



Mainstreaming Smart Specialisation in a New Paradigm for European Industrial Policy

Η Μετεξέλιξη της Έξυπνης Εξειδίκευσης ως ένα Νέο Υπόδειγμα για την Ευρωπαϊκή Βιομηχανική Πολιτική



19ο Σεμινάριο της Ερμούπολης για την Κοινωνία της Πληροφορίας & την Οικονομία της Γνώσης, 12-14 Ιουλίου 2024

FoSS (Friends of Smart Specialisation):

Dimitri Corpakis, PhD, FeRSA, former European Commission, Belgium (d.corpakis@gmail.com)

Richard Tuffs, Senior Consultant, former Director ERRIN, Belgium, (richardtuffs@ymail.com)

Jan Larosse, Senior Consultant, former Flanders Region and European Commission Expert (Regional Policy), Belgium (jan.larosse@telenet.be)

Disclaimer:

this presentation contains only personal views

Outline



The return of industrial policy

Industrial policy and the link to places

Smart Specialisation as a transformative industrial policy

Smart Specialisation Underpinning Industrial Policy



- In this developing paper, we make the case for **integrating Smart Specialisation (S3) into the new Net-Zero emerging industrial policy paradigm**
- By expanding and embracing S3 principles and practices, countries and regions can potentially achieve **a more effective and place-responsive industrial policy that is conducive to the green and digital transitions.**
- Recent transformative pressures on regions, driven by global geopolitical tensions, reconfigured value chains, and the climate emergency, not only stimulate new thinking on industrial strategies but also **require a stronger place-based dimension which can be structured through refocussed Smart Specialisation Strategies.**

The EU Green Deal Industrial Plan for the Net-Zero Age is now a reality



- EC Proposal for a '**Green Deal industrial plan for the net-zero age**' (01/02/23) (Regulation) sets out a European approach to boost the **EU's net-zero industry**
- '**Net-zero technologies**' are key for the EU to achieve **climate-neutrality** (net-zero emissions, i.e. emissions after deduction of removals) by 2050. The regulation sets up the framework of measures for innovating and scaling up the manufacturing capacity of net zero technologies in the EU, to support the EU's 2030 target of reducing net greenhouse gas emissions by at least 55 % relative to 1990 levels and the Union's 2050 climate neutrality target.
- **Net zero strategic technologies** include solar photovoltaic and solar thermal technologies; onshore wind and offshore renewable technologies; battery/storage technologies; heat pumps and geothermal energy technologies; electrolysers and fuel cells; sustainable biogas/biomethane technologies; carbon capture and storage technologies, and grid technologies. The Regulation supports also the development of **skills needed** for the net-zero industries
- Furthermore, it gives Member States the possibility to set up **regulatory sandboxes** to test **innovative net-zero technologies** in a controlled environment and for a limited amount of time.
- The European Parliament adopted the agreement reached by the Council on 25 April 2024. The Council gave its final approval to the new Regulation on 27 May 2024. The new Regulation was signed on 13 June 2024. It will be published in the Official Journal of the EU. It will enter into force on the day of its publication.

The Paper's Methodological Steps



- Literature review on the concepts of industrial policies and strategies (Criscuolo et al., 2023(1); Terzi et al, 2022 (2); Juhász et al, 2023 (3)) and their potential links to places (Ortega Argiles et al 2009, 2007 (4,5))
- Critical examination of mechanisms proposed by mainstream industrial policy frameworks
- Complementarities to smart specialisation strategies
- Formulate a conceptual framework for a place-responsive industrial policy. We argue that this should take into account an updated concept of Smart Specialisation Strategy (S3) that can then be considered itself as an updated paradigm for a new transformative industrial policy (Foray, 2018 (6); Lazzeretti et al. 2022 (7); Hausmann et al, 2006,(8); Bianchi et al (2024) (9)).
- Need for an updated role for the Entrepreneurial Discovery Process (EDP) with an increased emphasis on skills, capabilities, regional foresight, governance, the potential of interregional cooperation and the identification of 'smart complementarities' across collaborating regions.

Global accelerated change

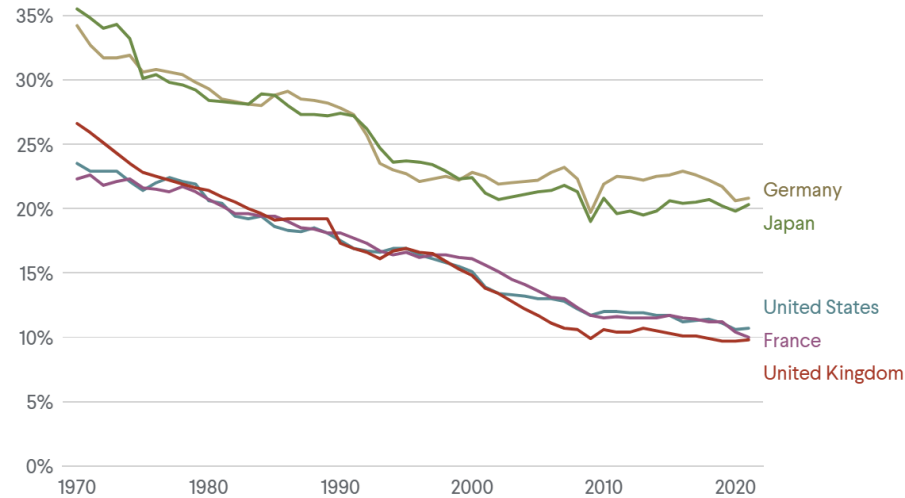
- Countries and regions are reassessing their **dependencies on external partners**, leading to **more strategic approaches** regarding **trade** and outward and inward **investments**. This has spurred a **trend for re-localization of industries**, the **emergence of new regional supply chains**, and **increased investments in domestic markets**.
 - *“Companies that thoughtfully manage their concentrated exposures are likely to be more resilient—not only able to absorb a supply disruption but also able to bounce back better. We can already see signs of this adjustment in action: in April 2022, 81 percent of global supply chain leaders surveyed said they had initiated dual sourcing of raw materials, up 26 percentage points from the previous year. That said, any shift to supply chains may give rise to new risks, even as it mitigates existing ones. Triangular trade, for example, may diversify the ultimate sources of imports but it can also lengthen supply chains, which carries its own challenges. Remaining clear-eyed on shifting risk profiles and exploring them through scenarios is critical.”*

[A new paradigm for our connected world? | McKinsey](#) November 2023

Industrial Policy is Back....

Manufacturing's Share of GDP Has Declined in Advanced Economies

Manufacturing output as a percentage of gross domestic product (GDP), selected countries

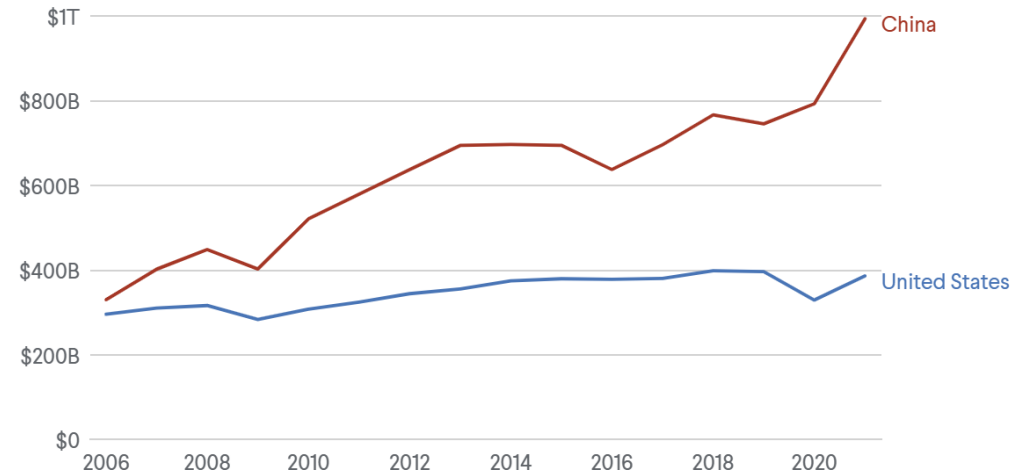


Source: UN Department of Economic and Social Affairs.

COUNCIL *on*
FOREIGN
RELATIONS

China Has Outpaced U.S. in R&D-Intensive Exports

Exports of highly R&D-intensive goods (current U.S. dollars)



Note: Highly R&D-intensive goods refers to air and spacecraft and related machinery; pharmaceuticals; computer, electronic, and optical products; scientific research and development; and software publishing.

Source: Organization for Economic Cooperation and Development.

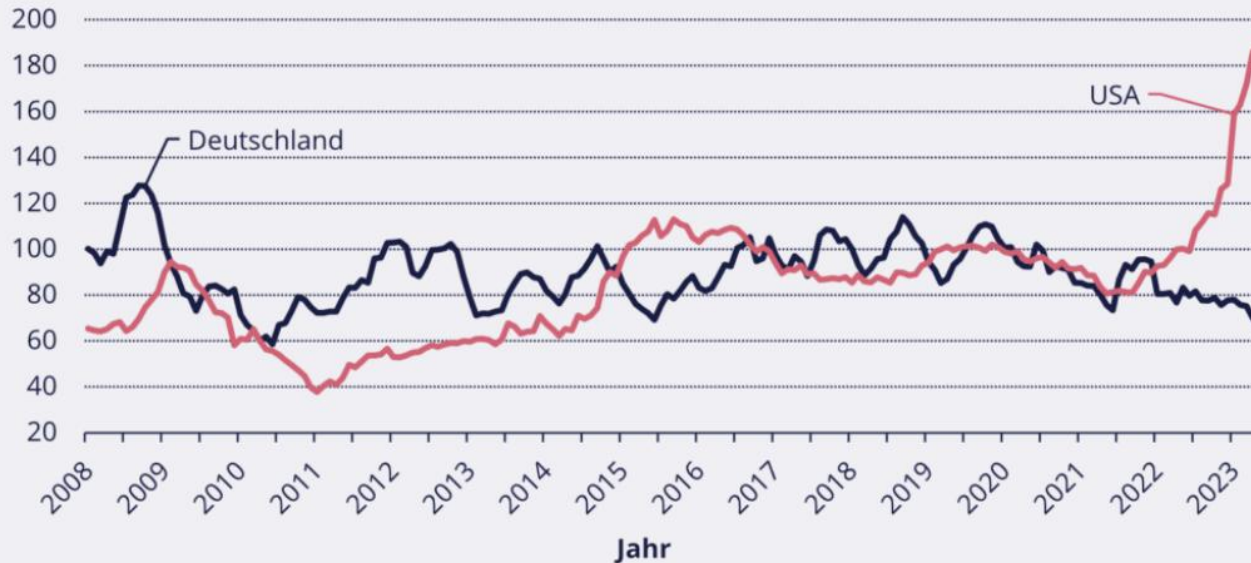
COUNCIL *on*
FOREIGN
RELATIONS

- The academic and policy debate on whether industrial policy and strategy is important is **back on the table**, especially after the **multiple shocks** that hit the world economy during the last 15 years (*global financial crisis, COVID-19 pandemic, war breakouts and overall consequences- value chain and production network disruptions, mounting inflation, climate crisis*) which have contributed to relatively stagnant growth in the EU
- Such disruptive changes, call for **direction, vision and a method to achieve the targets set. This invariably points to the need for a new industrial strategy.**

Bauinvestitionen, Fabriken

Index 2019 = 100, Details s.u.

Index



Anmerkung: Für die USA: Total Private Construction Spending: Manufacturing in the United States, Millions of Dollars, Monthly, Seasonally Adjusted (US Census Bureau), preisbereinigt mit dem Producer Price Index for Intermediate Demand, "Materials and Components for Construction" (Bureau of Labor Statistics). Für Deutschland: Veranschlagte Kosten, Baugenehmigungen Fabrik- und Werkstattgebäude (Destatis, Tabelle 31111-0002), preisbereinigt mit Baupreisindex für gewerbliche Betriebsgebäude, Bauleistungen am Bauwerk (Destatis, Tabelle 61261-0002).

Quelle: Destatis

Dezernat Zukunft

Institut für Makrofinanzen

Construction investment in factories, Germany vs the US. Graph by [Dezernat Zukunft](#). [Dezernat Zukunft]

US pressure on EU economy

- The **Inflation Reduction Act (IRA)**, America's response to Covid crisis puts enormous pressure to European economies as it mobilises huge amounts of money and creates very attractive conditions for world-wide businesses to re-locate to the US (*total investment USD 433 billion; by June 6, 2023 private companies had announced over USD 470 billion in manufacturing and clean energy investments*) (*source: invest.gov*)).
- In addition to that the **Bipartisan Infrastructure Law** and the **CHIPS and Science Act** complete the picture with additional money

Source: <https://www.euractiv.com/section/economy-jobs/news/putting-money-behind-the-eus-industrial-policy/>

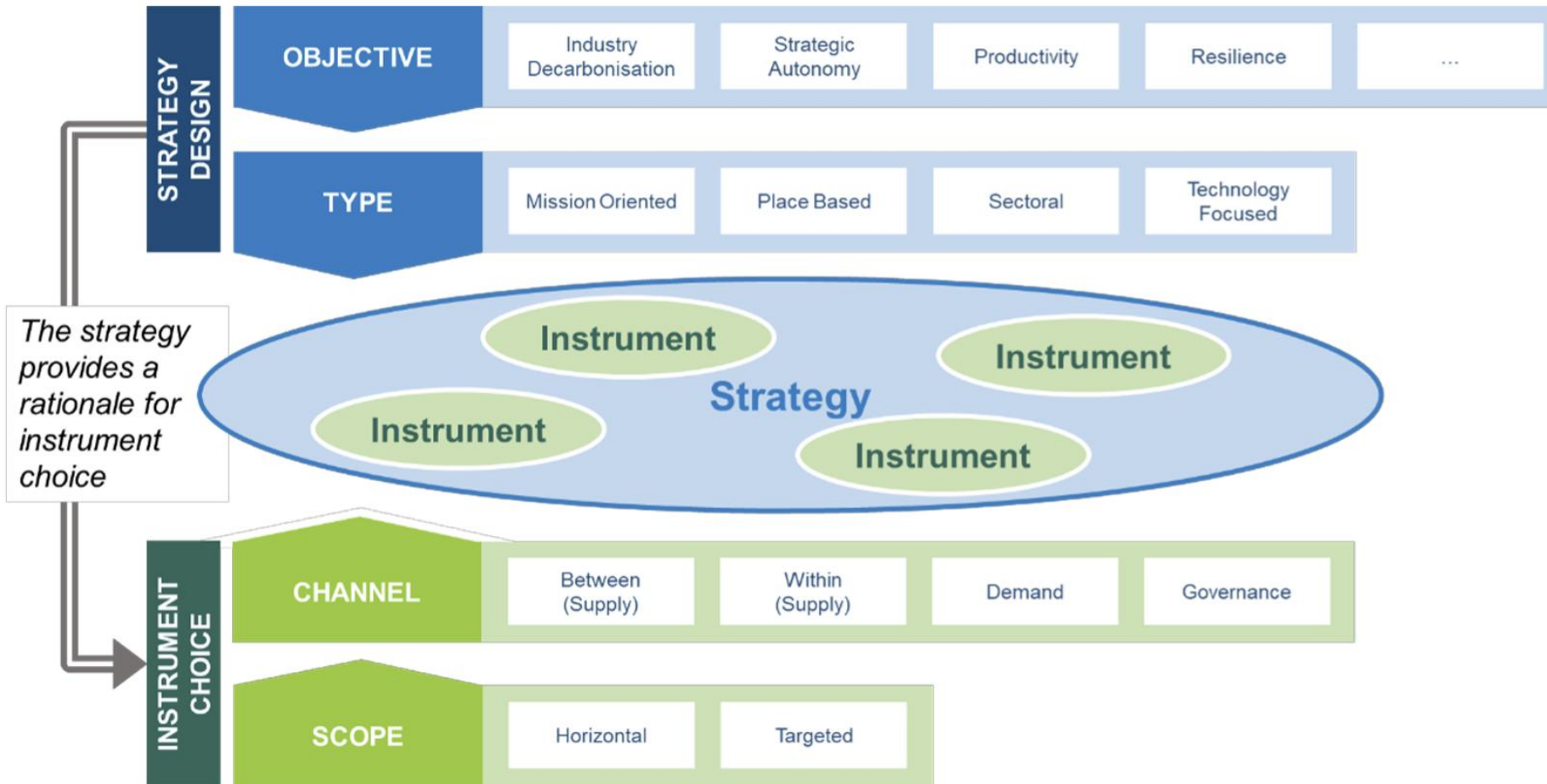
....but no consensus so far on Industrial Policy



- While the OECD (2022) repeats that “...*no consensus exists on an industrial policy paradigm*” it defines industrial policy as “*interventions intended to improve structurally the performance of the domestic business sector*”
- It is also understood that we can extend this definition at a European level by replacing the “**domestic**” dimension by a “**European**” one.

Chiara Criscuolo, Nicolas Gonne, Kohei Kitazawa, Guy Lalanne (OECD), An industrial policy framework for OECD countries: old debates, new perspectives, OECD Science, Technology and Industry Policy Papers, May 2022 No. 127

Figure 1. The formulation of industrial policy



Criscuolo, C., et al. (2022), "An industrial policy framework for OECD countries: Old debates, new perspectives", OECD Science, Technology and Industry Policy Papers, No. 127, OECD Publishing, Paris, <https://doi.org/10.1787/0002217c-en>.

Source: OECD.

A role for Smart Specialisation as an integrative framework for industrial policy



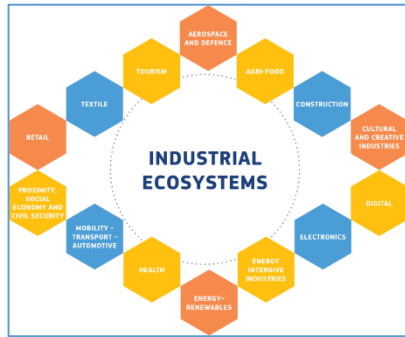
Smart Specialisation provides choices and options based on local vision and capabilities



(adapted from OECD, FoSS©(2023))



Top down – ‘some’ EU industrial strategies...



A Green Deal Industrial Plan for the Net-Zero Age

- a predictable and simplified regulatory environment;
- faster access to sufficient funding;
- skills; and
- open trade for resilient supply chains.

EIC Six Strategic Goals for the European Innovation Council - EIC

1. To be the investor of choice for those with visionary ideas for high potential start-ups, entrepreneurs and innovative researchers
2. To crowd in EUR 30-50 billion investment into European deep tech
3. To pull through high-risk technologies in critical areas for society and open strategic autonomy
4. To increase the number of European unicorns and scale ups
5. To catalyse innovation impacts from European public research and innovation:
6. To achieve operational excellence:

The InvestEU Programme battery technologies, critical raw materials recycling, demonstration plants for manufacturing materials in the supply chain of electric vehicle batteries, hydrogen propulsion technologies, innovative advanced biofuels plants, advanced manufacturing technology equipment in steel processing

Industrial Alliances

- raw materials,
- batteries
- hydrogen.

Important Projects of Common European Interest (IPCEIs)

- next-generation cloud
- hydrogen,
- low-carbon industry,
- Pharmaceuticals,
- cutting-edge semi-conductors.



EU Missions are about what we can do together to shape the future we want to live in.

FIVE MISSIONS

- Missions have ambitious goals and will deliver concrete results by 2030.
- cancer:** improve the lives of more than 3 million people
 - achieve 100 **climate-neutral and smart cities**
 - make 150 regions and communities **climate resilient**
 - create 100 living labs and lighthouses to lead the transition towards **healthy societies**
 - restore our **ocean and waters**

Smart Specialisation as a transformative industrial policy (i)



Driving growth:

Smart Specialisation has two objectives:

- (a) building capabilities (through the exploration of a new domain of opportunities and
- (b) driving structural change (*Foray 2014*)
- Smart Specialisation's primary aim is to identify the future growth drivers of a place, based on the Entrepreneurial Discovery Process (EDP). This links to industrial policy aims as a top down strategy that needs to be anchored to local capabilities

Foray D., Smart specialisation and the new industrial policy agenda, Smart Specialization – Strategies for Sustainable Development, UN-ECE, Geneva, 16-17 October, 2014

Smart Specialisation as a transformative industrial policy (ii)



- A changing role for the Entrepreneurial Discovery Process (EDP):

Early days

- Identifying competitive advantage
- Selection of priority areas – building on their strengths – Ron Boschma: related diversification
- Regional perspective
- Limited stakeholders - triple helix

Now

- Identifying competitive advantage and future growth areas linked to capabilities of the region
- Stronger focus on global value chains in wake of poly-crisis
- More attention to identified top-down strategies (in EU Green Deal and Digital)
- Focus on regional challenges and solutions
- Wider stakeholder participation – Q helix and RRI methodologies of engaging citizens
- Better communication of the S3
- Increased interregional collaboration e.g. EU Regional Innovation Valleys

**Ingredients
of an
Industrial
Policy (*as
integrative
framework
of top-
down vs
bottom-up*)**

Understanding Smart Specialisation (S3)

- Smart specialisation is a process aiming to develop a vision to identify the areas of intervention of greatest strategic potential in every territory.
- S3 is a ‘place-based’ development strategy that includes not only identifying, through what is known as the **entrepreneurial discovery process**, where the potential of every territory lies, but also developing a **system of governance** involving multistakeholder mechanisms in order to set strategic priorities and systems of intervention (*Midtkandal and Sörvik, 2012*)

15 years later: some hard facts

- Smart Specialisation was « born » in 2009 in the context of a High-level Expert Group (*D.Foray, P.David, B.Hall*) working for the Research Commissioner Janez Potocnik
- To date, some 180 S3 strategies have been developed and are in the process of being implemented. Few Europe-wide evaluation efforts have so far been undertaken, but preliminary reviews are mixed on their outcomes
- Preliminary analyses (*Iacobucci & Guzzini (2016)*), have shown that sectoral priorities chosen by regions have largely ignored key concepts such as ‘relatedness’ and ‘connectivity’ of technological domains as guiding principles behind their strategies (see Ron Boschma). Intuition and anecdotal evidence, instead of good evidence have guided choices. Weaker regions had more difficulties to identify priority areas. Weak institutional governance contributed to these problems.
- Another survey (*Gianelle et al. (2019)*) identified a proliferation of priority areas (*‘coffee for all’* policy) going against the very principles of smart specialisation.

How ‘smart’ are Smart Specialisation strategies? Marco Di Cataldo, Vassilis Monastiriotis, Andrés Rodríguez-Pose Paper No. 18, Geography and Environment Discussion Paper Series, November 2020, LSE Dept of Geography and Environment

How could Smart Specialisation work?



- Avoid proliferation of priorities, focus on detecting, identifying and actively supporting new growth drivers
- Support multi-dimensional innovation, listen to all stakeholders, including the civil society and the full quadruple helix constellation in the region
- Go for 'related diversification', modernisation, support transition processes to new, related sectors, without rejecting new 'radical' projects (however evidence is needed)

Smart Specialisation: the Concept Dominique Foray Smart Specialisation Conference Sofia (Bulgaria), May 10 & 11, 2012

Evolving innovation ecosystems



- These transformative trends have significant implications for place-based innovation ecosystems and their ability to plan and implement growth strategies
- These issues can be seen as external and internal:

External

- Climate change
- Geopolitical changes
- Technology changes
- Value chain changes

Internal

- Regional attractiveness
- Companies nature, size and structure
- Collaboration inside the region
- Collaboration outside the region
- Retaining and attracting talent
- Developing relevant skills

- These changes necessitate significant adaptations in regional innovation ecosystems to create opportunities for economic growth, job creation, and sustainable development, emphasizing more sustainable and resilient approaches to production and consumption

Places as Critical Components for a New Industrial Policy Framework



- The disruption of supply lines and growing de-globalisation are affecting value networks that depend on place-based economic and work organisation: **geography matters**.
- We argue that **places are critical components** for mounting a new industrial policy framework: while **vertical** interventions by national governments are legitimised by **top-down policy** reactions to new profound changes, regions need a place-based, coherent and structured response for facing the challenge.
- **Priority-setting for investments** in solutions to address current challenges has to go deeper in the **transformation nexus** and embrace a more place-responsive approach. For this to happen, we argue that mainstreaming genuine smart specialisation into the new industrial policy paradigm is essential

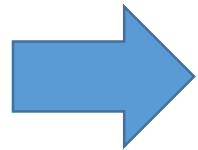
Addressing the polycrisis through place resilience

A new paradigm shift is taking place in the effort to **endogenise the polycrisis challenges in new growth opportunities**

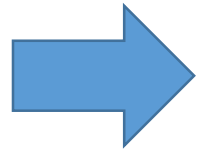
- Need to combine **deliberate and planned transformations on the one-side** and **capacity building for resilience against these shocks on the other.**
- **This capacity building for resilience and transformation is closely linked to places**

The challenges are global but the capacity to respond is localised. Therefore top-down strategic directionality needs bottom-up discovery of place-based opportunities to orchestrate investments in future growth

S3 links with industrial policy remain underexplored



- **The potential synthesis of Smart Specialisation and industrial policy is still underexplored.**
 - The failure of the Lisbon Strategy, which aimed to make Europe the "most competitive knowledge economy in the world," highlighted the need for a different Research and Innovation policy, better adapted to European strengths and objectives, more nuanced than a simple target of spending 3% of GDP on R&D with stronger references to competitiveness and growth, impact and job creation.



- **Changes in industrial structure only occur in places that can breed new ideas, scale-ups, clusters and cooperation opportunities in local ecosystems. .**

Need for more Place-responsive Industrial Policy Schemes

- There is a hidden potential of Smart Specialisation for formulating a true European transformative industrial strategy.
- Changes in industrial structure can only occur in places that can breed new ideas, scale-ups, clusters and cooperation opportunities in local ecosystems.
- While Europe-wide structural change can be indeed driven by multiple EU level structures, such as IPCEIs and strategic value chains, EU regulations and standards, including distribution and required concentration (specialisation) of resources for investment in infrastructure and people, in order for this to have a lasting impact, it needs to be fully integrated into a Europe-wide Innovation System, rooted firmly in place-based transformation capacity.
- Need for a new conceptual framework linking place-based Smart Specialisation Strategies with place-responsive industrial policy schemes, that marry top-down directionality with place-based competitive advantage, local skills and capabilities, a true propensity for smart complementarities, connecting local talent, innovative ideas and trends with national schemes based on evidence.
- By prioritizing both existing competitive advantage and future investments for growth, Smart Specialisation aligns with the planning and discovery components of a broader industrial policy, fostering the exploration of new domains of opportunities and driving structural change. This framework can contribute to ongoing policy development in the framework of the Net-Zero Industrial Act.
- Important projects of common European interest see [IPCEI \(europa.eu\) \(https://competition-policy.ec.europa.eu/state-aid/legislation/modernisation/ipcei_en\)](https://competition-policy.ec.europa.eu/state-aid/legislation/modernisation/ipcei_en)
- https://single-market-economy.ec.europa.eu/industry/sustainability/net-zero-industry-act_en

References (not-exhaustive list)

- (1) Criscuolo, C. et al. (2023), “Quantifying industrial strategies across nine OECD countries”, OECD Science, Technology and Industry Policy Papers, No. 150, OECD Publishing, Paris, <https://doi.org/10.1787/5f2dcc8e-en>.
- (2) Terzi, A., A. Singh and M. Sherwood (2022), “Industrial Policy for the 21st Century Lessons from the Past”, European Economy - Discussion Papers, No. 157, Directorate General Economic and Financial Affairs (DG ECFIN), European Commission, https://economyfinance.ec.europa.eu/publications/industrial-policy-21st-century-lessons-past_en
- (3) Juhász, R., N. Lane and D. Rodrik (2023), “The New Economics of Industrial Policy”, NBER Working Papers, No. 31538, National Bureau of Economic Research, Cambridge, MA, <https://doi.org/10.3386/w31538>
- (4) Raquel Ortega Argiles, Rosina Moreno, Innovations and Entrepreneurship in Functional Regions, Edward Elgar Publishing, 2009
- (5) Raquel Ortega Argiles, Rosina Moreno, Entrepreneurship, Industrial Location and Economic Growth, Edward Elgar Publishing, 2007
- (6) Dominique Foray, Smart specialisation strategies and industrial modernisation in European regions: theory and practice", Cambridge Journal of Economics, 2018 , DOI: 10.1093/CJE/BEY022
- (7) L. Lazzeretti, Stefania Oliva, Niccola Innocenti, Unfolding Smart Specialisation for Regional Economic Resilience: the role of Industrial Structure, Investigaciones Regionales - Journal of Regional Research, 2022, DOI: 10.38191/IIRR-JORR.22.015
- (8) Hausmann R, Rodrik D (2006) Doomed to choose, working paper. Dept. of Economics, Harvard University, Cambridge
- (9) Bianchi, G., Matti, C., Pontikakis, D., Reimeris, R., Haegeman, K.H., Miedzinski, M., Sillero Illanes, C., Mifsud, S., Sasso, S., Bol, E., Marques Santos, A., Andreoni, A., Janssen, M., Saublens, C., Stefanov, R. and Toliás, Y., *Innovation for place-based transformations*, Bianchi, G. editor(s), Publications Office of the European Union, Luxembourg, 2024, doi:10.2760/234679, JRC135826.

Thanks for your attention



- Comments and contacts welcome
- Join our *mailing list* by sending an email to:
 - Richard Tuffs richardtuffs@ymail.com
 - Dimitri Corpakis d.corpakis@gmail.com
 - Jan Larosse jan.larosse@telenet.be

<https://friendsofsmartspecialisation.eu>