Discussion Paper
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From Specialisation to Transformation?

The future of S3s amid uncertain times

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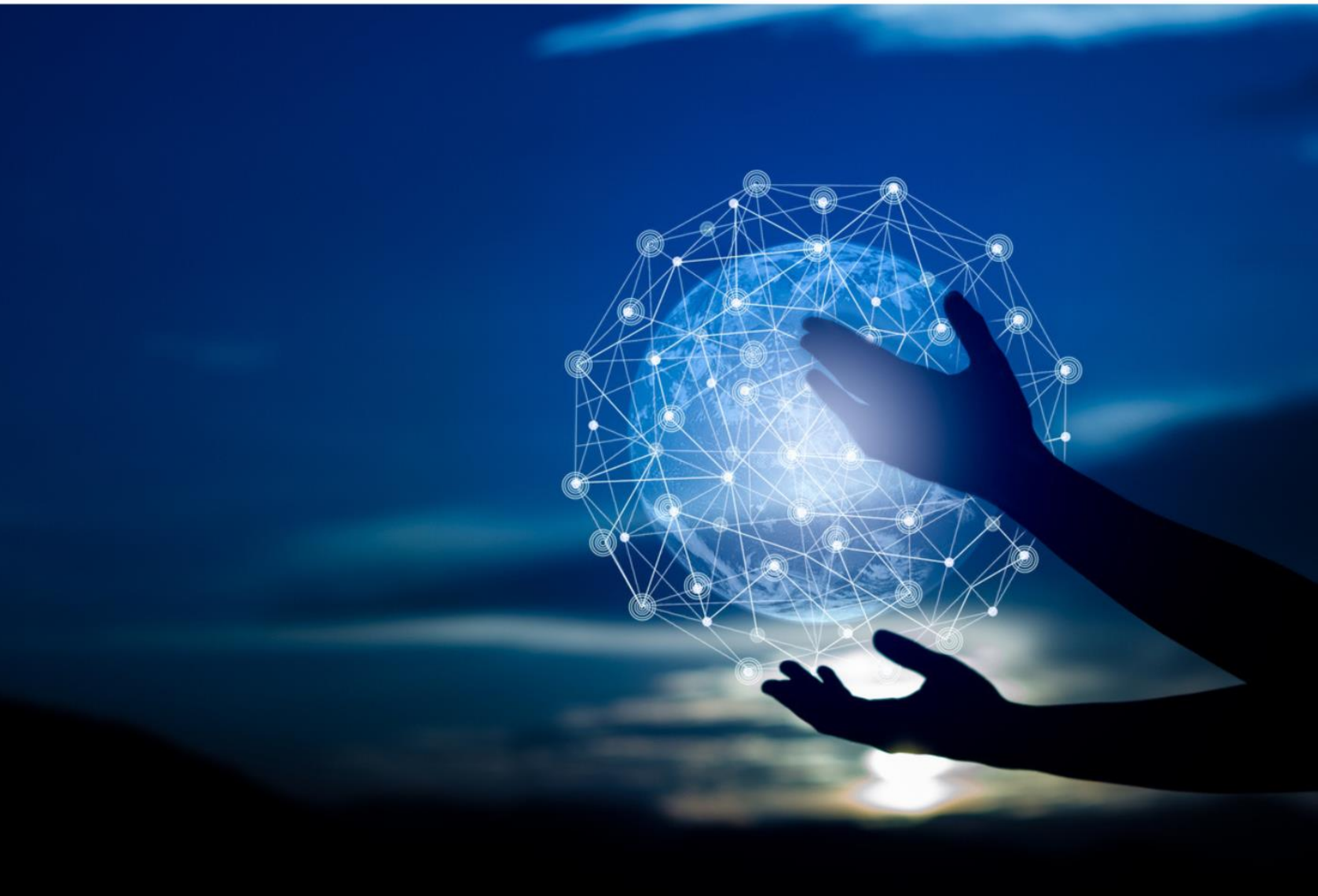

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Abstract

Smart Specialisation Strategies (S3s) have become the dominant framework for regional innovation policies in Europe. Their introduction a decade ago marked a paradigm shift in regional policy, fostering more evidence-based policymaking and collaborative governance approaches. However, S3s continue to face various challenges. The debate over the third generation of these strategies — which is closely tied to both the discussion around Europe's future competitiveness agenda and the EU post-2027 financial framework — is now gaining momentum. Against this background, this discussion paper aims to offer reflections on five key areas: the role of S3s in the emerging EU competitiveness agenda, their capacity to leverage diverse funding sources, their connection to the conditionality mechanism, the scope for experimentation, and the expanding reach of these strategies.

1. Introduction

Smart Specialisation Strategies (S3s) have become the dominant framework for regional innovation policies in Europe. Their introduction, a decade ago, has heralded a paradigm shift in regional policies, by emphasizing the role of place-based approaches and participatory governance in spurring innovation, and ultimately competitiveness. The massive academic literature and policy-making discussions that the application of S3s have generated over the years are testament to their salience. There is little doubt that they have driven European regions towards embracing more evidence-based forms of policy-making and collaborative approaches to governance. However, several challenges remain, including addressing governance complexities, navigating very uneven regional capacities, ensuring broader participation.

Equally important is the need to adapt the strategies, as well as their underlying logic, to a rapidly changing economic and technological context. All these issues feature prominently in current discussions over the next generation of S3s, which are in turn linked to both the debate on Europe's future agenda for competitiveness and how the EU post-27 funds will contribute to it. Against this background, the paper seeks to offer avenues for reflection on the future of S3s through a critical discussion of five areas which are relatively less explored: the role of S3s in the emerging EU competitiveness agenda; their capacity to tap into different funding sources; the link to the conditionality mechanism; the room for experimentation; and, finally, the expanding scope of the strategies.

2. Smart Specialisation Strategies and the EU competitiveness agenda

Research on S3s has identified various challenges in the implementation of prioritisation, a core aspect of the Smart Specialisation concept (e.g., Di Cataldo et al., 2021; Pulak et al., 2025). One specific issue highlighted in these analyses is the risk of fragmentation or overlapping of priorities across S3s (notably within the same country). This is as much a problem of capacity as it is of coordination. The latter, in particular, should be viewed against the backdrop of a much broader issue: the fragmented state of R&D and industrial policies, as well as their associated funding instruments, in Europe. A significant part of the problem lies in the fact that responsibilities for these areas are shared between the EU and its Member States (and regions) or rest entirely with the Member States, as in the case of industrial agendas. As noted by Luc Soete in a recent commentary[1], this is one of the main

[1] https://www.socialeurope.eu/how-to-break-europes-innovation-stasis

factors that, according to the Draghi report, has driven a wedge between EU and US competitiveness. To address this challenge, the European Commission is seeking to promote a stronger steer at the EU level, though primarily through a top-down approach by targeting better coordination among Member States. However, this will not be an easy task given Europe's complex institutional, innovation, and industrial landscapes, as well as its differing national interests.

S3s have been partially overlooked in such recent EU drive for greater integration in innovation and industrial policy. Yet, they could be very instrumental in its success. They can serve as a key framework to reconcile the strategic economic, technological, and industrial priorities set at the EU level with the concrete specialisations and policies of individual countries and regions: thus, helping to avoid, or at least mitigate, the governance tensions and coordination failures that are likely to result from promoting a more integrated EU industrial and innovation agenda. The place-based anchoring of S3s can contribute a great deal to translating the new competitiveness agenda of the EU into Europe's industrial and innovation contexts, which are very diverse even within countries, and ensuring ownership among institutional and economic stakeholders on the ground.

A potentially enhanced role for S3s in the emerging EU innovation and industrial agenda means that their future development cannot occur in isolation. Instead, the strategies need to be defined in a concerted manner, both in coordination with other S3s and in alignment with national and EU-level strategies. Some scholars speak of vertical and horizontal integration (Wostner et al., 2024). Such an approach, in turn, could lead to a more effective prioritization process. While coordination efforts, at least horizontally, already exist in many Member States, there is a need for more structured policy mechanisms to ensure a greater integration of S3s with EU strategies and among themselves. How to achieve this remains a matter of discussion. But it is clear that an enhanced coordination must not erode the decentralised and bottom-up decision-making of S3s for the reasons underscored in the first part of this section.

3. Beyond conditionality?

A relatively underexplored issue is whether Smart Specialisation Strategies should continue to exist as a funding conditionality. Currently, regions are required to have an S3 in place, aligned with specific legislative criteria, as a prerequisite for accessing cohesion policy resources. The legal mechanism has shown both advantages and drawbacks. On the positive side, it has been instrumental in mainstreaming the Smart Specialization approach across all European regions with tangible benefits even in less developed and peripheral ones. However, the application of the conditionality has adumbrated challenges stemming from the limited capacities and, to a lesser extent, insufficient commitment of some territories. As anticipated by leading scholars, a number of territories may have lacked the optimal institutional and structural conditions for effectively implementing as a complex approach as the S3, despite strong efforts from their regional governments (Capello and Kroll, 2016).

Such conditions cannot be created overnight, and require time to be put in place: you cannot expect regions with limited administrative and operational capacity and weak innovation systems to suddenly work wonders with the Entrepreneurial Discovery Process. Meanwhile, wealthy areas that are minor beneficiaries of cohesion funds may have had less incentive to engage effectively with the conditionality. In both cases, the risk of S3s veering towards a box-ticking exercise has materialised, especially in the first generation of S3s. These issues are also related to the very design of the conditionality (Molica, 2024): its general, qualitative and one-size-fits-all nature has inevitably led to different approaches and degrees of fulfilment reflecting different characteristics and capacities at regional level. To its credit, the Commission has strived to address this through a great deal of guidance. More sensibly, it has applied a modicum of flexibility in the evaluation of the conditionality precisely to avoid that some regions structurally less apt to fulfil it implement were penalised.

The bottom line is that the S3 conditionality has worked well to coax all regions or countries into establishing their S3s and adopt its main features. This is, of course, the stick. But it is actually the (less known) carrot, namely the vast guidance, peer-learning and capacity building initiatives put in place by the Commission, which has made the real difference in improving the development and implementation of S3s over time. This raises questions as to whether an S3 conditionality in the future might be still necessary. Or if the Commission should rather focus its efforts on further reinforcing its arsenal of soft instruments, for instance, those intended for capacity-building and peer-exchange, which are already in place. This is up for debate. It does not necessarily mean doing away with any form of conditionality. Perhaps, the instrument of conditionality could be used in a more indirect way, focusing on the contextual conditions that enable S3s to work well rather than on the S3s themselves. These conditions, which would be imply specific policy, organisational or legal measures, could be negotiated on a case by case basis reflecting the specificity of the territories.

4. How to liberate the S3s from its overreliance on ERDF

Despite all the talks about funding diversification, many S3s remain fundamentally ERDF-driven strategies. There exist objective obstacles in terms of tapping into other funding streams, including because of often limited sub-national finances. An overreliance on the ERDF could however limit both the financial firepower and scope for action of S3s (see also next section). An obvious way to address this issue is by fostering greater funding synergies, particularly between EU funds. This, in turn, is crucial for elevating S3s beyond cohesion policy and integrating them into broader regional innovation frameworks. Over the past fifteen years, there have been several attempts to encourage synergies, especially between cohesion policy and the Framework Programme, though with limited success. Despite a number of initiatives both on the legislative and capacity-building side, managing authorities and beneficiaries alike continue struggling with the inherent complexity of the process. Many options have been put on the table: some, such as the seal of excellences, are yielding remarkable benefits. The problem with the approach to synergies, however, is that it takes mostly a downstream perspective. As the Commission itself points out, a shift to an upstream logic is desirable (European Commission, 2022).

This would mean, for a start, a more strategic and regulatory alignment between cohesion policy and the Framework Programme (Tsipouri, 2023). It is easy said than done given the difference in terms of governance (centralised versus multi-level), objectives (excellence versus cohesion), delivery mechanism (direct versus shared management), etc. However, there is scope for a stronger coordination, especially if the future EU budget will be shaped around policies or political priorities rather than programmes, as recently declared by Ursula von der Leyen.

The other area where a significant leap is needed concerns domestic R&D funds. Let us not forget that, as highlighted in the Draghi report, most R&D resources in Europe come from national instruments. It is a fact that S3s do not sufficiently tap into these funding sources. But it should be noted that this is an area where most regional authorities have limited room for manoeuvre, as such domestic instruments are often managed at the central level. Aligning them with the S3 priorities should primarily be the responsibility of national governments and requires strong political commitment on their part. On the other hand, this alignment cannot be achieved without greater coordination across S3s within a country (where regional S3s are in place).

The third and final aspect pertains to the role of financial instruments. Their uptake within cohesion policy funds has been growing but remains rather limited (Wishlade and Michie, 2017). Yet, in the context of the ongoing industrial transformation, significant public investment is needed to attract private sector participation and direct resources toward high-risk or emerging markets. Leveraging financial instruments, including innovative approaches and their combination with grants, is essential, particularly in the face of tightening public budgets. Reinforcing the use of financial instruments in relation to S3—

for instance, with support from national development banks and the European Investment Bank—appears to be a critical step forward.

1. No experimentation without flexibilisation

On paper, experimentation should be embedded in the very foundation of the Smart Specialisation concept. This entails open and flexible engagement with stakeholders, iterative learning and reflexivity in policymaking, and the acceptance of risk and potential failure in investment decisions. Many S3 strategies have embraced this approach to varying degrees, particularly during the 2021–2027 period. In practice, however, the space for experimentation within the context of S3s remains limited, primarily due to the nature of their main financial source: cohesion policy (Radosevic, 2017).

The obstacles are both regulatory and cultural. On the one hand, the compliance-based, cost-efficient, and audit-intensive logic that permeates cohesion policy rules—combined with their historical complexity and rigidity—acts as a significant drag. On the other hand, this logic has fostered a risk-averse mindset among cohesion policy managers and deterred potential beneficiaries, even when the rules allow for leeway. To its credit, the European Commission has made substantial efforts to streamline legislation and increase the margin for flexibility. However, the problem may be inherent in the policy itself, as its financial size and complex governance demand by design heavy requirements, procedures, and checks to ensure accountability.

What can be done, then? Firstly, where possible, S3s may rely to a greater extent on sources other than the ERDF (see above). Secondly, ERDF rules can be somewhat leveraged towards a more experimental direction. For instance, the possibility of pursuing active project portfolio management is not entirely outside the scope of current legislation. In fact, various regions are already experimenting with portfolio approaches in the context of regional funds. The regulation allows for the selection and funding a group of projects, including into a single operation, thereby enabling a more holistic approach. It also leaves ample discretion to managing authorities regarding the criteria for selecting projects/operations, provided that they comply with eligibility rules. This opens the door to approaches (and, thus, instruments) that are not merely merit-based but also consider other criteria, such as the projects complementarity or contribution to a specific challenge. Finally, the recent introduction of the 'financing not linked to cost' methodology, which marks a shift from an actual cost-based to an output-based model, could further enhance the flexibility of project management. On a different note, there is no legal obstacle preventing a stronger involvement of stakeholders in programming and funding decisions, a key aspect of the experimental dimension, for instance through living labs and participatory budget: it is more a matter of capacity than rules. At the same time, the additional flexibility granted by recent regulatory provisions in terms of re-programming may favour, at least to some extent, a more adaptive process.

The third and final option is the most radical. It may involve slashing legal requirements and administrative procedures for a portion of cohesion policy R&D funds, allowing maximum flexibility in project selection and management—provided certain ex-ante conditions are met. This approach requires careful consideration and may necessitate prior approval from the Commission for specific schemes or programs to prevent potential misuse.

2. From smart specialisation to smart transformation?

A frequent criticism to S3s, at least in their first iteration, was that they focussed too narrowly on research and innovation (R&I) (Hassink and Gong, 2019). It seems almost obvious to highlight that R&I does not exist in isolation as it is influenced by as many dimensions as skills development, digital infrastructures, regulatory frameworks, social inclusion, etc. In this sense, the strategies have been always meant to be designed in alignment with other relevant policies. But this is tricky as competences for these policy areas are often scattered across different governance levels and jurisdictions. A strong coordination would be needed.

In the same vein, many strategies have been moving towards a broader understanding of innovation policies, incorporating societal goals alongside the traditional focus on economic growth. This shift makes it even more necessary to integrate S3s with other policy areas, such as education, infrastructure, social policies, and environmental sustainability. The extent to which this integration is possible depends on each specific case.

The emergence of new priorities in these increasingly turbulent times—ranging from strategic autonomy and technological sovereignty to reinforcing defense capabilities and achieving energy independence—makes it all the more crucial for S3s to collaborate closely with other policies. However, this may require adjustments to the scope, role, and objectives of these strategies in the future—a process that is already underway. The overall goal of the strategies is indeed already shifting from specialization or diversification towards the more comprehensive idea of (economic) transformation. The European Commission has indicated in various documents that S3s need to broaden their focus, evolving into fully-fledged strategies for competitiveness and sustainability.

This shift could be accelerated by the (unfortunate) event the governance of post-27 cohesion policy is more centralised with regional programmes. In this case, the strategies could have an even bigger role in articulating the territorial approach to the use of EU funds. There is an additional element that needs to be taken into account. The concept of smart specialisation was developed against the background of a still triumphant globalised and knowledge based economy. The risk of de-globalisation (or partial regionalisation of trade) and pressure to re-industrialise may suggest a reassessment of its theoretical underpinnings. The idea of leveraging local competitive strengths needs to be guided by the emerging imperatives of building resilience, reducing strategic dependencies and ultimately re-expanding productive capacities. Here again the shift could start from the brand: from smart specialisation strategies to smart transformation and resilience strategies.

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