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Supply Chain Productivity:

Strengthening Supply Chains to Power Midlands Productivity

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Introduction

The Midlands plays a pivotal role in the UK's industrial and export landscape, hosting vital supply chain and logistics operations that support key sectors such as automotive, aerospace, and advanced manufacturing. However, persistent inefficiencies, underutilization of R&D capacity, and a fragmented supplier ecosystem have significantly constrained regional productivity. While global supply shocks, Brexit, and rising energy costs have exposed vulnerabilities in international supply dependencies, they have also underscored the urgency of building more resilient, innovative, and locally integrated supply chains. More recently, growing trade protectionism, strategic industrial policy, and persistent geopolitical trade tensions have further reinforced the case for strengthening domestic and regional supply chains.

This guide explores how the Midlands can address its structural weaknesses, leverage its research and industrial assets, and implement targeted interventions to unlock supply chain productivity and drive sustainable regional growth.

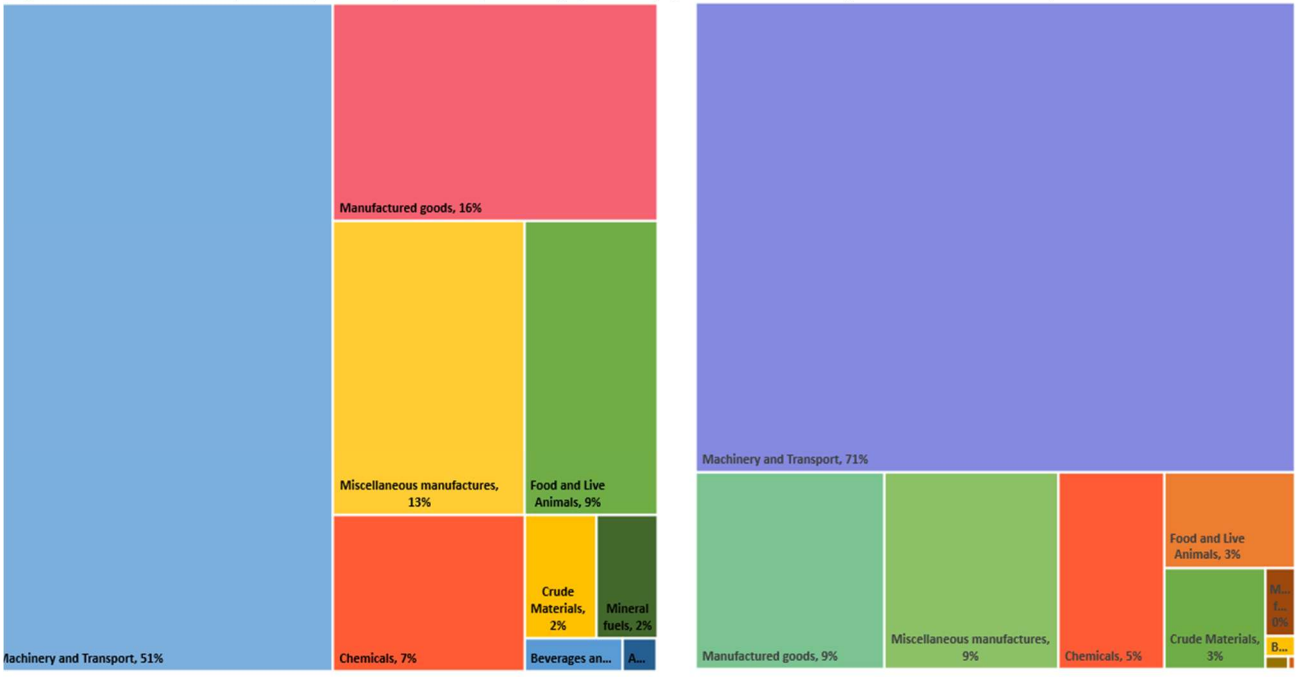
Fragmentation and Inefficiency

The Midlands' supply chains are heavily fragmented, leading to inefficiencies that elevate costs and reduce responsiveness to supply chain shocks. For example, **logistics issues and poor coordination among businesses have led to an estimated 15-20% increase in operational costs**, as noted in the Midlands Engine's review [5]. Many SMEs struggle to optimize their use of local suppliers and often rely on more costly international markets. These inefficiencies, particularly in the manufacturing sector, reduce the region's output by approximately £2 billion annually [1].

One of the key challenges is the lack of planning and coordination within regional supply chains. This leads to inefficiencies throughout the entire chain, exacerbating problems like the **bullwhip effect**—where small fluctuations in demand ripple through the supply chain, leading to significant inefficiencies. Large Original Equipment Manufacturers (OEMs) often don't engage in effective supply chain planning, focusing more on procurement, which further reduces the productivity of smaller firms down the chain [3].

As shown in Figure 1, **Machinery and Transport equipment dominate both imports (51%) and exports (71%)** in the Midlands, highlighting the critical role of these supply chains. However, the relatively **low trade volumes in other sectors**—such as chemicals, food, and miscellaneous manufactures—point to **limited diversification and deeper fragility** in the region's trade ecosystem.

Figure 1: Midlands imported (left box) and exported (right box) goods structure (SITC classification)



Source: UK Regional trade in goods statistics 2023 [15]; Note: Midlands imports is £75,976m and exports is £62,378m in 2023

Over-Reliance on External Markets

While global supply chains have historically offered cost advantages, the Midlands' **over-reliance on international—particularly European—markets** now poses a structural vulnerability. Trade statistics reveal that **60% of the region's exports are directed to the EU**, with **45% from the West Midlands and 38% from the East Midlands** going to European markets [3]. This heavy concentration has made regional firms highly exposed to external shocks and regulatory changes. **Post-Brexit frictions**, including tariffs and customs procedures, have increased export costs by up to **15%** in some sectors, while **non-tariff barriers and delays have contributed to an estimated 10–15% reduction in output** in EU-dependent industries, according to The Productivity Institute.

This dependency to global markets has become clear due to recent external shocks. As illustrated in **Figure 1**, Midlands export and import flows are highly concentrated in capital-intensive sectors like **machinery and transport**, which heavily reliant on international trade partners especially upstream part of the chains. The resulting supply chain fragility was severely tested during the **COVID-19 pandemic**, which exposed overdependence on just-in-time imports, and again during the **energy crisis**, which disrupted the movement and affordability of goods across borders leading to higher inflation. Now, we observe how trade war tensions are escalading due to Trump administration's foreign trade policies. These events have prompted renewed calls for **re-localising supply chains** and building regional resilience through domestic trade and more strategic sourcing.

One persistent barrier to change is the **misconception that overseas sourcing is always cheaper**. Yet when **total landed cost** is considered—including shipping, delays, tariff risks, and carbon exposure—local suppliers often prove more competitive and agile. In many instances, firms simply lack the data, tools, or networks to evaluate these trade-offs.

To address this, initiatives like the **West Midlands Combined Authority's Supply Chain Transition Programme** are providing targeted support to SMEs. The programme actively promotes local sourcing in high-growth sectors such as **micromobility, electric vehicles, aerospace**, and **light rail**. By connecting firms with sector specialists, offering one-to-one coaching, and enabling access to new markets through meet-the-buyer events, the initiative helps build **internal supply capabilities** and reduce exposure to volatile global trade dynamics. Such place-based programmes are essential to **reshoring critical capabilities**, **diversifying supply routes**, and **fostering intra-regional trade networks**.

Case study 1: WMCA's Supply Chain Transition Program	
The Supply Chain Transition Program by the West Midlands Combined Authority (WMCA) was launched to support SMEs in adapting to new market conditions and to encourage local sourcing within high-growth sectors such as aerospace, light rail, electric vehicles, and micromobility. Funded by the Commonwealth Games Legacy Enhancement Fund, the program provides a comprehensive suite of support, including intensive one-on-one coaching, workshops, and networking opportunities, like meet-the-buyer events. Delivered in partnership with regional expertise—such as Midlands Aerospace Alliance for aerospace and Warwick Manufacturing Group for micromobility—the program equips SMEs with tools for risk management, strategic planning, and certifications necessary to diversify their customer bases in emerging sectors. Targeted to assist 160 regional businesses, the program has demonstrated potential to boost sales with new customers in growing sectors, contributing to economic resilience by enhancing local supply chains and supporting new job creation in the West Midlands	"**Since January [2021], around 52% of businesses have reported challenges exporting and 60% have reported challenges importing... The imbalance of (strong) demand and (disrupted) supply is leading to rising prices and higher transport costs.**" House of Commons Library, 2021

Technological Lag and Underutilization of R&D Capabilities

SMEs, which form the backbone of the Midlands' economy, often lack the resources to invest in state-of-the-art supply chain technologies. This is compounded by a low rate of engagement with R&D institutions that could help integrate cutting-edge innovations into their operations [2].

Despite the presence of significant R&D institutions in the Midlands, such as leading universities in Birmingham, Coventry, and Leicester, much of the innovation capacity remains underutilized by SMEs. Recent data shows that only 12% of SMEs in the Midlands regularly engage with local R&D facilities. The concentration of R&D funding within large institutions exacerbates this problem, leaving smaller businesses without sufficient resources for innovation. For instance, R&D spending as a percentage of GDP in the Midlands is 1.2%, below the national average of 1.7%. Additionally, only 20% of SMEs have engaged in any R&D activities in the past year, compared to 35% in more innovative regions like the Southeast [9].

Analysis from the **NIESR** suggests that distributing R&D funding more equitably could boost regional innovation by 20-25% [47], especially in high-growth sectors like advanced manufacturing and

green technologies. If SMEs in the region could better access R&D funds, the estimated long-term impact on regional GDP could exceed £1.5 billion annually.

SMEs in the Midlands often lack access to the resources and technologies needed to optimize their supply chain operations. According to local insight, many SMEs do not recognize the importance of supply chain planning and lack the capital to hire dedicated planners. This limits their ability to utilize cutting-edge technologies or advanced supply chain platforms, further hindering productivity growth.

Despite the strong presence of research-intensive universities in the Midlands, SMEs continue to face barriers in accessing innovation support and technological expertise. Bridging this divide requires not only funding, but also purpose-built mechanisms that translate academic research into practical solutions for business. The UK SCALE Centre at Loughborough University offers one such model, showcasing how international collaboration and applied research can address supply chain challenges while strengthening the region's innovation ecosystem.

Case study 2: MIT SCALE Centre in Loughborough	
In partnership with MIT, the UK SCALE Centre at Loughborough University serves as a key hub for supply chain innovation in the UK. Its mission is to advance the logistics and supply chain sectors by addressing complex global challenges in productivity, sustainability, and resilience. As part of the MIT Global SCALE Network, the SCALE Centre collaborates with other international research hubs to leverage expertise and foster innovation. Through joint research projects, the centre actively engages with industry partners to tackle real-world issues, such as digital transformation and circular economy practices, which have become crucial in modern supply chain operations. Additionally, it offers a unique Master's program in collaboration with MIT, where students gain dual certification and hands-on experience in both the UK and US. The centre's research outputs provide actionable insights that help businesses improve efficiency and resilience. By promoting sustainable practices and training future leaders through its joint degree program, the SCALE Centre is strengthening the Midlands as a leader in supply chain advancements	"**In 2020-2022, 36% of UK businesses were innovation active. This is a decrease compared to 45% in 2018-2020. Large businesses were more likely to have innovated than small and medium enterprises (SMEs).**" UK Innovation Survey 2023

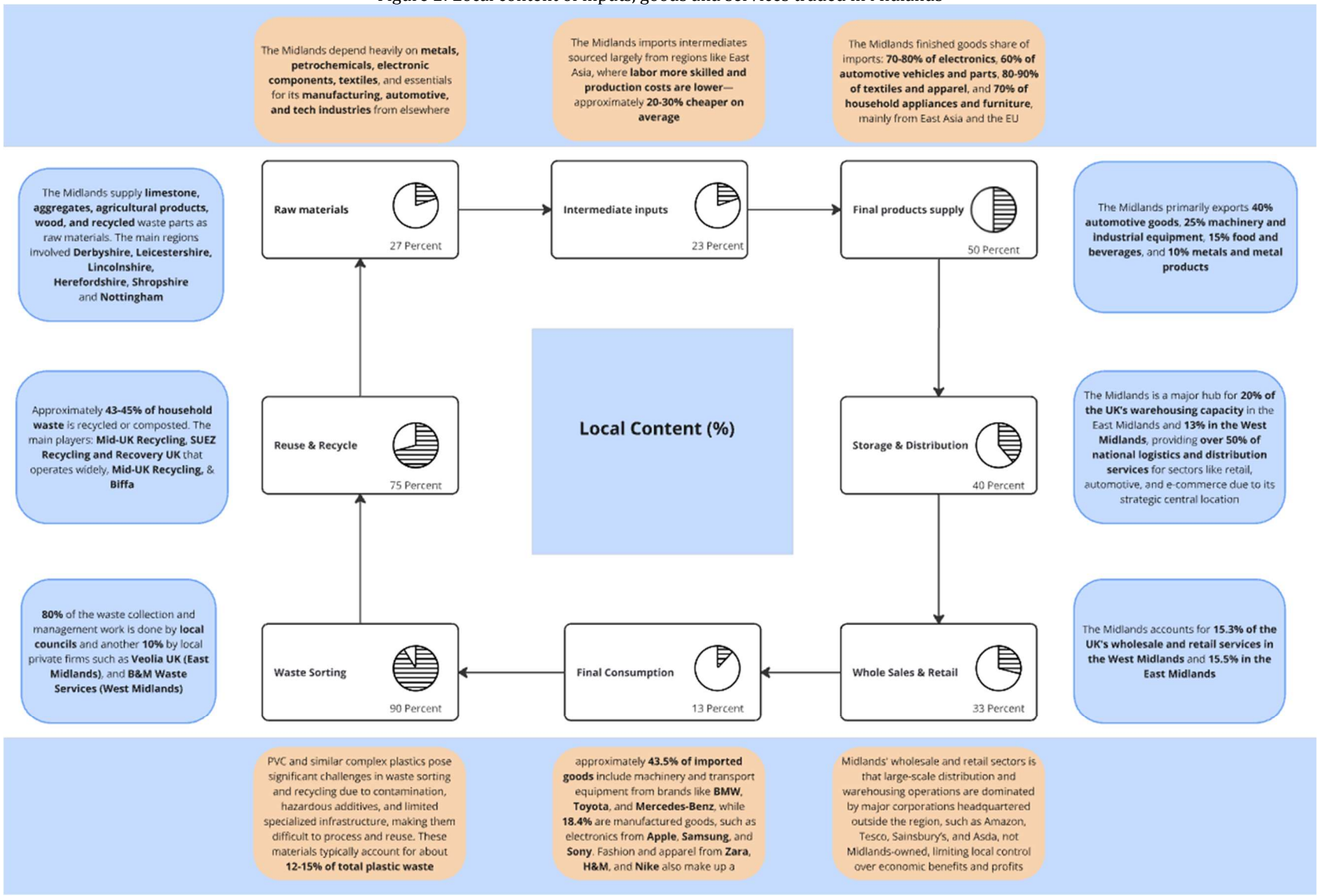
Limited Local Sourcing & Local Content in traded goods and services domestically

The figure 2 demonstrates another problem – low domestic content in different critical stages of the Midlands' supply chain, production, consumption and trade. While the region shows some relative strengths—particularly in waste reuse and recycling (75%) and waste sorting (50%)—most other areas of the supply chain remain externally reliant. For example, **70–80% of electronics, 60% of automotive vehicles and parts, and over 70% of household appliances are still imported**, often from East Asia and the EU. This reliance is often justified by perceived cost-efficiencies abroad, with intermediate goods reportedly 20–30% cheaper to source from overseas due to lower production costs and scale advantages.

Notably, the region has considerable untapped potential in raw material supply, with counties such as Derbyshire, Nottinghamshire, and Herefordshire possessing natural resources like aggregates and recycled waste products. Yet this capacity is not fully leveraged due to fragmented sourcing strategies and weak local procurement incentives. Additionally, the map reveals that final product supply and storage/distribution remain weak points, each involving heavy external dependencies or centralized hubs that do not evenly distribute benefits across the region. Despite the Midlands hosting 20% of UK warehousing capacity in the East Midlands and 15% in the West Midlands, the dominance of large corporations headquartered outside the region means that much of the economic benefit—especially value capture—flows elsewhere.

Ultimately, the absence of a cohesive intra-regional trade strategy and limited integration between local manufacturers and public authorities constrain opportunities to strengthen local sourcing and boost resilience. Coordinated interventions—such as supply chain mapping, buyer-supplier matchmaking, and strategic local procurement—could significantly improve the Midlands' ability to retain value, manage shocks, and accelerate its transition to a more sustainable and productive economy.

Figure 2: Local content of inputs, goods and services traded in Midlands



Note: Information has been gathered from various sources and reports

Policy Interventions Needed

1. Planning Hubs: A major solution to the formation of local supply chains is the establishment of planning hubs. These hubs would offer SMEs access to supply chain planning as a service, helping them better coordinate their operations without the need for significant capital investments. This would enable SMEs to use their existing assets more efficiently, leading to increased productivity [3]. Planning hubs could be subsidized by the government, similar to models used by large companies like AstraZeneca and BAT, which operate planning hubs for their global supply chains. This approach could be transformative for SMEs in the Midlands, allowing them to boost output and productivity without additional capital investment.

2. Improved Local Sourcing and Regional Trade: Increasing local content in supply chains is essential, especially in sectors like automotive, where supply chains have been hollowed out due to global sourcing practices. Encouraging firms to reconsider local suppliers as a cost-effective alternative would bolster the Midlands' supply chain resilience [8]. Efforts to strengthen local supply chains must focus on improving intra-regional trade and encouraging local procurement. Data from the Supply Chain Transition Programme indicates that local sourcing by SMEs increased by 25% over two years due to workshops and coaching. Expanding this program across the region could save up to £500 million annually in logistical costs by reducing reliance on international suppliers and fostering local production partnerships. Public procurement policies, such as the introduction of local content requirements for government contracts, could further support local supply chains. By mandating that a portion of public contracts be fulfilled by Midlands-based suppliers, local businesses could see an additional £1 billion in revenue [8].

3. Equitable Distribution of R&D Funding: Making R&D funding more accessible to SMEs will be crucial for driving innovation and improving supply chain productivity. Currently, only a small percentage of SMEs engage with local R&D facilities, leaving a wealth of innovation potential untapped. Redirecting more resources to SMEs and fostering collaborations with universities and research centres will help integrate advanced supply chain innovations into local businesses, raising productivity by an estimated 30% [4]. Equitable distribution of R&D funding is essential for fostering innovation across all business sizes. Analysis shows that increasing the accessibility of R&D grants for SMEs could raise their productivity by as much as 30%. For instance, implementing targeted grant schemes for high-growth sectors, such as digital technology and advanced manufacturing, would ensure that smaller firms can participate in regional innovation ecosystems. Moreover, the establishment of regional innovation hubs, similar to those in Germany's industrial heartlands, could provide SMEs with direct access to cutting-edge research and infrastructure. This could contribute an additional £1 billion to the Midlands' economy within five years.

4. Supply Chain Fundamental Training: Many SMEs lack understanding of supply chain fundamentals, limiting their ability to improve efficiency. A local insight suggests that existing training programs, such as "Supply Chain Fundamentals", could be expanded and subsidized to help SMEs in the region upskill their workforce. This would enable them to adopt best practices in supply chain planning and management [4]. The critical factor in supply chain productivity is workforce capability. Upskilling programs tailored to the needs of the region’s supply chains will ensure that businesses have the skilled labour needed to adopt new technologies and optimize their supply chains. Strengthening the link between universities, industry, and apprenticeship schemes will help close the skills gap and drive productivity [6]. Workforce development is

essential to equip the region's labour market with the skills necessary for supporting cluster growth and modern supply chains. A survey from PwC's Good Growth for Cities shows that skills shortages have negatively impacted 40% of businesses in the Midlands, especially in high-tech industries. Addressing this issue requires investing in targeted training programs that align with the needs of local industries.

5. **Promoting Sustainability and Innovation:** Moving towards a **circular economy**—where parts are repaired, refurbished, and reused—could significantly enhance supply chain resilience while contributing to sustainability goals. This would also reduce the dependency on international suppliers by creating robust local supply chains that can adapt to disruptions more effectively [6]. A significant opportunity exists in the adoption of advanced digital logistics and supply chain platforms. Introducing widespread digital integration among Midlands-based SMEs could cut operational costs and increase efficiency. Policymakers should encourage the adoption of these technologies by offering targeted incentives and funding opportunities, particularly for small businesses that may struggle with initial capital investments [7]. Sustainability and innovation are critical for the long-term resilience of the Midlands' economy. According to PwC's Green Jobs Barometer, transitioning to a low-carbon economy could create over 30,000 new jobs in the Midlands by 2030 Incentives for businesses adopting green technologies, such as tax breaks for energy-efficient investments, could save an additional £400 million in energy costs annually.

Promoting innovation through startup incubators and green technology grants would also accelerate the region's shift towards a more sustainable industrial base. Investment in green infrastructure, such as electric vehicle charging stations and renewable energy projects, could boost regional GDP by up to 3% by 2030.

Addressing the challenges in supply chains and cluster development in the Midlands requires a data-driven, strategic approach. By investing in local supply chains, equitably distributing R&D funding, developing a coherent cluster strategy, upskilling the workforce, and promoting sustainability, the Midlands can significantly enhance its global competitiveness and drive sustainable economic growth. Data analysis shows that these interventions could increase the region's GDP by 5-8% over the next decade, cementing the Midlands as a key player in the UK's industrial future.

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