. will form part of the agenda of the regional Public Administration.

### INNOVATIVE PUBLIC PURCHASE

- ➔ Promotion and stimulation of innovation and development from the demand point of view, based on procurement processes for innovative solutions that address the needs of the regional public administration, which are unmet by market solutions.

## Promote and support entrepreneurship around R&i

**T**he third action point focuses on promoting the creation of companies and business lines based on innovation and the knowledge resulting from research activities. For the period 2025-2027, the commitment to integral support for entrepreneurs and intrapreneurs will continue, and in addition, a greater compo-

nent linked to regional prioritisation will be introduced, taking into account an integral vision of the region, that is, taking into consideration the rural area and the generation of companies by universities as well, making the most of skills and services in the network of actors operating in the territory.

LINES OF ACTION
<p><b>INNOVATIVE ENTREPRENEURSHIP</b></p> <ul style="list-style-type: none"> <li>⇒ The provision of services and financial assistance for both entrepreneurs and entrepreneurial companies and organisations, supporting the creation of new companies and intrapreneurship as a mechanism for generating new business lines.</li> <li>⇒ Assisting entrepreneurs in the food and agriculture sector to develop products and projects in ITACYL's innovation infrastructures and spaces.</li> </ul>
<p><b>ENTREPRENEURIAL COMMUNITY</b></p> <ul style="list-style-type: none"> <li>⇒ Creation and introduction of the "Castilla y León Region of Entrepreneurs" seal.</li> </ul>
<p><b>ENTREPRENEURIAL UNIVERSITIES</b></p> <ul style="list-style-type: none"> <li>⇒ In universities, the creation of knowledge-based spin-offs will continue to be promoted, in particular through the Plan TCUE, which for the period 2025-2027 focuses on promoting entrepreneurial talent through the University Entrepreneur Office, support for developing entrepreneurial skills and the Entrepreneurial Campus initiative.</li> <li>⇒ Lines of ICECYL-University collaboration will continue to be developed.</li> </ul>

## Develop research excellence and promote knowledge transfer

**T**he fourth strategic point in the skills objective focuses on two essential aspects for strengthening the region's R&i ecosystem: su-

pport R&D excellence and knowledge and technology transfer to companies and society.

#### LINES OF ACTION

##### R&D EXCELLENCE

- ➔ Promotion of R&D excellence in the region will continue supporting research with internationally recognised impact. A guide will be produced to provide guidance for professionals in the health system with their research and innovation activities. In addition, support will be provided for Vocational Training Centres of excellence recognised in Europe, Spain and regionally.

##### KNOWLEDGE TRANSFER

- ➔ Knowledge transfer between the university, company and society will be promoted, strengthening skills for diffusing knowledge and open science. In addition, support programmes will be promoted for proof of concept, prototyping and product validation for both consolidated and emerging companies. SMEs will continue to receive support to acquire knowledge and technology through expert advice. In healthcare, traslational research and public-private collaboration will be promoted through SACYLINNOVA, while in the food and agriculture sector, ITACyL's Platform to Promote R&i and the creation of AKIS (Agricultural Knowledge and Innovation Systems) groups will continue to be promoted.

## 2.3.3 Objective 3. Digital Agenda for Castilla y León Benefitting from the advantages of digitalisation

Digital connectivity and infrastructures.

**Digital** connectivity through telecommunications infrastructures is the necessary, essential basis for achieving the digital transformation of society and the key for citizens and businesses to access the services and opportu-

nities flowing from it. It is also necessary to promote technological infrastructures in the region for supercomputing as the development of high performance computing is one of Europe's objectives.

## LINES OF ACTION

### PROMOTING THE DEPLOYMENT OF TELECOMMUNICATIONS NETWORKS AND SERVICES TO ENSURE HIGH-CAPACITY DIGITAL CONNECTIVITY THROUGHOUT THE REGION

- ➔ There will be collaboration with the Spanish government to expand high-capacity telecommunications networks throughout the region with particular emphasis on rural areas, including the deployment of 5G infrastructures and digital television. In addition, the Telecommunications and Digitalisation Board be strengthened as a forum for public and private collaboration.

### PROMOTING HIGH-PERFORMANCE IT SKILLS AND SERVICES AND THE CAPACITY AND COVERAGE OF REDCAYLE

- ➔ The infrastructures and services of Castilla y Leon's supercomputing centre (SCAYLE) will be promoted as a centre of reference for compute-intensive, analysis and big data storage services. The capacity and coverage of RedCAYLE will be increased, so it will be a technological infrastructure to support universities, research centres, companies and Public Administrations.

## Digital transformation of companies

**T**he transformation of companies will depend on their ability to quickly and generally adopt new digital technologies in, among others, their management, industrial and services systems and in their production processes. To that end,

this includes the promotion of Industry 4.0, cybersecurity and promotion of the digital sector to develop products, technologies and innovative services.

## LINES OF ACTION

### DIGITALISATION OF COMPANIES

- ➔ The digital transformation of companies will be facilitated by support actions tailored to the sector, territory, size and level of digital maturity. Specific support will be provided for Industry 4.0 and the development of AI and IoT-based platforms in the food and agriculture sector (RETECH). In addition, actions will be taken to raise awareness, train and connect with the ecosystem, promoting mobility and cybersecurity solutions.

### SECURE DIGITAL TRANSFORMATION

- ➔ There will be support for the digitalisation of companies, with particular emphasis on cybersecurity through awareness raising, training and support with implementing solutions. In addition, the specialised node in cybersecurity in the ARGOS Network within the region's RETECH programme will be developed.

### PROMOTION OF THE DIGITAL SECTOR

- ➔ The competitiveness of companies in the digital sector will be improved through the visibility of their products and their adoption by regional and national SMEs. In addition, technological forums and sector meetings will be organised to align the offer of the IT sector with business demands, identify needs, market niches and direct towards future trends.



## Digitalisation of public services

**P**ublic Administrations are immersed in the same digital transformation process as the rest of society. This action point includes lines of action designed to digitalise and improve proces-

ses and procedures, provide more public services through this channel, include new technologies in the Administration and generate skills and abilities in public employees.

### LINES OF ACTION

#### PERSONALISATION OF DIGITAL PUBLIC SERVICES

- ➔ Work to personalise digital public services will continue to make them easier for citizens to use, making them proactive, accessible, secure and with multichannel access, especially in mobility.

#### PROMOTE THE USE OF E-ADMINISTRATION BY CITIZENS AND COMPANIES

- ➔ The 012 service of the Castilla y León government to support citizens and businesses with the procedures to be conducted on the government website will be strengthened, to promote and facilitate use of e-Administration. Customer Service Registry Offices will be reinforced to support users who are not obliged to have a digital relationship with the Administration.

#### DIGITAL TRANSFORMATION IN THE PUBLIC EMPLOYEE WORKPLACE

- ➔ Effective, secure digital applications and infrastructures will be provided to enable fully digital administrative activity with a clear commitment to the most advanced technologies (AI, robotisation of processes, etc.) emphasising work on mobility and collaborative tools.

#### PROMOTING OPEN GOVERNMENT

- ➔ Maintenance and extension of the Open Data Portal will continue and use of its data sets will be promoted to generate applications and services. The online presence of the Castilla y León administration will be promoted through corporate websites and there will be collaboration with universities to fund transparency initiatives. In addition, a corporate policy on data lifecycle management will be launched, prioritising sharing, normalisation and the establishment of quality, security and traceability standards.

#### CITIZEN PARTICIPATION PORTAL

- ➔ Work will continue to develop and improve the Citizen Participation Portal to facilitate collaboration and the management of knowledge between the Administration and citizens.

#### DEVELOPING THE SMART TERRITORY IN CASTILLA Y LEÓN FOR MORE EFFICIENT MANAGEMENT AND PROVISION OF THE ADMINISTRATIONS' PUBLIC SERVICES

- ➔ The smart territory of Castilla y León will be developed using technologies like IoT and AI, sharing software platforms and support, collaboration and coordination from Local Administrations with the Administration of the Castilla y León Autonomous Community to promote digital public services in the context of the network of digital municipal districts.

## LINES OF ACTION

### DIGITALISATION OF THE HEALTH SYSTEM

- ➡ There will be investment in technologies and infrastructures to improve the management and integration of health information systems, ranging from interoperable clinical records and electronic prescriptions at European level, to the digitalisation of relationships with patients and professionals, especially in rural areas. The inclusion of advanced medical equipment and cybersecurity will be promoted. Four key initiatives will also be promoted: a regional data space for research, a national platform on genomics and rare diseases, improvements in healthcare cybersecurity and personalised digital care services with remote monitoring of patients.

### DIGITALISATION OF SOCIAL SERVICES

- ➡ Social services will be digitalised, investing in technologies and infrastructures to improve management and interoperability with other systems. The Digital Social History will be developed and users will be offered a personalised space with access to their information. Advanced teleassistance services with sensor-based predictive services, remote monitoring and smart home control will be promoted. Pilots and robots linked to R & D& i will be promoted to test new technologies and applications in the social sphere.

### DIGITALISATION OF THE EDUCATIONAL SYSTEM

- ➡ There will be moves towards digital excellence in education through the digital transformation of classrooms, investing in technological infrastructure, ICT equipment, portable devices to reduce the digital gap and digital educational content. School libraries will also be digitalised and artificial intelligence will be applied to the educational system. At administrative level, academic management systems will be integrated with the virtual corporate platform. In the university sphere, open data and open science repositories will be promoted, the use of scientific equipment will be optimised through the INFRARED portal.

### DIGITALISATION OF THE CULTURAL HERITAGE OF CASTILLA Y LEÓN

- ➡ The aim is to continue with the process of digitalising the cultural heritage of Castilla y León, covering tangible and intangible assets and the bibliographic, documentary and museum heritage. This includes the installation of sensors in tangible assets connected to the Smart Rural Territory Platform and the digitalisation of cultural assets (tangible, intangible and non-material) to document, research and conserve them. In addition, the aim is to improve the management of these cultural assets through the digitalisation of services, processes and associated tools, promoting their recovery and contributing to the region's social and territorial development.

### DIGITALISATION OF THE NATURAL AND FOREST HERITAGE OF CASTILLA Y LEÓN

- ➡ The aim is to improve the knowledge of natural and forest heritage by improving the inventory systems for biodiversity and habitats and introducing remote sensors. This includes digitizing the planning and monitoring of interventions, especially in firefighting, as well as forest traceability and administrative procedures.

### DITIGALISATION OF TOURISM

- ➡ Further work will be done to digitalise the tourism offering by modernising the information offices, museums and other resources. In addition, Cohesion's Smart Destination Platform will be introduced to improve accessibility and knowledge of public ©and private tourism resources, facilitating the compilation and storage of data related to tourism in the region.

## Digital skills

**T**his point will be developed by supporting training in basic digital skills, with particular emphasis on disadvantaged collectives, promoting the acquisition of more advanced digital skills

and ongoing digital learning among the active population (unemployed and workers) and the population as a whole to adapt to the new demands for digital profiles in the labour market. ●

### LINES OF ACTION

#### IMPROVING BASIC AND AVERAGE DIGITAL COMPETENCES IN THE POPULATION

- ➔ The aim of this line is to improve the basic and average digital competences of collectives with the most difficulties, promoting confidence and quality of life in the digital age. Actions to raise awareness, advise and provide technology training will be intensified under the EU's Digital competence framework (DigComp), creating personalised digital profiles. In addition, media literacy and cybersecurity will be promoted with ongoing digital learning and an online catalogue with self-learning content. Digital training classrooms will be established for the over 55s, collaborating with Adult Education Centres (CEPAs) and emerging technology demonstrators and social innovation projects will be implemented through living labs to promote citizen participation.

#### PROMOTION OF DIGITAL COMPETENCES TO IMPROVE EMPLOYMENT

- ➔ Digital competences to improve employment will be promoted by specialised training in digital competences for young people, working people and the unemployed, through Vocational Training and job centre services.

#### PROMOTION OF DIGITAL COMPETENCES IN COMPANIES

- ➔ Promote digital competences in companies, improving their competitiveness on the basis of professional and personal development of talent. For that purpose, awareness raising and training actions are proposed for entrepreneurs, the self-employed and SMEs to guide and help them carry out an effective digital transformation in their businesses.

#### PROMOTION OF DIGITAL COMPETENCES IN EDUCATION

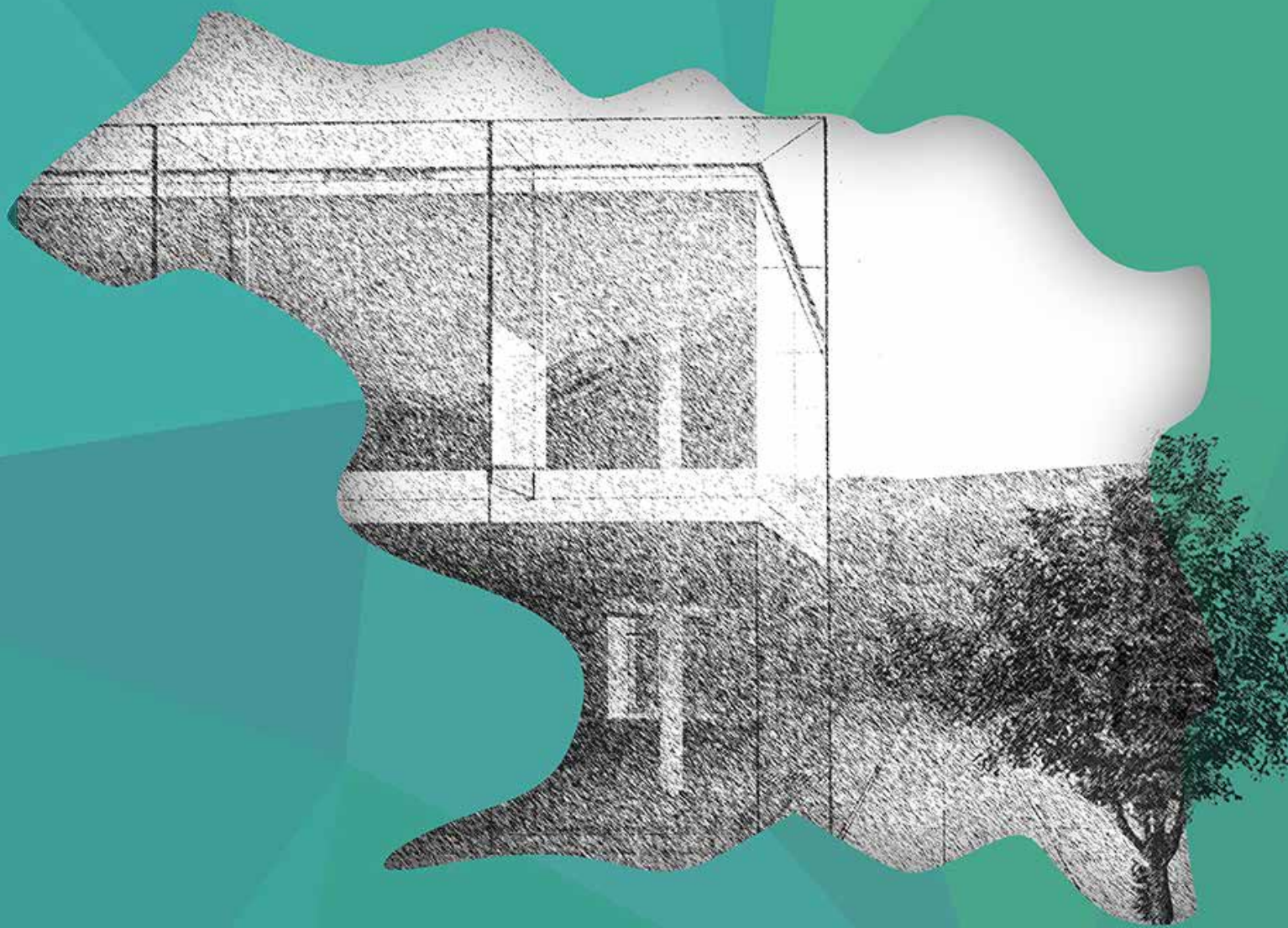
- ➔ Digital competences will be encouraged in education and STEM technological careers will be promoted, with particular emphasis on the gender perspective through the introduction and development of digital plans in all education centres and improvement of the digital competence certification level (CoDiCeTIC) Technology mentors will be deployed to support schools with training teachers and pupils.

#### PROMOTION OF DIGITAL COMPETENCES AMONG PUBLIC EMPLOYEES IN THE ADMINISTRATION OF THE CASTILLA Y LEÓN AUTONOMOUS COMMUNITY

- ➔ The digital competences of public employees will be promoted through awareness raising actions, the development of a specific training plan in digital competences, diagnostics at the level of existing competence in public employees and the promotion of digital competence certification.

#### PROMOTION OF DIGITAL COMPETENCE CERTIFICATION

- ➔ Digital competence certification will be promoted so citizens can validate their skills level, ensuring recognition from Public Administrations and the private sector. The number of certifying centres will be increased, and collaborations will be set up with educational, employment and business entities to promote this initiative. Agreements will also be established with other Public Administrations to ensure recognition outside Castilla y León and work will be done to ensure compatibility with the future European Digital Skills Certificate (EDSC).



*Edificio Alberto Campo (Zamora)*

# Management,<sup>2.4</sup> monitoring and evaluation

**The** RIS3 of Castilla y León for the period 2021-2027 introduced a very much strengthened

governance model in relation to previous strategies, as shown below.

## 2.4.1 Coordination, management and participation structure

**Under** Law 17/2002 on the Promotion and General Coordination of Scientific Research, Technological Development and Innovation in Castilla y León, leadership of the execution of the smart specialisation strategy falls to the government of Castilla y León, which is responsible for approving it and is accountable to the regional parliament. The following structures complete the governance of the RIS3:

- ✧ The Committee of Secretaries-General: the collegiate body for interdepartmental coordination.
- ✧ Commissioner for Science and Technology: the central body for coordinating RIS3.
- ✧ RIS3 Coordination Committee: the political body responsible for overseeing the implementation of the RIS3.
- ✧ Technical Management Group: a body of technical experts responsible for executing the various lines of action within the Strategy.

PICTURE 5. GOVERNANCE STRUCTURE OF THE RIS3 2021-2027 OF CASTILLA Y LEÓN



## RIS3 Management Guide

**T**he RIS3 Management Guide is a supplementary document to strategic planning, published together with the strategy on the Castilla y León Government's Science and Technology Portal [cienciaytecnologia.jcyl.es](http://cienciaytecnologia.jcyl.es).

The RIS3 Management Guide details the specific actions for each point in the strategy, the directorates that implement them, the full catalogue of indicators, the guidelines for information gathering and the production of work plans and annual reports, the detailed descrip-

tion of compliance with the enabling conditions stipulated by Regulation 2021/1060 for the Good Governance of RIS3 and details of the operation of the governance structures. The Guide also shows the RIS3 assessment plan, the communication plan (to bring the vision and contents of RIS3 to society, knowledge actors and companies in the region), details on the integration of the gender perspective in the actions, contribution to the sustainable development objectives of Agenda 2030, and the mechanisms for learning and improving the design of the action.

### 2.4.2 Monitoring and assessment

**The** process of monitoring RIS3 2021-2027 will be based on producing annual reports which will involve gathering information and analysing the actions that have been started and assessing the degree of compliance with RIS3 objectives, with the aim of supporting decision-making to maximise its effectiveness and the efficiency of execution.

The RIS3 annual reports will be available for citizens and actors in the R&D regional system through Castilla y León Government's science and

technology portal ([cienciaytecnologia.jcyl.es](http://cienciaytecnologia.jcyl.es)), thereby contributing to the necessary institutional transparency and citizen participation.

Finally, as pointed out in the initial strategic planning, a final assessment will be carried out when execution of RIS3 2021-2027 is complete, taking into account the regulations in force at that time and any guidelines from the European Commission on evaluating public policy on smart specialisation.



## 2.4.3 Table of indicators

**The** table of indicators for RIS3 2021-2027 was produced in line with SMART philosophy: useful, reliable, accessible, easy to interpret and comparable indicators from official sources as far as possible. The system proposed for RIS3 has the following blocks of indicators.

- ✧ Context indicators, which measure the evolution of the entire science and technology system of Castilla y León as a whole and involve science, the economy and society.
- ✧ Impact indicators which measure the medium and long term achievements of the actions carried out during execution of the Strategy.
- ✧ Output indicators for the actions which me-

asure the direct, immediate effects of the actions carried out.

- ✧ Input indicators for actions which measure the degree of use of the resources assigned to the actions.

The output, input and impact indicators are shown in the RIS3 Management Guide insofar as they are directly linked to annually planned actions.

As regards the context indicators, although the set of indicators has proved to be adequate, the outcome of the mid-term evaluation revealed the need to review the target values at 2027 as shown below:

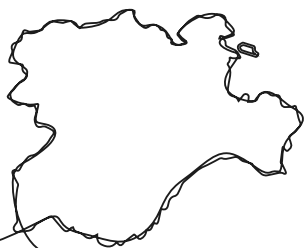


TABLE 2. CONTEXT INDICATORS

CONTEXT INDICATORS							
INDICATOR	RIS3 OBJECTIVE	INFORMATION SOURCE	REFERENCE VALUE		2022 VALUE	2024 OBJECTIVE	2027 OBJECTIVE
			YEAR	DATUM			
%exports of products with technological content/total exports	Objective 1	Datacomex	2019	61.08%	44.86%	60%	62%
Expenditure on R&D/GDP	Objective 2	INE	2019	1.35%	1.35%	1.40%	1.42%
% expenditure on R&D executed by companies	Objective 2	INE	2019	65.30%	59.9%	63.5%	65%
% innovative companies	Objective 2	INE	2019	17.40%	20.80%	21%	25%
% research in the private sector	Objective 2	INE	2019	32.77%	33.20%	34%	35.5%
%accumulated return Horizon Europe/total Spain	Objective 2	Horizon Dashboard	2019	2.50%	2.80%	2.90%	3.2%
Standardised impact of Scientific Production	Objective 2	FECYT	2019	1.18	1.22	1.24	1.26
Employment in high technology sectors	Objective 2	Eurostat	2020	2.50%	2.30%	2.50%	2.70%
Coverage of population with more than 100 Mbps	Objective 3	SETELCO	2020	74%	75.37%	85%	100%
Companies with 10 or more employees with an Internet connection and website	Objective 3	INE	2020	73.2%	99.50%	100%	100%
Persons with basic digital competences	Objective 3	INE	2020	58.5%	67.50%	70%	80%
Persons who interacted with Public Authorities online in the last 12 months	Objective 3	INE	2020	67.5%	83.40%	85%	88%



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# Financial <sup>2.5</sup> plan

The resources mobilised to execute RIS3 2021-2027 are the result of a combination of public and private financing, given that the Castilla y León government allocates part of the region's general budget to science and technology on an annual basis. In addition, RIS3 stimulates participation from the agents of the R&i ecosystem in national and European

programmes which help to advance smart specialisation in Castilla y León (Horizon Europe, Digital Europe programme, state plans for scientific and technical research and innovation, etc.) and finally, the idea is to mobilise private resources which companies and other private organisations dedicate to R&D&i activities and the Digital Agenda. ●

TABLE 3. ESTIMATED FINANCIAL FRAMEWORK (MILLION EUROS)

2021-2027 (MILLION EUROS)	2021	2022	2023	2024	2025	2026	2027	TOTAL
PUBLIC FUNDS	769	758	831	940	979	1,014	1,050	6,294
Castilla y León government	468	442	497	587	612	633	656	3,848
Other public funds	300	316	334	353	368	381	394	2,447
PRIVATE FUNDS	958	1,056	1,115	1,179	1,229	1,273	1,318	8,127
<b>TOTAL</b>	<b>1,727</b>	<b>1,814</b>	<b>1,946</b>	<b>2,119</b>	<b>2,208</b>	<b>2,287</b>	<b>2,368</b>	<b>14,421</b>

# Acronyms

<b>5G</b>	5 <sup>th</sup> generation mobile network.	<b>OECD</b>	Organisation for Economic Cooperation and Development.
<b>CENIEH</b>	Centro Nacional para la Investigación sobre la Evolución Humana. (National Centre for Research into Human Evolution)	<b>ODP</b>	Open Discovery Process.
<b>CLPU</b>	Centro de Láseres Pulsados (Pulsed Laser Centre).	<b>EDP</b>	Entrepreneurial discovery process, understood as a participatory process of discovering business opportunities.
<b>SWOT</b>	Analysis of strengths, weaknesses, opportunities and threats.	<b>GDP</b>	Gross Domestic Product.
<b>DigComp</b>	European Digital Competence framework for citizens.	<b>PISA</b>	Programme for International Student Assessment.
<b>FECYT</b>	Fundación Española para la Ciencia y a Tecnología. (Spanish Foundation for Science and Technology).	<b>SME</b>	Small and medium-sized enterprise .
<b>ERDF</b>	European Regional Development Fund.	<b>REDCAyLE</b>	Red de Ciencia y Tecnología de Castilla y León.(Castilla y León Science and Technology Network).
<b>AI</b>	Artificial Intelligence.	<b>RETECH</b>	Redes Territoriales de Especialización Tecnológica (Technological Specialisation Territorial Networks).
<b>R&amp;D&amp;I</b>	Research, technological development and innovation.	<b>RIS3</b>	Research and innovation Strategies for Smart Specialisation.
<b>R&amp;I</b>	Research and innovation.	<b>VR</b>	Virtual reality.
<b>ICECYL</b>	Instituto para la Competitividad Empresarial de Castilla y León. (Castilla y León Institute for Business Competitiveness).	<b>SACYLINOVA</b>	Unidad de Apoyo a la Innovación de la Gerencia Regional de Salud de Castilla y León. (Innovation support unit for regional health management in Castilla y León).
<b>ICSCYL</b>	Instituto de Ciencias de la Salud de Castilla y León. (Castilla y León Institute for Health Sciences).	<b>SCAYLE</b>	Supercomputación de Castilla y León (Supercomputing in Castilla y León).
<b>INFRARED</b>	Programa de Infraestructura Universitaria en Red. (Networked University Infrastructure Programme).	<b>STEM</b>	Science, Technology, Engineering and Mathematics.
<b>IoT</b>	Internet of Things.	<b>STEP</b>	Strategic Technologies for Europe Platform.
<b>JCYL</b>	Castilla y León government.	<b>TARIC</b>	TARIC nomenclature for the tariff classification of goods in the EU.
		<b>TCUE</b>	Red de transferencia de conocimiento universidad-empresa. (University-business knowledge transfer network).
		<b>ICT</b>	Information and Communication Technologies.
		<b>TIMMS</b>	Trends in International Mathematics and Science Study.
		<b>EU</b>	European Union.





**Junta de  
Castilla y León**