

## How can the EU strengthen competitiveness within Global Value Chains

Multinational Enterprises (MNEs) and the Global Value Chains (GVCs) on which they rely have long been central to Europe's economic landscape. Their expansion has had significant impacts on regional growth, productivity, and competitiveness. However, recent geopolitical disruptions, technological shifts, and the growing recognition of the need for supply chain resilience have led to major transformations in how firms operate within GVCs. **MNEs and the many small companies within their value chains are restructuring their operations and their inter-firm relations.** These changes are disruptive, but they also create opportunities to strengthen local-global linkages and synergies. In this policy brief we will explore how our research sheds lights on these dynamics and what lessons emerge for EU policy making going forward.

As outlined by the recent report by Mario [Draghi](#), the EU faces many challenges in sustaining its long term competitiveness while also ensuring economic security and strategic autonomy. In our parallel policy briefs on Work Packages (WP) 3 and 4 of the [TWIN SEEDS](#) project, we explored the policy implications of our work from the point of view of social, regional and environmental aspects of GVC reconfiguration. Although these policies can also contribute to building a more sustainable and competitive EU economy, in this brief we focus on the findings of [Work Package 5](#) (WP5), which addressed more specifically **questions related to sustaining and strengthening the EU's industrial competitiveness in the face of the shifts in the 'Twin Seeds' – technological and geo-political developments.**

Although the context has changed markedly since the project started in 2022, especially in terms of the geo-political landscape, many of our findings can nevertheless inform vital contemporary policy debates. Most notably, although our research underlined some of the key economic difficulties facing the EU, it also suggests opportunities for the Union and its enterprises as they navigate these transformations. This policy brief outlines potential strategies for enhancing EU competitiveness which emerge directly from our research. These focus on three critical areas: **improving resilience and productivity within GVCs, fostering innovation through knowledge diffusion, and supporting balanced regional development through strategic industrial policies.**

### ENHANCE GVC RESILIENCE AND PRODUCTIVITY THROUGH SMART SUPPLY CHAIN STRATEGIES

#### 1. Encourage strategic diversification to strengthen resilience

MNEs increasingly face supply chain disruptions due to geopolitical tensions, economic uncertainties, and evolving market dynamics. This increase in GVC complexity requires firms to enhance their analytical capabilities to manage these extended networks. Our results highlight that **MNEs tend to make incremental adjustments rather than undertaking fundamental overhauls of their supply chains.** Today's GVCs are strongly interwoven globally with high levels of interdependence, so substantial restructuring is very difficult in the short run. In other words, rather than completely restructuring

their operations, **firms are adopting a mix of strategies which increase resilience, including supplier diversification, nearshoring, and enhanced real-time data analytics.** These strategies increase resilience without compromising other competitive drivers like cost, quality and timely delivery. However, all MNEs are becoming more vulnerable in the face of geopolitical turmoil and other disruptions, and therefore they are upgrading their capabilities for strategic risk assessment. **Support for more informed strategy making** could help EU firms to navigate this rapidly evolving landscape and adjust their supply chain strategies effectively. This could be particularly useful for smaller companies with limited in-house capacity.

EU policymakers could **facilitate strategic diversification, in line with the economic security agenda, recently reinforced by the Commission,** by supporting the development of alternative sourcing options which mitigate geopolitical risks, including reliable regional supply chains. Such diversification could be supported by **expanding agreements on trade and investment with like-minded countries,** for example through the Clean Trade and Investment Partnerships being developed by the Commission. More widespread access to risk-monitoring tools, intelligence services from EU-representations abroad, and digital supply chain management solutions could also help to improve firms' ability to anticipate disruptions. This could be achieved through supporting the creation of publicly available supply chain intelligence platforms that provide real-time risk assessments.

## 2. Invest in digital infrastructure for greater supply chain efficiency

Digitalization and automation are transforming supply chain management by optimizing production, improving flexibility, and reducing dependence on distant suppliers. Our research finds that, when faced with external shocks **firms investing in AI-driven logistics and real-time supply chain monitoring systems experience fewer disruptions and recover faster.** It also confirms that digital tools, such as predictive analytics for demand forecasting and blockchain for supply chain transparency, are becoming crucial to managing GVC complexity.

Our findings indicate that technology plays a key role in fostering resilience. **Industries with high automation levels,** such as electronics and precision manufacturing, **have proven more resilient to recent supply chain shocks.** By contrast, firms in sectors that have been slower to adopt digital infrastructure —such as textile and automotive—have suffered greater disruption in production.

In the face of emerging new priorities, it is important that the EU continues to support **investment in digital supply chain technologies,** such as AI-driven logistics and predictive analytics. The Cohesion Funds could be better leveraged to support **funding programs for SMEs to support both investment and reskilling.** **Digital infrastructure investments in regions that are highly integrated into GVCs** should also be expanded, ensuring that all firms can benefit from real-time monitoring and automation.

In this context, at EU and member state level, support for the roll out of **public-private partnerships that integrate digitalization into supply chain processes** could help to reduce vulnerabilities and increase the agility of European industry. Finally, **tax incentives for capital investment and the necessary training** can be a powerful lever to support digitalization. Although this is a member state competence, exchange of best practice and cross border cooperation across the EU could help to support informed and effective policy making.

### 3. Strengthen European leadership in key strategic sectors

Our research underlines that **the EU's leadership in strategic sectors is at risk due to increased global competition**, particularly from East Asia. We note shifts in supply chain dynamics in high-value manufacturing sectors, including medical technology, electronics, and precision machinery, with firms relocating key functions such as R&D, design, and digital services within the EU to maintain competitiveness. While some European firms have successfully restructured operations, prioritizing investment in these functions in Europe, others are losing ground due to insufficient investment in innovation. We also find that **GVCs are evolving into more knowledge-intensive networks**, where companies with strong R&D ecosystems and well-integrated supplier bases are better positioned for long-term success. **Data and data governance are key to many of these networks**. In this context, the EU should continue to develop policies to prevent the monopolization of data by lead MNEs. Establishing a rights-based data governance regime is crucial to fostering competition, innovation, and securing equitable economic development across the EU and its trading partners.

In the face of competing strategic priorities, it is important that the EU continues to support the policies which foster leadership in the key functions that underpin industrial competitiveness. The EU should **expand R&D incentives and promote advanced industrial clusters** to strengthen leadership in high-value sectors. Such strategies need to be informed by detailed analysis of existing strengths, capacities and vulnerabilities, in order to ensure that policy support for long term competitiveness is coherent with industrial needs on the ground.

## FOSTER INNOVATION AND KNOWLEDGE DIFFUSION IN GVCs

### 4. Leverage MNEs as knowledge gatekeepers to boost regional innovation

By transferring expertise across regions and industries, MNEs play a pivotal role in knowledge diffusion, enhancing local innovation capacity and economic development. Our results indicate that **these spillover effects mean that regions with strong MNE integration experience higher innovation rates and productivity growth**. However, some regions struggle to absorb and capitalize on external knowledge inflows. Our analysis of Italian regions (NUTS-3 level) confirms that between 2007-2017 regions hosting MNE affiliates generated more patents per capita than those without such linkages. However, **this effect is strongest in science-based sectors**, such as pharmaceuticals and high-tech manufacturing. Other industries benefit less from these positive MNE effects.

Policy support should seek to **strengthen global and local linkages**, both in terms of local firms developing their overseas presence to benefit from access to technology and knowledge and by fostering linkages between MNEs active in the EU and local firms. In terms of the latter, **expanding collaborative R&D programs that connect MNEs with regional innovation hubs** would help to foster embeddedness within local ecosystems and encourage technology and knowledge transfer. Governments should also support the provision of knowledge-intensive business services that act **as intermediaries between firms and research institutions**, facilitating knowledge transfer. Regional innovation policies should focus on maximizing **absorptive capacity in lagging regions**, ensuring they can benefit from MNE-driven knowledge spillovers. This is coherent with the need to develop more adapted 'place-based' strategies highlighted in the policy brief for WP3.

## 5. Support the retention and expansion of high-value business functions in Europe

Retaining strategic business functions, particularly in R&D, management, and digital services, is crucial to maintaining Europe's competitive edge within GVCs. Our results highlight that although low-value production has shifted abroad, **high-value business activities remain concentrated in advanced economies**. However, **competition for these functions is intensifying**, with firms increasingly relocating them to regions that offer the best ecosystem for innovation and specialization.

Our analysis indicates that this **division of labor is also evident within the EU**, with Western European countries (EU14) more likely to attract R&D and marketing functions, while Central and Eastern European (EU-CEE) regions tend to host production activities with lower value-added and wages. This persistent pattern underscores the **need for policies that sustain and expand high-value functions across Europe**, particularly as industries shift toward greater digitalization.

In addition, the business functions of finance, management, and logistics are both more profitable for MNEs and more locally embedded. Lower-value functions, such as final assembly, are more prone to relocation. In order to encourage firms to retain high-value activities domestically, within the framework of EU state aid rules, member states should be encouraged **to adopt targeted incentives for R&D investment and digital transformation initiatives**. The EU should continue to facilitate this through leveraging funding mechanisms such as Horizon Europe and cohesion policy instruments. More generally, policy should seek to **support the development of regional innovation ecosystems** that encourage firms to invest in core business functions and R&D within the EU.

Workforce skills are also crucial. Continuing to secure minimum levels of skills in the population is vital to building a flexible and resilient workforce that can adapt to evolving economic needs. In addition, there is a need for wider access to training programs focused on **building specialized skill sets that align with high-value business functions**, such as AI-driven analytics, cybersecurity, and advanced digital services. As many of its competitors move to restrict international mobility, continued openness to global skills will be vital to building the EU's innovation eco-system.

## 6. Encourage regional integration of knowledge networks

While reshoring strategies have gained traction, their impact on local economies depends on the strength of regional knowledge networks and the capacity of local firms and institutions to absorb and diffuse innovation. Although MNEs act as knowledge gatekeepers, the diffusion of this knowledge is uneven across regions. **While some regions fully leverage the innovative potential of extra-regional MNE connections, others struggle, due to weak absorptive capacity** and lack of integration into MNE-led knowledge networks. For instance, science-based sectors in Italy benefit the most from MNEs' international knowledge spillovers, while other industries see limited returns from these interactions. **Regional knowledge networks are key enablers in this context**. Firms that are well-connected to these networks through supplier linkages, public R&D institutions, and industry clusters tend to have greater innovation outputs. However, SMEs often lack access to these networks, limiting their ability to benefit from GVC-driven innovation.

These are longstanding challenges, yet our research highlights that, in spite of significant efforts over the years to address them through cohesion funds and other measures, they persist. Consequently, the EU should continue their efforts to **enhance the innovative potential of regional knowledge networks by supporting the integration of SMEs** into MNE-led research and innovation programs. Policymakers should also **expand funding for collaborative innovation projects**, particularly in

peripheral regions that are currently excluded from major knowledge networks. **Cohesion funds should support a European knowledge network integration strategy** aimed at connecting lagging regions with high-tech innovation hubs, ensuring knowledge diffusion reaches a broader range of economic actors across the Union.

## SUPPORT BALANCED REGIONAL DEVELOPMENT THROUGH INDUSTRIAL POLICIES

### 7. Support more equitable reshoring by addressing regional disparities through targeted investment

Reshoring (bringing back production to the EU) has created opportunities for regional economic development, but the benefits have been unevenly distributed across Europe. We find that **while advanced regions have successfully attracted investment, lagging regions face challenges in (re)integrating into high-value GVC segments**. In particular, reshoring has mostly benefited regions with strong automation capabilities and well-established manufacturing ecosystems, whereas less developed areas - especially in Southern and Eastern Europe - have struggled to capture these gains. Thus, **reshoring has generally increased regional economic disparities, rather than reducing them**. Specifically, although host regions which have attracted reshoring activities have experienced faster economic growth, **these benefits are concentrated in regions that were already competitive**. When firms look to reshore activities, less developed regions continue to be disadvantaged by persistent weaknesses in infrastructure, lower levels of industrial specialization, and a lack of skilled labor.

Therefore, EU cohesion policy should prioritize supporting targeted investment programs aimed at **developing infrastructure and local capabilities in underperforming regions** to ensure a more balanced distribution of reshoring benefits. **Incentives to attract high-tech manufacturing and automation hubs** to lagging regions should be expanded to help them overcome these barriers. The EU needs to support the emergence and transfer of the core capacities which will underpin its 'Clean Industrial Deal'. This could be achieved through continued support for the consolidation of core EU strengths in advanced regions, while also encouraging the creation of **regional industrial partnerships** that facilitate knowledge transfer and innovation spillovers to less developed areas

### 8. Strengthening SME participation in GVCs

Many SMEs face structural barriers to GVC participation, including limited access to finance, weak digital capabilities, and difficulties scaling their operations internationally. Despite the challenges posed by offshoring, local subcontractors and SMEs have demonstrated resilience and adaptability within GVCs. Our findings show that in the fashion sector **SMEs that adopt dual sourcing strategies - maintaining both domestic and international suppliers - tend to increase the survival chances of their domestic suppliers**. In fact, nearly 90% of SMEs surveyed indicated that when engaging with international suppliers they continued to source from domestic subcontractors. This suggests that **a balanced approach to global sourcing supports the resilience of domestic subcontracting networks** by reducing the risk of displacement. We find that **SMEs that focus on high-value services, niche production, or specialized manufacturing functions have been able to remain competitive** despite the expansion of GVCs.

By maintaining dual sourcing strategies and sustaining local subcontracting networks, **SMEs play a crucial role in preserving regional industrial ecosystems**. This dynamic enhances the resilience of supply chains and increases the likelihood of MNEs reshoring production back to regions where



strong supplier networks remain intact. As discussed in Recommendation 6, the decision of firms to bring back production depends on **the presence of robust regional knowledge networks** and a competitive local supplier base. **Supporting SME participation in GVCs** is thus not only beneficial for their own survival but also a key factor in shaping future reshoring dynamics in Europe.

Our findings suggest that the EU should **expand support for SMEs to facilitate their integration into global supply chains**. Capacity-building initiatives should focus on **helping SMEs move up the value chain, particularly by supporting investment in high-value services and specialized manufacturing capabilities**. This could include targeted funding for digital transformation and automation upgrading, as well as continued upgrading of trading infrastructure and securing the market access which is necessary to expand their global reach.

## 9. Secure access to critical inputs to ensure the EU's long term industrial needs

European firms still face challenges in **securing access to critical raw materials** and advanced components, which are increasingly concentrated in **supply chains controlled by non-EU economies**. This undermines the key political objective of securing strategic autonomy, especially in some core sectors vital to the EU's broader economic security. **Circularity can help to build resilience**. Faced with raw material shortages, some firms are experimenting with circular business models where they take-back end-of-life products and give them (or their components or materials) a second life. Such circular approaches will help secure supplies of raw materials, reducing carbon footprints, while often also improving the competitiveness of European firms. EU policy initiatives under the forthcoming **Circular Economy Act** should support such initiatives. One area where reform is needed is in relation to regulation which currently **hinders the movement of end-of-life products (waste) across borders** within the EU. Reforming such rules could support the scaling of circular solutions, making them more financially viable.

Policy can also play a role in helping to reduce dependence on non-EU and/or unreliable suppliers for essential materials and components and **secure critical supply chain inputs for local producers**. This could be achieved through the development of strategic raw material partnerships with allied countries (as discussed in the WP4 policy brief), direct investment in domestic extraction and processing capabilities, and **fiscal or public procurement incentives** for firms that integrate recycled or local materials into their production processes, to reduce reliance on scarce imports.

## PROJECT IDENTITY

### PROJECT NAME

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Towards a World Integrated and Socio-economically Balanced European Economic Development Scenario (TWIN SEEDS).

### COORDINATORS

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### FUNDING SCHEME

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HORIZON-RIA - HORIZON Research and Innovation Actions

### DURATION

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1 October 2022 – 30 September 2025

### BUDGET

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€ 2 707 496,50

### WEBSITE

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