# 

## SOUTHERN CATALONIA

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**EUROPEAN KNOWLEDGE REGION** 

#### A JOURNEY TO THE FUTURE FROM THE PAST

Imagine it is the year 2040 and Southern Catalonia is now an European knowledge region recognized for its progress and well-being that with a shared vision embarked on a change in direction some twenty years ago.

What is happening? What has changed?

#### Steering Group of the Southern Catalonia Knowledge Region (2017-2019)

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#### THE FUTURE WE HAVE BUILT TOGETHER

#### Southern Catalonia, March 2040

At roughly this time of year twenty-one years ago, the results of the Southern Catalonia 2040 regional foresight exercise were presented. This was the first such initiative conducted in our country, and in Catalonia to boot. The exercise covered all areas. The questions were, What kind of region did we want to be by the year 2040? What future scenario did we want to create together? What was the best route to take?

The initiative was part of a journey we had begun a little earlier in 2015 when the Universitat Rovira i Virgili and Tarragona Provincial Council created the Chair for University and Knowledge Region. It was then that we began a series of actions aimed at progressively shaping the Southern Catalonia Knowledge Region and taking a giant step forward in the development of the entire region in all its diversity.

Our starting point was a limited awareness of our region and its real potential, as was illustrated at that time by the lack of a shared narrative. Despite the circumstances prevailing at the time and the difficulty of combining political cycles with unity of action, for many reasons we were certain that it was time to change.

The process we undertook at that initial stage enabled us to lay solid foundations, such as an awareness of our region's needs and reality, a shared vision of the future, and regional governance and government for making decisions and taking joint strategic action. A framework of relationships established among actors and individuals, beginning with the Steering Group, was key to the introduction of a fundamental change for this process.

The community established during those initial phases, and the new leaderships that later emerged, encouraged knowledge agents (with the leadership and commitment of the Universitat Rovira i Virgili), companies, local governments, the public sector and civil society to substantially increase their level of cooperation to respond to important challenges and opportunities that none of the parties involved would have been able to address adequately on their own.

Today we still face enormous challenges, some of which we could never have imagined all those years ago. But now we have the culture and mechanisms we need to respond to these challenges together. The future is in our hands.

Steering Group of the Southern Catalonia Knowledge Region

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"The future belongs to those who believe in the beauty of their dreams" *Eleanor Roosevelt* 

#### UNDERSTANDING OUR REALITY

"If I have seen further it is only by standing on the shoulders of giants" *Isaac Newton* 

Over twenty years ago we embarked on a construction fully aware of our common future as a region of knowledge. Not everything we imagined then has come true but that was not our main objective. Our main objective, which is now clear to us each day, is that we have a way of understanding our reality that allows us to undertake sound joint actions as a region. We know how we see ourselves and which narrative of ourselves we construct. We are aware what our assets are and how they are evolving. We know how the local and global challenges we face as a region are changing and which trends are emerging that will shape our future. We also know how to explore our collective aspirations and which paradigm shifts we have to face together. All this enables us to understand both our reality and the future that is emerging, to value our diversity as a region, with all its talents and abilities, while working together to create the future we aspire to for the benefit of both the region as whole and its constituent parts and contributing, from the region of Southern Catalonia, to the development of the world.

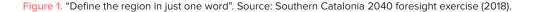
#### The future is in our hands

When we began this journey, we had already made several unsuccessful attempts to develop a joint regional strategy. We were also emerging from an era (the last few decades of the 20th century and the first few years of this one) that had witnessed numerous important local and global changes in every aspect of our lives. Development in our region during this period was characterized by having many key decisions taken from outside our region and by not having our own instruments. In fact, we did not even have a shared vision. For these reasons, too often the future "was already made for us" or simply "what happened to us". We were not the main protagonists, and opportunities were lost. We were especially ill-prepared for writing our own future in a knowledge society facing immense challenges that required huge transformations for which joint regional vision and action were key.

#### Know how you see yourself

The reality and narrative of our region towards the end of the second decade of the 21st century are illustrated in Figure 1, which is taken from the Southern Catalonia 2040 foresight exercise conducted in 2018 and which asked people to "define the region in just one word". The words that were most often repeated expressed potentiality, opportunity and possibility, that is, they described a region that fails to develop everything it could become in the future. Highlighted, along with certain positive values, were elements that emphasized the region's fragmentation and disaggregating disconnection. In our current narrative, the words *opportunity, potentiality* and *possibility* have become reference, progress and reality, while the words fragmentation, non-region, disconnected, disorder, imbalance, unknown and under-achievement have disappeared as others such as internationalized, good governance, confidence, creative, diverse talent and innovation have emerged.





#### Know what assets you have

Our region's assets must be the key to constructing our future. In 2018, when we embarked on our change in direction, the main ones were those illustrated in Figure 2. Although some of these were not fully developed and others faced major challenges, they lay the foundations for creating the region of tomorrow. To these assets we can now add laboratory region, internationalized, governance, eco-sustainable, socially advanced, of values, developer and attractor of talent, innovative, artistic and cultural reference, aware, etc.

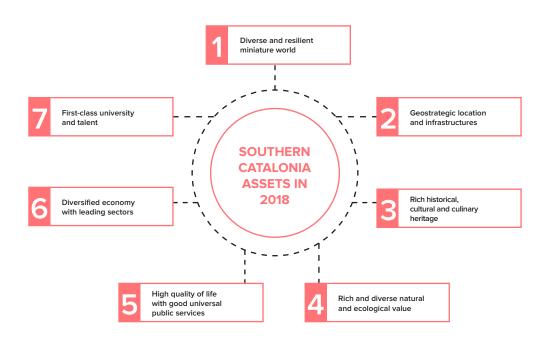


Figure 2. Southern Catalonia's main assets in 2018. Source: Southern Catalonia 2040 foresight exercise (2018).

#### Focus on the global and local challenges

The region periodically reviews and plans its contribution to the global challenges established by the United Nations. These still substantially resemble the challenges that were set in 2015 for the year 2030 (see Figure 3). As we saw two decades ago, the regional element was key to addressing those challenges. Some of those objectives affected the region of Southern Catalonia in particular and were important for creating our vision of the future for 2040.

We are/were also aware that our region faces/faced challenges that affected us in particular, such as the closure of nuclear power stations, rural development, water, etc. In Southern Catalonia 2040 foresight exercise, numerous challenges (or opportunities) emerged for which interventions at the regional level were key (see Figure 4). Most of these challenges are still current today in 2040.

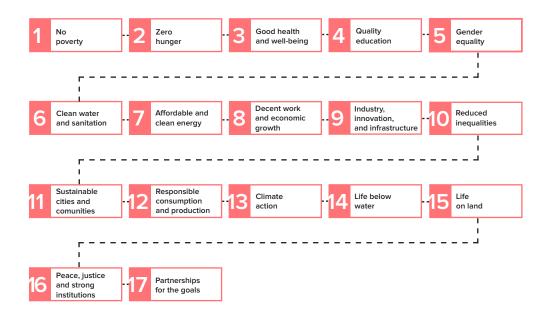


Figure 3. UN Sustainable Development Goals for 2030. Source: United Nations Organization (2015).

THE CIRCULAR ECONOMY FOR PRODUCTION AND RESIDUES MORE SUSTAINABLE CHEMICAL INDUSTRY WITH GREATER VALUE HEALTHY AND SUSTAINABLE AGROFOOD INTEGRATE INDUSTRIES: THE METASECTORS KNOWLEDGE-BASED INDUSTRY THE HISTORY AND HERITAGE INDUSTRY THE BIOMASS ECONOMY HEALTHCARE DISADVANTAGED AREAS AND SOCIAL JUSTICE "NEW HEALTH" MOBILITY

QUALIFIED PERSONAL TRAINING RECRUITMENT AND RETENTION OF TALENT SUPRA-URBAN PLANNING THE MOSAIC REGION

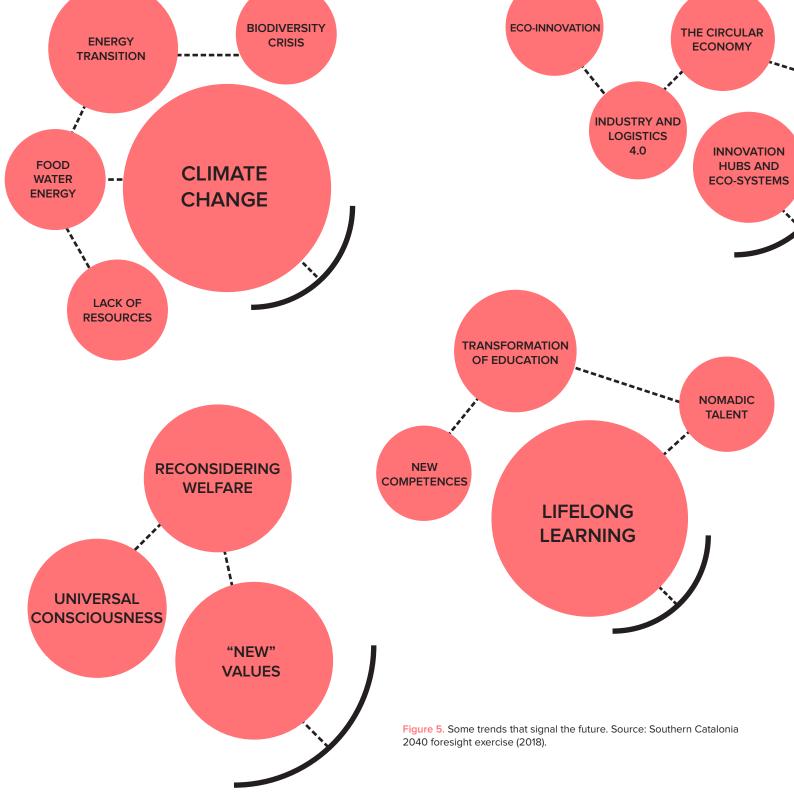
SHOWCASE OUR "TRENCADÍS" AND DEMONSTRATE ITS OVERALL VALUE

GLOBAL RESIDUES PLAN INCLUDING AGROFOD INDUSTRY VALORIZATION OF OUR ECOSYSTEMIC SERVICES COMMON WATER AND ENERGY STRATEGY ENERGY TRANSITION BIODIVERSITY AS A SOURCE OF IDENTITY INTEGRAL AND INTEGRATED MANAGEMENT OF NATURAL ENVIRONMENTS INTERNATIONAL NETWORKS INFORMED STRATEGIC DECISIONS MULTI-LEVEL REGIONAL GOVERNANCE REGIONAL INFORMATION SYSTEM CONSTRUCT A SOLID FUTURE NARRATIVE

Figure 4. Areas of opportunity or challenge where the regional level is key. Source: Southern Catalonia 2040 foresight exercise (2018).

#### Be alert to new trends

An important element in our strategy for the future has been regularly incorporating into our regional actions new trends that are constantly redefining our world. In the Southern Catalonia 2040 foresight exercise we identified several trends that were likely to change our future over the next two decades (see Figure 5). Analysis of trends and their impact is amply conducted in all ambits of our region (e.g. political, economic and social) so that we are able collectively to anticipate the future. The current map includes several new elements, including training by neurosensors, artificial photosynthesis (which in 2018 was only laboratory-related), transhumanism, spirituality and the reformulation of social structures.





#### Pursue the needs you want

Mobilizing assets, analysing challenges and being alert to new trends are not enough for achieving solid foundations and a sound culture that will enable us to understand the reality and future of our region's development. What are our aspirations and where do we focus our attention as a regional community? Now, in the year 2040, the citizens of our region, who are closely involved in collective transformation for the common good, have shifted their main focus of interest towards:

- The most immaterial aspects of life (relationships, values, art, inner well-being, etc.).
- The eco-regeneration of our planet.
- Less marginalization of "the others" and a reduction in social, technical and economic divides.
- New health and education.
- Active ageing with a purpose.
- The meaning economy.
- A rethinking of work and human communities.
- The balanced social integration of frenetic technological (re)evolution.

As we can see in Figure 6 (extracted from the workshops and interviews conducted at the time), some of these aspirations and focuses of attention were expressed over twenty years ago by participants of the Southern Catalonia 2040 foresight exercise.

A REGION THAT OFFERS YOUNG PEOPLE ROOTS SUSTAINABLE PRODUCTION MODEL GREATER COLLECTIVE CONSCIOUSNESS ABOUT WHAT IT MEANS TO LIVE HERE A SUSTAINABLE AND NON-DEGRADED ENVIRONMENT PROTECTED RURAL ENVIRONMENTS AND MORE NATURAL URBAN ONES A REGION WHERE OUR CHILDREN CAN FIND WORK AND EVOLVE QUALITY EMPLOYMENT ROOTED IN OUR ASSETS A REGION OF SCIENCE GOOD COMMUNICATIONS INFRASTRUCTURES MULTIPLE RESOURCES FOR SCIENCE AND INNOVATION HIGH LEVEL OF JOB MOBILITY **RECONSIDER WORK** TECHNOLOGICALLY COMPETENT SOCIETY HIGH LEVEL OF INTERCONNECTION WITH THE PHYSICAL, VIRTUAL AND RELATIONAL WORLDS QUALITY OF DEMOCRATIC LIFE (MATERIAL, CULTURAL AND EDUCATIONAL) HEALTH ENCOMPASSING BODY, EMOTIONS, MIND AND SPIRIT HIGH LEVEL OF QUALITY OF LIFE AND HAPPINESS FOR OUR CHILDREN MATURE LEADERSHIP EDUCATION, ART AND CULTURE ARE THE AXES OF PLATFORMS ON WHICH TO BUILD THE FUTURE TRANSFORMATION ACTIVE CITIZENS ERRADICATE POVERTY IN OUR REGION CITIZENS OF THE WORLD RIGHT HERE LOW LEVEL OF SOCIAL INEQUALITY CITIZENS WHO EMPATHIZE WITH HUMANITY

CHILDREN WHO PARTICIPATE IN THE COLLECTIVE BIOGRAPHY EXTEND THE LOCAL "ME" IN THE REGION .... AND THE WORLD

Figure 6. Future aspirations. Source: Southern Catalonia 2040 foresight exercise (2018).

#### Address paradigm shifts and signal collective challenges

Another essential element for establishing the foundations of our region's future was a collective awareness that certain features of our society, which did not identify our region as different but largely required long-term regional cooperative action, needed to be transformed. These paradigm shifts need profound collective reflections and sustained actions.

Moreover, the region must be equipped with an instrument for action that has proved highly effective over the last two decades, i.e. missions. Missions have an outcome-based approach with clear objectives that require continuous multi-actor cooperation. In 2020 this approach, aimed at complex collective objectives, was introduced into the European Union's Research and Innovation Framework Programme. Challenge-oriented missions encouraged intra- and interregional European coalitions in which universities played a key role (see Figure 7).

PARADIGM SHIFTS New ways of thinking, learning and unlearning are needed to tackle paradigm shifts, which will redefine our world.	inking, learning and unlearning to tackle paradigm shifts, These missions have clear objective(s). To achiev them, long-term cooperative action is required	
Longevity with value.	Zero food residue.	
Disruptive technologies.	<ul> <li>Zero ecological footprint.</li> </ul>	
All is connected.	<ul> <li>Total gender equality.</li> </ul>	
<ul> <li>From illness to integral health.</li> </ul>	<ul> <li>Minimal unemployment.</li> </ul>	
Reorganization.	No poverty.	
Energy transition.	<ul> <li>Innovation in all organizations.</li> </ul>	
True citizen empowerment.	Total agrorural value.	

Figure 7. Examples of paradigm shifts and regional missions. Source: Southern Catalonia 2040 foresight exercise (2018).

#### **KNOWLEDGE AND WISDOM**

"Science is organized knowledge. Wisdom is organized life" Immanuel Kant

#### The need to become a knowledge region

In 2040 Southern Catalonia is amply aware of what it is, why it is important to be a knowledge region, how far our knowledge region can reach, and what the "rules of the game" are for knowledge-based regional development. Between 2020 and 2025 we made a significant effort to ensure that this awareness lay at the foundations of our collective action. Southern Catalonia is now a knowledge region with all the attributes we imagined in 2018. This can be summarized in the fact that the generation, flow and application of knowledge permeate our economic, social, political and environmental reality.

The basic elements of a **knowledge region** are (Gutiérrez, A. *et al., Universitat, innovació i* desenvolupament regional a les comarques de Tarragona, Publicacions URV, 2018):

- The existence of innovative university institutions and research centres.
- A diverse business base that includes specialized groups with strong interactions.
- · Leading services and innovative economic sectors with an intensive use of technology.
- A solid base for exporting products and importing new investments.
- Political institutions committed to innovation and knowledge-transfer policies.
- A region with an identity, social cohesion, sound governance, clear rules of the game, and a leadership that is capable of driving and fostering innovation and the transfer of knowledge.
- Big-city operations that attract a sufficient mass of innovators, the necessary equipment and infrastructure, and a strong real and virtual communications network.

- Dissemination of information and awareness campaigns on sustainable development, pollution control and environmental conservation.
- A young and active population with a good level of higher education as well as professional and continuous training.
- The promotion of entrepreneurship via financial support and business advice.

A knowledge region is able each year to increase its territorial capital, i.e. the sum of the natural capital made up of natural heritage and the environment, human and intellectual capital, social capital comprising associations and shared values, the cultural capital with its values and codes of conduct, and the productive capital comprising financial resources, machinery, equipment and infrastructures.

When we embarked on our change in direction at the end of the first decade of this century, it was clear that if we did not become an intensive knowledge region, the future of our region, like that of any other, would be compromised. It was also clear that to become a European knowledge region, it was essential to have a critical socioeconomic mass that included at least the whole of the Tarragona region as well as a globally competitive research university that was committed to the region. Such a university, the Universitat Rovira i Virgili, already existed.

There was also another important element: knowledge regions were already beginning to play a role in the configuration of global transformation networks. These are now key to responding to the challenges facing humankind and our planet.

#### The region is fashioned with shared commitments

We now know that the territorial demarcation of the Southern Catalonia Knowledge Region is not static. Although its nucleus is formed by what was the demarcation of Tarragona in 2018, the region is currently expanding thanks to knowledge-based agreements established in the 2010s with neighbouring territories – in particular the Alt Penedès/Anoia region, with which we have shared strategies in numerous areas. Our diversity has therefore created a region of polycentric knowledge that was progressively strengthened during the previous two decades by a shared vision, a network of interaction and action, and talent and knowledge flows that created value.

The **region** is a geographical area (which does not necessarily coincide with administrative demarcations) that has a high intensity (e.g. frequency, importance and quality) of several kinds of interactions in the sociocultural, environmental and economic fields. It is a physical and human ecosystem that evolves consciously and with shared governance towards greater coordination and integration. This adds value to the whole and to each of its components, the differential values of which each contribute, in turn, to the whole. Adapted from a paper entitled "Learning Regions, Evolving Governance" presented in Hagen in 2005 by Lukesch, R. and Payer, H. at the International Workshop on Regional Governance for Sustainable Development.

#### Understand the "rules of the game"

We have had to learn (and are still learning) the rules of the game in the development of a knowledge-based region. The main rules are:

- Complexity. The process is part of a complex system in which each component affects the whole and the whole affects each component. This system, which comprises a large number of actors as well as other external and internal influences, is the result of interaction, competition and cooperation between the actors and their strategies, ideas and interests.
- Evolution. The process is nonlinear and often unpredictable. Although it is strongly influenced by the history and the strengths and weaknesses of the region, a persistent directed action of change can take the region to wherever the community proposes. Nothing is pre-destined.
- 3. Fractality. The process must run in parallel with the development of the subregions, municipalities and main institutions and organizations in the region. In fact, the development must be a co-development of the various scales. Evolution on the regional scale cannot take place without the other scales and especially the leadership of these scales also evolving. Indeed, a phrase that has become popular in the region is: "if you want the community to be different and to evolve, put a different and evolved person in charge".
- 4. Adaptation. The process depends greatly on the ability of the whole and its individual components to strategically adapt. For this reason we must understand and anticipate emerging trends in order to appreciate the full range of challenges and opportunities. It is also important to identify emerging initiatives such as "the future that is already present" and provide them with support.

#### Knowledge and ... wisdom

Knowledge alone is often not sufficient to solve the local and global challenges we face, nor does it enable the emergence of new opportunities that will benefit everyone. Our region, like others, has therefore been moving towards a wise society (see Figure 8) in which the common good plays an essential role.

To enable this transition, our region has created a solid network of collective spaces and processes that bring together – around paradigm shifts and regional missions – the various interests and interpretations of existing knowledge in order to generate new and renewed options and solutions that frequently require participants to go beyond the visible events (see Figure 9).



Figure 8. The transition towards a wise society. Source: Goede, M., "The wise society: Beyond the knowledge economy", *Foresight - The journal of future studies, strategic thinking and policy*, 2011.

#### SOUTHERN CATALONIA

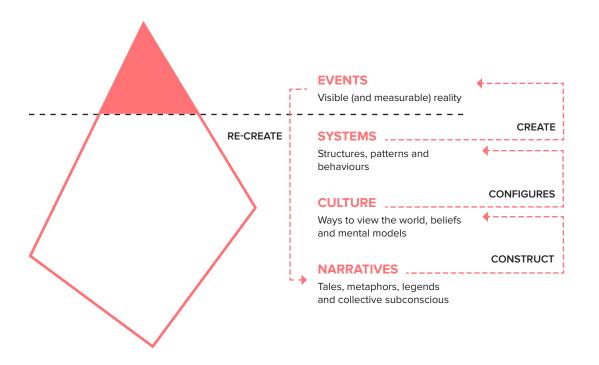


Figure 9. Iceberg of reality. Source: Authors' own.

#### **EFFECTIVE GOVERNANCE**

"The secret to good governance is profound empathy"

Anonymous

#### Regional governance as the key to change

In the last twenty years, sound regional governance has played a crucial role in the progress of Southern Catalonia in every field. A new culture of cooperation and commitment has been created for regional actors and their leaders in the public, private and civil society sectors. Important challenges and opportunities in the social, economic and environmental arenas are now handled at the regional level, where the enriching diversities of the subregions and municipalities, both of which are essential for the joint actions that derive from the decisions taken, are combined. Our region is closely coordinated at the national and European levels (we have a permanent office in Brussels in cooperation with other Catalan regions), where it participates in numerous formal and informal circles for reflection, decision and action. We also interact with other regions around the world with which we have shared goals. The Universitat Rovira i Virgili exercises leadership in this interregional interaction, which is strongly based on knowledge and innovation.

**Governance** is the sum of the many ways in which individuals and private and public agents (including government) manage their common affairs. It is a continuous process via which the various roles and interests can be accommodated and integrated and joint cooperative action can be undertaken for the common good. It includes formal structures and informal agreements reached between individuals and various agents because they are of interest to each party, and diverse instruments that are needed to achieve shared objectives. Commission on Global Governance, *Our Global Neighborhood*, Oxford University Press, 1995.

**Regional governance** is largely described as the conscious, intentional, and legitimized interaction between key actors in the various subsystems (the governmental, including the political government and the public sector/administration, the economic, the civil and the academic) of a defined region that is intended to influence the region's socioeconomic development in a direction that is recognized as an ideal state or at least as a state that is a substantial improvement on the current situation. "Learning Regions, Evolving Governance", a paper presented by Lukesch, R. and Payer, H. at the International Workshop on Regional Governance for Sustainable Development in Hagen, 2005.

#### **Reference governance models**

Governance at the regional, subregional and city levels has evolved towards an adaptable, flexible and highly self-organized model that exploits collective intelligence and diversity and maximizes the flow of information and talent. It has a strong capacity to monitor what is happening, facilitates generative dialogues and several types of interaction, and explores the future beyond conventional mental frameworks. In 2020 Southern Catalonia became a pioneer when it experimentally initiated this adaptive model, which was then known as ICAS (Intelligent Complex Adaptive System). This model, which had been described as emerging by Michael D. McMaster ("Managing a World of Rapidly Increasing Complexity", *Enlivening Edge Magazine*, 2017), developed from what was also termed the **Quadruple Helix** (QH) governance model (see Figure 10).

Adaptive governance connects individuals, organizations, entities and institutions on multiple levels. Adaptive governance systems are often self-organized as social networks and have teams and groups of actors that form a learning and joint-action environment in order to further investigate knowledge systems and experiences and tackle complex issues. Biggs R., et al., *Principles for Building Resilience Sustaining Ecosystem Services in Social-Ecological Systems*, Cambridge University Press, 2015.

**Collective intelligence** describes human communities, organizations and cultures that demonstrate "mind-like" properties such as learning, perceiving, acting, thinking, problem solving, etc. Intelligence refers to the main cognitive powers of perception, the planning and coordination of actions, memory, imagination and the generation of hypotheses, curiosity and learning abilities. The expression "collective intelligence" designates a group's cognitive powers. Lévy, P., *Collective Intelligence*, Perseus Books, 1997.

The QH model, which was given a significant boost in 2012 by the European Commission via RIS3 (Research and Innovation Strategies for Smart Specialization), developed strongly in the region between 2020 and 2025, while taking into account both international experiences and other experiences in our region at the subregional level. This provided both a qualitative and a quantitative leap forward in the interaction between the regional government (set up in 2020 to promote regional development based on knowledge and innovation), the public sector, business, academia, and civil society. (Cavallini, S. et al., *Using the Quadruple Helix Approach to Accelerate the Transfer of Research and Innovation Results to Regional Growth*, European Union, 2016).

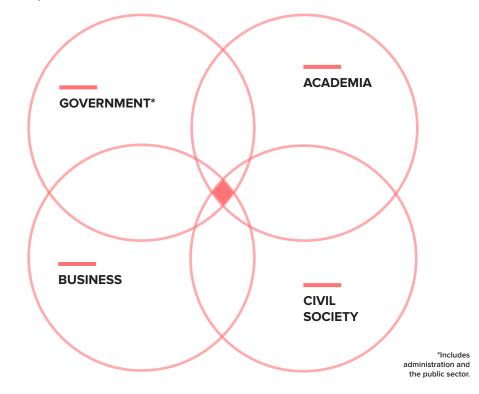


Figure 10. Quadruple helix governance model.

#### **Regional government for growth and innovation**

#### Southern Catalonia Regional Council

In 2040 we celebrate twenty years since the establishment of the Southern Catalonia Regional Council, the governing body responsible for the development of our knowledge region (made up of the mayors of our main towns and cities and our county leaders), and of the Council's executive and technical bodies, both of which are protected by the Catalan law for knowledge regions.

In fact, without this regional government mechanism (which is not a level of administration) it would have been impossible to develop solid regional strategies or the QH governance model, which was already present in reference European knowledge regions of that time. Also established in parallel to the creation of the Southern Catalonia Regional Council were the advisory mechanisms that have been used to compare, enrich and periodically evaluate our regional development.

#### **Outstanding leadership**

#### Training in leadership

In the work conducted between 2015 and 2018 to initiate the change in direction for our region, which included visits to other European knowledge regions and consultations with international experts, one theme was consistently repeated: the complexity of both the modern world and the regional scale requires leaders with strong capabilities.

The 2039-40 academic year sees the twentieth edition of the Universitat Rovira i Virgili's Master's in Global and Regional Leadership, which has produced 400 graduates from the business world, the field of social activism, and the region's public, political and academic sectors. These graduates form a community with the abilities needed to catalyse transformations in complex environments. This community has proved decisive for regional development, the development of organizations, municipalities, public and private entities, and the governance required for this purpose.

#### **Orientation to the future**

Southern Catalonia has a clear proactive attitude regarding the future. It has developed a prospective culture that we have managed to consolidate in the various regional ambits. We can also now even say that we have a "memory of the future", i.e. we know what we said we wanted to be and whether we have made progress in that direction (see Figure 11).

	REACTIVE ATTITUDE (wait and see)	PROACTIVE ATTITUDE (build, try and test)
Future conception	• What will the world be like?	• Which worlds are possible?
Approach	<ul> <li>How will we adapt to the foreseen future?</li> </ul>	<ul> <li>How can we affect the possible futures?</li> </ul>
Арргоасп	<ul> <li>How will we reach our goals in the predicted world?</li> </ul>	<ul> <li>How will we reach our goals in the possible worlds?</li> </ul>

Figure 11. Attitudes to the future. Source: Makinen, M., Foresight and Regional Development, 2016.

Foresight: a discipline that studies the future in order to understand it and be able to influence it.

**Foresight exercise:** a systematic and participative process for constructing long-term visions of the future that is intended to inform today's decisions and mobilize joint actions.

**Foresight objective:** the focus of the foresight exercise (region, city or specific topic such as work, ageing, a specific economic sector, technology, etc.).

**Foresight culture:** the way we understand and relate ourselves to the creation of a collective future that permanently incorporates into society mechanisms and processes for uniting decision-making to create the best desired scenario for the chosen foresight objective.

It all began in 2018 with the Southern Catalonia 2040 regional foresight exercise involving the participation of 250 individuals in workshops, interviews and group meetings. Although the resources allocated to this exercise were modest, the fact that it emphasized the role played by conversations as the creators of collective thought helped to disseminate this culture of future around our region.

#### Pluriannual Programme for the Future of Southern Catalonia

Through the Pluriannual Programme for the Future of Southern Catalonia, foresight has been implemented in both the public and private sectors and is used at the various educational levels as a tool for fostering creativity and critical spirit.

#### The Southern Catalonia FuturA Community

The Southern Catalonia FuturA Community, which began in 2019, now brings together over 2,000 people from the region who periodically analyse numerous key issues for the future. With their participation, this year we have we have recently drafted the Southern Catalonia 2060 vision of the future.

#### **Firm commitment**

Our region has developed a culture of collective commitment that goes beyond political and socioeconomic cycles and has helped to preserve the path we have chosen to take.

#### Commitment 2040

Via Commitment 2040, which was created in 2019, the various regional actors have expressed their commitment to the future of our region. Each actor develops a plan that is disseminated to society as a whole and monitored. One of these plans – *The Universitat Rovira i Virgili Strategy for Regional Development* – played a key role in this process.

#### Global Southern Catalonia

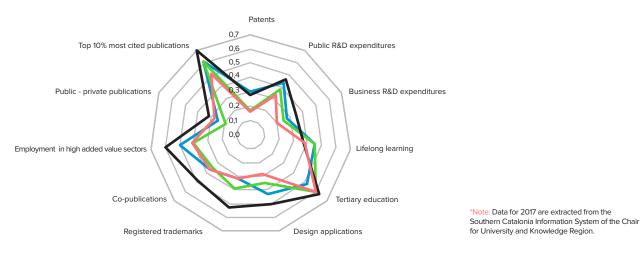
Created in 2020, helped to specify and plan the contribution of the region and its actors first to the 2030 UN agenda for sustainable development and then to the 2040 agenda, which is currently under review. As in the previous case, the Universitat Rovira i Virgili and other regional knowledge agents have played an important role.

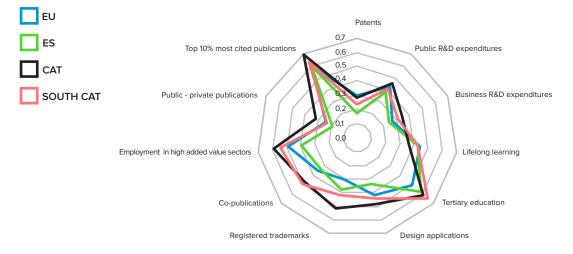
#### **Sound action instruments**

#### Southern Catalonia Regional Information System

The region of Southern Catalonia now possesses a comprehensive development-monitoring system that uses bona fide information. The system began in 2018-2019 with a series of indicators that could be contrasted with those of other knowledge regions and that enables us to compare our development with that of other regions (see Figure 12). Other indicators have also been developed to measure social progress and happiness, etc. and provide a more holistic view of our region. Our region's actors meet annually to reflect on the information generated by the information system and take appropriate measures.









#### Southern Catalonia Agency for Development and Innovation

The Southern Catalonia Agency for Development and Innovation is the operational body responsible for designing and implementing development and innovation programmes. It acts in coordination with the Catalan Agency for Business Competitiveness in combination with structures for promoting economic development, innovation and entrepreneurship at the municipal and supra-municipal level in the region. Set up at the end of 2020, it has a strategic and decision-making body that is independent of the regional government, from which it receives a proportion of its resources and to which it is accountable.

The agency has become a point of reference for regional policies that support the innovation ecosystem through, for example, its social, business and agri-rural innovation programmes (with emphasis on innovative SMEs) and smart cities. It has also helped to establish quadruple helix regional platforms as well as instruments such as the "young talent" (*talent jove*) programme.

#### Regional Innovation Platforms

In 2040 Southern Catalonia has 20 (stable and *ad hoc*) innovation platforms in, for example, the social, economic, environmental and artistic fields. Some of these are members of regional European networks (for, for example, climate change, housing and food). These platforms, which are the operational instruments of the QH governance model, are mainly configured around paradigm shifts and regional missions. They therefore bring together the various actors so that they can cooperate strategically on research, technology, innovation and social action, etc. and combine all their potential, visions and interests. The most important of these regional innovation platforms are:

- FuturA Labs. This network of cooperative laboratories, comprising various modalities, has been installed across Southern Catalonia over the last twenty years. These laboratories are fundamental to our strategy of involving citizens in regional co-creation (see Figure 13).
- DEMOLA Southern Catalonia. These innovation projects between organizations and students of the Universitat Rovira i Virgili were created in 2017 in the context of the DEMOLA GLOBAL international innovation network.
- Manager Programme. This programme provides training for the managers and facilitators of the innovation platforms. It has played a significant role in training professionals to design and lead collective processes for reflection and action that involve multiple actors within the context of cooperative governance models. Important operating instruments for this programme are the innovation platforms.

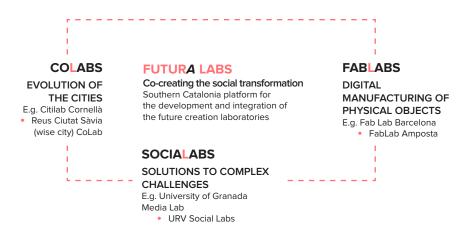


Figure 13. FuturA Labs: network of cooperating laboratories in Southern Catalonia. Source: Authors' own.

#### Strategic Regional Development Fund

Next year sees the twentieth anniversary of the creation of this fund, which is used to boost the Catalonia 2040 future vision. The fund is currently being renewed by the Southern Catalonia 2060 initiative. Run by the regional QH agents, it focuses on developing the Agency's programmes, the regional innovation platforms and the fields we call transversal facilitators for change, such as science, technology and innovation, art, culture and humanism, and talent. The fund is made up both of public and private contributions and structural funds of the European Union, which our region has administered since 2020.

#### Centre for Innovation in Governance

Aware that regional governance and governance in general are key elements in the development of our society, in the early 2020s the Centre for Research and Innovation for New Governances was set up under the leadership of the Universitat Rovira i Virgili to analyse models of governance (especially those in our region). One of the activities of this Centre that has had the most impact is the *Evidence-based Public Policies Programme*, which has transformed regional, subregional and local environments with regard to the quality, supervision and evaluation of the impact of public policies in the region.

## WHO WE ARE

"Everything is still to do and everything is possible" *Miquel Martí i Pol* 

# A GLOBAL PERSPECTIVE

"Do we dare to be ourselves? This is the question that counts" Pau Casals

Twenty years ago at the meetings held for the Southern Catalonia 2040 foresight exercise, we defined the basic elements that would define "what we are like" as a region. These elements, which remain largely unchanged, encompass what we do collectively and individually each day today.

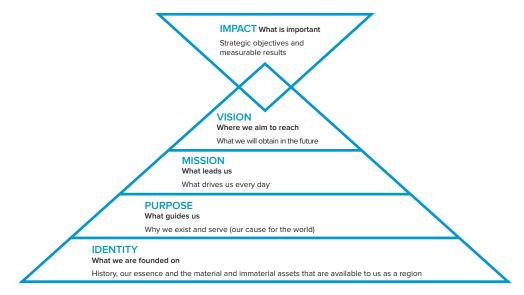


Figure 14. Basic elements for identifying ourselves as a region. Source: Authors' own.

# Identity

# A miniature world that is human, cultural and natural where we can live, live together and generate value

Our region is an agri-rural, natural and urban mosaic of towns and medium-sized cities. A diverse miniature world that is on a human scale, welcoming, tolerant and resilient and where people enjoy LIFE. A Mediterranean environment for creativity and well-being with a rich cultural and historical legacy resulting from the various civilizations that have passed through our region during the last few millennia. We are an environment that is full of possibilities, with an internationally recognized university committed to its region, solid infrastructure for human and material flows, a powerful and diversified economic fabric, and a quality public sector with universal education and health services.

# "We are the best-kept secret in Europe, and whoever discovers it ..."

Taking into account our identity and the socioeconomic, environmental, scientific and technological context in which we live, **Which is the most important potential we can help to create or express as a region? Why do we need it? Why does the world need it?** 

## **Purpose**

## To create a better future for our people and our environment

Our diverse, natural, social and economic identity, together with our values and human-scale environment, which facilitates the forming of relationships, enable us to become a laboratory for transforming and co-creating a better future for people and the environment and for tackling the enormous collective challenges we face when it comes to ecology, society and the production of goods and services. We enjoy the conditions we need to make this cause, which is also a universal one, ours as a region: to leave nobody behind while creating a better future for everybody and for our planet, our earth.

How do we bring this purpose that guides us to fruition? What leads and drives us in our daily lives? What is the thread that enables us to fulfil this purpose?

# **Mission**

# To produce a high quality of life with knowledge and wisdom

This encourages and drives us to develop a region with a high quality of life, where everyone is able to reach their highest human potential, where we all respect each other and cooperate with each other for the common good, where we honour nature and the environment as a priority, where no one is left behind, and where we develop as a region in a balanced way, etc. We already

have the foundations we need to become a region with a high quality of life but we need more knowledge and wisdom to allow our region to develop while always bearing in mind the legacy our future generations will inherit.

This mission leads us to the results we hope to achieve: our vision. What is the difference we will create? What change will take place?

## Vision

An eco-regenerating, socially advanced and intelligently prosperous region

- The environment is our priority as we preserve our natural resources, and we have generated a leading ecosocial economy that permeates both our traditional sectors and the new ones that have emerged.
- We have a solid and diversified economy based both on our natural, environmental, agrarian, nutritional, cultural and historical assets and on others that we have incorporated and will continue to incorporate in the future, such as the chemical industry, the tourist industry with the greatest added value, new energies and technological industries, and the social and collaborative economy.
- Social challenges systematically become collective opportunities and generate paradigm shifts in all fields (health, education, immigration, etc.).
- Art, education and culture are the driving forces in our region, while humanism permeates everything we do.
- We integrate our diverse capacities in an adaptive way and are connected to the flow of knowledge and global social transformation.
- Lifelong learning, science, technology and innovation are the foundations of our region.
- Our organizations and institutions have evolved and are fully committed to the environment and society.
- New forms of leadership (individual and collective) enable these transformations in our region.
- ... Is there anything you would like to add? (info@catalunyasud2040.cat).

# We have moved from being "the best-kept secret in Europe" to being "the jewel of Europe".

What are the tangible results and strategic objectives? How will we be able to observe that the change towards this vision and our purpose is taking place?

# Impact

#### The index of happiness, progress and resilience among the best regions in Europe

- Every natural and agri-rural environment has an integral (environmental, social and economic) activity plan that has helped to create new jobs and new professions.
- The primary sector has become a differential driving force in the region. Rural folk are hip.
- We have high levels of sovereignty in our resources (water, energy, food, etc.).
- The economy of the environment, culture and quality of life (sport, gastronomy, leisure and well-being, etc.) occupies a pre-eminent position.
- The environmentalizing level of our economic activities is total.
- The indices for consumption and production of art and culture are among the highest of all European regions and contribute significantly to GDP.
- Our regional innovation indexes are higher than those of socioeconomically comparable European regions.
- The quality of life economy (which has become a key economic activity) generates high levels of economic activity and social development.
- Indices of social gaps are low.
- Practically the whole population is involved in a lifelong education programme.
- Indices of citizen involvement and democratic culture are high.
- The internationalization of the region is conducted in all fields and sectors. Multilingualism is a key feature of our education system.
- ... What other impacts would you like to see or create in reference to this vision (info@ catalunyasud2040.cat)?

# Our "distinctiveness"

A place to live, live together and create value

The capacity to focus on quality of life with a conscious balance and added value between society, the environment and the economy (*people-planet-prosperity*) based on our material and intangible assets and motors for change (science/technology/innovation, art, culture and education) and the values of humanism, trust and cooperation.

These last few pages, like the rest of this document, are drawn from the Southern Catalonia 2040 foresight exercise, which was conducted in 2018. They represent the dreams and aspirations of more than two hundred and fifty people who participated in that exercise from every ambit, sector and area in our region.

It was in 2019 that we first made this call, which we will repeat at the end of this document. We make these calls repeatedly so that everyone can contribute to our collective future.

To make Southern Catalonia 2040 a reality, we need to add in order to multiply. We have to count on everyone. On you.

"¿What are you, your organization or your community doing to bequeath the legacy of a high quality of life?"

Do you want to help in the construction of this collective future for Southern Catalonia? What are you contributing or what would you like to contribute to this future?

Tell us in an email to info@catalunyasud2040.cat or by visiting our website at www.catalunyasud2040.cat

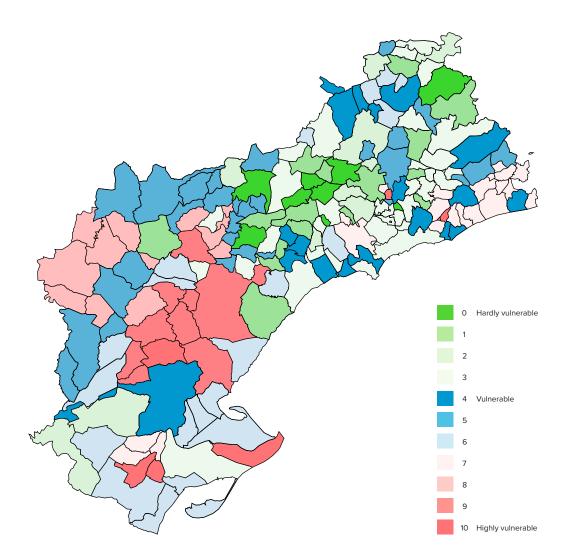


Figure 15. Increase in heat-related mortality. Source: Catalan Office for Climate Change, 2016.

# AN EU-REGION OF ECO-REGENERATION

"The great book, which is always open and which we have to make an effort to read, is that of nature" Antoni Gaudí

## Twenty years ago we faced enormous environmental challenges ...

In 2018 the data and forecasts on climate change envisaged strong and varied impacts on Southern Catalonia that would compromise our society and assets. The effects of climate change would be felt in forests and natural environments such as the Ebro Delta, crops such as vineyards, tourist activities (due to high temperatures, problems with beach sustainability, etc.), water resources, biodiversity, and citizens' health, especially the health of the most vulnerable (see Figure 15).

The need to change towards socially sustainable sources of energy affected our region from two perspectives: firstly because we are energy consumers, and secondly because we are an important source of nuclear, petrochemical, wind and hydroelectric energy. If we add the search for sustainable mobility and the need to drastically reduce the environmental impact on cities and industries of all kinds, in Southern Catalonia practically all the environmental challenges faced by our planet were concentrated in one small region.

# ... that required a paradigm shift and prioritization

It became clear during the Southern Catalonia 2040 foresight exercise that environmental strategy and action were strategic elements for the future. It also became clear that these issues had to be dealt with by acting together at the regional level and in the long-term by:

 Making a paradigm shift: to sustain and develop our prosperity and well-being, we had to move towards an "ecological civilization". This went beyond mere necessity because it was the only way to make the being and the doing possible for future generations (see Figure 16).

- Making the environment a priority: economic growth could not be prioritized over the need to tackle environmental and subsequent social deterioration. A new balance had to be found between all the human social, economic and environmental activities in which the future of our planet was key.
- 3. Viewing ecological transition as a great opportunity: many new jobs and professions would be generated by this ecological transition, while innovations and new knowledge would flourish in all areas, thus making our social and economic activities more competitive and sustainable.

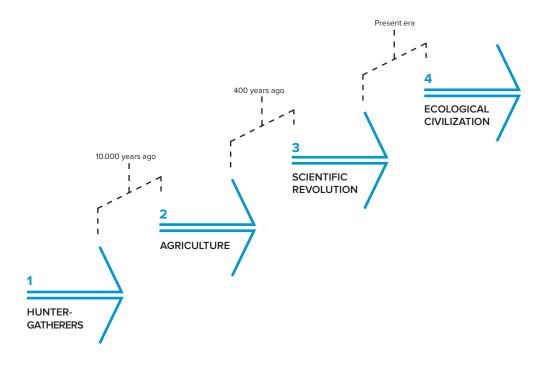


Figure 16. Great transitions in human history. Source: Lent, J., *The Patterning Instinct: A Cultural History of Humanity's Search for Meaning*, Prometheus Books, 2017.

# The axes on which eco-transformation in Southern Catalonia is based ...

In the last two decades we have based our ecological transition as a reference region in Europe on the following three axes:

# Regional Environmental Governance

The year 2021 saw the creation of the regional platform for environmental governance. This platform had several thematic (water, energy, food, climate change, mobility, zero footprint, waste, etc.) and territorial (Southern Catalonia bioregions) ambits, all of which were coordinated.

# Training, Knowledge, Technology and Environmental Innovation Cluster

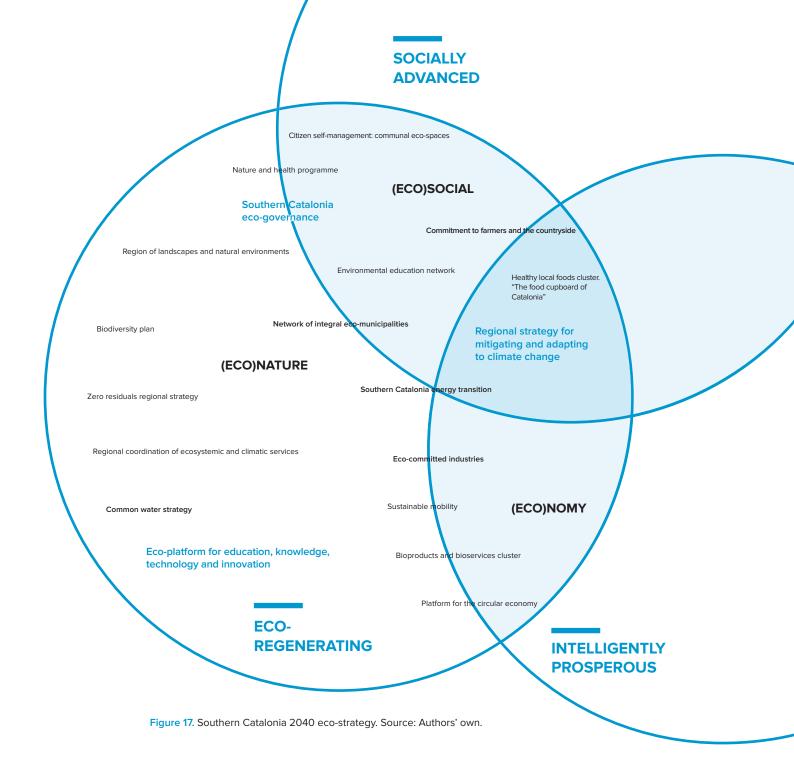
The Universitat Rovira i Virgili's Interdisciplinary Institute for Sustainability, regional scientific and technological agents such as IRTA, and other socioeconomic, educational and political agents have promoted extensive training, research and innovation activities (via eco/social labs) that have created new opportunities for our natural, agri-rural and urban environments and established both a strong eco-industry and excellent ecosystem services (water, energy, biodiversity, climate, etc.).

# Network for Awareness and Ecological Education

The regional network for eco-education has introduced programmes at all educational levels in civic and municipal centres in every municipality. The Unversitat Rovira i Virgili has introduced environmentalism into many of its educational programmes.

# ... have helped to make our region a European reference in 2040

Southern Catalonia has introduced an eco-strategy into its environmental, economic and social ambits that has enabled it to anticipate the effects that climate change is producing all over the world, especially in regions such as the Mediterranean. This has generated a powerful ecological economy and transformed existing ones, while also preserving and improving agri-rural and farming conditions. Many jobs and new professions have emerged as a result of this regional strategy, in which municipalities play a key role. Our region currently possesses 12 environmental social laboratories, where each year over 500 solutions and innovations are prototyped. Southern Catalonia has become a benchmark eco-laboratory.



# AN EU-REGION THAT IS SOCIALLY ADVANCED

"I am because you are" (Ubuntu) African poverb

## Twenty years ago, Southern Catalonia faced many social challenges ...

The social challenges faced by Southern Catalonia at the end of the 2010s were similar to those faced by many other societies in matters such as health, gender equality and political indifference. Others were particularly relevant to our region. These included the depopulation of geographical areas, the need to socially integrate the large number of immigrants who arrived at the turn of the century, increasing levels of inequality, and the ageing population, which was strongly evident in rural areas.

The social trends of the time, some of which are still evident in 2040, further exacerbated some of these challenges. An example of this is the increased longevity of the population, which would have repercussions that were economic and cultural as well as socially diverse. As some experts rightly noted, "We will live more than one life in our lifetime".

# ... that had several common characteristics

The diverse social situations we witnessed at that time shared several important features that had to be taken into account when taking actions with a future perspective:

- 1. Complexity: a multitude of variables and interest groups were involved.
- Interconnection: the phenomena were often interconnected (e.g. health and ageing) and one situation could not be improved without improving another (e.g. public policies, political organizations, and citizen involvement).
- 3. The workforce: new profiles were needed and several areas did not have enough professionals (e.g. elderly care).

- Knowledge: More interdisciplinary knowledge not just scientific but also practical knowledge from those working on the ground – was increasingly needed to tackle these challenges.
- 5. **Challenges or opportunities?** Many situations were treated as "problems", which meant that the "solution" was often defensive or reactive and failed to address the causes.
- 6. Alignment: the challenges (or opportunities) had to be treated side by side on different scales (e.g. group, community, city, region, etc.). In many cases, vision and intervention on a regional scale were fundamental (e.g. health strategies, demographic challenges, etc.).

## Changes in how to respond to social challenges (opportunities)

The above characteristics required the following new ways of thinking and collaborating that were essential for producing the changes that have taken place in the two last decades:

- A systemic approach: new ways of integrating the perspectives and actors involved. It included every level of action (from the local to the regional and, when needed, to the national), though it was at the regional level that the action was articulated.
- Raising of awareness: holistic and systemic perspectives were needed to tackle complex, interconnected social situations. Shared spaces for reflection and the use of tools from the sciences of the complexity began to be implemented in the region.
- New instruments: regional social innovation platforms and social laboratories (social labs) have become operational instruments to integrate the various socioeconomic, political, knowledge and citizen actors and enable them to collaborate with each other.
- New leaderships: as we mentioned in the chapter on governance, new capacities for individual and collective leadership had to be developed to facilitate the complex transformations that were required.

# An integrated strategy for social evolution in the Southern Catalonia of 2040

The Southern Catalonia 2040 foresight exercise provided us with an integrated vision of the elements we needed to prioritize to become a socially advanced region. Most of these elements are discussed below. Others, such as education and culture, are dealt with in later chapters.

# Regional Social Innovation Platforms created between 2020 and 2025

In 2020 regional social innovation platforms gradually began operating. These platforms comprised the social, economic, political and knowledge agents involved in the various fields. Each platform contained various social laboratories in specific fields whose mission was to prototype innovative solutions. They also served as forums for sharing reflections and generating analyses and research in these fields. In 2040 our region has 11 platforms (*technology* and *society* platforms have recently been added to those shown in Figure 18) and 20 social laboratories.

- 1. **Inclusion and social diversity.** This has enabled us to systematically address gender equality, poverty, social inequality, housing and multicultural and multilingual diversity as opportunities.
- 2. Rethinking work and organizations. New ways of working and organizing ourselves have arisen. Many current organizations have evolved towards conscious organizations, as the most evolved ones at the end of the 2010s were described by Frederic Laloux in *Reinventing organizations: A guide to creating organizations inspired by the next stage in human conscience,* Nelson Parker, 2014.
- 3. Social economies. The economy for the common good as a paradigm shift and collaborative economies such as the so-called gift economy have spread to the region.
- 4. **Political regeneration.** A "democratic leap" has taken place as political organizations have evolved and knowledge- and evidence-based public policies evaluated with transparency have developed strongly.
- 5. Collaborative citizens. Existing experiences of "participation" have gradually been transformed into "involvement". For example, citizens' interest groups run and conduct many of the region's actions and budget. Along with traditional cooperation structures in our region, such as fishermen's brotherhoods, human castle groups, choirs and orchestras, etc., the Southern Catalonia Network of Communal Initiatives (involved in neighbourhood support, bioculture, food, natural environments, arts and education, technology, time banks, etc.) is one of the most important.

#### 6. Fundamental collective competences:

- The construction of stories and narratives that exemplify our regional transformations.
- Forums for collective reflection, which enable us to visualize and share the complexity of the social situations we face and the actors and individuals involved.
- Collective care and caring processes that enable wounds to be tended and fractures to be prevented.
- 7. Regional internationalization. We have established the conditions our region needed to become connected internationally in all its facets (including socially) and put in place the conditions that enable the flow of people (nomadic society) to generate the social conditions we need to become a global welcoming region. Multilingualism in education is a priority in our region.
- 8. Confront demographic challenges. Immigration has become an opportunity not only for meeting the challenges presented by the low birth rate (which is still low in 2040) but also for solving the challenge presented by rural depopulation, which we have managed to reverse by encouraging young families and professionals to settle in those areas.
- 9. Comprehensive welfare system. In 2022 the regional health strategy was directed towards a comprehensive vision that put health in all its facets (i.e. corporal, mental, emotional, relational, and spiritual) at its core rather than illness (on which the whole system had previously focused). This strategy also comprised sport, nature and food as essential elements based on our active assets and the many initiatives and activities that were already being carried out in our region.
- 10. Hyperconnectivity and networks. Technologies have invaded society and in 2040 everything is connected and robotized. As was foreseen twenty years ago, we are all integrated into the network. The Technology and Society platform, which was set up in 2023, has enabled the development of a solid regional strategy to ensure that the balance between the two is guided by general benefit.

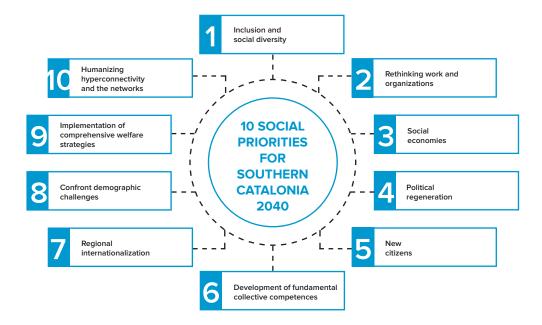


Figure 18. Regional Social Innovation Platforms created between 2020 and 2025. Source: Southern Catalonia 2040 foresight exercise (2018).

# **AN EU-REGION WITH SMART PROSPERITY**

"All economic activity serves the common good" Art. 151 of the Constitution of the Free State of Bavaria

## We started from a diversified economy with important ...

In the last few decades of the 20th century and the first two decades of the 21st, a diversified economy began to take shape in Southern Catalonia that comprised important regional differences as well as consolidated sectors that emerged from the region's internal assets (e.g. the agricultural sector, the food sector, tourism, logistics) as well as from beyond our borders (e.g. the chemical, energy and automotive sectors). Other sectors such as packaging, metal and paper, which were spread unevenly across the region, completed this economic diversification, which was accompanied by a growing service economy comprising commerce, care and health, etc. All sectors contained companies, some of which were autochthonous while others were multinational (many were involved in production but had little or no involvement in the development of new products or services), that were leaders in their field both nationally and internationally.

# ... strengths and challenges ...

Twenty years ago our vision of the future showed that we faced several types of economic challenges. Some of these affected every sector while others affected some sectors but not others:

- Migrate towards products and services with more added value.
- Pursue the ecological and social sustainability of economic activities.
- Boost or create sectors by employing our under-used assets.
- Develop a suitable economic structure for each part of our region.
- · Generate regional cooperation strategies to multiply cross-sector potential.
- Incorporate research, technology and innovation systemically into economic activities.
- Train or acquire a suitable workforce whose leaders have the vision and the ability to carry out projects.

## ... that faced trends that would substantially change the future ...

Numerous global trends indicating significant transformations in modes of production were observed in the Southern Catalonia 2040 foresight exercise, which was conducted in 2018. Most have indeed become a reality and some have been even more transformative than we imagined at that time. Some of these trends were:

- Economic environmentalism: new sectors, a circular economy, etc.
- Robotization, big data, the Internet of things, human-machine interaction, etc.
- The ability to autofabricate objects with 3D printing.
- The communal sharing and management of goods and activities.
- · Looking after oneself, personal development, art, gastronomy, sport, etc.
- New services formed around social challenges such as ageing.

#### The Observatory for economic (re)evolution in Southern Catalonia

The transformational challenges and trends were so great that in 2021 we set up the Observatory for the economic (re)evolution of Southern Catalonia. As part of the Foresight and Regional Analysis Platform, the aim of this Observatory is to provide the economic structure of our region with the foresight analyses and tools it needs to incorporate these tendencies into its economic activities.

## ... and create also a "new" way to understand the ultimate purpose of the economy

Even before the beginning of this century, many voices around the world were alerting us to the importance of having qualitative aspects of economic prosperity. Not every prosperity (usually measured in terms of GDP) was "valid". This need emerged in several environments during the completion of the Southern Catalonia 2040 foresight exercise: the way business was done needed to evolve because the end purpose of the economy is not economic but social. And in which direction did the economy have to point? Towards the common good. As the Constitution of the Free State of Bavaria declares, every economic activity serves the common good. What concerns us is therefore an intelligent economy for the common good – one for which we have had to educate ourselves, and to learn and unlearn, and we still have some way to go.

This economy for the common good that we have now implemented in our region has its origins in the paradigm shift proposed almost thirty years ago by, for example, Christian Felber. The economy for the common good provides us with fundamental principles for monitoring whether the region's organizations and institutions are evolving towards this paradigm shift.

#### Regional Plan for the Economy for the Common Good

In terms of economics, in 2040 this is now perhaps one of the most important aspects of our region. The Regional Plan for the Economy for the Common Good, which began in 2023, "re-solved" the dichotomy between economy and society, between prosperity on the one hand and people/planet on the other. During the 2020s the principles of the economy for the common good were incorporated progressively.

Fundamentals of the economy for the common good (Felber, C., La economía del bien común, Deusto, 2012)

- The contradiction in values between the economy and society must be resolved. At the same time, the same behaviours and values that are successful in human relationships

   honesty, empathy, trust, respect, cooperation, solidarity and will to share – must be promoted and rewarded in the economy.
- The spirit, values and objectives of our constitutions must be applied to the economy in a consistent manner. The current economic system violates the spirit of our democratic constitutions.
- Economic success should not be measured in terms of exchange values but by indicators of social utility. The aim of any economy is not to provide exchange values but to provide utilities. Exchange values have an indirect use but they are not useful in themselves since they provide neither food nor warmth. Here ends an evolutionist research process based on trial and error: when monetary economic systems began, it was practical to translate utilities for exchange values. Today, the means have become the ends, the serf has become the lord ... The economy for the common good wishes to measure only what counts, what human beings fundamentally need.

It was a matter, therefore, of guiding not only the course of which economies we wished to create in the future but also which operational foundations these economies would have. Eighty percent of companies and organizations in our region with more than 50 workers are currently audited in the high band of indicators for the economy for the common good.

# Towards a confluence of economies

Regional economic diversification based on assets develops greater resilience to any unpredictable changes that may occur. We began with significant economic diversity in our region (though with notable inter-regional differences) as a foundation. From the Southern Catalonia 2040 foresight exercise, it became clear that our region required a future economic model in which "economies for quality of life" based on difficult-to-delocalize assets converged: "economies of goods", linked to production and the flow and sale of goods, and "transverse economies", which pivoted around transversal aspects towards the other economies (see Figure 19).

We could say that in 2040 Southern Catalonia is a region of economic activity in which many diverse economies come together, some of which even have new names. This *confluence of economies* provides Southern Catalonia with a large number of synergies that are difficult to find in other regions. It also facilitates economic resilience in the context of change in which we are permanently immersed.

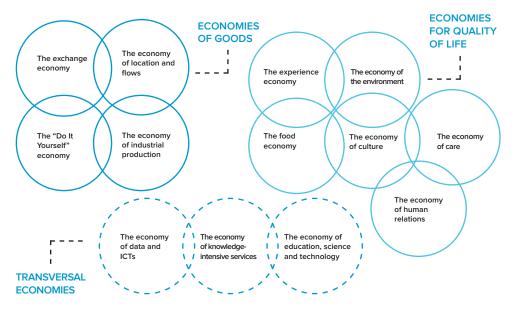


Figure 19. Confluence of economies in Southern Catalonia 2040. Source: Southern Catalonia 2040 foresight exercise (2018).

The economy of Southern Catalonia in 2040 is illustrated in the following map of economic activities, each of which has a different weight in each part of the region:

- **"Economies for quality of life".** These economies are a differential aspect of our region. We are internationally recognized for having the following economies:
  - The economy of the environment. We have developed the so-called green, blue and bioclimatic economies based on our natural and agrarian assets, our energy resources, and our assets derived from the climate change challenges we faced (as explained in the chapter on EU-Region Eco-regeneration). We have a renewed, sustainable and socially valued agricultural sector that produces and transforms high-quality products. We have developed comprehensive maritime-related economic activities, as the European Union encouraged us to do twenty years ago (DG Maritime Affairs and Fisheries and Joint Research Centre, 2018 Annual Economic Report on the EU Blue Economy, European Union, 2018). Economic activities based around climate services have also taken root in our region thanks to our expertise in this field. A multitude of other activities based on natural areas and the environment, especially those related to energy transition in the region, have been introduced. New professions have emerged in this field over the last few years.
  - The food economy. Our region's agrifood and gastronomic activities are of international reference. The combination of the quality products available in our region (oil, wine, cava, vermouth, nuts, citrus fruits, blue fish, seafood, rice, carob beans, saffron, potatoes, vegetables, *calçots*, herbs, poultry, etc.), our local cuisine, health, leisure, quality of life and culture has enabled our region to become a benchmark for ecologically and socially committed quality products and quality foods.
  - The economy of culture. Our innumerable cultural and historical assets and our desire
    to make art a key element in our region led us in 2020 to establish an integrated strategy for art, culture and history (see the relevant section in this document) that combined
    activities that had always been carried out with new ones promoted throughout the
    region. Over the last two decades, the creative industry and the history industry have
    created wealth and well-being and attracted talent, the emergence of new professions
    and the training of new professionals.
  - The experience economy. Our region has always enjoyed exceptional conditions for leisure and tourism activities. In view of the abovementioned economies, the innumerable possibilities on offer have expanded and become enriched with more added value over the last twenty years. These "experience activities", together with activities related to physical, emotional and internal well-being (which, as was predicted worldwide twenty years ago, have expanded significantly), comprise an essential component of

the economy in our region in all its components. In such a hectic world, many people, especially the young, prioritize this type of activities. Sport in particular has become an international driving force by combining existing initiatives and creating a common strategy. We are a sports region, with everything that involves in terms of training, employment, research, technology and innovation.

- The collaborative economy. The forms of social and collaborative economy that were
  emerging twenty years ago have gradually been consolidated. Most of these are based on exchange, the communal management of goods and services, and the so-called gift economy, whereby people contribute their potential to the community without
  expecting anything in return. This economy of human relations and the common good
  strongly enriches the region's social capital and is one of its values. It is promoted in
  primary schools and civic spaces.
- The care economy. Health, social inclusion and phenomena such as ageing have generated the need for an increasingly important care economy and a corresponding labour market in advanced societies. In this area our region has had to face significant challenges, such as the lack of professionals in these fields, that were already perceivable twenty years ago. The greater use of technologies in these areas and our region's strategic training plan, in operation since 2022, have partially mitigated the need for professionals, though this aspect is still a challenge for us today.
- "The economies of goods". The economies of goods also include associated services because the last twenty years have witnessed the phenomenon of generalized economic servitization, whereby the value attributes of the services associated with the products have become universalized.
  - The economy of location and flows. Our privileged geostrategic position and important
    infrastructures such as the Port of Tarragona provided our region with huge potential for
    establishing logistics activities. However, our region had not yet reached its full potential
    in this area. The improvement in some infrastructures and the establishment of a common strategy in 2022 made our region a first-class logistics hub for the flow of goods. As
    part of this development, special emphasis has been placed on the need to mitigate the
    environmental impact and the need to generate professionals in this field.
  - The economy of industrial production. We are still a region with industrial activities that produce goods and materials. These activities are implanted in geographical areas where for opportunity reasons they are best suited. The chemical industry has been evolving towards the manufacture of products with greater added value and greater environmental quality. The strategy of generating a hub of biorefineries based

on autochthonous raw materials has developed slowly and is one of the main objectives of Southern Catalonia 2060.

- The "do it yourself" economy. The 3D printing revolution and the expansion of FabLabs (co-creation laboratories) enable people, groups and organizations to produce a multitude of goods and individualize their production (for example, your shoes could be unique). This paradigm shift has led to significant changes in numerous sectors, which have had to be transformed. In 2019, the first FabLab in our region began operating. There are now 25 of these laboratories.
- The exchange economy. A comprehensive restructuring of the commercial sector and of the sale and purchasing of products in general has taken place over the last twenty years. A shared strategy in our region that began at the end of 2022 has led to the reconfiguration of this highly diversified multi-sector, enabling it to find a suitable socioeconomic fit in the age of the Internet and the robotization of purchasing processes, where consumers' behaviours, especially those of younger ones, have changed radically.
- **"Transversal economies".** The following economic activities affect every sector and are key to our progress:
  - The economics of knowledge-intensive business services (KIBS). All economic activities require communications experts, lawyers, consultants, human resources staff and a long list of other professionals that make up a cross-disciplinary metasector that is often specialized in various sectors and subsectors in order to meet specific challenges. The development of these professions and an analysis of their availability in our region led to the introduction by the Universitat Rovira i Virgili between 2020 and 2030 of an action plan to provide the region with the required human capital.
  - The economy of data and ICTs. The ICT sector has evolved as both a cross-disciplinary need for local businesses but also as an essential sector in any regional economy. From spin-offs and start-ups around the Universitat Rovira i Virgili, economic activity has increased in relation to data management as a fundamental resource for every economic, social and environmental activity in the region.
  - The knowledge economy. The Southern Catalonia 2040 foresight exercise helped us to
    visualize the knowledge economy, i.e. the economy that is generated from the region's higher education, scientific and technological activities as both an important feature of those
    activities and a source of quality employment. This has enabled us to develop a regional
    economic strategy based on these activities that has led to significant expansion in the
    last two decades while also raising awareness of the importance of the professionals and
    infrastructures associated with these activities.

# The "confluence of economies" required integration to generate a greater impact

The economies of a region that are distributed unevenly around their geographical areas require greater levels of coordination and integration to develop their full potential.

## Regional Platforms for Innovation and Economic Development

The Regional Platforms for Innovation and Economic Development were set up between 2020 and 2025. These platforms included actors from each economy defined earlier to develop shared visions and common strategies, launch innovative projects, visualize and anticipate the needs of the workforce, and promote long-term cooperation, etc. The model adopted was that introduced several years ago in the Tampere region of Finland, which was a pioneer in this type of platform and provided support for the pilot plan in the first few years. Later, two coordination meta-platforms were established around the "economies for quality of life" and the "economies of production of goods". From these meta-platforms, highly valuable synergies have emerged.

## Infrastructure: a strategic economic component for Southern Catalonia

Southern Catalonia's geostrategic location has always been key for its economy. In 2018 many challenges existed in this ambit, including the Mediterranean corridor and the highspeed rail system, to name but a few. Historically, inaction, diverse opinions and the lack of a shared vision had impeded the emergence of our full geostrategic potential in this area.

## Strategic Platform for Mobility and Infrastructures in Southern Catalonia

In 2020, the Strategic Platform for Mobility and Infrastructures in Southern Catalonia was created. With the participation of experts from all over the world, this platform agreed on the infrastructure landscape for 2040. In particular, the process served to adopt widely agreed and regionally balanced socioeconomic and environmental criteria for prioritizing the future infrastructures. These criteria laid the foundations for the new decisions that had to be adopted due to progress in transport technologies and the social changes that were impossible to predict at that time.

## Entrepreneurship and the attraction/retention of companies as a key economic element

In various economic sectors in Southern Catalonia, we currently enjoy significantly higher levels of entrepreneurship than the European regional average. This was not true twenty years ago. Despite the efforts of the Universitat Rovira i Virgili and other local and regional bodies, the entrepreneurial culture in our region was modest.

#### Southern Catalonia Entrepreneurial Strategy

The Southern Catalonia Entrepreneurial Strategy, which was launched in 2021 by the Southern Catalonia Agency for Development and Innovation in coordination with the Catalan Agency for Business Competitiveness, assembled actors from across the region in this ambit and incorporated all levels of the education system (since it was essential to promote, teach and practise entrepreneurship and to observe nearby references). One of the programmes most developed during the 2020s was that of social entrepreneurship, which has generated a sector in itself.

In 2023, Southern Catalonia was selected as one of six regions to participate in MIT's biannual MIT REAP (Regional Entrepreneurship Acceleration Program).

The Southern Catalonia Entrepreneurial Strategy also incorporated companies and institutions that wished to develop inter-entrepreneurship in their organizations.

#### Regional Business Attraction Programme

Another key element in the last two decades for boosting economic growth in the region has been the Regional Business Attraction Programme, which was set up in 2021 by the Southern Catalonia Agency for Development and Innovation in cooperation with the Catalan Agency for Business Competitiveness and local and regional actors. This programme incorporated measures to attract professionals with specific actions aimed at supporting business setups in the countryside.

Another important feature of the current economic landscape are coworking sites, which have evolved conceptually and are distributed across the region. These sites play an important role in the rural environment for attracting professionals. The Southern Catalonia Coworking Network, which was in its infancy twenty years ago, now has over thirty members.

The actions performed over the last few years, which have taken into account the strategies for development in each geographical area in alignment and cooperation with the region of Southern Catalonia as a whole, have brought about an economic re-equilibrium across the whole region.

# AN EU-REGION OF SCIENCE, TECHNOLOGY AND INNOVATION

"We live in a society exquisitely dependent on science and technology, in which hardly anyone knows anything about science and technology"

Carl Sagan

"Being at the forefront, innovation is always controversial" *Ferran Adrià* 

## The scientific, technological and innovative profile of Southern Catalonia in 2040

In 2040, science, technology and innovation play a preeminent role in both our shared culture and our social, political and economic environments. They represent an essential axis in our region, in each part of our region, and in each sector and ambit.

At the moment we are not a leading European region when it comes to the generation of technologies. However, we are leaders in certain technological niche areas (including the social technologies) that are key to our progress and well-being (such as agrifood technologies). A similar situation occurs in the scientific field, which has a broad foundation of quality and contains certain ambits, most of which emerged in the late 20th and early 21st centuries (e.g. chemistry), for which the region is recognized internationally.

#### Regional Programme for the Absorption of Technology

In 2040 the scientific revolution, and especially the technological one, is considerably more rapid than it was twenty years ago. The region has made a concerted effort to develop a high capacity to incorporate new technology as a strategy via its Regional Programme for the Absorption of Technology, which began in 2022. This programme has enabled us to incorporate technology into our economic, social and environmental activities in the most appropriate way possible. The programme incorporates active reflections by experts and social, economic and political agents to analyse how technology impacts on society, and vice versa. These reflections have helped to create a positive balance between society and technology in our region.

Our culture of innovation has developed and extended progressively to all ambits and sectors. The journey has not been easy because it required changes in individual and collective behaviours in the economic, social, political and academic environments to understand that the issue concerned everyone and needed to become integrated into the fabric of our region.

# The democratization of science, technology and innovation: a paradigm shift

Knowledge and access to science, technology and innovation over the course of one's life has become, like health, an essential and universal asset, a common good. We now understand that without the democratization of these aspects, we will be unable to achieve high levels of progress or well-being and incapable of understanding the complex world in which we live.

# Regional Programme for the Promotion of Science, Technology and Innovation

This change in the paradigm that had once understood science, technology and innovation as being "just for the few" required, and still requires, continuous actions conducted as part of the Regional Programme for the Promotion of Science, Technology and Innovation, which began in 2021 by combining the activities that were being conducted at that time. This programme envisages four major areas of action:

- Education for science, technology and innovation: we have developed a theoretical and practical training programme for teachers of our region at all educational levels. We have also developed a lifelong learning programme for professionals, public and private companies, and the general public (via civic centres and social labs, etc.).
- The socialization of science, technology and innovation: with the participation of other regional scientific and technological agents, the media and other socioeconomic agents, the Universitat Rovira i Virgili has created a platform for an extensive network of activities and channels to showcase scientific, technological and innovative initiatives and their protagonists to a broad spectrum of the population.
- Gender equality and prevention of the social gap in science, technology and innovation: our region has always made a concerted effort to take full advantage of our people's potential and create the fewest possible inequalities.
- Involvement in science, technology and innovation:
  - Citizens' science: citizens and interest groups are involved in defining strategies and scientific projects aimed at meeting social challenges and encouraging further involvement.
  - **Technology and solutions:** our citizens are involved in using technologies for co-creating products, services and solutions (citizen labs: Citilab Cornellà).
  - **Innovate together:** our citizens are involved in meeting social challenges (social labs, as we discussed in the section on governance).

# Science, technology and innovation for the development of Southern Catalonia

## Regional Cooperation Platforms

To place science, technology and innovation at the service of the environment, society and economy of our region, we have introduced Regional Cooperation Platforms as part of a continuous learning process.

These platforms (described in previous sections) encompass science, technology and innovation:

- Regional platforms for social innovation.
- Regional platforms for innovation and economic development.

## Regional Programme for Boosting the Social Impact of Research

Under the leadership of the Universitat Rovira i Virgili, this programme has cooperated with the socioeconomic agents in the region to maximize the regional impact of the University's scientific potential. The programme's activities were integrated progressively into the platforms as the platforms were created.

# Public Sector Innovation Drive in Southern Catalonia

This programme incorporated innovation as a public sector mission and regarded its facilities as innovation laboratories. For example, the region's university hospitals incorporated innovation into their care, research and teaching missions.

## Evidence-Based Public Policy Unit

In 2025, the Universitat Rovira i Virgili, local agents and the Southern Catalonia Regional Council created the Evidence-Based Public Policy Unit, as part of the Centre for Innovation in Governance (which was discussed in a previous chapter). Since then the public policies developed in our region have included scientific analysis and evaluation of their development, efficiency and impact, which has helped to substantially improve their design and implementation.

# Infrastructures for science, technology and innovation are a priority

Twenty years ago, whenever the region's infrastructures were discussed, people would usually refer to roads, railways and the airport, etc. Nowadays, while these infrastructures are certainly not ignored, what is mentioned are the knowledge infrastructures for science, technology and innovation. These infrastructures are prioritized across our region as a whole.

The Pluriannual Programme of Scientific and Technological Infrastructures of Southern Catalonia is the instrument used in our region to prioritize these infrastructures. Included here are the region's ICTs. These have become essential components of the environmental balance thanks to their high-speed access, calculation capacity, cloud design and many other applications required for all kinds of social, economic and environmental management activities and their ability to attract all sorts of professionals to the rural environment.

#### Regional Strategy for Future Innovation

Whereas scientific and technological infrastructures are usually incorporated into the University or certain entities, innovation infrastructures are now widespread across the region. We can say, therefore, that innovation has reached high levels of democratization.

Our vision of innovation structures and infrastructures expanded enormously thanks to the Regional Strategy for Future Innovation, which was set up by the Southern Catalonia Agency for Development and Innovation in coordination with the Catalan Agency for Business Competitiveness and by numerous local and supralocal entities. For almost the last twenty years, this strategy has helped to develop a wide variety of innovation-promoting approaches and structures throughout our region, including talent, technology, intelligence and solution-seeking facilities that were already customary by the end of the 2010s in several European contexts.

# Design, a core element for innovation in Southern Catalonia 2040

In the first two decades of this century, numerous European regions and countries promoted design as a core element of their innovation strategies. In Southern Catalonia, studies and training in design were associated with art and certain types of engineering. Nowadays, design and design thinking are taught in schools.

## Southern Catalonia Design 2030 Programme

This programme enabled design to become progressively incorporated into the region's innovation culture and professionals to be trained in this field. Currently, more than 50% of our region's companies and public sector institutions include design in their product and service development strategies.

## AN EU-REGION OF ART, CULTURE AND AWARENESS

"The measure of the evolution of a civilization is strongly related to its ability to transfer effort and attention from the material part of life to the intangible part (psychological, cultural, aesthetic and spiritual), the growth of which is linked to the ability to make the degree of consciousness evolve"

Arnold J. Toynbee

#### "Intangibles": a key difference in the Southern Catalonia of 2040

Twenty years ago, when the sessions, conferences and interviews for the Southern Catalonia 2040 foresight exercise were conducted, visions and expressions highlighting the need to "be more human" were recurrent. This need was associated with developing creative and artistic abilities, further exploring everything intangible that we share as a community, and having a broader and more universal awareness of reality.

Indeed, it had to become a pillar of our region in the future we aimed to create: art, culture and conscience would make us better humans, a better community, and a better region. We could make this small contribution to the world from Southern Catalonia, a region through which many civilizations have passed in the last few millennia; one with a rich cultural and inspirational legacy, where a multitude of artists, and a few geniuses, have lived and travelled; one that, as one participant mentioned at the time of the Southern Catalonia 2040 foresight exercise, has "a strong inherent spirituality".

# Southern Catalonia, region of art: a paradigm shift

Traditionally, the arts had not been a priority in our region. They did not constitute our collective narrative or imagination, though some activities in some parts of our region were part of our culture (the orchestras in the Terres de l'Ebre, for example). We did not pay them enough attention in either compulsory or higher education. Nor did we pay enough attention to the protagonists, the artists, in public or private resources or policies. This did not mean that there were no educational institutions for artistic expression or no valiant and important initiatives such as music festivals and music conservatories thanks to the efforts of a few. However, these were tangential rather than systemic. Perhaps we did not pay attention to artistic creativity because we thought it was a quality that was associated with having a gift and this gift enabled certain individuals to enter the artistic world on a professional or other basis. But what if we considered artistic creativity as an essential feature of our humanity that we should cultivate as we do with writing or mathematical reasoning? And if we did, would it be possible to develop our human potential without artistic creativity? Would it be possible to live in a world, a community or a region devoid of this artistic creativity? What would be the sociocultural and economic cost of being importers of the take on reality that artists bring to social construction?

The paradigm shift that has taken place in Southern Catalonia and made this region one of art is based on awareness of the human importance of art and its ability to transform individuals and groups and contribute to human welfare. Consequently, art has progressively permeated our region, beginning with education.

#### Southern Catalonia Strategy for Art

Southern Catalonia Strategy for Art, which began in 2021, comprises local agents, professionals, the Universitat Rovira i Virgili, training centres, business and civil society. It has had a more significant impact over the last twenty years than even its promoters had imagined (see Figure 20).

Some of the key elements of this strategy, which are still in place, are:

- Artistic training: a wide range of training activities are available in the various artistic disciplines in both compulsory (including pre-school) and post-compulsory education at both undergraduate and postgraduate levels. Art is encouraged as a cross-disciplinary activity at all levels of education.
- Art-associated research and technology: much scientific research is linked to art in our region, which has four art and technology laboratories in total.
- Art spaces: as well as an extensive network of artistic infrastructures where art can be expressed (including residences for artists from our region and beyond), art is expressed and is present on the Universitat Rovira i Virgili campuses, in streets and other public spaces, in companies and in people's homes. Art is expressed wherever one lives, i.e. everywhere.
- Creating the public for art: broadly speaking, a high level of artistic consumption has been achieved among our population, especially among the young and elderly: access to art and the practice of it have become universal. Moreover, audiences from other areas and countries are now attracted to our region, whereas before they were restricted to a few festivals and occasional events.

- **Public policies for art:** the Southern Catalonia Regional Council and the municipalities have a pluriannual plan to develop the Southern Catalonia Strategy for Art with participation from private agents and the autonomous government of Catalonia.
- Art and economy: incorporated into the vision for our strategy was the notion that art was
  also a generator of economic prosperity that provided quality employment and created
  new professions such as those that had already emerged and those that would emerge by
  dint of the intersection with new technologies.

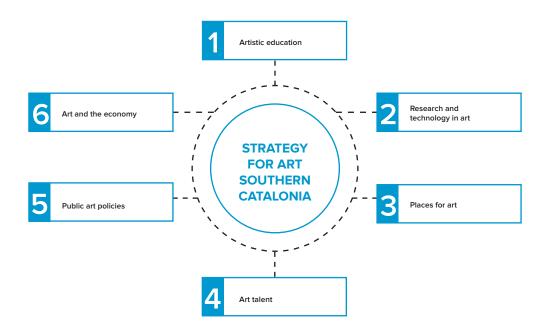


Figure 20. Southern Catalonia Strategy for Art. Source: Southern Catalonia 2040 foresight exercise (2018).

# **Southern Catalonia We Are Culture**

Culture is what we share. We are immersed in culture because we are alive and we are creators of culture when we talk, relate to each other and interact with the world. We leave behind a cultural legacy (though too often, unconsciously).

Some intangible and tangible dimensions of culture are interrelated (see Figure 21, which has been prepared from the Southern Catalonia 2040 foresight exercise). It would be very difficult (in our region, as in many others) to list everything linked to culture in these dimensions.

The general cultural characteristics of our region can be summarized by our vast cultural diversity and intensity and our rich intangible and tangible legacy. Our region enjoys a broad "cultural landscape".

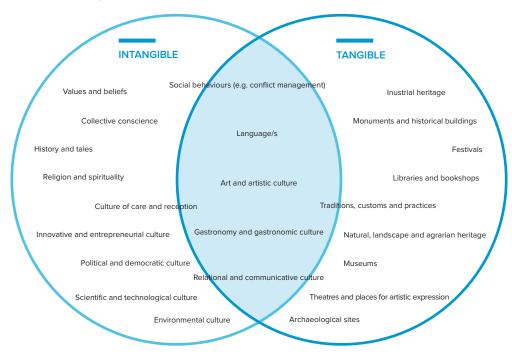


Figure 21. Tangible and intangible elements of culture. Source: Southern Catalonia 2040 foresight exercise (2018).

By the end of the 2010s, was all our cultural reality and potential being properly looked after and exploited? The answer to this question according to the Southern Catalonia 2040 foresight exercise was negative. This did not mean that we did not have multiple and varied initiatives throughout our region but we were certainly under-exploiting the wealth of possibilities available to us. This was partly because of:

- The limited social awareness of the core role of culture.
- The fragmentation of players in the world of culture and range of cultural (and artistic) activities.
- The low level of "cultural democracy", i.e. there was a significant gap in access to cultural activities.
- The limited public resources invested. In fact, the focus was often more on expenses than on investment.

There were also other important elements to consider:

- The cultural behaviour of millennials and post-millennials (generation Z) was very different from that of previous generations. And what would happen with future generations?
- Intangible (and sometimes tangible) cultural assets were changing or being moulded by immigration and the multiculturality that comes with it.
- What about the effects of cultural globalization and how this overlaps and combines with local culture?
- And what about the impact of the technological (re)evolution? Etc.

## Southern Catalonia We Are Culture

Southern Catalonia We Are Culture was set up in 2022. During the 2020s its aim was to enable the region to take a significant leap forward from the cultural point of view and to meet the challenges and opportunities that presented themselves in the region. This platform, which currently comprises almost one thousand agents across the region, affects all tangible and intangible cultural aspects. It has helped to foster synergies between existing initiatives, generate tractor projects, significantly increase visibility and attract national and international visitors (see Figure 22).

Some of the first actions undertaken by Southern Catalonia We Are Culture in 2022 were:

- **Range of cultural activities:** coordination, integration and joint promotion of the whole range of artistic and cultural activities available in the region.
- Culture Conversations: sessions held throughout the region to discuss the role of culture in
  our individual construction and how we contribute individually to its collective construction.

In the last two decades investments in culture have multiplied by ten and, as we mentioned in the corresponding chapter, an important culture economy has been generated, with new professions and an increasing quality jobs market. Public and private initiatives have been the drivers of this investment, while audiences have also significantly increased their cultural consumption. The index of cultural democratization in the region has increased steadily over the last two decades, especially among the young and elderly.

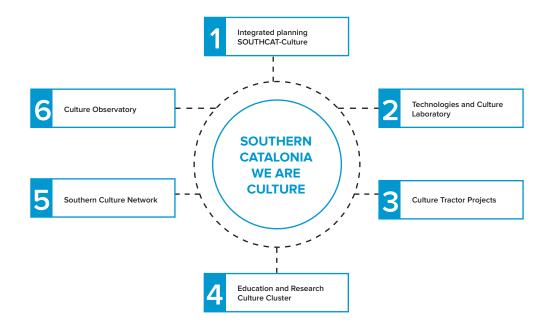


Figure 22. Southern Catalonia We Are Culture strategy. Source: Southern Catalonia 2040 foresight exercise (2018).

#### Southern Catalonia: awareness and values. The essence of all this

During the interviews and work conducted on the Southern Catalonia 2040 foresight exercise, the words *awareness* or *consciousness* were mentioned in several contexts when speaking of the future of our society and region: "We need to be more aware of what we are and what we have"; "We need to raise awareness in order to tackle the complexity in which we live and will live"; and "We need to have more of a universal consciousness since everything is related".

From the time of Aristotle to the present day, philosophers, mystics, scientists of various disciplines (e.g. Eudald Carbonell), artists and politicians have spoken of consciousness as an essential element of individuals, communities and human species itself. It has been said that evolving towards higher levels of consciousness generates greater possibilities for the future. The opposite is also true: a lower level of consciousness leads to poorer visions, and sometimes involutions, on the various scales of human communities.

It is impossible to find a definition of consciousness that is accepted by everyone, but the essential element that is common to all definitions has something to do with experience and the interpretation of reality. This reality was believed to be external but in fact it is constructed within ourselves and is interpreted by our quality of consciousness. Therefore, if everyone experiences a different reality through their own conscience, there is not one reality but as many realities as there are people that experience it. This leads us to a core element of community building, which is collective consciousness, i.e. the shared elements of experience, which psychologists call intersubjectivity and that configure values, beliefs and traditions, etc. To coexist, humans have to share the same intersubjective space of mutual recognition in order to respect each other – not necessarily to agree with each other but to recognize one another. This is the basis for the sense of solidarity that brings communities together and that, according to Émile Durkheim in one of the most important theories of sociology, is what binds societies together.

However, why, specifically, should we raise awareness in our region?

- To increase mutual recognition as a regional community on an emotional level as well as a superficial one.
- To meet the challenges together. As Albert Einstein said, "No problem can be solved from the same level of consciousness that created it". The big question here is "Why?" If, as a regional community, we wished to approach a shared vision of the future towards 2040, we needed to raise our collective consciousness of the challenges and objectives that were proposed.
- To take this raised awareness to the people and social systems in our region to help them become more empathetic, more human, and more evolved.

#### Southern Catalonia Awareness

Southern Catalonia Awareness was set up in 2020 from the coming together of various actors, professionals and people in the region, in synchrony with the experiences in Catalonia of *País Conscient* (literally, country aware) (created on the back of the National Values Plan 2015, the Xarxa Garrotxa Conscient, and international initiatives such as *The Mindfulness Initiative*, Mindfulness Nation UK, 2015). In 2040 it comprises more than 200 associations and 100 promoters in institutions, municipalities, organizations and civil society, with an extensive programme of activities throughout the region (see Figure 23).

The main programmes developed over these twenty years are:

- We are Southern Catalonia. This programme, aimed at all kinds of audiences, includes activities such as visits to places and interviews with people from different parts of the region; regional narratives, a collection of short stories that inspire stories, people and landscapes of the region that can be published on multiple platforms; and "shadow visits", by which one can live with a farmer, mayor, or professional person for a certain length of time.
- **Southern Catalonia Mindfulness.** Inspired by the United Kingdom's Mindfulness Initiative, this programme has deployed mindfulness in the various social systems of our region, such as health, education, work, politics, etc.
- *Global Awareness.* This programme aims to provide people, professionals and decision-makers in our region with a broad vision on key issues and challenges for the future of the world and our region (climate change, food, etc.).
- **Southern Catalonia Values.** In the last twenty years this programme has, in a practical way, incorporated various values into the social fields of our region, especially education. Each year the region devotes a series of activities to a particular value.
- **Southern Catalonia Secular interreligious dialogue.** This programme aims to establish a common basis for fundamental shared human aspects beyond the dogmas and structures separating religious beliefs and non-beliefs.
- **Conscious Conversations.** This is a programme for personal interaction between people in the region to help them get to know each other and each other's environment.

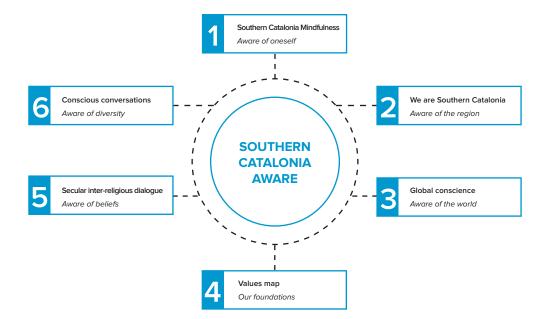


Figure 23. Southern Catalonia Awareness Strategy. Source: Southern Catalonia 2040 foresight exercise (2018).

# **AN EU-REGION OF TALENT**

"To achieve what humanity expects from education, what is needed is a school, a determined, planned and democratically structured community that enjoys the participation of all its members"

Marta Mata

#### The talent-related challenges and trends of twenty years ago ...

At the end of the 2010s, in Catalonia as in many countries we were immersed in an educational re-think especially (but not only) in the area of compulsory education. We were heirs to the "educational industrialization" of the 20th century, and education at all levels was universalized as never before.

Patterns in our region were similar to those of our European neighbours, though there were notable inter-territorial differences on issues such as the university-educated population. Levels of continuous training in Southern Catalonia were also lower than the Catalan and regional European average, while certain difficulties also existed in finding professionals for some industrial specializations. The social gap in education was also far from being resolved.

Southern Catalonia was a "net exporter" of talent. This was either because no training was available here (e.g. in higher studies in art) or due to socioeconomic factors, a lack of job opportunities or the attraction of other regions such as the nearby hub that is Barcelona. Primary and secondary schools faced complex challenges. The Universitat Rovira i Virgili was a decisive factor in education and was enjoying a significant growth in the number of overseas students, mainly at the postgraduate level.

The Southern Catalonia 2040 foresight exercise brought to light several aspects that would have a great impact on the future:

 Increasing longevity meant that we needed to consider a future long life in education not only as a student but also as a "teacher". Where would all the talent that would be trained over the course of an increasing number of years go?

- We were living, and would live, in volatile, uncertain, complex, ambiguous and fast times that required new personal, professional and social competences to respond adequately to them.
- Acquiring learning behaviours started to become as important as learning knowledge and we began to talk not only of schools and universities but also of learning ecosystems.
- We were surprised that in countries with high standards of education, according to the parameters used at the time, a not insignificant number of young people were joining populist and xenophobic political movements.
- The emerging robotization, hyperconnectivity and disruptive technologies would change our ways of learning and working as well as the value of "being human".
- Talent flows were increasing and the so-called nomad society was taking shape. What role and position would our region have on the European and global stage?
- There was a lot of invisible and potential talent in our society that was neither "exploited" nor developed. What should we do with this latent and potential talent?
- There was also a lot of talent that could not express itself due to important problems related to mental well-being and mental quality, whose levels were decreasing in our western society (due to problems of addiction, lack of attention, depression, suicide, and other cognitive problems).
- Our approach to talent was practically or totally linked to education, especially youth education, when ways of learning were increasingly expanding for all age groups.
- Our region also had numerous structural educational and vocational challenges, such as a low level of public and private investment and the limited social recognition received by teachers at all levels of education.
- All in all, we could say that we were ready for the learning (re)evolution: we knew why, what, when and how transformation was needed.

In a future knowledge region, this (re)evolution of learning and talent was fundamental. Southern Catalonia had to PRIORITIZE these necessary changes and challenges to become active protagonists rather than mere reactive spectators. Certain initiatives were already in progress, on many levels, but the magnitude and urgency of the challenges required a long-term vision and shared and transformative systemic actions that would affect not only the "traditional" agents of education but also the whole community. Joint responsibility for talent by the whole community was essential.

#### ... made us think about how to adopt a "new" approach ...

Southern Catalonia in 2040 bases its approach to talent on some of the elements and general views that came out of the work conducted on the Southern Catalonia 2040 foresight exercise. These have progressively been consolidated and complemented across the region:

- Everybody has talent and everybody must have access to a learning ecosystem that allows them to develop their greatest potential, for their own good as well as for that of the community, which must be able to embrace that talent. This is a social contract for everyone, with everyone, and for everyone.
- Developing "mental capital and well-being" is the foundation for maximizing the availability of people's talent.

"The Mental Wealth of Nations" (Beddington, J. et al., Nature 455, 2008).

Countries must learn how to capitalize on their citizens' cognitive resources if they are to prosper both economically and socially. Early intervention will be key.

Mental capital encompasses both cognitive and emotional resources. It includes people's cognitive ability; their flexibility and efficiency at learning; and their 'emotional intelligence', or social skills and resilience in the face of stress.

**Mental well-being,** on the other hand, is a dynamic state that refers to individuals' ability to develop their potential, work productively and creatively, build strong and positive relationships with others and contribute to their community.

 Talent development competences are both horizontal and vertical in order to deal with complex and rapidly moving times, which require everyone to have the capacity to become an agent of change whatever their role in our society.

It is not enough to "fill the person" with competences (horizontal development). It is essential to "make one a greater person" (vertical development).

HORITZONTAL DEVELOPMENT	VERTICAL DEVELOPMENT
Adds more knowledge, skills and competences.	<i>Expands</i> one's ability to think and act in more complex, systemic and interdependent ways.
Is imparted by experts.	Is learned through experience.
ls about what you know.	Is about how you think.

Figure 24. Petrie, N., Developing Leaders for a Complex World, Centre for Creative Leadership, 2014.

- Lifelong learning and the technological and other changes taking place in an increasingly complex world mean that we are constantly adapting our range of education programmes, which are increasingly flexible, and especially the learning experiences and learning environments in which they take place.
- We had to work on the confluence of compulsory, professional and university education in order to respond to the needs of tertiary education, which were not covered, which would be the place for some of the new future professions.
- The humanities, social sciences and technologies permeate in a cross-disciplinary manner the lifelong learning environments developed in our region.
- Learning takes place in formal and informal global environments, between couples, in diverse co-creation environments, in companies, in social environments, on the Internet, through person-machine interaction, and by many other modes that are constantly changing.
- People lead their own lifelong learning and are mentored so that they acquire this fundamental competence.
- Talent flows are a priority for our region. As an international platform for talent, our region is becoming attractive for people with all kinds of talents.
- The (re)evolution for lifelong talent across the region systematically assembles 'traditional' agents from the education, socioeconomic, technological, political and civil society fields and fosters their creativity.
- Southern Catalonia 2040 is a learning and innovative region for promoting talent.

# ... that has enabled us to develop a solid strategy for talent

Between 2020 and 2021, regional actors participating in the *Southern Catalonia Future Talent Platform*, promoted the *Southern Catalonia 2040 Strategy for Talent*, which was based on the aspects mentioned above. This initiative received a proportion of the *Strategic Regional Development Fund* to enable its implementation and continues to receive these funds. Also defined were the so-called *Southern Catalonia Talent* commitments. These were a component of the broader Southern Catalonia 2040 commitments and specified the actions that actors in the region would perform to contribute to this strategy (see Figure 25).

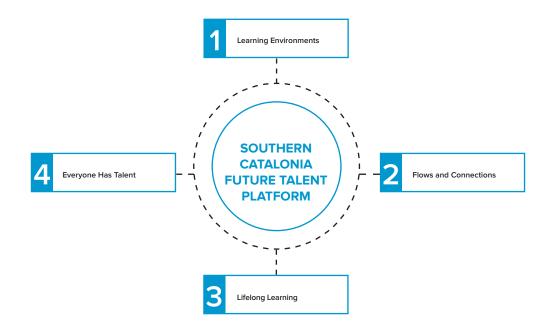


Figure 25. Southern Catalonia Future Talent Platform. Source: Southern Catalonia 2040 foresight exercise (2018).

The main axes and programmes of this strategy, which were promoted and consolidated between 2020 and 2030, are:

#### Everyone Has Talent:

- This programme aims to promote mental capital and mental well-being with actions focused on young children and teenagers.
- The All Talent programme aims to identify, visibilize, connect with and make best use of the talent existing in our region.
- The Equality programme aims to reducing the learning gap in our region at all stages of life.

#### Learning Environments:

- Research, innovation and the implementation of advanced learning environments that develop competencies (both horizontal and vertical) and lifelong learning behaviours.
- In 2023, the *Regional Centre for Innovation in Learning* was set up in connection with the Universitat Rovira i Virgili. This initiative enjoys the participation of socioeconomic agents and technology partners and collaborates with all levels of the region's educational network, including companies and social agents, etc.
- The Centre has a wide *network of learning laboratories* distributed across the region and integrated into its associated public sector schools, companies and organizations.
- The Centre also coordinates the development of new learning-oriented education programmes and employment opportunities, which are essential for carrying out the Southern Catalonia Strategy for Talent 2040 project.

#### Lifelong Learning:

- The *Southern Catalonia Centre for Lifelong Learning* studies, designs and promotes the regional structure for learning strategies and programmes for all levels of education.
- With the participation of the Universitat Rovira i Virgili and key agents of the region, it has an Observatory of Employment, New Professions and the Future of Work, which is a member of a network of similar organizations in other countries.
- The *Platform for Professional Higher Vocational Training* is the result of collaboration between schools, vocational training institutions, higher education institutions and businesses. This platform enabled the region to set up a range of tertiary professional training programmes whose purpose was to satisfy the multitude of occupational needs that would arise in later years.

The Southern Catalonia Business and Social School, which was set up in 2023, is responsible for producing managers and leaders in the public, private and third sectors. It combines personal development with experiential training and offers programmes in the humanities, technology, advanced organization management, global and regional challenges, and the competencies required for complex environments and different cultures.

#### Flows and Connections:

- The Flows Programme: this programme aims to ensure that the flows of talent into the region are suited to our future needs and vision.
- The Global Programme: this programme aims to connect the region with young talent and first-class international experts in the subjects we need to develop our region.
- Regional Balance Programme: this programme aims to satisfy the talent needs of the socioeconomic structures in the various parts of our region.

# THE MAGIC OF CHANGE

"Vision without action is a dream. Action without vision is a nightmare" Japanese proverb

# **DYNAMICS OF REGIONAL CHANGE**

"The health and vitality of any living system – be it an individual, family, organization (or region) – is a reflection of how fully and freely each unique, diverse, individual element of that entity is differentiated and how closely linked, connected, and attuned those diverse elements are with each other"

Joel and Michelle Levey

#### Southern Catalonia 2040 provided an impetus for regional change

Southern Catalonia 2040 was presented on 12th March, 2019, after more than twelve months of activities involving the participation of over two hundred and fifty people, including:

- The Southern Catalonia Knowledge Region Steering Group, which was formally created on 3rd February, 2017, as part of the Southern Catalonia 2040 project and had been operating on a smaller scale since late 2015. It is made up of the mayors of the municipalities in our region with over 20,000 inhabitants and county capitals with fewer than that figure, delegates of the autonomous government of Catalonia for the Tarragona and Terres de l'Ebre geographical areas and the president and first vice-president of Tarragona Provincial Council.
- Members of the Chair for University and Knowledge Region of the Universitat Rovira i Virgili, under its director, who were responsible for the Southern Catalonia 2040 foresight exercise and other regional projects undertaken at this preliminary phase of new regional governance.
- The International Advisory Committee of the Chair for University and Knowledge Region, which made recommendations for the design of the Southern Catalonia 2040 foresight exercise.
- Individuals from civil society, business, and the public and education sectors who participated in the project's activities.
- Representatives of the region's socioeconomic agents.

The activities conducted for the Southern Catalonia 2040 project were (see Figure 26):

- Fifty in-depth interviews with people from the region, including some who had had significant responsibilities in the autonomous government of Catalonia.
- Institutional visits by members of the Steering Group to Tampere (Finland) and Trentino (Italy) to analyse their successful models of regional development.
- Analysis of advanced governance models.
- Analysis of social, economic, environmental, scientific and technological trends.
- Three workshops to analyse the region and its challenges in the social, economic and environmental fields.
- Two one-day events focusing on future scenarios, each attended by roughly eighty people.
- One session with a focus group on impetus for change.

The initiative was financed by Tarragona Provincial Council at a total cost of  $\in$  60,000.

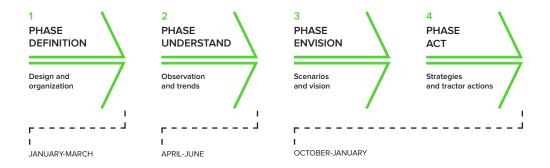


Figure 26. Stages of the Southern Catalonia 2040 foresight exercise (2018). Source: Author's own.

The main results of the Southern Catalonia 2040 foresight exercise were:

- We have introduced a foresight culture into our region. This was the first general or specific foresight exercise on a topic or area carried out in the region and almost a unique precedent in Catalonia (unlike in Europe, where regional foresight exercises had existed for over thirty years).
- We developed an initial awareness of the Southern Catalonia region. We needed to recognize ourselves as a knowledge region. The participants in the exercise, political agents from our region and other areas of Catalonia, and the public in general via the media became aware that a region of our size (over 800,000 inhabitants) with a diverse social and economic structure, a critical mass comparable to those of other European regions, and a knowledge structure established across the region by the Universitat Rovira i Virgili was a key nexus between the local and the national levels for introducing knowledge-based development and innovation strategies.
- We have built social capital. The interpersonal interactions established during this exercise between the members of the Steering Group and among all the participants (many of whom had not known each other or interacted before) generated positive connections and instilled confidence in the huge potential of our region if we all worked together to consider the future we wished to create. In fact, the Southern Catalonia FuturA Community (also mentioned in the chapter on governance), which was set up at the time, continued to grow and participate in numerous initiatives aimed at analysing and previewing the future of our region.
- We have seen the future we want for our region. This future that we want for our region was the focus of our foresight exercise. As reflected in the previous chapters, it encompasses:
  - An integral vision (which affects every aspect of regional development, including the environment, society, economics, knowledge, values, governance and talent).
  - New visions (for example, a region with a high confluence of various economies).
  - Paradigm shifts (for example, art as a driving force for transformation).
  - Specific strategies (for example, to develop regional talent).
- We have focused on action. Unlike other regional foresight projects, which end with their vision of a desired future scenario, for Southern Catalonia 2040 we proposed a wide variety of actions (some more specific than others) in all ambits.
- Governance. This process has exemplified the quadruple helix governance model, which
  was to become implemented in the region and which, as we discussed in the chapter on
  governance, combines the visions and sensitivities of government, politics and the public
  sector with the private sector, civil society and academia.

#### We had to give ourselves an effective regional change dynamic

From the incipient dynamics generated following the presentation of Southern Catalonia 2040, we needed to define and establish a regional change dynamic that would enable us to progress towards our desired collective future. Until then, the dominant dynamics in the region in relation to development and innovation were local but there were also important county-level and supra-country-level initiatives (such as Priorat-Montsant-Siurana, the cultural-agricultural landscape of the Mediterranean mountains, and the Terres de l'Ebre biosphere reserve run by the Terres de l'Ebre Environmental Policies Consortium) that affected important aspects in line with the results of Southern Catalonia 2040.

What was this geographical region that had to be constructed like? What dynamics would have to be established to make this regional strategic and operational scale effective and enable it to contribute to the other scales and the region as a whole by creating synergies, enriching existing initiatives, and exploring new opportunities?

Figure 27 shows the main dynamics of regional change that were established between 2019 and 2024 and that have been strengthened and enriched over the last two decades.

- Maintain and value the change already introduced by Southern Catalonia 2040. This was a key factor – the regional dynamics had to continue to grow based on the (tangible and intangible) results of Southern Catalonia 2040.
- Identify and connect with initiatives that are aligned with Southern Catalonia 2040. This
  was also a key factor since many projects and aspirations were in line with the future Southern
  Catalonia 2040 scenario, while others were awaiting fruition. Working with what at
  that time was the present but already part of our plans for the future proved to be decisive.
- Identify who should do what to contribute to Southern Catalonia 2040. We needed to
  know which specific actors had to get on board in order to build the future that was mapped out in Southern Catalonia 2040 or later versions of the project. As mentioned in this
  document, commitments had to be made.
- Create pilots that demonstrate change and generate references. Some types of initiative, such as the regional development platforms, were new to our region; we had to learn to activate them and make them work. This was be done by implementing pilot plans that could be used for learning purposes. These plans could then be expanded progressively.
- Generate or promote impactful tractors projects. It was important to identify and generate initiatives from new and existing projects that were likely have a great impact and support them strategically.

Align the actions of the Southern Catalonia 2040 project with local, Catalan and European
ones. This was a hugely important aspect of the dynamics of change. Municipal-level actions
had to become aligned with the future vision for Southern Catalonia 2040 through local political commitment and the implementation of public policies, as well as through participation
in and engagement with regional platforms and other proposed actions. To align our actions
with those of the Catalan government, the Southern Catalonia Future Table was set up in
2020. In this initiative the Catalan government and regional governance structures specified
each year which unique strategies and actions were to be aligned in the various ambits that
were key to the development of the region.

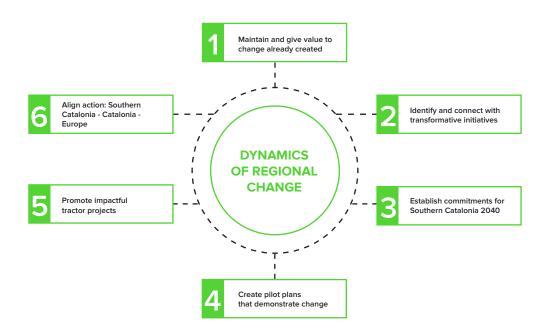


Figure 27. Dynamics of regional change. Source: Authors' own.

# FIRST STEPS TAKEN TWENTY YEARS AGO

"If you want to go quickly, go alone. If you want to go far, go with someone" *African proverb* 

# Unite the impetus for the future regarding the Southern Catalonia 2040 initiative

The presentation of Southern Catalonia 2040 was the starting point for a change in direction. We had to take advantage of the positive dynamics generated during the project to integrate all the regional initiatives that were in line with the future we desired and increase the commitments that were needed to build it:

- Socialize Southern Catalonia 2040:
  - We set up the Southern Catalonia 2040 website (www.catalunyasud2040.cat).
  - We presented the Southern Catalonia 2040 foresight exercise to regional agents, the Catalan Government, and the European Union.
- Connect with initiatives and agents:
  - We identified agents and initiatives that were in line with Southern Catalonia 2040.
  - We identified potential tractor projects and other initiatives that were already underway.
  - We prepared the Southern Catalonia 2040 interactive map.
- Establish commitments for Southern Catalonia 2040:
  - We ensured commitments from actors for the Southern Catalonia 2040 project.
  - We established a plan of action for each agent showing how they were to contribute to Southern Catalonia 2040.
- Develop the Southern Catalonia FuturA Community:
  - We established a steering group for the Southern Catalonia FuturA Community.

- The mission of the Community was to become a meeting point where people could engage in dialogue on the future, bring together people in the region who had common interests, and raise awareness of Southern Catalonia as a European knowledge region.
- The Community's initial Action Plan included:
  - Southern Catalonia FuturA breakfasts for discussing major challenges for the future.
  - Conversations to enable people and actors to meet each other and discuss future possibilities.
  - Actions for constructing the region's shared narrative.

#### Establish the bases for new governance in Southern Catalonia ...

This was a significant challenge for transitioning towards a European knowledge region and our vision for Southern Catalonia 2040. It was essential to develop a system of regional governance based on the quadruple helix model (government-business-civil society-academia). Beforehand, however, the region needed a **regional government (Southern Catalonia Regional Council)** to take strategic and political decisions in matters of development and innovation that would be allocated sufficient resources for the agency executing the programmes, i.e. the Southern Catalonia Agency for Development and Innovation.

Pending a Catalan law on knowledge regions that would be equipped with a suitable framework, in 2019 our region established a prototype of what was to be the **Southern Catalonia Regional Council:** 

- With the same members as the Steering Group that ran from 2017 to 2019, this prototype piloted the transition until the institutional framework was established by Catalan law.
- Its technical team was similar to that of the URVs Chair for University and Knowledge Region.
- It managed economic resources provided by the Catalan government.

Also established was the prototype for what would later become the **Southern Catalonia Agency for Development and Innovation** via a collaborative platform made up of various regional economic, environmental and social structures for promotion already existing in the region, with the participation of the URV's Chairs for Entrepreneurship, Innovation, Social Inclusion and Sustainable Development and the Catalan Agency for Business Competitiveness.

At the end of 2019, the **Strategic Regional Development Fund** was created under an agreement with the Catalan government, with which an agreement was signed to define a specific chapter for Southern Catalonia within RIS3CAT. In 2020 the Fund received other contributions from local administrations and other socioeconomic agents.

#### ... and its cross-disciplinary instruments on a regional scale

If the region was to develop strategies for collective change, it required instruments for analysis, decision-making and revitalizing the region:

- Southern Catalonia Information System:
  - To draw up indicators that would enable us to monitor our development towards a European knowledge region.
- Southern Catalonia 2040 foresight programme:
  - To promote foresight exercises on ambits and challenges that are key for the future.
- Master in Global and Regional Leadership:
  - To activate the training programme for future leaders in the region.
- Southern Catalonia European Knowledge Region brand:
  - To define and implement a regional identity strategy based on existing potential and the future we wished to create.

Responsible for these actions between 2019 and 2020 was the Southern Catalonia Knowledge Region Steering Group and the technical team of the University Chair for University and Knowledge Region, which were created as the organization and structure of what would later become the Southern Catalonia Regional Council.

# Regional platforms focused on challenges and ambits in ...

The **regional platforms for the environment, social innovation and the economy** were established from an initial pilot plan from which three areas were selected:

- The environmental platform for climate change.
- The social platform for ageing.
- The platform for the economies for quality of life.

These pilot platforms comprised regional actors from the quadruple helix: local and regional government and the public sector/administration; academia (led by the Universitat Rovira i Virgili); business; and civil society and the third sector.

A method for establishing these platforms was developed, as was a facilitating team, which received advice from the Regional Council for the Tampere region, which had expertise with similar experiences.

The impetus for the pilot platform programme was provided by the Knowledge Region Steering Group and the support team. Each pilot platform had a core group of promoters and a coordinator.

# ... the strategic cross-disciplinary platforms and programmes became a collaborative reference for regional change

The strategic cross-disciplinary platforms and programmes were set up between 2020 and 2025 as and when groups of suitable promotional agents were formed around the following ambits:

- Talent (including a specific platform for professional tertiary training).
- Company and innovation.
- Scientific and technological infrastructures.
- Mobility and infrastructure.
- Art and culture.
- Southern Catalonia Conscient.

The collaborative leadership of these platforms emerged from the bottom up with the coordination and support of the Knowledge Region Steering Group and its technical structure.

#### The key role played by the Universitat Rovira i Virgili and the public administration

The quadruple helix governance model of shared leadership does not establish hierarchy between agents in the region. However, three of these agents played a key role in the deployment of the Southern Catalonia 2040 initiative:

- The Universitat Rovira i Virgili offered its talent and scientific and training potential to Southern Catalonia 2040 through its regional strategy and its participation in key platforms and programmes.
- Local administrations in Southern Catalonia incorporated the vision of Southern Catalonia 2040 into their public policies and participated in suitable regional platforms and programmes.
- The autonomous government of Catalonia aligned and coordinated the policies and strategies for the development and innovation of its departments through a specific work schedule and pluriannual plan.

#### Change involves leaving one's comfort zone

The regional evolution proposed by Southern Catalonia 2040 involved numerous challenges for regional actors. The most important feature was a cultural shift towards cooperative work for the benefit of the whole and of each party involved in the initiative. There was also a shift in operational instruments, whose scale was now regional, which had to coexist in positive synergy with those whose scale was sub-regional and local.

Between 2019 and 2025, it was hugely important to pilot these shifts while also bearing in mind that tensions would arise, that these tensions would have to be managed wisely, and that they were part of a process of collective learning and unlearning. For this reason, in 2019 a **Southern Catalonia 2040 change management team** was set up to advise, analyse and facilitate the cultural transition and operational changes we had proposed.





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