

Euskadi 2030 Science, Technology and Innovation Plan - 2030 STIP -

A Smart Specialization Strategy

Euskadi, auzolana, bien común

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The 2030 STIP represents Euskadi's strategic commitment to Research and Innovation. It also reflects and represents the commitment of Basque society to ensuring a better future... Our commitment is to drive science, technology and innovation to speed up the transition to a digital, green and inclusive Euskadi.

(Iñigo Urkullu, President of the Basque Government. Presentation of 2030 STIP)

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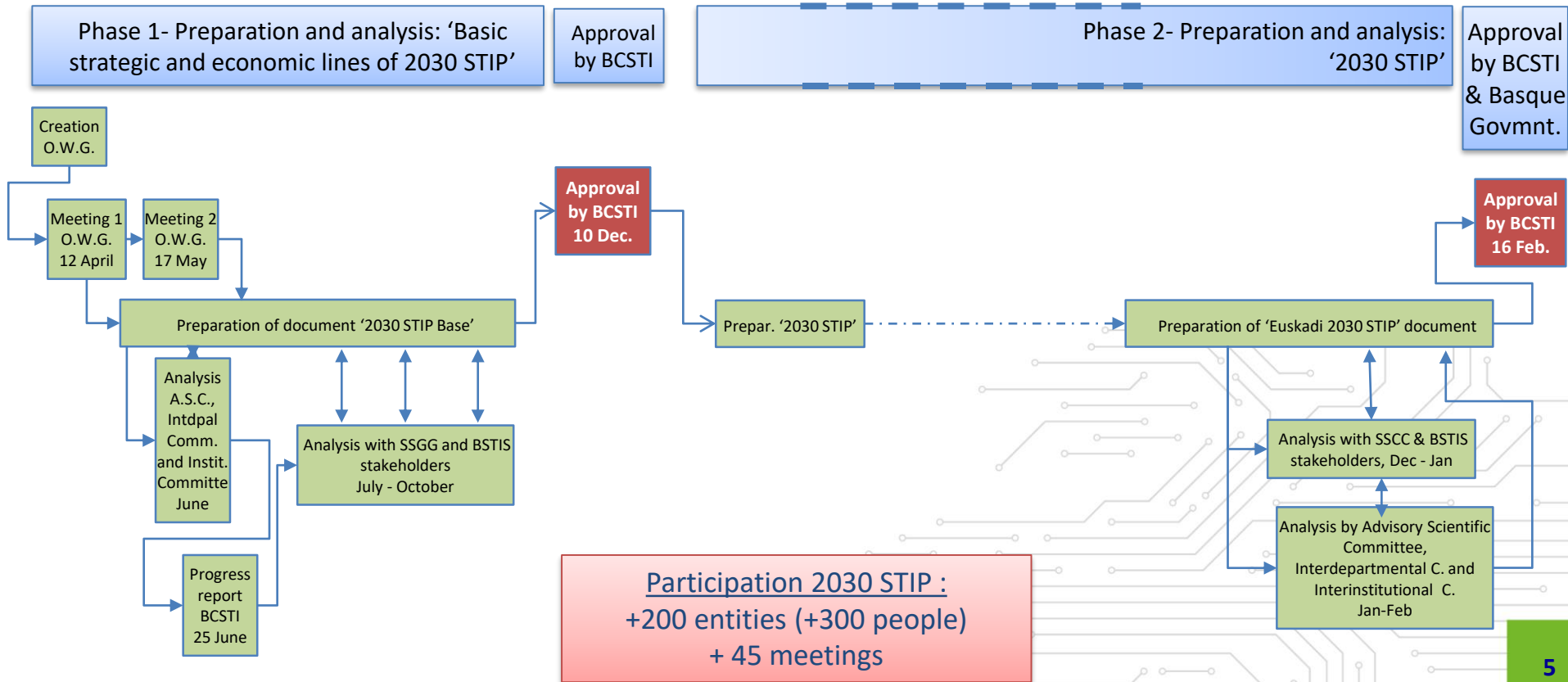
1. Preparation process
2. Evaluation of previous STIP (2020 STIP)
3. Context and situation assessment
4. Strategic lines of 2030 STIP
5. Fundamentals of RIS3
6. R&D&I support instruments
7. Governance of the Basque STI System
8. Economic fundamentals of 2030 STIP

1. Preparation process



1. Preparation Process

2019 Apr May Jun Jul Aug Sep Oct Nov Dec 2020 Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec 2021 Jan Feb



2. Evaluation of 2020 STIP



2. Evaluation of 2020 STIP

- ✓ RIS3 strategy deployment process
- ✓ Budget Execution
- ✓ Achievement of operational objectives
- ✓ Evolution of RIS3 specialization areas
- ✓ Evolution of the policy mix
- ✓ Internal evaluation of the results
- ✓ External evaluation of the process

RIS3 STRATEGY DEPLOYMENT PROCESS

2. Evaluation of 2020 STIP

Deployment of RIS3 strategy and 2020 STIP has been completed

PHASE 3: 2017-2018
«Energisation»
BCSTI – 28/06/2017

PHASE 4: 2019-2020
«Culmination»
BCSTI – 11/12/2018

GOVERNANCE BODIES
STEERING GROUPS
TECHNOLOGICAL AREAS
+ IMPORTANT PROJECTS
+ KEY RESEARCHERS

+ ENERGISE GROUPS
+ DRIVE COLLABORATIVE TRACTOR PROJECTS
+ PROXIMITY TO MARKET
+ EXCELLENCE RESEARCH
+ TALENT
+ AWARENESS

+ SOCIAL & CORPORATE AWARENESS
6 + ENERGISE STEERING GROUPS
5 + TALENT & STEAM
4 + INV. IN EMERGING APPLIED RESEARCH
3 + INV. IN EXCELLENT BASIC RESEARCH
2 + MARKET ORIENTED & SMEs
1 + TRACTOR-EFFECT PROJECTS

3 ADAPTATION OF THE POLICY MIX
2 MONITORING AND EVALUATION
1 DEPLOYMENT OF STEERING GROUPS

PHASE 2: 2016
«Deployment»

PHASE 1: 2015
«Implementation»

PHASE 0: 2014
«Preparation and approval»

BUDGET EXECUTION

2. Evaluation of 2020 STIP

90% budget execution. The investment effort of the Basque Government (106%) and international financing (100%) stand out







R&D investments <i>(figures in million euros)</i>	Initially forecast 2014-2019	Advance on implementation ⁽¹⁾ 2014-2019	% Compliance
Public finance	3,088	2,980	97%
Basque Govt.	2,304	2,442	106%
Territorial Administrations	334	122 (+150)	36% (81%)
Central Govt.	450	417	93%
Business finance	5,442	4,477	82%
International finance	662	664	100%
TOTAL	9,191	8,122	88%
<i>TOTAL + Territorial Administration budgets Innovation & entrepreneurship support</i>		8,272	90%

(1) Source: Basque Statistics Office (Eustat). R&D survey. It doesn't include business innovation and entrepreneurship funding programs of the Provincial Councils

ACHIEVEMENT OF OPERATIONAL OBJECTIVES (1)

2. Evaluation of 2020 STIP







9 out of 12 indicators have evolved positively, while 6 have exceeded the goal established for the last year of the 2020 STIP

Operational objectives	Indicators		Source	Initial situation	C. Situation 2019	Goal 2020	Advance
1. Focus resources and investments in R&D in the areas of specialisation	1.1	% of research of multi-targeted TTCC and CRCs aligned with RIS3 strategic priorities	BNSTI	94.52% 2014	98,0%	90%	
2. Strengthen fundamental research and experimental development	2.1	R&D activity mix (% Fundamental research / % Industrial research / % Experimental development)	Eustat	14/47/39 2012	15/42/42	15/30/55	
3. Make the Science, Technology and Innovation System results-oriented	3.1	Indexed scientific publications	Ikerbasque	5,028 2013	6,657	7,500	
	3.2	% of scientific publications indexed in the first quartile	Ikerbasque	53.17% 2013	59.3%	55%	
	3.3	EPO patent applications	European Patents Office	195 2014	194	270	
	3.4	% of Sales of new-to-market and new-to-firm innovations	Eustat	12.73% 2010	18.3%	15%	

ACHIEVEMENT OF OPERATIONAL OBJECTIVES (2)

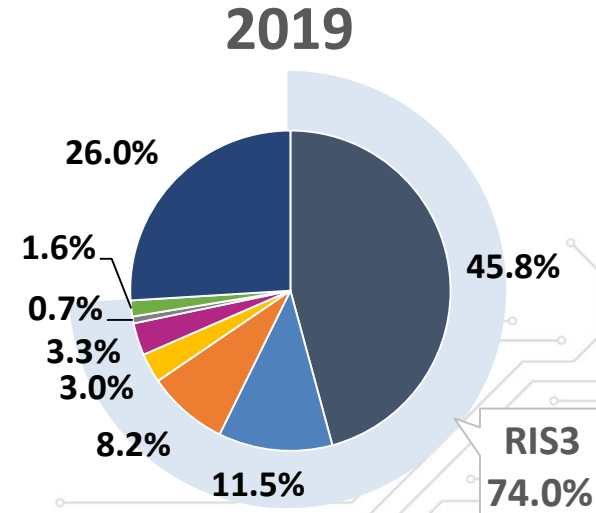
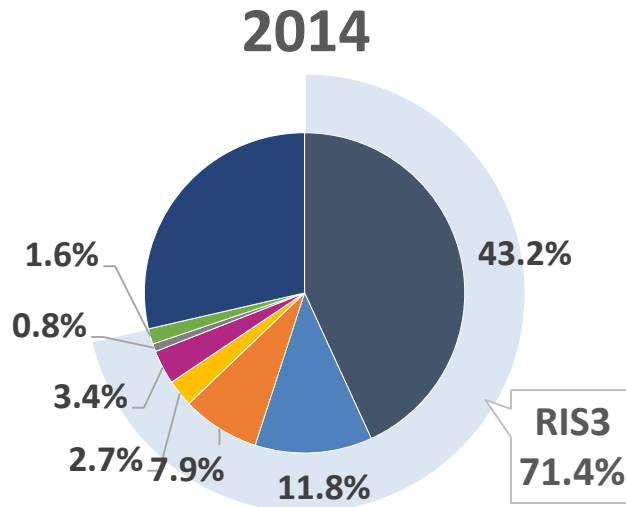
2. Evaluation of 2020 STIP

9 out of 12 indicators have evolved positively, while 6 have exceeded the goal established for the last year of the 2020 STIP

Operational objectives	Indicators		Source	Initial situation	C. Situation 2019	Goal 2020	Advance
4. Strengthen the capture of international funds for R&D+i	4.1	% of international financing of Research & Development	Eustat	5.2% 2012	8.7%	8%	
Promote Basque participation in H2020	4.2	% of Basque funding on the total funds from Horizon 2020	Innobasque	0.89% 2013	1.3%	1.00%	
Attract international private investment in R&D	4.3	Annual international private R&D financing	Eustat	6 M€ 2012	16,3 M€	18 M€	
5. Increase the number of innovative companies	5.1	Innovative companies with more than 10 employees on the total	Eustat	46.1% 2012	42.2%	50%	
6. Improve the skills of researchers	6.1	% of doctors on the total of research personnel	Eustat	29.0% 2012	30.9%	35%	
	6.2	% of doctors on the total of researchers in companies	Eustat	8.6% 2013	8.9%	10%	

EVOLUTION OF RIS3 SPECIALIZATION AREAS

Investments in R&D in the RIS3 areas reached 74% of the total in 2019, compared to 71.4% in 2014. Almost two-thirds went to the strategic priorities of advanced manufacturing, energy and biosciences&health



- Advance Manufacturing
- Energy
- Biosciences-Health
- Food
- Urban Habitat
- Cultural and Creative Industries
- Ecosystems
- Others

INTERNAL EVALUATION OF THE RESULTS

Main successes achieved

1. **Deployment of the RIS3 strategy completed.** Science, technology and innovation system aligned around a single strategy.
2. **Budget implementation close to 90%.** The investment effort of the Basque Government is above 106%.
3. **Improvement of the overall efficiency of the system, measured in terms of results:**
 - **Increased sales of new business products.**
 - **Increased exports of medium and high technology products.**
 - **Growth** of indexed scientific publications and their impact.
4. **Growth of international funding of R&D.**

2. Evaluation of 2020 STIP

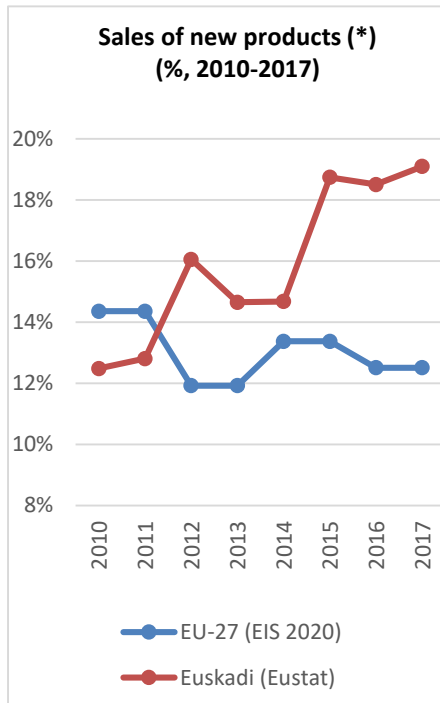
Some pending challenges:

1. **Increase investment in R&D** above the European average, to close the current gap.
2. **Promote business investment in R&D**, which has not yet recovered from the crisis.
3. **Overcome SMEs' weak points in innovation**
 - In **non-technological innovation**: organization and marketing
 - In **technological innovation (non-R&D)**
4. **Promote women** in the field of science, technology and innovation.

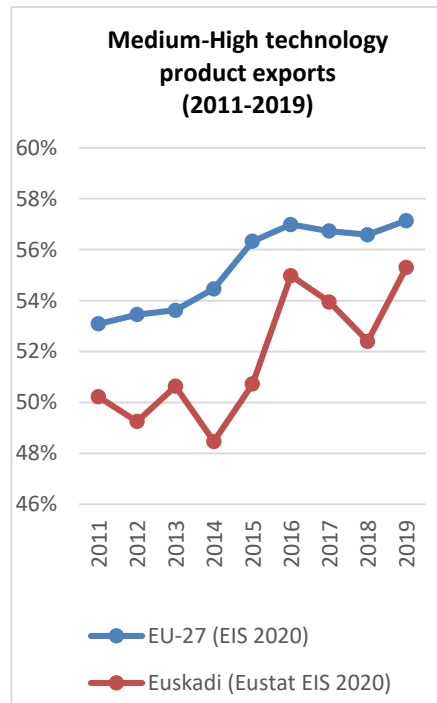
INTERNAL EVALUATION OF THE RESULTS: ACHIEVEMENTS

2. Evaluation of 2020 STIP

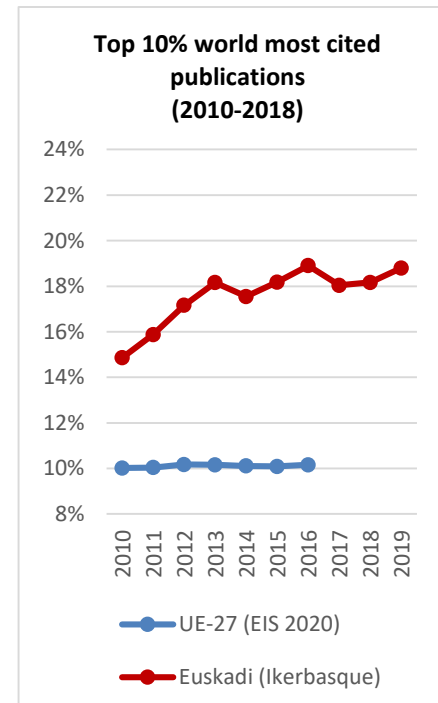
Achievement 3.1



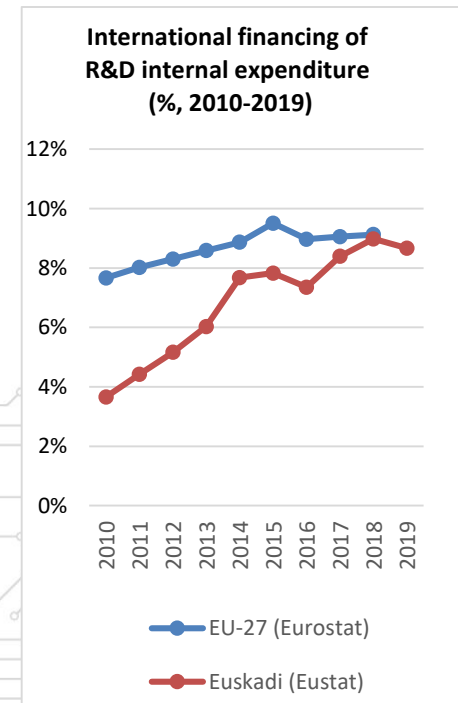
Achievement 3.2



Achievement 3.3



Achievement 4



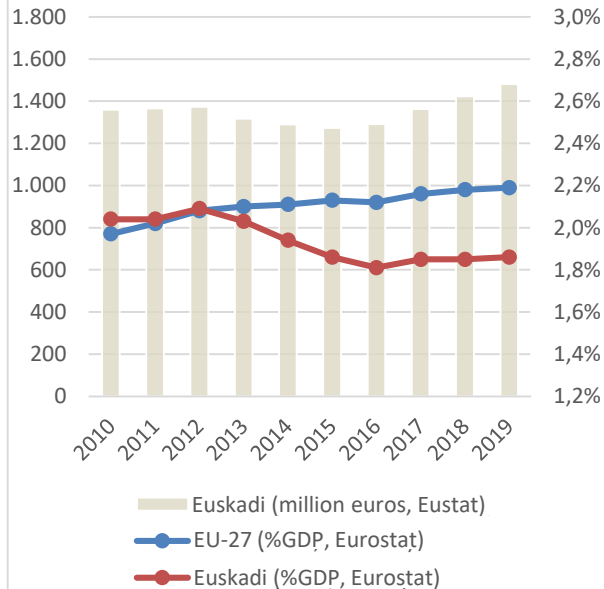
(*) As of 2018, there is a methodological change in the innovation survey, which makes the values not comparable with those of the previous series.

INTERNAL EVALUATION OF THE RESULTS: CHALLENGES

2. Evaluation of 2020 STIP

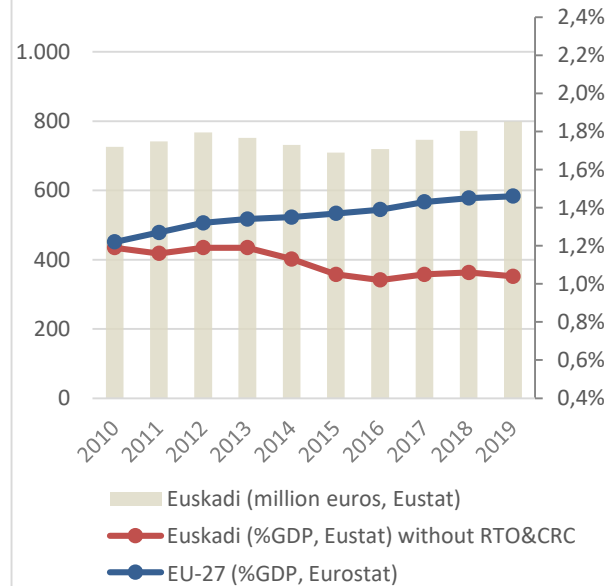
Challenge 1

R&D investments, internal expenditure (2010-2019)



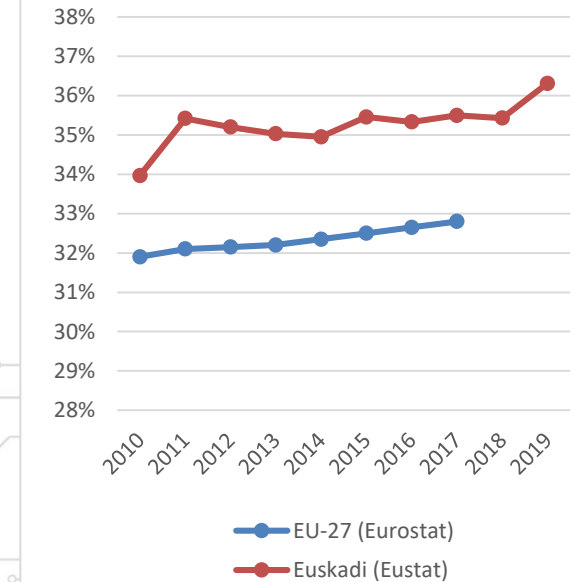
Challenge 2

Business R&D investments, internal expenditure (2010-2019)



Challenge 4

Female researchers (2010-2019)



Challenge 3

+ Innovation in SMEs: Basque Country Euskadi in position 132 out of 218 regions in the EU-27 in the RIS 2019, with more pronounced weaknesses in the indicators related to SME's innovation.

EXTERNAL EVALUATION OF THE PROCESS

2. Evaluation of 2020 STIP

The Basque Country has carried out a flexible, lively and dynamic implementation process of the RIS3 strategy, with the involvement of the whole of the Basque Science, Technology and Innovation System.

(“Playing the long game”. Kevin Morgan and Orkestra. June 2019)

Main achievements:

1. Creation of **flexible spaces for long-term collaboration**.
2. **Awareness raising** in Basque society in favor of innovation.
3. **SMEs more integrated** in the Basque RIS3 strategy.
4. **Development of projects closer to the market**.
5. Greater **commitment and alignment of the universities**.

Improvement areas:

1. **Integration of social challenges** into the strategy.
2. **Better collaboration** between strategic priorities and territories of opportunity.
3. Promote **innovation in SMEs**.
4. **New instruments** to support **strategic projects** in the country.
5. **Strengthen the presence in Europe and interregional collaboration** in RIS3.

3. Context and situation assessment



3. Context and situation assessment

- ✓ The 3 transitions in the Basque Country
- ✓ Basque strategic context: Sustainable Human Development Strategy, Euskadi Basque Country 2030 Agenda and Berpiztu
- ✓ European strategic context: Horizon Europe, Digital Europe, Green Deal and Next Generation EU
- ✓ Other related policies of the Basque Government

THE 3 TRANSITIONS IN THE BASQUE COUNTRY



Digital Euskadi

TECHNOLOGICAL-DIGITAL TRANSITION

- Digitisation
- Artificial Intelligence and Big Data
- Technology at the service of the citizen
- Automation
- Cybersecurity
- Fostering a fair and competitive digital economy



Green Euskadi

ENERGY-CLIMATE TRANSITION

- Climate Neutrality
- Decarbonisation of the energy system
- Efficient use of resources and energy -Circular Economy-
- Sustainable and smart mobility
- Just Energy Transition
- From farm to fork

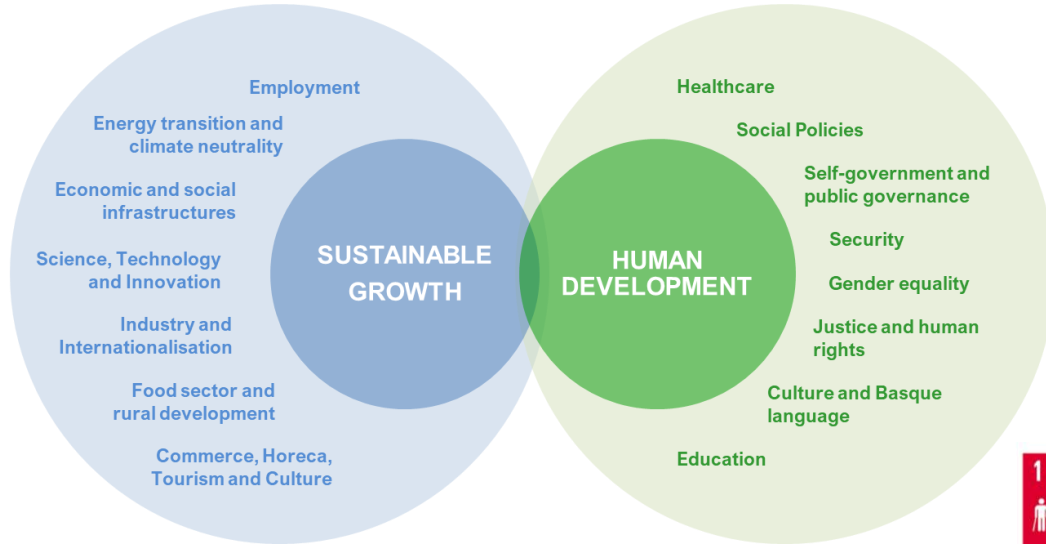


Inclusive Euskadi

SOCIAL AND HEALTH TRANSITION

- Healthcare System and Pandemic Risks
- Demographics and Healthy Aging
- Migration
- Gender Equality
- New care models
- Social and territorial cohesion

BASQUE STRATEGIC CONTEXT



Sustainable Human Development Strategy

Euskadi Basque Country 2030 Agenda



Goals more related to STIP: 3, 5, 7, 8, 9, 11 y 13

BERPIZTU. PROGRAM FOR ECONOMIC REACTIVATION AND EMPLOYMENT 2021-2024

3. Context and Situation Assessment



Axis I – Economic reactivation

TRACTOR-EFFECT POLICIES

1. Investment in public, economic and social infrastructures
- 2. Research, Innovation and Digital Transformation**
3. Energy and Environmental Transition
4. Industry and SMEs, Advanced Services, Creative Industries and Internationalisation
5. Food sector
6. Tourism and Culture companies and industry

Axis II - Job creation

TRACTOR-EFFECT POLICIES

7. Entrepreneurship New companies
8. Training for work
9. Insertion in the labour market. Local and district employment plans
10. Renewal programmes. Rehabilitation of buildings.
11. Public Job Offers
12. Action plan for youth employment

Axis III - Cross-cutting area: Improving quality of employment

13. Improving Quality of Employment and Gender Equality

HORIZON EUROPE. THE EU R&I PROGRAMME 2021-2027

3. Context and Situation Assessment



Pillar 1 Excellent Science

European Research Council

Marie Skłodowska-Curie

Research Infrastructures



Pillar 2 Global Challenges & European Industrial Competitiveness

Clusters

- Health
- Culture, Creativity & Inclusive Society
- Civil Security for Society
- Digital, Industry & Space
- Climate, Energy & Mobility
- Food, Bioeconomy, Natural Resources, Agriculture & Environment

Joint Research Centre



Pillar 3 Innovative Europe

European Innovation
Council

European Innovation
Ecosystems

European Institute of
Innovation & Technology

Widening participation and strengthening the European Research Area

Widening participation & spreading excellence

Reforming & Enhancing the European R&I system

THE DIGITAL EUROPE PROGRAMME

3. Context and Situation Assessment



Europe investing in digital: the Digital Europe Programme

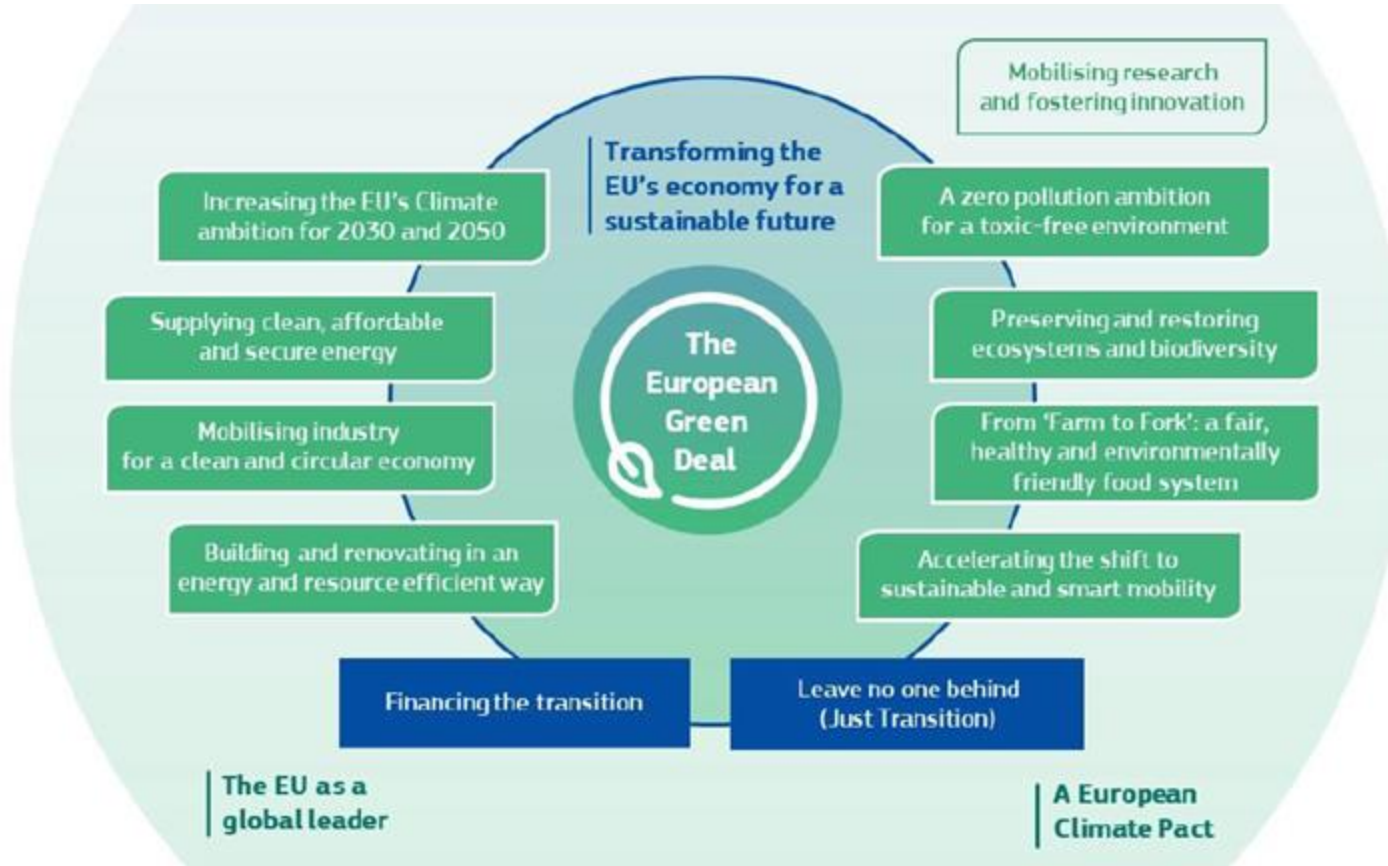
5 Goals



- 1 High performance computing
- 2 Artificial Intelligence
- 3 Cybersecurity and trust
- 4 Advance digital competencies
- 5 Deployment, better use of digital capabilities and interoperability

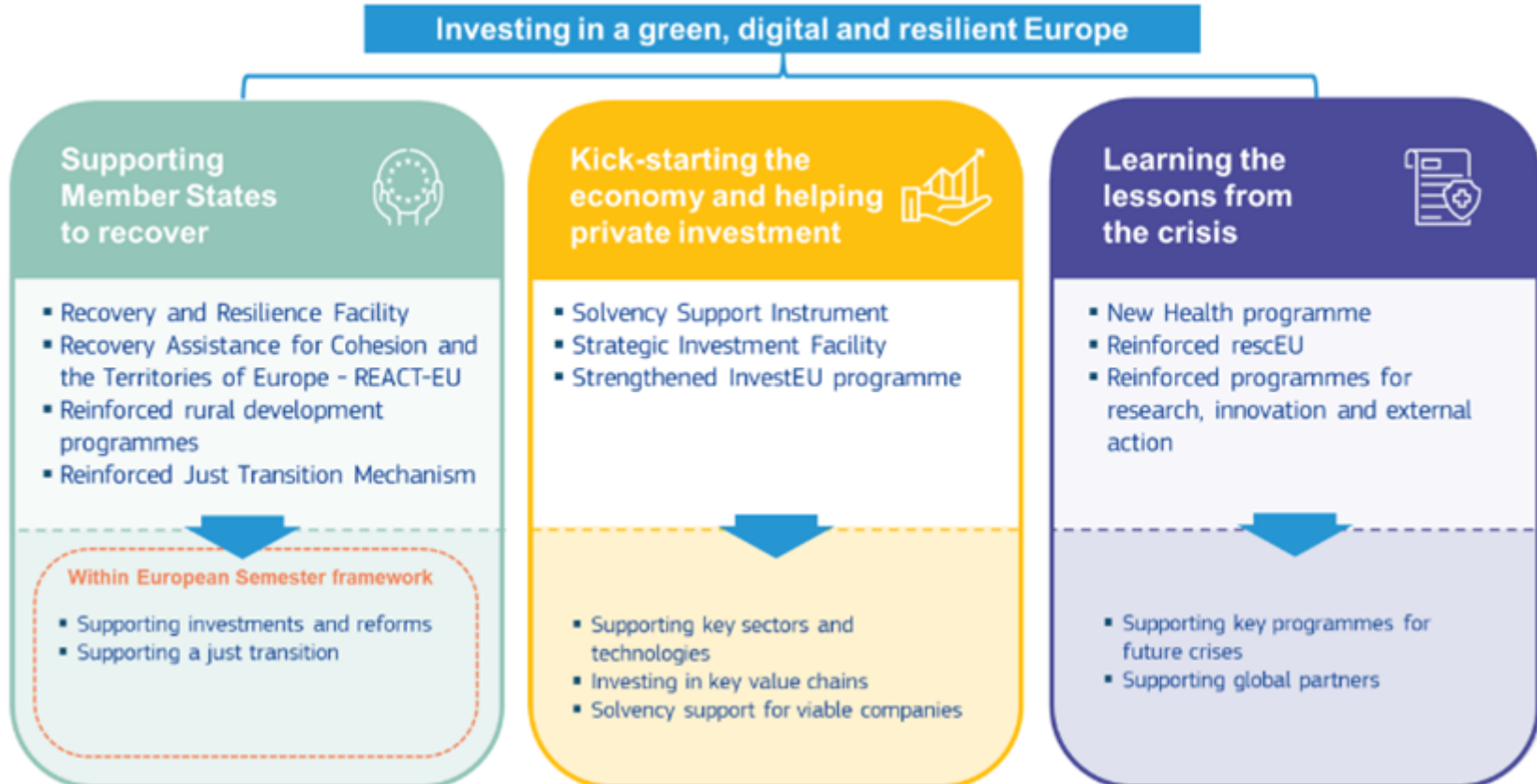
A EUROPEAN GREEN DEAL

3. Context and Situation Assessment



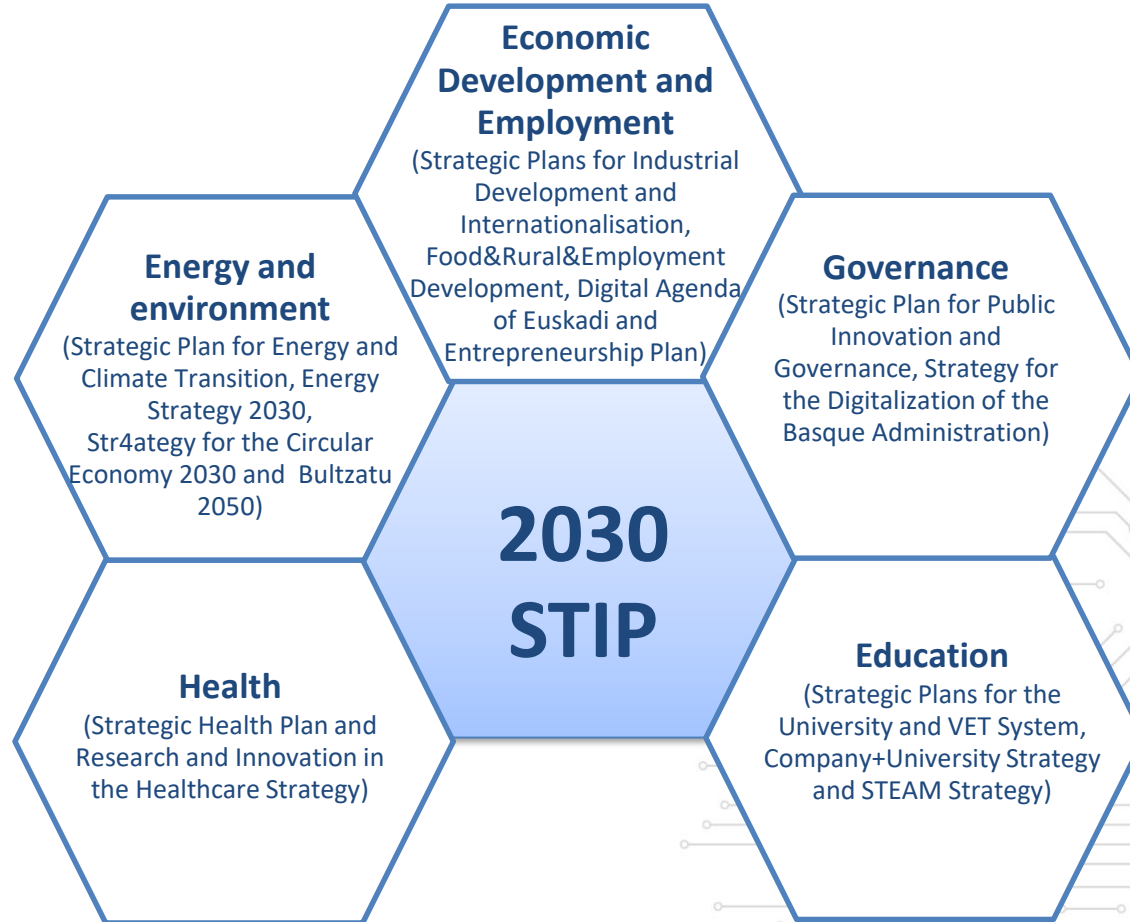
NEXT GENERATION EU

3. Context and Situation Assessment



OTHER RELATED POLICIES OF THE BASQUE GOVERNMENT

3. Context and Situation Assessment





STIP²⁰₃₀
RIS3 EUSKADI

4. Strategic Lines of 2030 STIP

- ✓ Vision 2030 and Social Challenges
- ✓ Strategic Pillars
- ✓ Operational Objectives

5. Fundamentals of Basque RIS3

- ✓ Evolution of RIS3 areas
- ✓ Cross-cutting Tractor-effect Initiatives
- ✓ Map of basic technologies

6. R&D&I support instruments



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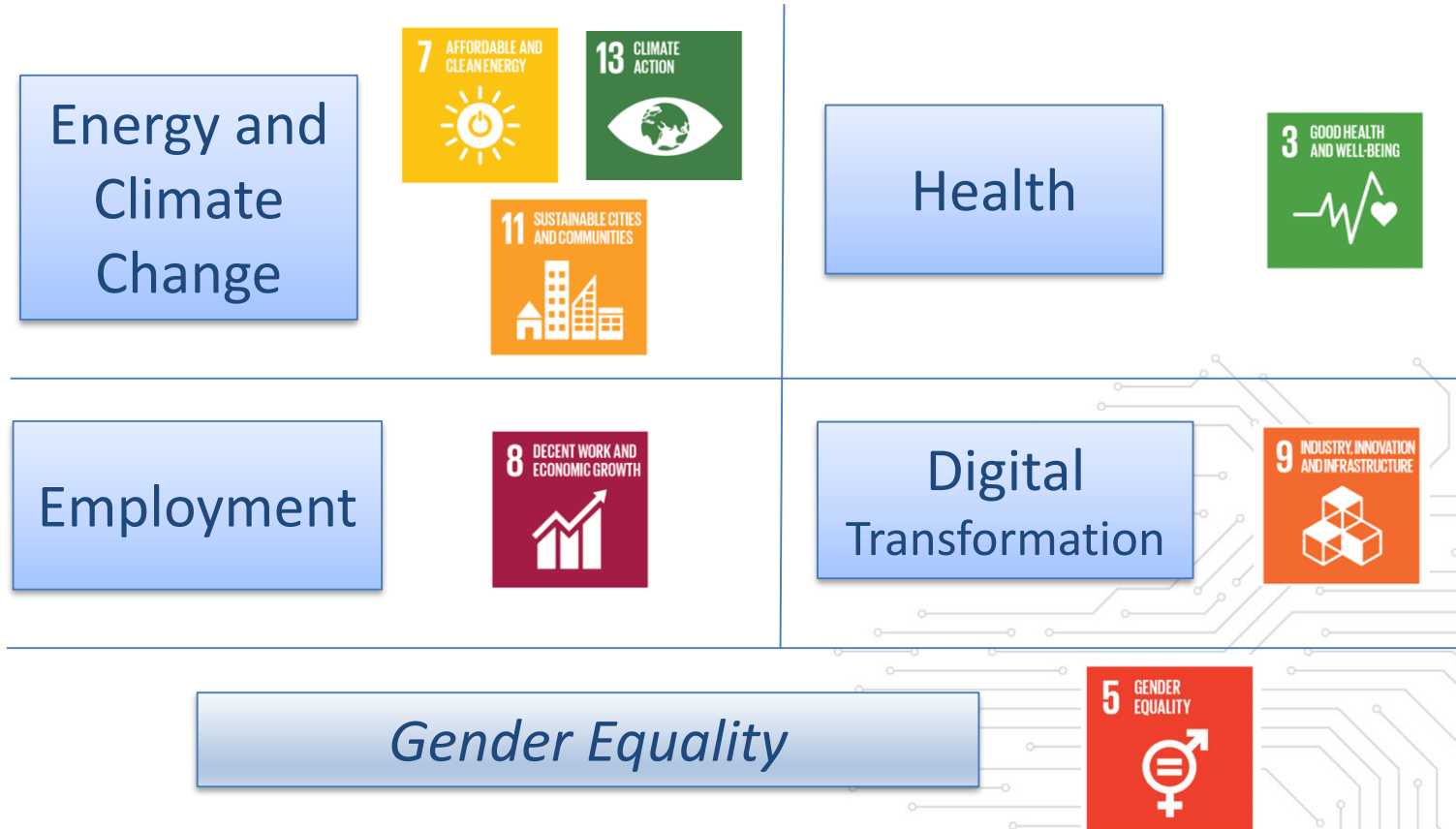
4. Strategic Lines of 2030 STIP



Euskadi stands among the most advanced regions of Europe in innovation by 2030, with a high standard of living and quality employment

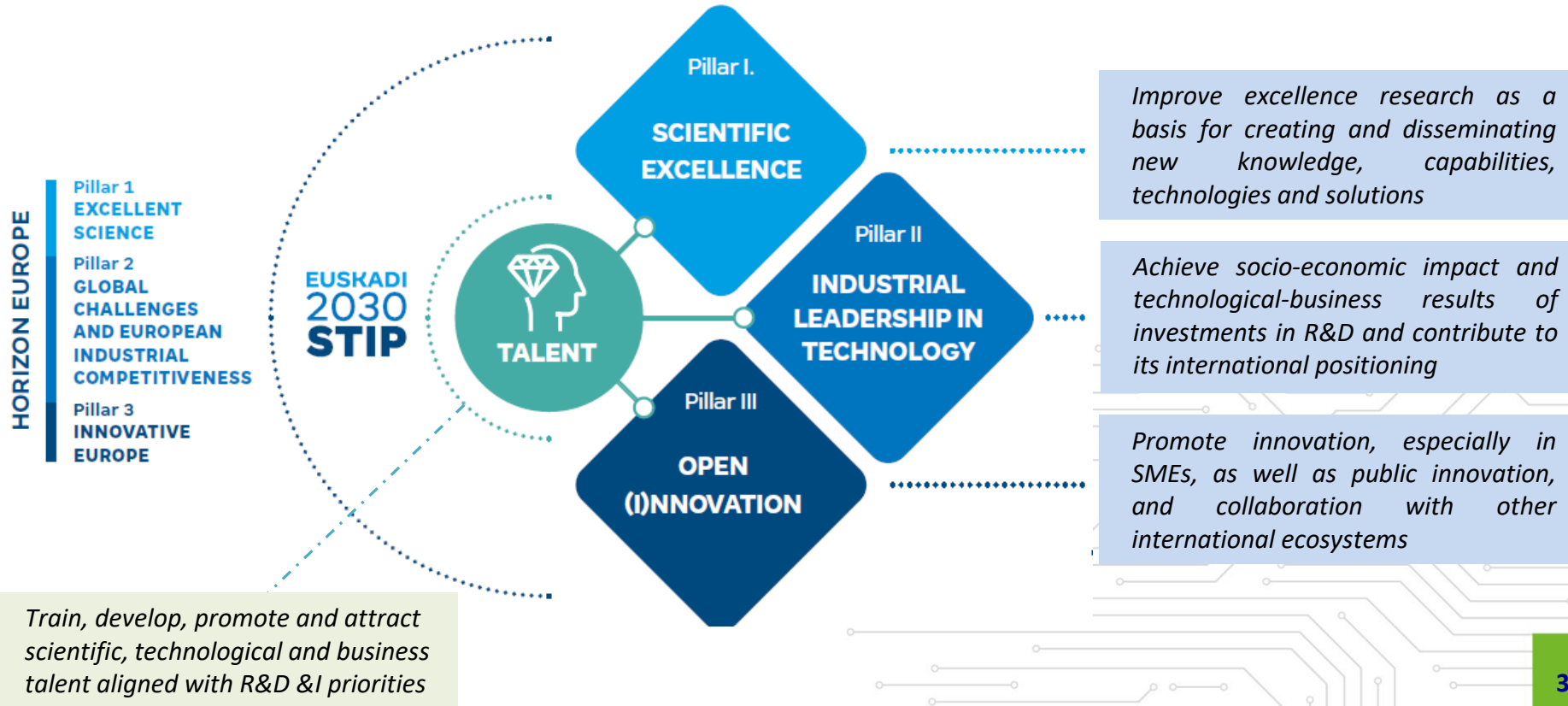
SOCIAL CHALLENGES

Contribution to solving 5 Social Challenges aligned with the SDGs



STRATEGIC PILLARS

3 Strategic Pillars + 1 Central Core



OPERATION OBJECTIVES (1)

4. Strategic Lines of the Plan

4 operational objectives , 8 measurement areas and 18 indicators

- STIP Dashboard -

Objectives7	Measurement areas	Indicator	Current status 2019	Goal 2023	Goal 2026	Goal 2030
1. Maximize the orientation of Basque R&D+i to results	Socioeconomic results	Knowledge intensive employment	17.7%	18.3%	18.6%	19.0%
	Scientific and technological results	Top 10% world most cited scientific publications	18.8%	20%	21%	22%
		High and medium-high technology product exports	55.3%	56%	57%	58%
	Results of innovation	Sales of new products as % of total sales	18.3%	19%	19.5%	20%
2. Drive R&D and innovation in companies, particularly in SMEs	Activities and resources for innovation	Investment in R&D	1,481M€	1,630M€	1,892M€	2,300M€
		Investment in R&D financed by companies	799M€	810M€	920M€	1,100M€
		Innovative companies in product and / or business processes	42.2%	50%	55%	60%
		Investments in innovation	0.68%	0.8%	0.9%	1.0%
	Protection of Innovation	EPO patent applications	194	220	240	260
		European trademark applications	465	600	700	800
		European design applications	125	155	185	225

OPERATION OBJECTIVES (2)

4. Strategic Lines of the Plan

4 operational objectives , 8 measurement areas and 18 indicators

- STIP Dashboard -

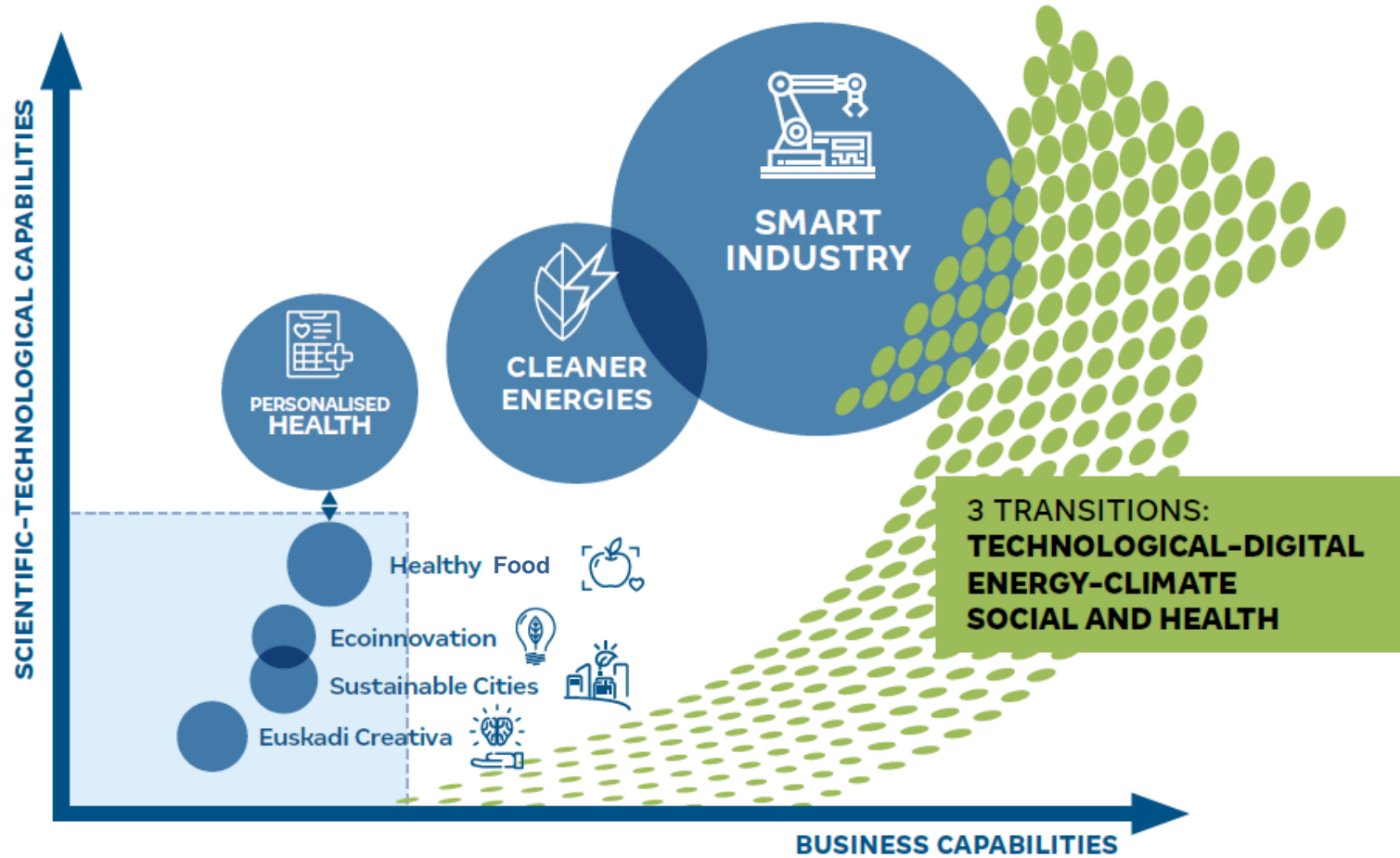
Objectives	Measurement areas	Indicator	Current status 2019	Goal 2023	Goal 2026	Goal 2030
3. Strengthen the internationalisation of Basque R&D+i	International leadership and competitiveness	International financing of R&D	128M€	145M€	170M€	200M€
		Leadership in Horizon Europe projects	27%	20%	20%	20%
		Basque companies participating in Horizon Europe	77	100	110	120
		International scientific co-publications	1,651	1,920	2,220	2,560
4. Promote scientific-technological talent, particularly women	Promotion of talent and new vocations	PhD researchers	30.9%	33%	34%	35%
		Access to STEM bachelor degrees	29.1% 2020	31%	33%	35%
	Gender equality and promoting women researchers and technologists	Women researchers	36.3%	37.5%	38.5%	40.0%

5. Fundamentals of Basque RIS3



EVOLUTION OF RIS3 AREAS

5. Fundamentals of Basque RIS3



Strategic priorities

Smart Industry

- ❑ Maintain and strengthen competitive advantages based on manufacturing technologies.
- ❑ Value the use of data, providing intelligence and value to customers
- ❑ Increase the value of products and services following patterns of Circular Economy.
- ❑ Face cultural transformation to take advantage of the opportunities related to digital technologies and sustainability.

Cleaner Energies:

- ❑ Turn the European Green Deal objective of zero GHG emissions into a growth strategy.
- ❑ Develop greater collaborative R&D activity in strategic areas and in basic core technologies.
- ❑ Drive digitization and the transition to new data-driven business models.

Personalised Health:

- ❑ Growth of the high-tech business fabric, intensive in R&D&I.
- ❑ Progress in the sustainability of the Health System
- ❑ Digital transformation of the healthcare system
- ❑ Large-scale data access and advanced analytics (Big Data and A.I.)
- ❑ More agile incorporation of high impact innovations

RIS3 – CHALLENGES FOR THE FUTURE

5. Fundamentals of Basque RIS3

Opportunity territories

Healthy Food

Short term:

- Safe, sustainable and healthy food ecosystems
- Personalized nutrition
- New foods for healthy aging
- New sources of dietary protein.

Medium term:

- New methods of production of proteins or other food ingredients
- Precision Nutrition focused on disease prevention.

Ecoinnovation:

- Diagnose the impact of the invested resources.
- Socialize European Challenges and business eco-innovation vectors.
- Contribute to improving the cost-effectiveness of eco-innovation.
- Reinforce the environmental results approach of eco-innovation.
- Activate SMEs towards Eco-innovation.
- Promote participation in EC initiatives and programs.
- Project the good work of the Basque Country on a European scale.

Sustainable Cities:

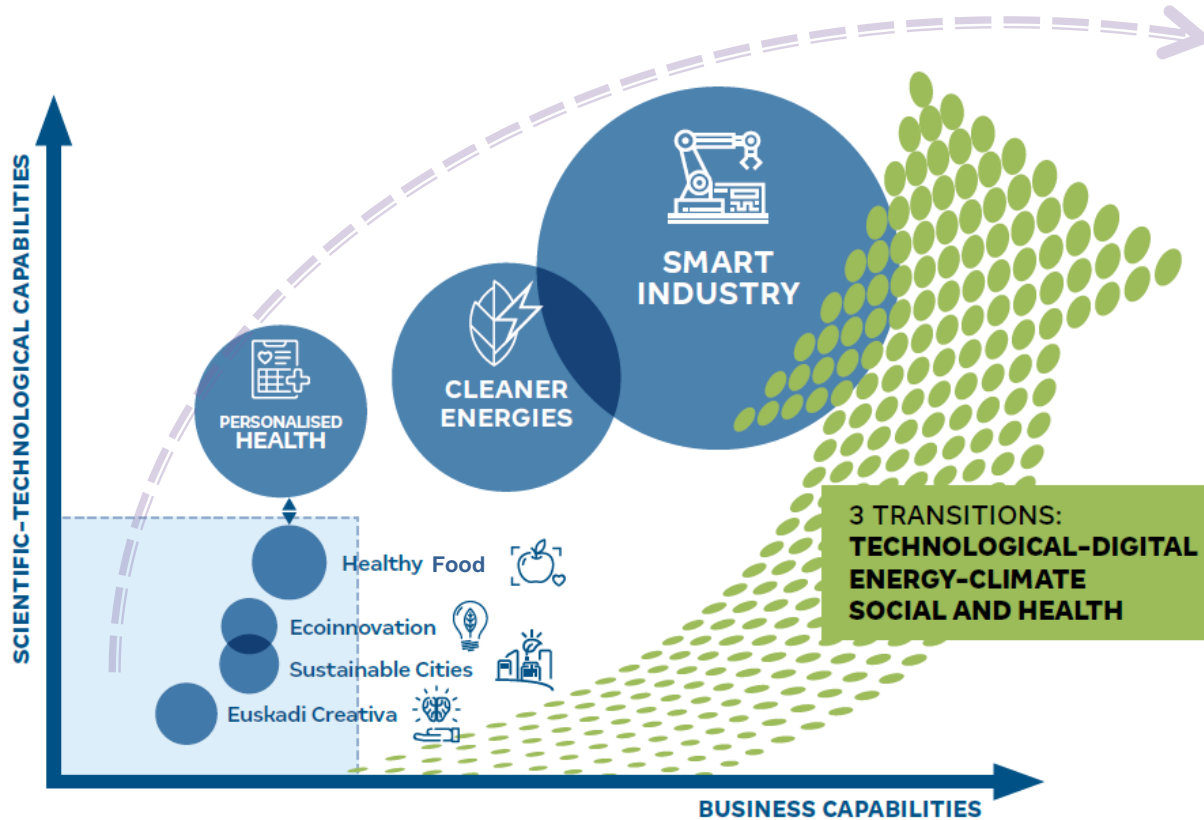
- Mobility, integration of photovoltaic solar collectors, increasing sensorisation and development of internet of things and circular economy.
- Integration of technological solutions in terms of digitisation and sustainability.
- Integrated and sustainable participatory planning and management of the city, incorporating health and equity.
- Promotion and development of disruptive innovative products and solutions within the cities.

Creative Euskadi :

- Conceptualise R&D and innovation in the sector.
- Promote its contribution to other sectors, as a non-technological innovation driver.
- Achieve a more competitive sector, in contact with the networks that operate in Europe in this area.
- Face the new forms of consumption of cultural content and its impact on its creation, production and distribution.
- Contribute from culture to social challenges: healthy aging, integration of disadvantaged groups, employment.

CROSS-CUTTING TRACTOR-EFFECT INITIATIVES

5. Fundamentals of Basque RIS3



Initiatives

Healthy Ageing

Electric mobility

Circular Economy

- ✓ They will enhance collaboration between RIS3 areas in strategic domains related to the 3 transitions, with results that can be visualized by society

MAP OF BASIC TRANSVERSAL TECHNOLOGIES

5. Fundamentals of Basque RIS3

Digital/virtual technologies

Artificial Intelligence & Big Data/Data Science

Algorithms for prediction or decision-making, Machine Learning, Data Analytics, Artificial Vision, Digital Twin.

The Internet of Things and 5G Technologies

IoT Connectivity, Digital platforms, Cloud computing.

Cybersecurity

Blockchain, Product Cybersecurity, Network Cybersecurity.

Cyber-physical Systems

Control Algorithms, Actuators, Embedded electronics, Sensors and Biosensors.

Physical, biological, chemical, materials... technologies

Materials and processes

Advanced and functional Materials, 3D Printing, Manufacturing processes, Robotics, Microelectronics.

Energy Storage

New technologies beyond Lithium-Ion, Hydrogen storage and power to gas, Hybrid systems.

Power Electronics

Biotechnologies and Genetics

Systems Biology, Biological Chemistry, Theranostics, Cell Therapies.

Nanotechnologies

Nanoelectronics, Nanophotonics, Spintronic, Nanobiotechnology

Quantum and Neutronic Technologies

Quantum clocks and synchronisation, Optical-quantum metrology, Simulation and design of materials and molecules in quantum computers, Neutron physics.

6. R&D&I support instruments



R&D&I INITIATIVES AND SUPPORT PROGRAMMES

6. R&D&I support instruments

1. TECHNOLOGICAL TRAINING AND PROMOTION OF BUSINESS R&D

2. SUPPORT FOR THE BUSINESS INNOVATION ECOSYSTEM

3. CONVERGENCE OF SKILLS AND PROMOTION OF COOPERATIVE R&D

4. GENERATION OF SCIENTIFIC AND TECHNOLOGICAL SKILLS

5. MANAGEMENT OF SCIENTIFIC, TECHNOLOGICAL AND BUSINESS TALENT

6. OPENING UP AND INTERNATIONALISATION OF THE R&D&I SYSTEM

Current Basque Government support programs (transversal programs, sectoral programs, basic financing programs and others)

Other support instruments (knowledge and technology infrastructures, support platforms and services, scientific infrastructures and other services)

Current Support Programs of the Provincial Councils: Araba (APC), Bizkaia (BPC) and Gipuzkoa (GPC)

Strategic orientations for the future

7. Governance of the Basque Science, Technology and Innovation System

- ✓ Model of Governance
- ✓ Monitoring and evaluation

8. Economic fundamentals of 2030 STIP

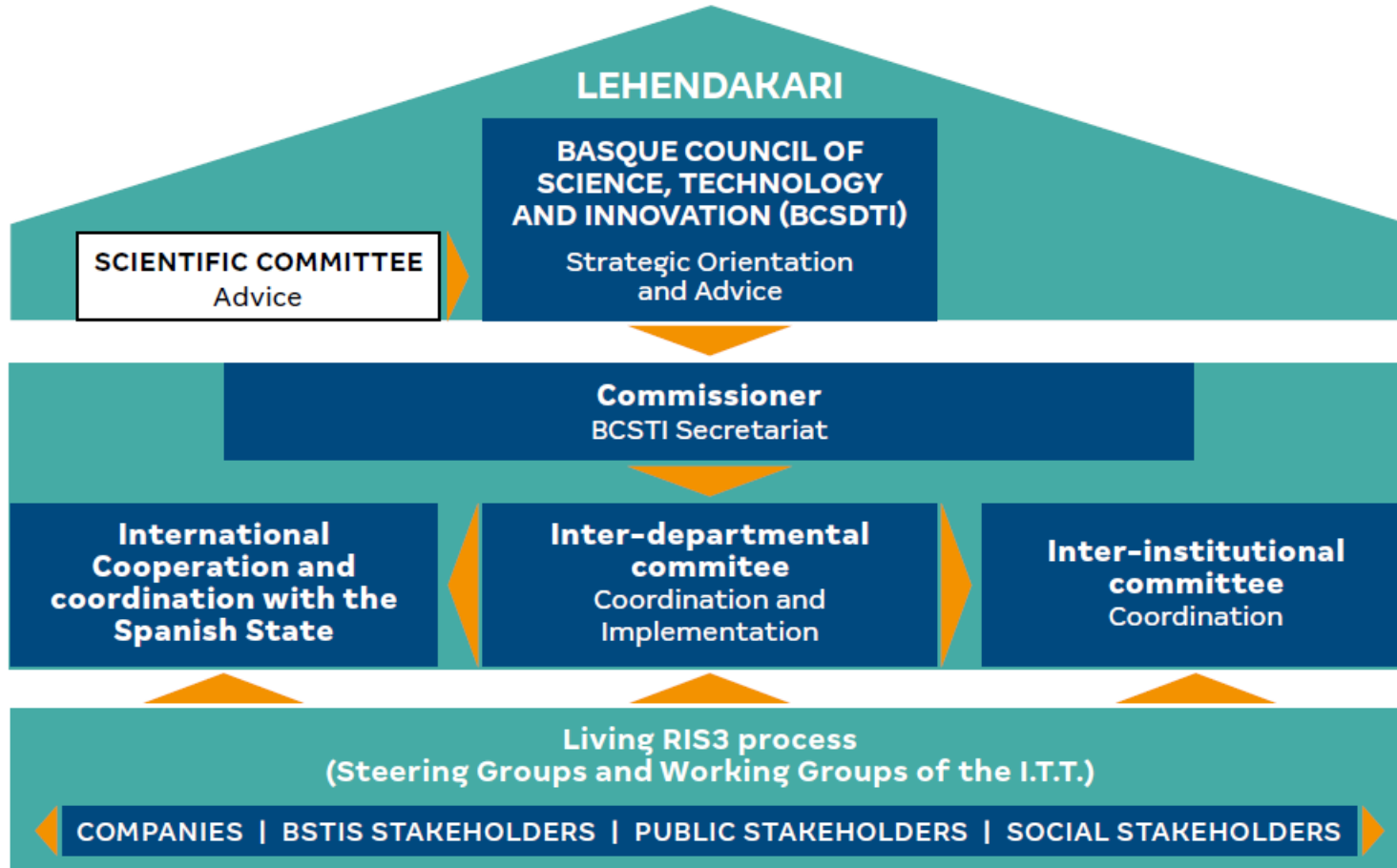
- ✓ Economic scenarios

7. Governance of the Basque STI System

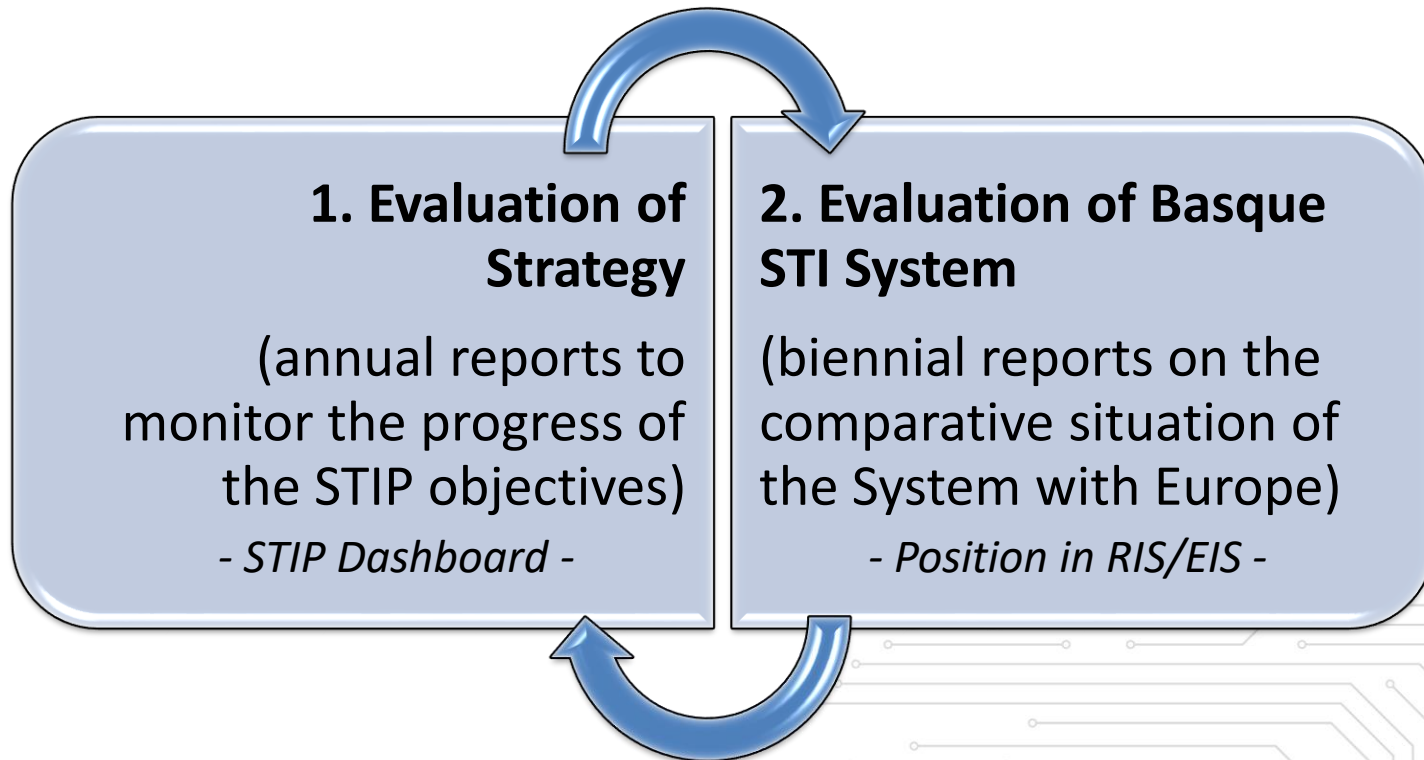


MODEL OF GOVERNANCE

7. Governance of the Basque STI System



A comprehensive monitoring and evaluation system



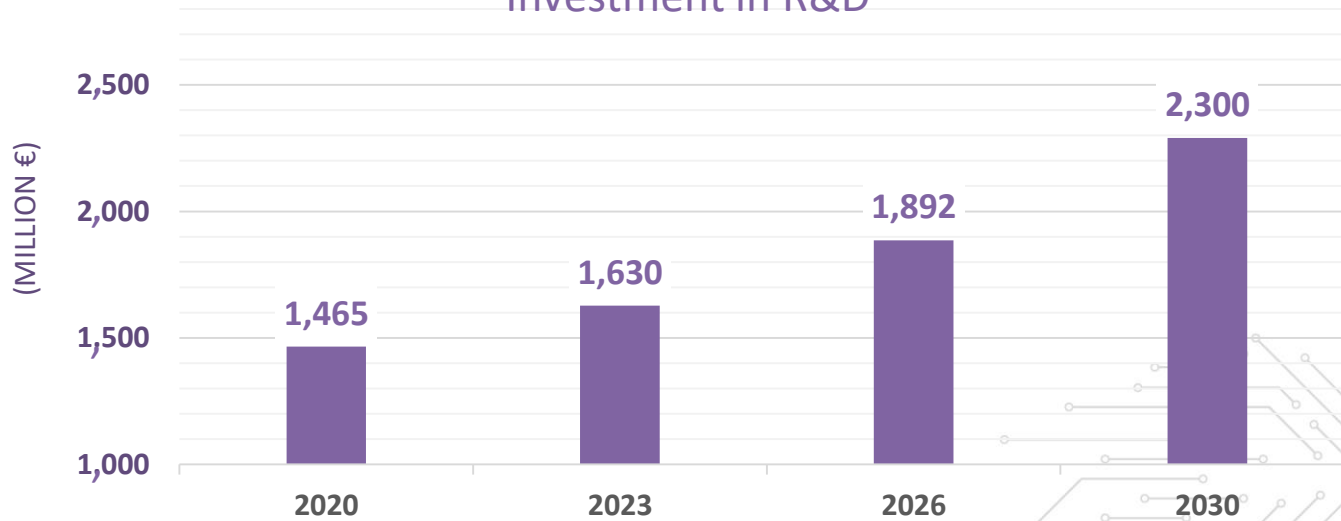
8. Economic fundamentals of 2030 STIP



ECONOMIC SCENARIOS

8. Economic fundamentals of 2030 STIP

Scenario 2021 – 2030 (2020 baseline year):
Investment in R&D

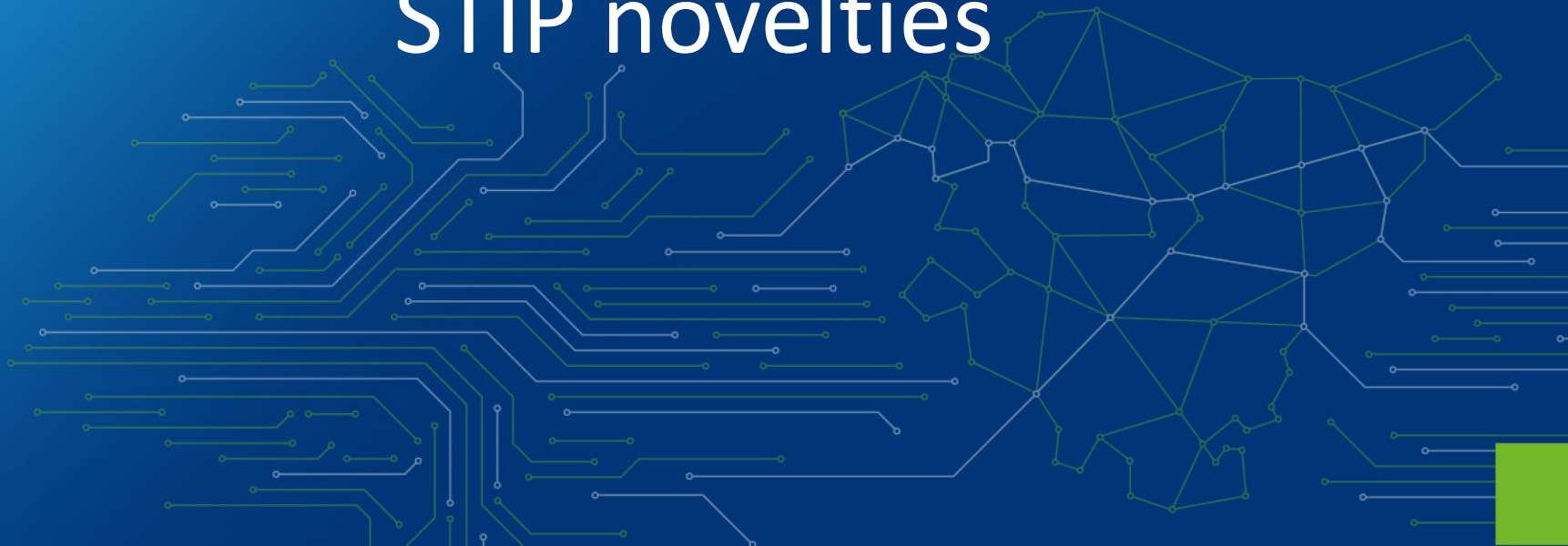


Growth rates: 2021-2023 / 2024-2026 / 2027-2030

Basque Government budget:	+6.0%	/	+6.0%	/	+6.0%
Business investments:	+2.2%	/	+4.4%	/	+4.6%
International financing:	+2.5%	/	+5.5%	/	+4.6%
Province Councils budget:	+1.0%	/	+2.3%	/	+3.0%
Gen. State Administration budget:	+5.6%	/	+5.6%	/	+4.8%

Euskadi 2030

STIP novelties



EUSKADI 2030 STIP NOVELTIES

1. **Finalist vision** of the Plan.
2. **Deepening inter-institutional collaboration** and coordination based on a shared commitment to innovation.
3. **Higher level of coordination with departmental policies** within the framework of a global Government strategy towards 2030.
4. **Realization of 5 Social Challenges related to the 2030 SDGs** to which the STIP must contribute to their resolution.
5. **New strategic pillars** (Scientific Excellence, Technological-Industrial Leadership and Open (i)nnovation) **aligned with Horizon Europe + Talent as the necessary core.**
6. **Greater alignment** of operational objectives and indicators **with international innovation benchmarks (R.I.S. and E.I.S.)**
7. **Evolution of RIS3 Euskadi strategy** incorporating the triple technological-digital, energy-climatic and social and health transition and ICT and advance service companies.
8. **Launch of 3 Cross-cutting Tractor-effect Initiatives between RIS3 areas**, in strategic areas for the Basque Country and with social impact.
9. **Identification and deployment of the key enabling technologies map.**
10. **Reinforcement of the strategic commitment of the Basque Government with R+D+i** (+ 6% of annual budget).



EUSKO JAURLARITZA
GOBIERNO VASCO



STIP²⁰₃₀
RIS3EUSKADI

Talentua garatuz, auzolana

