



R&D&I Observatory: **RIS3 monitoring for Smart Specialisation**

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Fondo Europeo de
Desarrollo Regional
"Una manera de hacer Europa"

JUNTA DE EXTREMADURA

Consejería de Economía, Ciencia y Agenda Digital



Extremadura region



Cohesion criteria:

Less-developed region

Regional Innovation Scoreboard:

(source: [European Commission](#))

↑ Emerging Innovator +

European Regional Competitiveness Index

(source: [European Commission](#))

- Stage of development: Low + (2/5)
- Rank: 241/268

2019

Eurostat R&D indicators
Last year available

Total R&D (GERD)
139.00M

GERD as % of GDP
0.68

Business R&D (BERD)
32.00M

BERD as % of GDP
0.16

Government R&D (GOVRD)
29.00M

GOVRD as % of GDP
0.14

EU CONTRIBUTION - SELECTED PROJECTS OR OPERATIONS (CUMULATIVE UNTIL 2021)

European Structural and Investment
Funds (ESIF) (2014 - 2020)

Cumulative ESIF R&D*
285.50M

Average Annual ESIF R&D*
40.79M

Cum. ESIF R&D per capita*
269.52

Horizon 2020
(2014 - 2020)

Cumulative EU H2020*
14.40M

Average Annual EU H2020*
2.06M

Cum. EU H2020 per capita*
13.59

TEDv comparison indicators for Extremadura

% Total R&D expenditure
29.34

(Average contribution of
ESIF-T01 for total R&D)

% Total R&D expenditure
1.48

(Average contribution of
H2020 for total R&D)

Extremadura region



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H2020 networking analysis (2014-20)

These indicators capture the importance of a territory in a network

Degree of centrality

It measures the number of partnered regions and could be a proxy to measure “popularity”

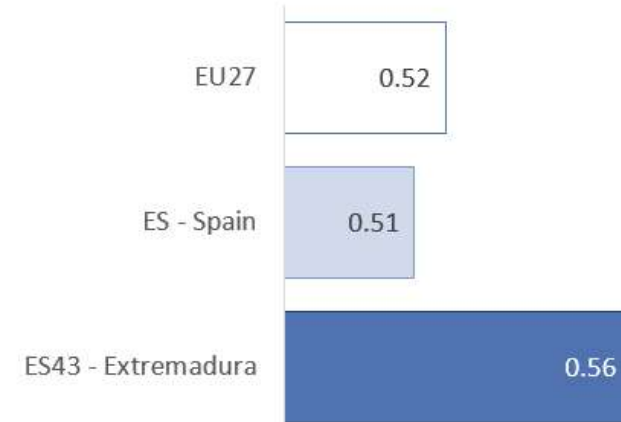
Closeness of centrality

It reflects how “close” a region is to the others in the network or how fast it can reach any other region in the network

H2020 projects per capita

Number of H2020 projects a region is involved per 1,000 inhabitants

EU27	0.28
ES - Spain	0.35
ES43 - Extremadura	0.08



Source: [Territorial Economic Data viewer \(TEDv\)](#) (forthcoming)

Extremadura region



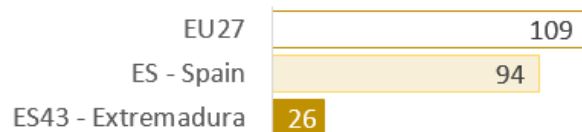
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Socio-economic indicators

These indicators show the position of the region face to country and EU average

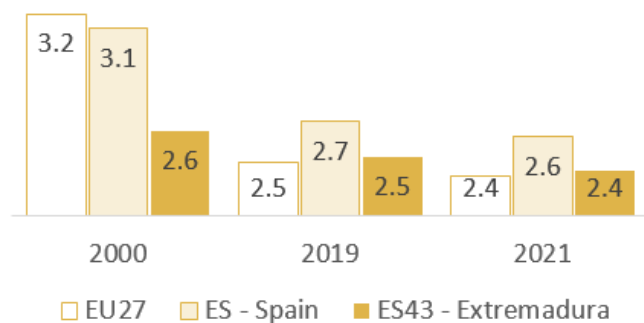
Population density

Number of persons per square kilometre



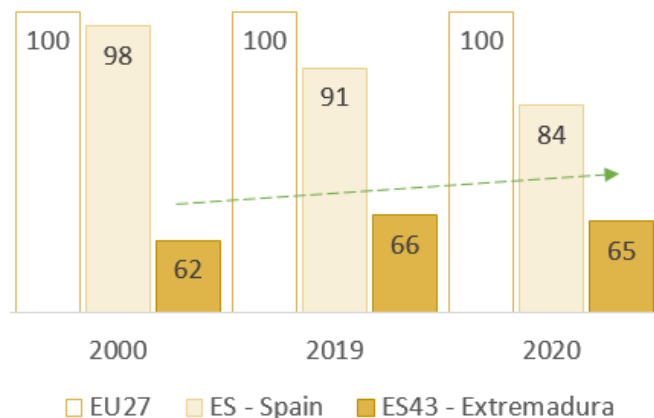
Old-age dependency ratio

Number of adults in working age (20-64) for every person aged 65 years or more



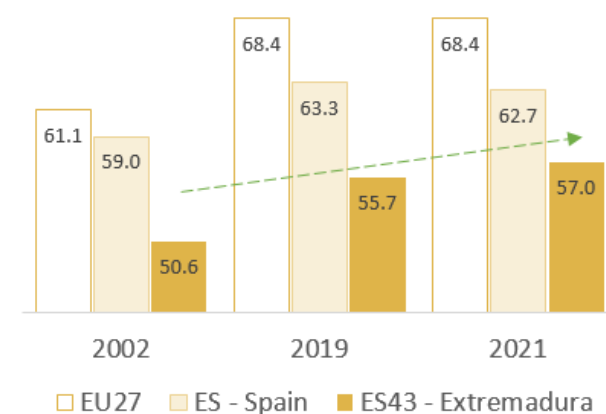
GDP per capita (relative position)

Gross domestic product per inhabitant expressed in relative term face to EU27 (=100)



Employment rate

Percentage of employed persons over total population in working-age



Source: [Territorial Economic Data viewer \(TEDv\)](#) (forthcoming)

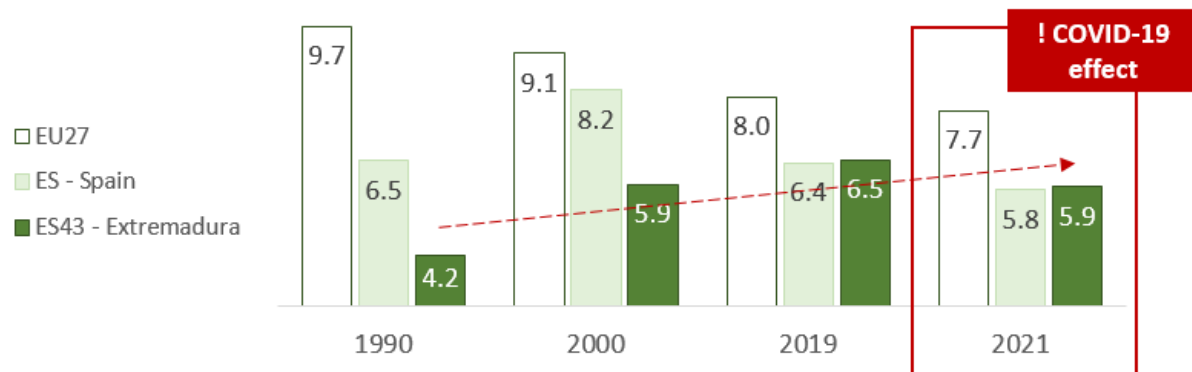
Extremadura region



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Evolution of CO2 emission intensity [1]

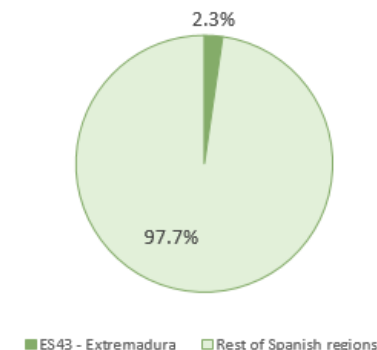
Values refer to CO2 emissions per capita expressed in tonnes



Evolution of CO2 emissions (Kg tonnes) in Extremadura (ES43) [1]



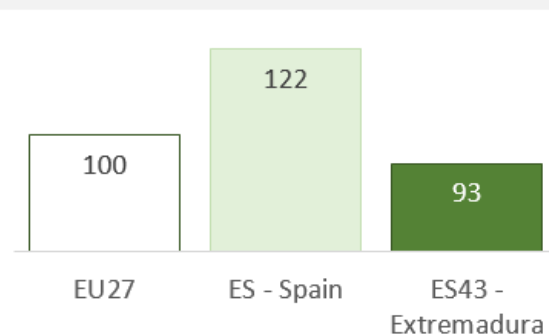
Contribution of Extremadura (ES43) to total CO2 emissions in Spain, 2021 [1]



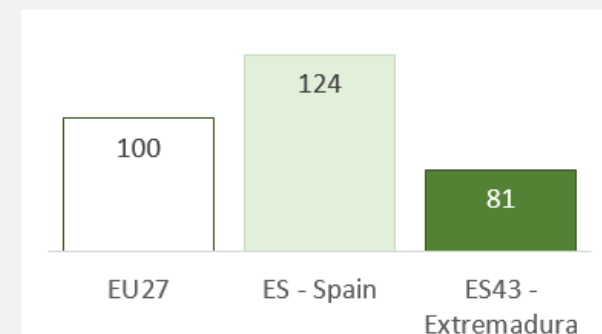
Concentration index of R&I funds in climate change projects (2014-20) [2]

The index measures concentration, where EU27 = 100 and for the other territories it expresses their specialisation patterns (= share of funds in climate change projects in a territory over the average of this share in the EU27 x 100). Values higher than 100 indicates a concentration face EU reference

ERDF – TO1 (R&I): 2014-20 (EU funds)



H2020: 2014-20 (Net EU contribution)



RIS3 Context

Ex-ante condition set by the European Commission for access to the Structural Funds for R&D&I, to ensure a more efficient use of public funds by concentrating resources on a limited number of **key sectors**.



Monitoring & Evaluation System

- Guarantee the transparency and proper implementation of the RIS3 strategy through the **participatory engagement** of the regional **R&D actors**.
- Allow **monitoring and evaluating** the effectiveness of the actions developed and inform potential amendments to the existing and future policies.

OUTPUT INDICATORS

Source: Implementing body

- Number of R&D projects financed
- Number of participants training activities
- Etc.

CONTEXT & RESULT INDICATORS

Source: Official statistical data

- R&D expenditure as a percentage of GDP
- Employment rate
- Etc.

SOCIO-ECONOMIC
ANALYSIS

THEMATIC WORKING
GROUPS



ELEMENTS OF THE SYSTEM

Problems encountered

- Lack of granular data on R&D activities and results, with sufficient detail and frequency of updating.
- Difficulty in classifying R&D activities and results into S3 priorities or identifying its alignment with the societal challenges.
- Partial and segmented view, due to lack of integrated data about the existing R&D financial instruments.

Main analytical and policy questions

What R&D activities and results are being produced in the region?

In which priorities and technologies are they contributing? Are they aligned with the regional challenges?

With whom is collaboration taking place? How is collaboration established?

What is the effect of public funding on the ecosystem?

**Potential
solution**

Design and implement a platform which allows to map the R&D activity and collaboration in Extremadura in the context of S3



Proposed solution: RIS3 Monitoring System

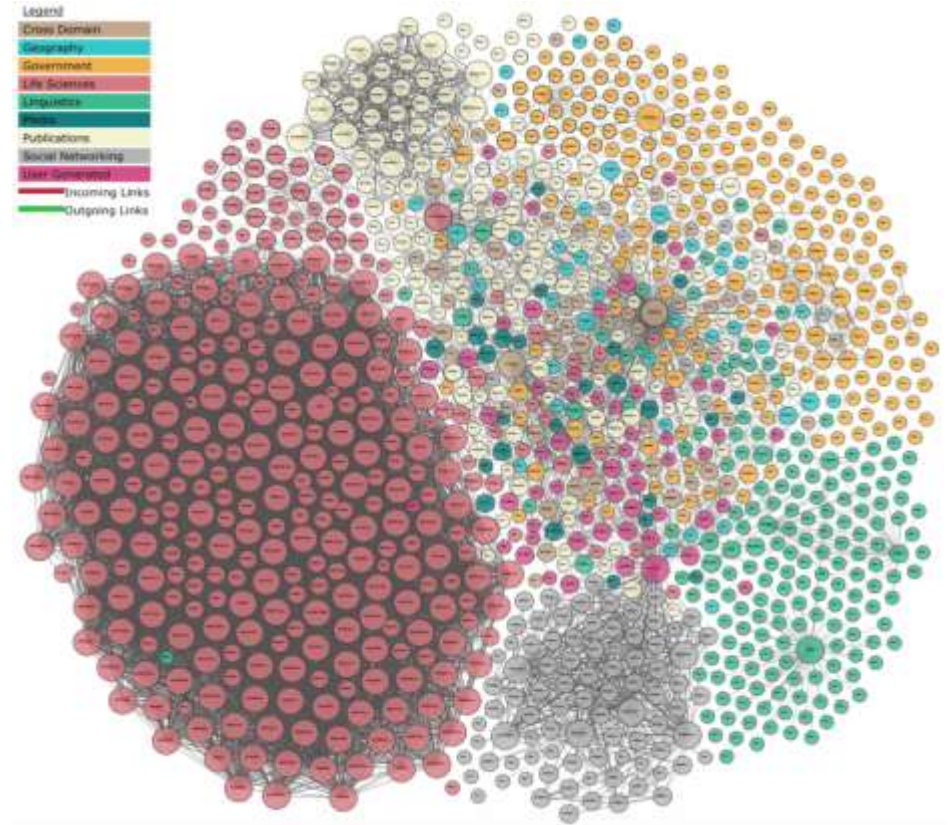
RIS3 Monitoring System is a data integration, exploration and analysis platform.

Its main objective is to provide evidences on the smart specialisation process in order to **facilitate its analysis** and **inform the decisions** of policy-makers and those responsible for its implementation.

Linked Open Data



Disconnected data silos



Integrated knowledge management system

RIS3 Monitoring System

Sources
of data

Internal (Regional Government):

- Scientific research projects
- Business R&D projects
- Pre- and Post-doctoral contracts
- Collaborative R&D projects

External:

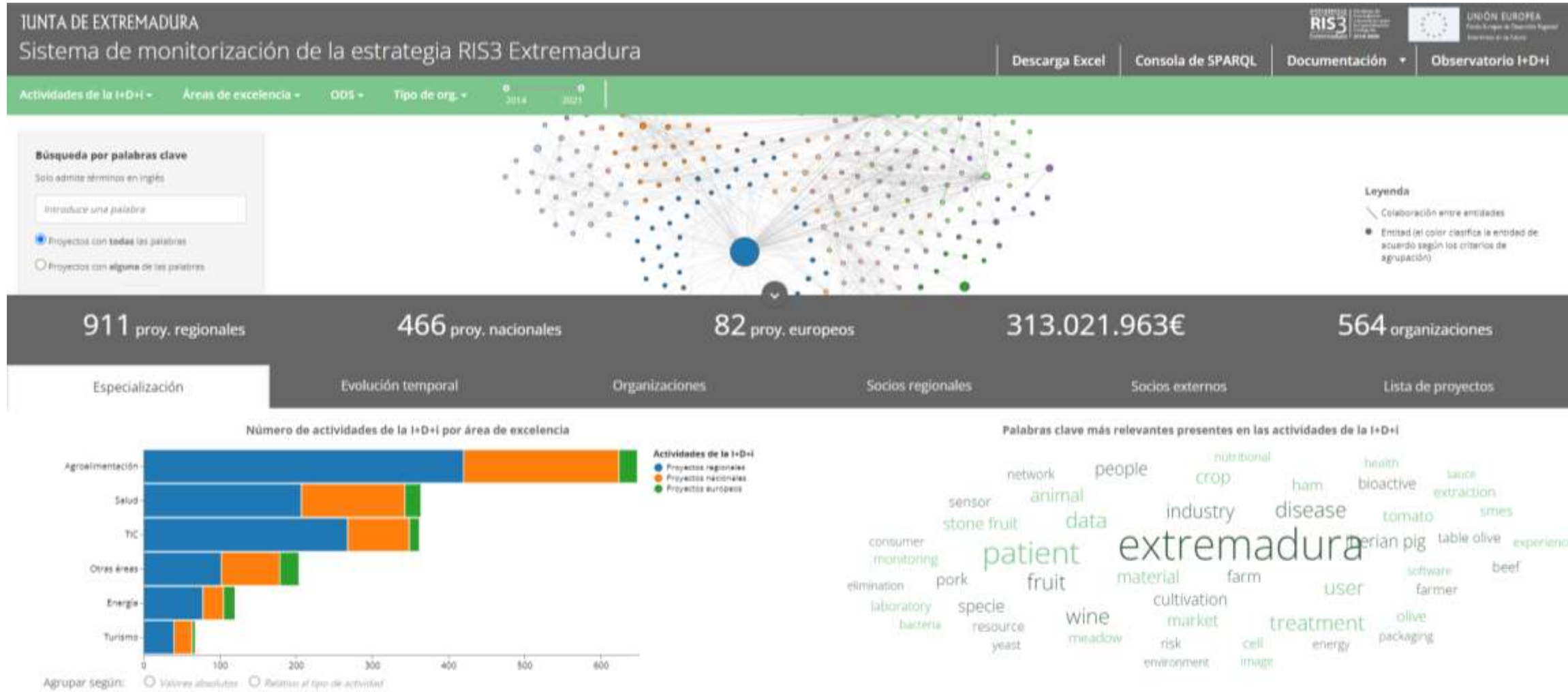
- Horizon 2020
- Interreg Spain-Portugal (Axis 1)
- National projects
 - State Research Agency
 - Health R&I projects (Carlos III)
 - Technological Development (CDTI)

INTEGRATION

Explore, analyse and better understand the regional R&D&I activities, its actors and the evolution of regional specialisation.

To be better prepared for the next period 2021-2027, facilitating decision-making in the design of R&D&I policies.

RIS3 Monitoring System (live demo)

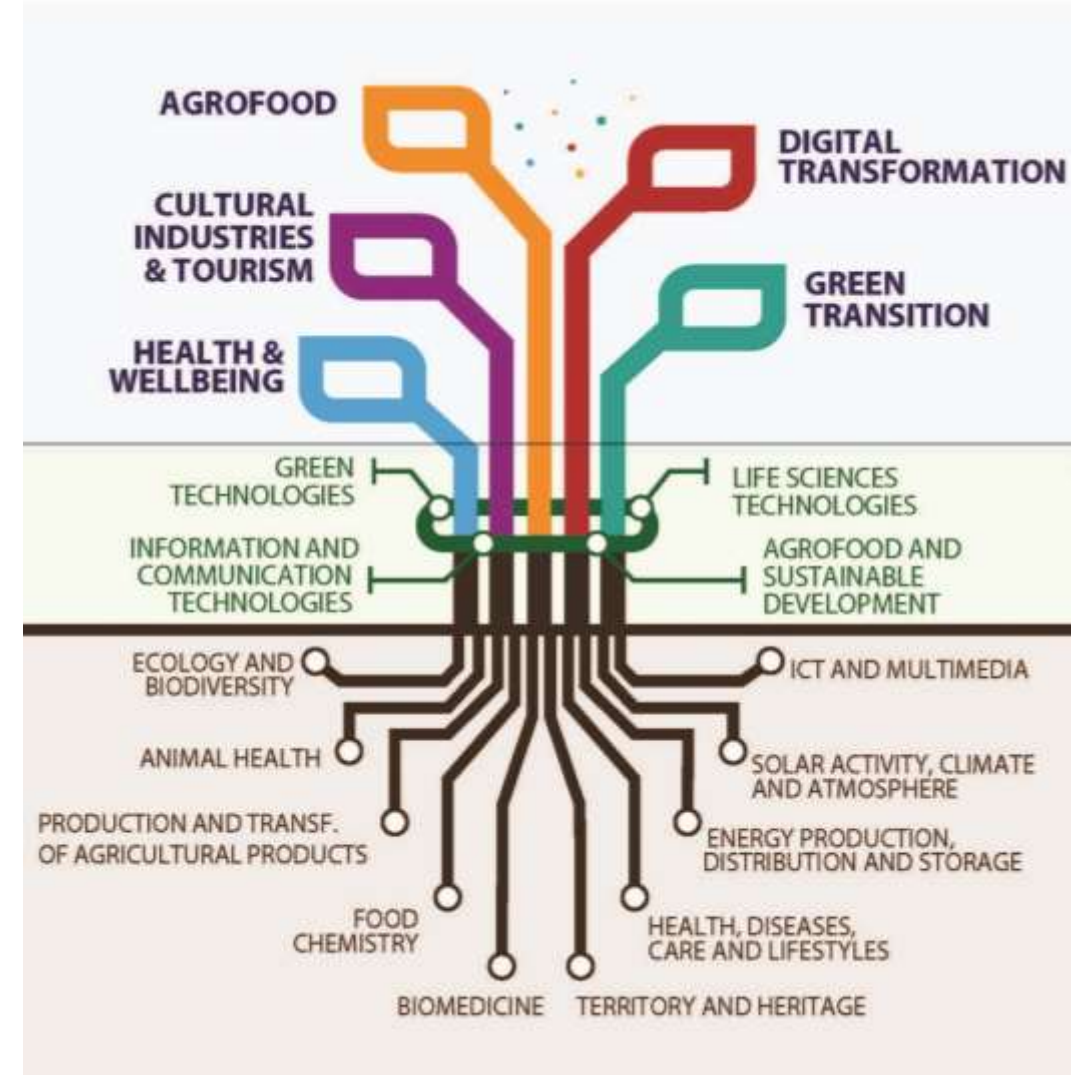


<http://observatorio.ris3extremadura.es/>

Challenges for 2021-2027 period

Horizon Europe

THE NEXT EU RESEARCH & INNOVATION PROGRAMME (2021-2027)



Updated Monitoring System (live demo)



SISTEMA DE MONITORIZACIÓN DE LA ESTRATEGIA RIS3 EXTREMADURA

JUNTA DE EXTREMADURA



Descarga Excel

Consola de SPARQL

Documentación

Observatorio I+D+i

Actividades de la I+D+i

Áreas de excelencia

ODS

Tipo de org.

2014 2022

Búsqueda por palabras clave

Introduce una palabra

Proyectos con todas las palabras

Proyectos con alguna de las palabras

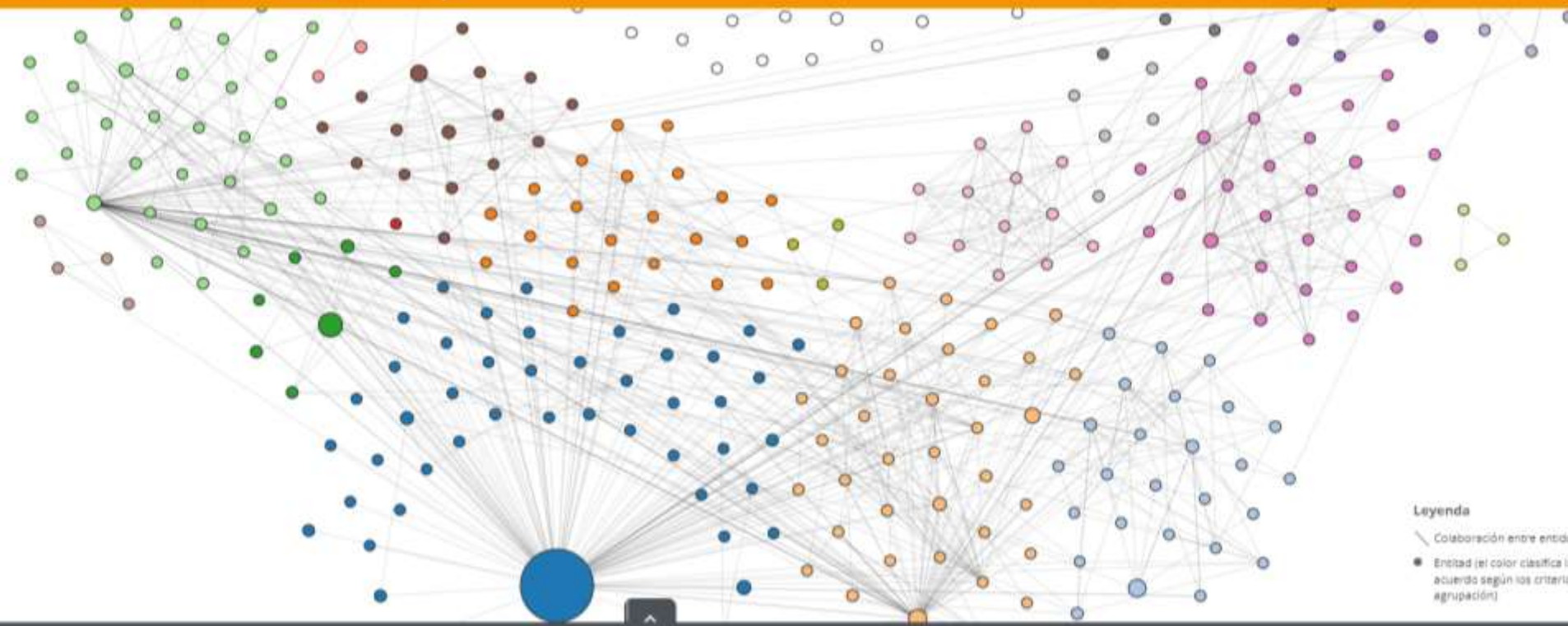
Selecciona una entidad

Selecciona una entidad

Criterio de agrupación de entidades

Alta colaboración

Fecha de actualización: Octubre 2022 (Proyectos regionales), Noviembre 2021 (Proyectos nacionales), Septiembre 2021 (I+D+i)



Legenda

- Colaboración entre entidades
- Entidad (el color clasifica la entidad de acuerdo según los criterios de agrupación)

997 proy. regionales

466 proy. nacionales

82 proy. europeos

327.649.111 €

626 organizaciones

Especialización

Evolución temporal

Organizaciones

Socios regionales

Socios externos

Lista de proyectos



What's next?

- How to better involved civil society in the monitoring an evaluation system?
- How to make a better use/exploitation of the monitoring tool? Better communication?
- Beyond the monitoring tool, how to assess the real effect of public funding on the ecosystem?



Thank you!

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