Embedding sustainability and the SDGs in Smart Specialisation

Conceptual framework and lessons from policy practice

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This presentation

- Introduction: Smart Specialisation for the SDGs
- Lessons from literature
- Lessons from policy practice
- Conclusions

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Source: Miedzinski et al. 2021

Smart Specialisation for the SDGs

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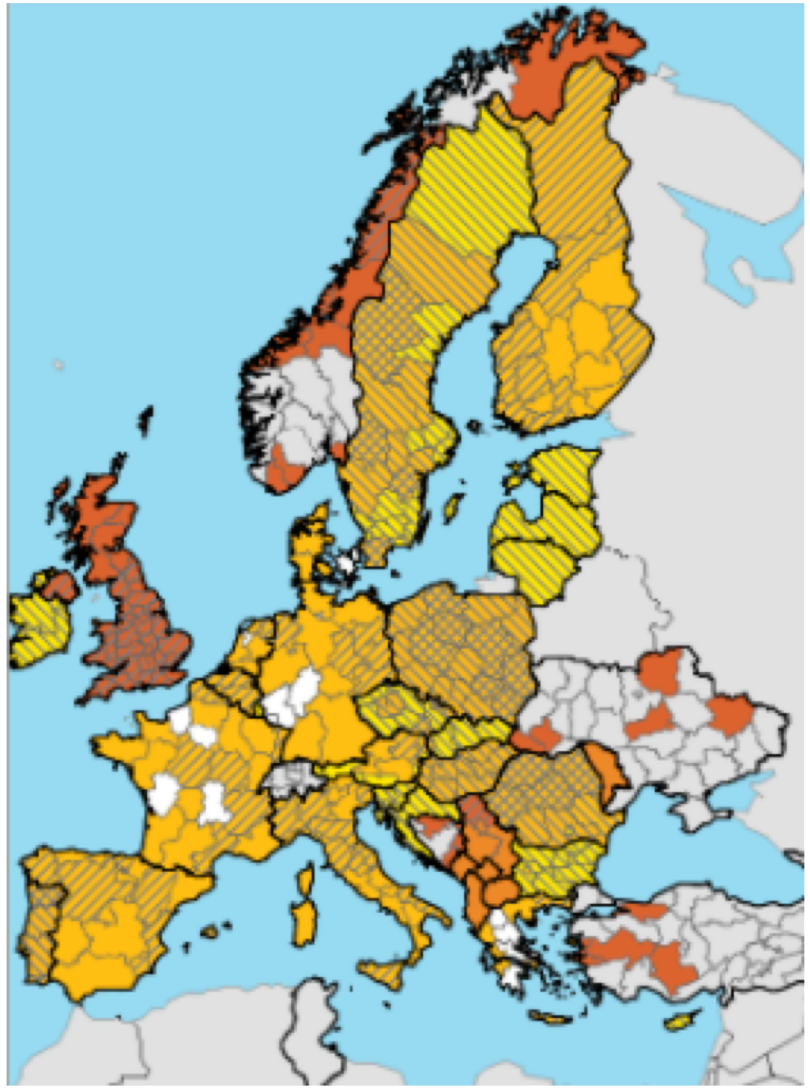
Smart Specialisation

Smart Specialisation (S3) is a place-based approach to fostering innovation for economic transformation. It is based on several principles:

- Prioritisation based on local assets
- Entrepreneurial Discovery Process (EDP)
- Structural transformation
- Territorial competitive advantage
- Connectivity and clusters
- Collaborative leadership

S3 is inspired by evolutionary economics and evolutionary approaches to industrial and innovation policy. Since the early 2000s it has become a key framework for regional innovation strategies and operational programmes of EU Cohesion Policy.



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Can Smart Specialisation help tackle the SDGs?

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Source: United Nations

Welcome to Planet Earth
Credit: Apollo 17 Crew, NASA

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Palermo
Source: Photo by Michal Miedzinski

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Towards the S3 for SDGs approach

- **Aim:** reflect and make concrete suggestions on how Smart Specialisation can help territories in Europe and beyond address sustainability challenges and contribute to the policy agendas of the European Green Deal and the UN 2030 Agenda for Sustainable Development.
- **Approach:** comprehensive literature review and interviews with selected regions and countries in the EU and beyond to understand different perspectives and experiences of integrating sustainability-related aspects and goals in S3.

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Source: Miedzinski et al. 2021

Challenges for aligning S3 with sustainability goals

Political challenges

- Economic growth and territorial competitiveness dominate political and policy agendas, often at the expense of a more decisive action for sustainability goals
- Few positive (or negative) policy incentives to align S3 with the SDGs

Conceptual challenges

- Tensions between the key principles of the Agenda 2030 and the SDGs and the goals underlying the current S3 framework
- Extending the S3 framework to embrace challenges of a whole-system transition and to consider synergies and trade-offs between multiple goa

Implementation challenges

- Implementation bottlenecks in institutionally and structurally weaker regions
- Limited evidence of impact of S3 on structural change
- Communication and “translation” issues with the S3 concept

Lessons from literature

Drawing lessons for S3 from research on sustainability transitions

We focused on three research fields:

- Sociotechnical transitions
- Socio-ecological resilience
- Challenge-led innovation policy.

We conducted a comprehensive review and focused reflection on concrete lessons these areas of research offer for revising the S3 framework and process to better align it with the SDGs and the transformative ambition of the 2030 Agenda.

Perspectives	**Core concepts**	**Examples of papers combining place-based innovation, transition and sustainability**
Sociotechnical transitions	Sociotechnical system Multi-level perspective (MLP) Transition pathways Experimentation	Truffer and Coenen (2012) Coenen et al. (2012) Wieczorek et al. (2015) Hansen and Coenen (2015) Kivimaa et al. (2017) Sengers et al. (2019) Veldhuizen (2020) Binz et al. (2020)
Social-ecological resilience	Social-ecological system Transformational resilience Social learning	Eriksen et al. (2011) Brown (2014) Biggs et al. (2012, 2015) Colvin et al. (2014) Wamsler et al. (2014) Elmqvist et al. (2019) Bevilacqua et al. (2020) Castro-Arce and Vanclay (2020)
Challenge-led innovation policy	Transformational failures Transformative innovation policy Mission-oriented innovation policy Responsible research and innovation Policy mix for sustainability transitions	Weber and Rohracher (2012) Foray (2018) Tödtling and Trippl (2018) Magro and Wilson (2019) Fitjar et al. (2019) Uyarra et al. (2019) Thapa et al. (2019) Wanzenböck and Frenken (2020) Panciroli et al. (2020)

Drawing lessons for S3 from research on sustainability transitions (2)

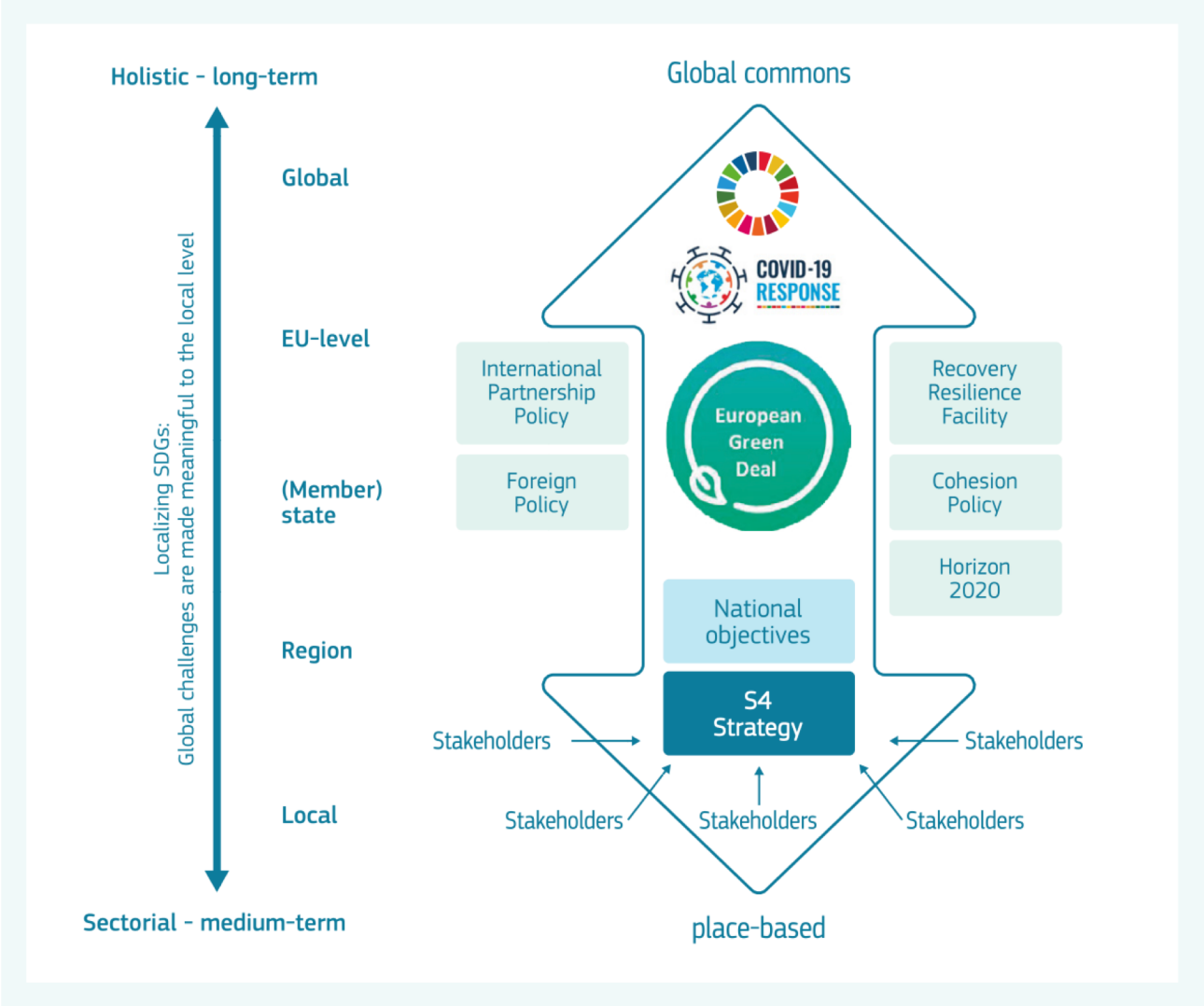
Example: Insights from the literature for the S3 governance

Limitations of the S3 model	Insights from sociotechnical transitions	Insights from social-ecological resilience	Insights from challenge-led innovation policy
Limited inclusion of civil society and vulnerable groups Insufficient arrangements for the continuous discovery, experimentation and learning Insufficient interregional coordination to address sustainability challenges	Ensure inclusivity of the process Reflect on the roles, interests and expectations of incumbent and niche actors in S3 governance (e.g., to anticipate and manage capture of the process by incumbents)	Ensure inclusivity of the process, especially to include previously excluded or underrepresented groups Engage local actors to develop shared ownership of S3 and localise the SDGs	Facilitate challenge-oriented or mission-led collaboration for transformative innovation and the SDGs Inclusive governance, ensuring the participation of civil society and citizens

Principles of S3 for the SDGs

Shared direction towards the SDGs	• SDGs as an overarching strategic framework of Smart Specialisation giving a shared direction and the sense of urgency to the discovery process and the selection of S3 priorities
Whole-system transformation towards sustainability	• Foster innovations contributing to wider sociotechnical and social-ecological transitions needed to accomplish the SDGs • Embrace complex, multi-actor, multi-scalar and often uncertain nature of sustainability transitions
Responsibility and reflexivity	• SDGs as a compass helping S3 to navigate difficult ethical and moral choices while considering short- and long-term sustainability impacts of its priorities and actions • Nurture learning and reflexivity about possible impacts of transition on vulnerable groups and territories ('just transitions')

S3 for the SDGs: policy space where directionality is shaped by top-down and bottom-up dynamics



Source: Nakicenovic et al, 2021

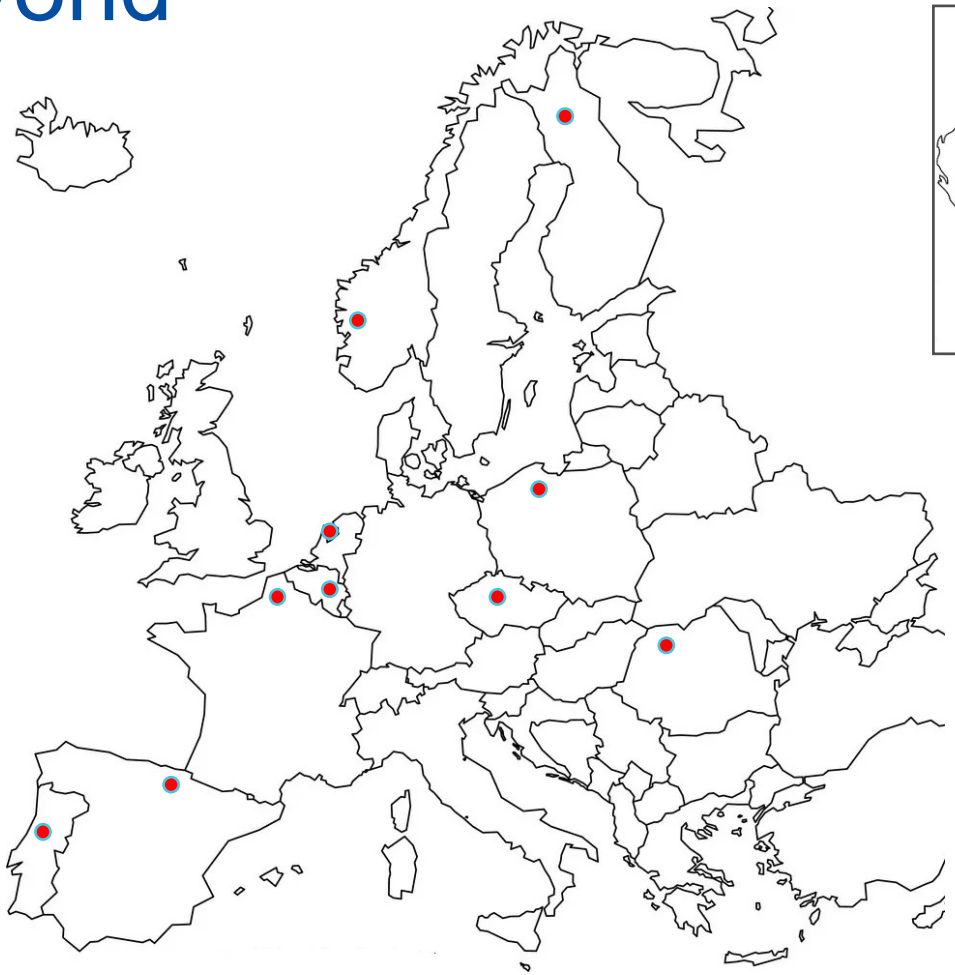
Implications of embedding sustainability in S3

S3 principles	**Shared direction towards the SDGs**	**Whole-system transformation**	**Responsibility and reflexivity**
Choices, prioritisation and critical mass	Smart Specialisation priorities to build and harness 'critical mass' of the regional research and innovation potential and interregional and international partnerships to address sustainability challenges.	Focus on a broader suite of social and technological innovations with the potential to foster systemic transformation of the region towards more sustainable modes of production and consumption.	Choice of S3 priority areas and transition pathways to be underpinned by an assessment of economic, social and environmental impacts and value created inside and outside the region.
Competitive advantage	Ensure that developing a competitive advantage does not come at external costs - or does not create future pressures - for society and the environment inside and outside the region	Focus on creating value for local communities and economies by transforming unsustainable systems of production and consumption. The transformation should contribute to social-ecological resilience locally and globally.	Reflect on potential implications of strategic choices driven by building competitive advantage of the region for social groups and natural environment in regions potentially adversely affected by these decisions.
Connectivity and clusters	Provide incentives to develop a shared vision and alignment with the SDGs. This alignment should create synergies and define single territorial contributions to the wider 2030 Agenda for Sustainable Development.	Develop challenge-led or mission-oriented partnerships, clusters and networks engaged in emerging niches or promising demonstrations of transformative innovation addressing sustainability challenges.	Ensuring the new challenge-oriented or mission-oriented partnerships, clusters and networks include broader set of stakeholders (quadruple helix) and are not captured by incumbents with vested interests in status quo.
Collaborative leadership	Ensure political commitment and leadership to mobilise collective action and embrace the sustainability orientation of the 2030 Agenda for Sustainable Development and the SDGs.	Experimenting with new forms of entrepreneurial discovery and collaborative leadership and forms of governance suitable for orchestrating long-lasting multi-actor and multi-level processes of change.	Ensure that decisions taken on priorities and transition pathways, as well as the forms of leadership and governance of transitions, have a broad social mandate.

Lessons from policy practice

Co-creation with policy practitioners from the EU and beyond

- Australia, Gippsland
- Belgium, Wallonia
- Czech Republic
- Finland, Lapland
- France, Hauts-de-France
- Mexico, Hidalgo*
- Netherlands, Northern Netherlands
- Norway, Vestland
- Poland, Pomorskie
- Portugal, Centro
- Romania, North West
- Spain, Basque Country



*Interview scheduled for September 2022

Workshops had three sessions: (1) experiences of integrating sustainability in Smart Specialisation, (2) feedback on reflection framework of Smart Specialisation for the SDGs, (3) self-assessment tool for strengthening the sustainability dimension of S3.

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Reflection framework as a policy tool

Formative tool created to assist policymakers, practitioners and analysts in reflecting on how to localise and integrate sustainability challenges and goals in Smart Specialisation

- Comprehensive approach to embed sustainability throughout the policy cycle and the S3 steps
- Questions to guide reflection and self-assessment of the current S3
- Challenges and opportunities of re-orienting innovation policies and S3 towards sustainable development
- Lessons learned and concrete examples of existing practices collected from S3 practitioners
- Selected reading and learning resources

Example: Diagnosis

Challenges for diagnosis

- Need to identify current and potential future impacts and risks associated with environmental and societal challenges for the economy and infrastructure, local communities, and natural environment
- Analyse the innovation potential and capabilities of territorial actors, institutions and infrastructure to adapt and innovate to address sustainability challenges and goals
- Develop a robust evidence base including scientific knowledge, diverse local expertise and stakeholder perspectives on the challenges and the SDGs, including views held by vulnerable groups.

Lessons and case studies

- Reflections and examples from the Northern Netherlands (NL), Gippsland (AU), Serbia, Vestland (NO)

Further reading

- Tools and resources developed by JRC, UN and renown research institutes

Questions to guide reflection and self-assessment

- Does the diagnosis include evidence on the current and potential future impacts and risks for your territory associated with global environmental and societal challenges?
- How do you collect and interpret different types of evidence and data on sustainability challenges and opportunities to support the design and implementation of Smart Specialisation strategy?
- How inclusive is the diagnostic process? Does the diagnosis consider diverse perspectives on the societal challenges, including from previously not involved or marginalised groups?
- Does the analysis of the existing specialisation areas and competitive assets of your territory include evidence on the strengths and weakness of actors, institutions and infrastructures to adapt and innovate to address sustainability challenges and the SDGs?

Example: Monitoring and evaluation

Challenges for diagnosis

- Need to strengthen capacities to monitor and evaluate direct and indirect socio-economic outcomes of innovation policies, including on the level of portfolios and policy mix
- Extend the scope of M&E system to include social and environmental sustainability effects of S3 and innovation policy (e.g. new evaluation frameworks, new metrics, collaborations and learning environment)
- Develop and test new approaches and methods to evaluate transformative outcomes of S3 and their contribution to sustainability transitions

Lessons and case studies

- Reflections and examples from Centro (PT), Basque Country (ES), Gippsland (AU)

Further reading

- Tools and resources developed by JRC, UN, TIPC and renown research institutes

Questions to guide reflection and self-assessment

- Does the M&E system allow you to identify, analyse and measure sustainability outcomes of research and innovation instruments? Have you considered how such outcomes could be analysed and measured?
- Is there evidence of innovations supported by S3 in your territory that resulted in sustainability benefits or unintentionally generated negative social or environmental impacts? What are these impacts and have you reflected how to learn from these results?
- Does M&E system include methods, indicators and processes designed to capture transformative outcomes of S3 such as social learning effects or behavioural changes?
- Do M&E processes encourage continuous policy learning from S3 experiments and implementation? How are lessons from evaluations communicated to and between various departments?
- Does M&E system ensure continuous participation and feedback from and between stakeholders? What are links between M&E process and the EDP?

Conclusions and open questions

Key messages

The S3 framework can enable innovative actions to contribute to the SDGs, but it needs to be revisited and extended if it is to foster transformative system innovation.

Consider three guiding principles to revisit and extend the S3 framework

- Add an overarching orientation towards sustainability and the SDGs to S3
- Refocus S3 on a whole-system change rather than mainly industrial transformation
- Build a culture of reflexivity and responsible innovation in S3

Strengthen S3 by diversifying its theoretical and conceptual foundations

- Sustainability transitions research and emerging practice offers many insights on how to address complex and often uncertain challenges
- Need for a transdisciplinary approach to building foundations of sustainable S3.

Engage in experimentation and co-creation of new approaches

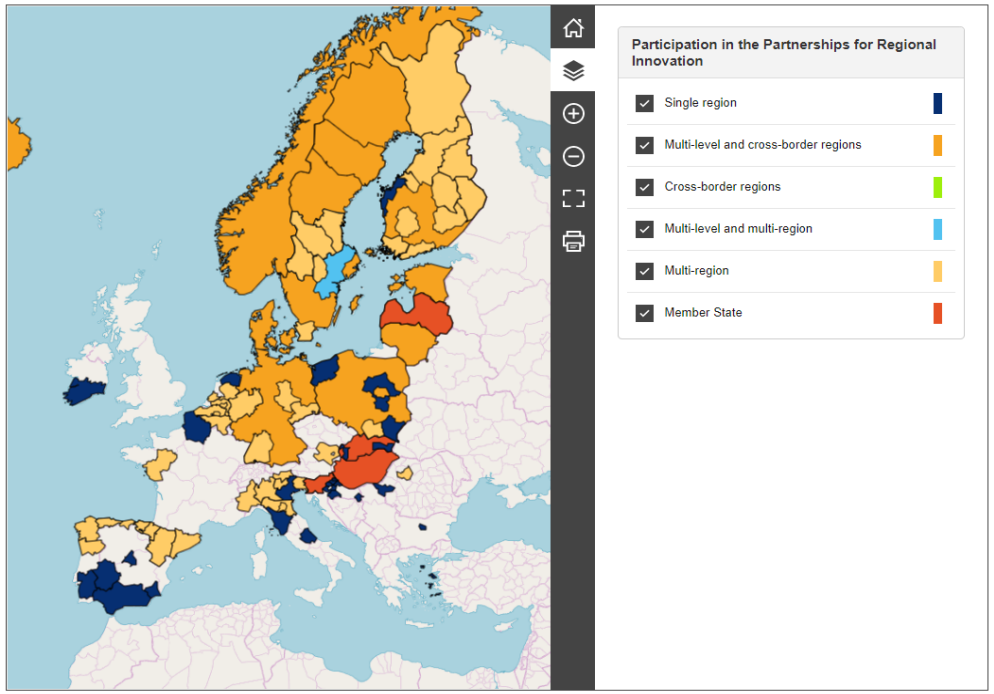
- Co-design, test and experiment new approaches with various stakeholders
- Get involved in Partnerships for Regional Innovation (PRI)

Partnerships for Regional Innovation

A new approach to innovation-driven territorial transformation, linking EU priorities with national plans and place-based opportunities and challenges

PRI Playbook

Initial support document for a pilot engaging Member States, regions and groups of regions who have volunteered to co-develop the approach, centred on a selection of practical policy tools.
https://s3platform.jrc.ec.europa.eu/pri-playbook



JRC CoR-Pilot

- ***74 territories***: *4 Member States, 63 regions (28 single applications, 35 networks), 7 cities, 6 networks of regions*
- *Carried out by the JRC and the Committee of the Regions*

https://s3platform.jrc.ec.europa.eu/pri-map

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JRC publications on S3 for the SDGs

https://publications.jrc.ec.europa.eu/repository/handle/JRC126448

https://publications.jrc.ec.europa.eu/repository/handle/JRC126651

https://publications.jrc.ec.europa.eu/repository/handle/JRC126846

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Thank you

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