

In collaboration with Kearney



Global Value Chains Outlook 2026: Orchestrating Corporate and National Agility

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Foreword



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The past year has confirmed what many leaders had sensed: global supply chains have entered a new era of structural volatility. In 2025 alone, tariff escalations between major economies have reshuffled over \$400 billion in trade flows to date (and growing),¹ while disruptions in the Red Sea and Panama Canal have driven container shipping costs up 40% year on year.² Meanwhile, International Monetary Fund (IMF) data shows manufacturing output across advanced economies at its weakest growth since 2009.³ At the same time, artificial intelligence (AI) and automation are redrawing the geography of value creation, concentrating capabilities in a handful of technology-enabled ecosystems and deepening dependencies in data, energy and talent. AI-related investment in supply chain and manufacturing operations reached \$20 billion in 2025 – up from \$6.5 billion in 2022.⁴ Yet access to critical inputs such as advanced chips, cloud infrastructure and training data remains concentrated among select economies, reinforcing the digital divide.⁵

These are not isolated shocks – they signal a structural rewiring of globalization. The linear model of “produce anywhere, deliver everywhere” has fractured into regional systems balancing efficiency with resilience. Geopolitics, energy transition and technological acceleration now move in tandem, reshaping where and how the world makes, moves and trades. In this environment, foresight has become the new currency of competitiveness.

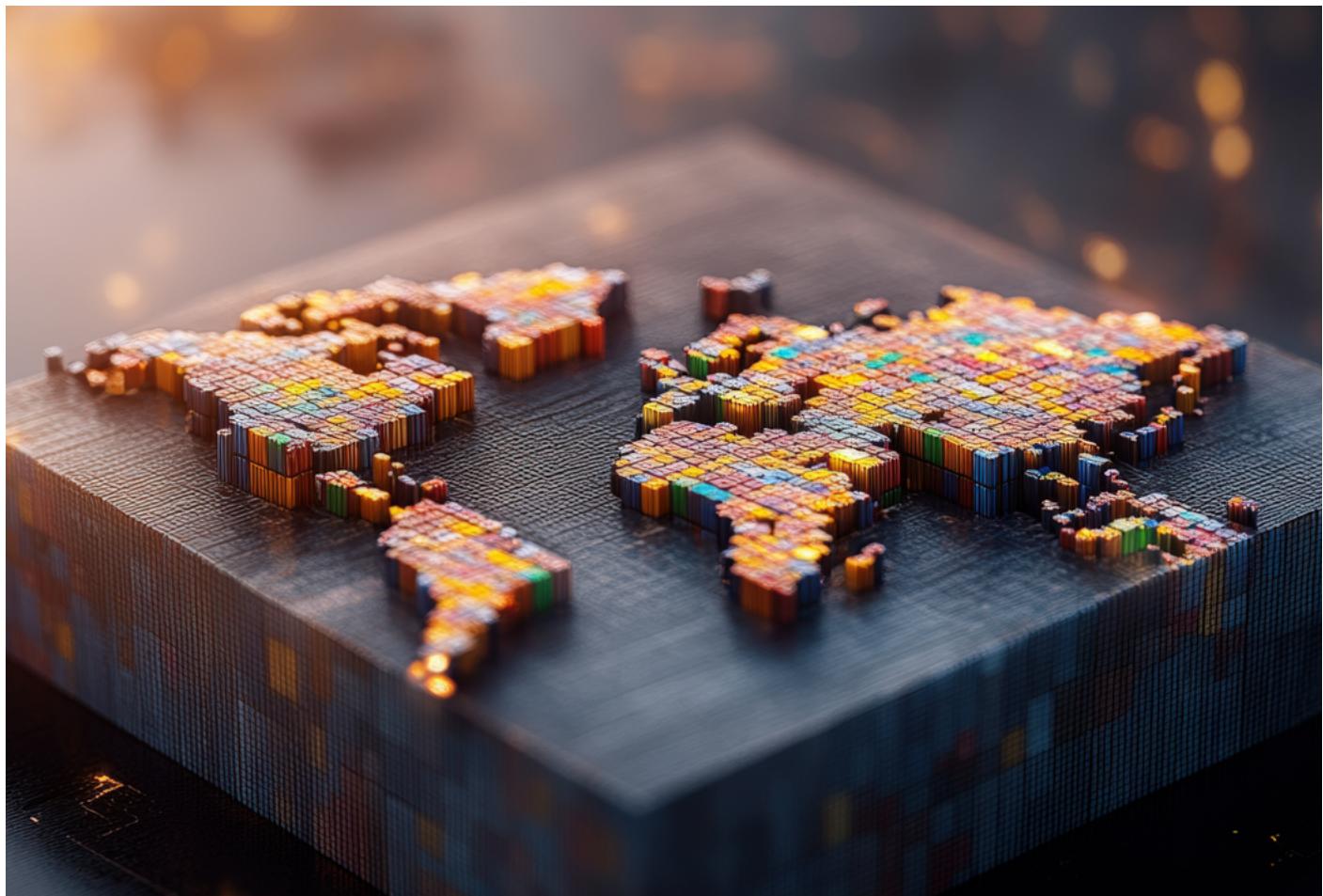
This white paper builds on a multi-year collaboration between the World Economic Forum and Kearney that has traced this transformation step by step. In 2023, we identified the structural forces rewiring global value chains.⁶ In 2024, we examined how leading manufacturers are redesigning their supply networks,⁷ and introduced the Country Readiness Framework, broadening the definition of national competitiveness to include factors such as infrastructure, energy, innovation, governance and diplomacy.⁸

“The Global Value Chains Outlook 2026” continues this trajectory. Drawing on insights from over 100 consultations with industry, government and academic leaders, along with survey data from more than 300 global executives and case analyses, this report offers a dual playbook for navigating structural volatility. For companies, it details how to re-architect operations for agility, trust and digital foresight. For policy-makers, it outlines how to build the enabling ecosystems in which adaptive industries can thrive.

The objective is not to predict the next disruption, but to help leaders design systems that thrive on it. In an age when supply has become the defining constraint and policy the new design variable, success will belong to those who treat uncertainty as an enduring condition – and a source of advantage.

Executive summary

Amid rising fragmentation and technological change, business and government must jointly build resilient and agile supply chains.



Global supply chains stand at a historic inflection point. After decades defined by scale, cost optimization and globalization, a new era has emerged – shaped by fragmentation, systemic constraints and continuous disruption. The world has shifted from predictable integration to structural volatility. The assumptions that once made supply chains efficient – institutional stability, network predictability and open trade – have become sources of fragility. Rising geopolitical tensions, national industrial policies and uneven growth demand a profound re-architecting of how industries design their production networks and how governments shape enabling ecosystems.

The “Global Value Chains Outlook 2026” builds on a multi-year collaboration between the World Economic Forum and Kearney and draws insights from more than 100 consultations with industry,

government and academic leaders, survey data from over 300 global executives and real-world case examples. It offers a **dual playbook** to navigate this new operating environment:

- **For the private sector:** A strategic guide to orchestrate operations with foresight, agility and trust to turn uncertainty into advantage.
- **For the public sector:** A policy blueprint to build the enabling environment where adaptive, future-ready industries can thrive.

Five interlocking structural forces are redefining the outlook for global supply chains. Slowing and uneven growth, driven by inflation, tighter capital and widening divergence, is forcing companies to redesign networks around constrained supply, energy and localized demand.

Fragmentation and geopolitical volatility are accelerating as trade barriers, industrial policy and ongoing conflicts fracture globalization into competing blocs anchored by the United States (US), China and the European Union (EU). Technological acceleration, led by advances in AI, quantum computing and automation, is redefining productivity and reshaping how industries compete. And finally, trust has become the new currency as public scrutiny and national alignment intensify, making transparency, data integrity and credibility strategic imperatives.

Individually, each of these forces is disruptive; together, they are systemic and rewriting how the world sources, produces and delivers. The result is an environment in which uncertainty is structural, not cyclical and where the outlook for global value chains will be more transactional, more volatile, more fragmented and, in some cases, more degraded than anything global leaders have experienced in the past four decades. This reality demands a new leadership logic for business and policy: foresight over forecasting, orchestration over control and agility over efficiency.

Winning supply chains in this context are shifting from centralized control to decentralized intelligence – from linear, vertically managed systems to interdependent networks of suppliers, customers, regulators, financiers and digital platforms. Competitive advantage now depends not on end-to-end control, but on orchestrating value, trust and data across networks far beyond direct ownership. This demands action from both business and government.

For **corporate leaders**, competitive advantage in this environment will rest on three interconnected supply chain imperatives:

- 1. To become an ecosystem orchestrator, not end-to-end operator:** Aligning diverse ecosystems of suppliers, customers, innovators and regulators around shared outcomes.

- 2. To build distributed scale, not concentrated scale:** Constructing modular, technology-enabled networks that balance efficiency with adaptability and leverage economies of skill, not just scale.

- 3. To design optionality for growth, not redundancy for risk mitigation:** Embedding optionality, flexibility and intelligence to capture upside opportunities amid disruption.

For **policy-makers**, this report introduces a policy blueprint that defines the foundations of an industrial ecosystem and supply chain competitiveness by outlining leading targeted policies and interventions across seven readiness factors. Building on these, sustained progress will rest on institutional readiness. The ability to turn policy vision into execution will define which economies attract investment, innovation and trust.

A new analytic tool introduced in this report, the [Manufacturing and Supply Chain Readiness Navigator](#), provides a shared, data-driven compass for the same readiness factors for both government and industry leaders. It is designed to support companies in decision-making on the design of their global footprints; and for governments to diagnose industrial competitiveness gaps, target high-impact reforms and communicate progress credibly to global investors.

Private and public leaders now share a mandate to re-architect supply chains for structural uncertainty. The outlook ahead for global value chains will not be defined by those who anticipate disruption, but by those who design through it – turning volatility into momentum for growth and building the structural agility to thrive on the very uncertainty that others fear.



Beyond legacy supply chains

Orchestrating resilience, innovation and trust across supply chains is essential to thrive amid fractured global systems.

Legacy supply chains were built for linear efficiency and abundance; they now face structural volatility driven by geopolitical tensions, proxy conflicts, policy interventions and rapid automation. The global operating environment is undergoing a profound realignment, where legacy supply chain models are no longer viable. What was once a stable web of trade and specialization has fractured into competing blocs, asymmetric growth and accelerating technological rivalry. Supply itself has become the constraint – across energy, minerals, labour, logistics and even institutional trust.

In this new context, supply chains have moved from back-office enablers to the front lines of national strategy and corporate resilience. The goal is no longer to restore old equilibrium or absorb shocks, but to build systems designed to master the permanence of disruption. Success now depends on shifting from forecasting to orchestrating the future – aligning supply security, innovation and ecosystem trust into an integrated, adaptive model of advantage that can flex with the forces reshaping the global economy.



At the end of the day, every dollar we spent on agility has probably got a 10x return on every dollar spent on forecasting or scenario planning.

Marc Engel, Chief Supply Chain Officer, Unilever (2016-2022)⁹

1.1 Orchestrating supply chains for optionality and growth

Uncertainty in the global operating environment is no longer an iterative cycle to manage but rather a system condition to design for. The latest projections from the IMF, World Bank, the Organization for Economic Co-operation and Development (OECD) and the United Nations (UN) all point to *lower growth for longer*, warning that geopolitics, economic divergence and technological asymmetry have made disruption a permanent feature of the world economy.¹⁰

Volatility is now the baseline. Geopolitical competition predominantly informs national strategy as countries pursue security and sovereignty, while industrial policy interventions have shifted from exception to norm. The Global Trade Alert has recorded more than 3,000 new trade and industrial policy measures so far in 2025, roughly 3.5 times the annual total in 2016.¹¹ Meanwhile, energy and

resource nationalism are reshaping access to critical minerals and inputs. The policy environment itself has become an operating variable – dynamic, contested and deeply consequential for where companies build, source and invest.

Five structural forces are redefining global supply chains:

1 Subdued and uneven growth. Demand and supply are decoupling as slow growth, persistent inflation and tightening capital markets reshape profitability and investments. Growth stagnates in advanced economies while select emerging regions expand. Operations leaders are shifting their paradigm from *supply chasing demand* to *demand shaped around constrained supply*, redesigning networks around local growth, energy and infrastructure readiness.

2 Fragmented networks. Rising trade barriers, tariffs and localization mandates have deepened economic fragmentation. Long, linear supply chains optimized for efficiency are evolving into digitally enabled ecosystems. Nearshoring, dual sourcing and AI-driven forecasting are standard practice, while geopolitics and industrial policy are now structural design variables requiring compliance agility, scenario modelling and policy foresight.

3 Geopolitical instability. Persistent conflicts, from Ukraine, to the Middle East, to East Asia, alongside the reordering of historic alliances, are ushering in a period of deeper volatility. Globalization is splintering into semi-autonomous trade blocs, anchored by the US, China, the EU and emerging “swing states.” For supply chain leaders, competitive advantage now lies in *optionality* – the ability to pivot production, sourcing and logistics seamlessly across multiple competing systems.

4 Technological acceleration. AI, quantum computing and automation are accelerating productivity gaps between nations and sectors, concentrating value in a few digital powerhouses while exposing others to new dependencies in compute, data and energy. Kearney research shows that early adopters of AI in supply chains are already achieving up to 15% logistics cost reductions, 25% shorter lead times, 35% lower

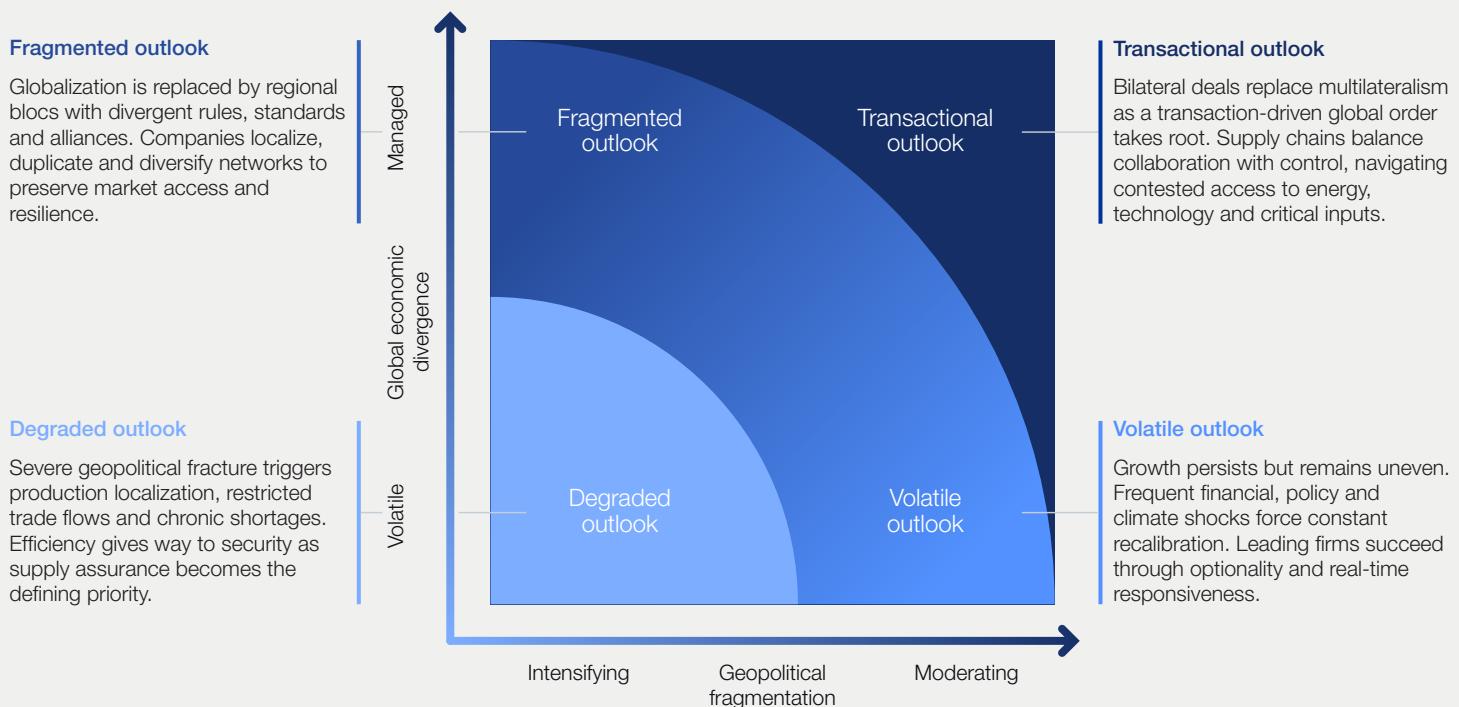
inventory levels and 15% procurement spend reductions. Learning speed has replaced scale as the ultimate differentiator, widening the divergence.

5 Trust as the new currency. Rising public scepticism and geopolitical rivalry are forcing companies to operate under heightened scrutiny and national alignment. Transparency, data sharing and corporate accountability have become strategic assets, making credibility across partners and ecosystems as valuable as efficiency.

Each of these forces on their own is disruptive; together they are systemic and rewriting the operating conditions for supply chains. The result is an environment where uncertainty is structural, not cyclical. To navigate this complexity, the World Economic Forum and Kearney explored a spectrum of plausible outlooks that could emerge and will often coexist, over the next three to five years. These overlapping realities are already shaping decisions across industries and geographies. They present an outlook for global value chains that will be more transactional, more volatile, more fragmented and, in some cases, more degraded than anything global leaders have experienced in the past four decades. Each represents a different equilibrium of risk, opportunity and operating conditions (Figure 1).

FIGURE 1

How geopolitics and economics are shaping the global environment for supply chains





more leaders see resilience and agility as core to competitive advantage and growth than they did five years ago.

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These outlooks highlight that global value chains must confront multiple operating environments, often simultaneously, depending on geography, sector or industry. For instance, a semiconductor manufacturer navigating export controls, technology bifurcation and resource nationalism is likely operating in a “fragmented” outlook, while a consumer-goods company managing inflation, shifting consumer sentiment and global supply outages may be operating within a “volatile” demand environment. No company can plan for a single, predictable future. Resilience now

depends on the ability to navigate multiple divergent futures simultaneously.

Traditional, reactive supply chain models built for stability are obsolete. For the C-suite, the central question has shifted: how to fulfil demand reliably when access to energy, labour, data and other critical inputs can be redefined overnight by policy, technology or conflict? The answer lies in structural agility with systems designed to pivot across outlooks without losing coherence.

No company could have been fully prepared for the disruptions witnessed over the last 5-10 years. Now, with geopolitics, everything is even more unpredictable. The best a company can do is react with speed, without rushing to premature conclusions about any single disruption.

Andrea Paolo Lai, President, Global Operations, Oerlikon

1.2

The C-suite’s strategic shift: From supply chain execution to value orchestration

The number of supply chain leaders shaping early product and market strategy decisions is more than double from five years ago.

For decades, operations followed a simple logic: business conceived products and placed demand, while supply chains executed. This separation assumed abundance, stable access to inputs and frictionless global trade. This paradigm no longer holds. This is the inflection point for a new model of leadership.

Every growth decision is a supply decision. Boardrooms are realizing that supply chains are not the end of value creation but its very architecture. They are becoming strategic platforms for value creation, innovation and geopolitical resilience and no longer passive executors of demand.

For many leaders, this shift requires re-examining fundamental strategic supply questions. For example: “Can our product be redesigned to use more readily available materials?” or “Should our market entry strategy prioritize regions with more stable supply ecosystems?”

“

A business strategy must be anchored to the supply chain strategy, not just growth projections. Without that anchor, we might default to low-cost options, leaving the enterprise cornered and exposed when the next disruption hits.

US-based sustainability executive, apparel sector

These are not theoretical questions; they are practical design choices. During the 2020-2022 semiconductor shortage, Ford Motor Company rewired its operating model around scarcity rather than scale. The company shifted from inventory-heavy dealership sales to a built-to-order model, allocating scarce chips to high margin and new launch vehicles and simplifying designs by removing non-essential features. By aligning production to constrained inputs rather than speculative forecasts, Ford expanded its US order bank to seven times its pre-pandemic levels and turned a major structural constraint into competitive advantage. This is an example of orchestrating resilience in action – integrating foresight, design and execution into a single adaptive system – and demonstrates that supply chains are no longer passive execution engines but dynamic platforms for value creation and resilience.

3 in 4

leaders would prioritize resilience investments for superior returns.

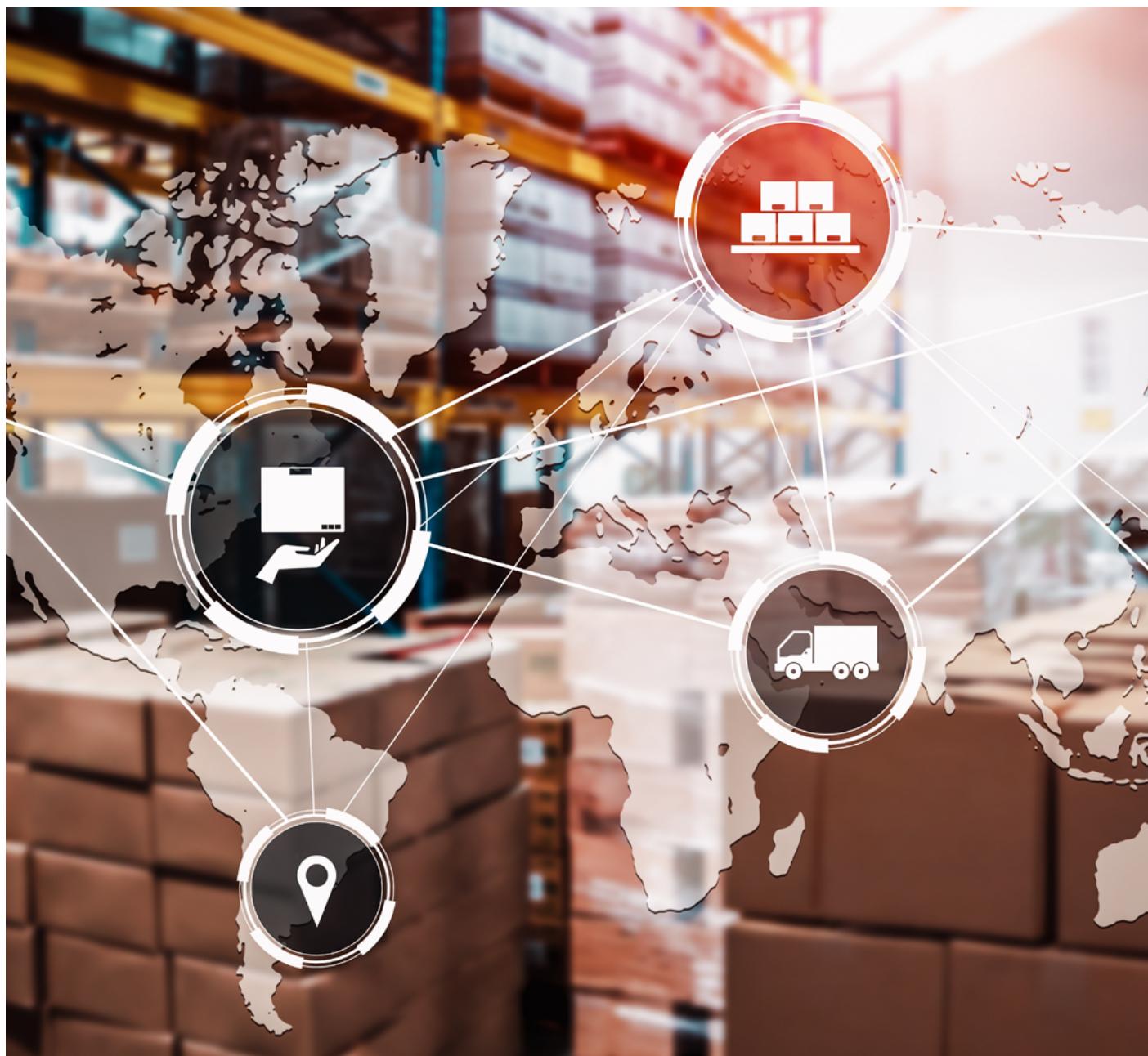
Recasting the supply chain as a dynamic, adaptive, networked system – not a fixed, linear system – is therefore not a functional upgrade but a leadership imperative. Competitiveness now depends on leaders who can **orchestrate across fragmentation** – aligning industrial strategies, supply networks and digital ecosystems. Companies that once optimized for efficiency are

now rewiring for endurance – embedding optionality into sourcing, regionalizing production and investing in digital visibility to pivot swiftly as conditions change. This marks a new leadership mindset, where supply chains are no longer cost centres to manage but strategic assets to design. Those who successfully orchestrate across partners, policies and data will turn volatility into advantage.

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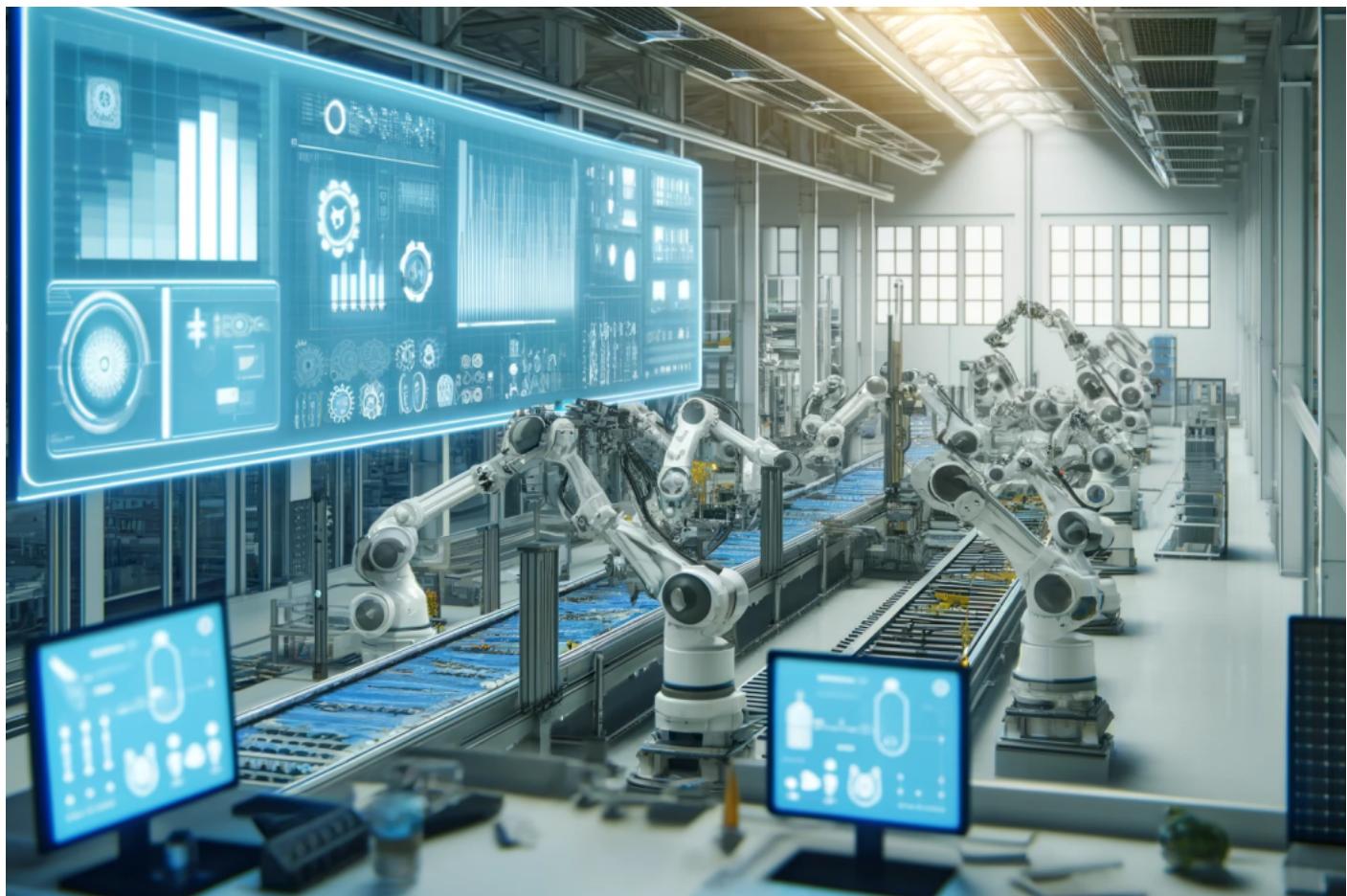
Winning in this world of flux and variation requires deeper collaboration and alignment both within companies and across their supplier and customer networks. Engineering solutions to complex supply chain dynamics is a team sport and traditional siloed organizational structures are unlikely to respond effectively.

Peter Gibbons, Group President, Global Enterprise Supply Chain, 3M (2023-2025)



A corporate playbook for structural agility in supply chains

Competitive advantage now comes from ecosystem orchestration, distributed scale and optionality.



2.1 Strategic imperatives for building adaptive, future-ready supply chains

If the age of linear optimization is over, then sustained volatility demands a new corporate playbook that is built on structural agility, not control. Success now depends on how fast organizations can sense disruption, reconfigure capacity and redeploy advantage. This is the next frontier of operational leadership: from efficiency to adaptability,

from execution to orchestration. Based on survey data, extensive research and executive dialogues with over 100 global industry leaders, three interdependent imperatives define the foundation of this new model. Each converts uncertainty from a constraint into a catalyst for growth.

FIGURE 2 | Strategic imperatives for supply chains



Imperative 1

To be an ecosystem orchestrator, not end-to-end operator

1 in 3

leaders say digital visibility and coordination defines supply chain competitiveness, overtaking cost and efficiency.

The rethinking: Traditional supply chain operators think along a linear “plan-source-make-deliver” functional orientation and manage what they own. Orchestrators, by contrast, *shape* what they influence. In a multipolar economy, no single company can be resilient in isolation.

The mandate: Moving from operational control to ecosystem orchestration – actively synchronizing capabilities across a diverse, agile ecosystem of suppliers, technology providers, logistics partners and contract manufacturers. The orchestrator builds coherence across systems that do not naturally align: private-sector partners, public policies, digital infrastructures and social expectations. Trust and transparency become performance metrics.



Orchestration needs to go beyond your immediate ecosystem, it is now much bigger. Orchestration is needed not only for the elements that you can control, but also for those you cannot control but can help shape.

Kathy Wengel, Executive Vice-President, Chief Technical Operations and Risk Officer, Johnson & Johnson

How to achieve strategic orchestration:

The transition from operator to orchestrator requires both organizational and technological transformations:

- **Curate the ecosystem:**

Identify and nurture a diverse portfolio of strategic partners that complement one another's strengths. Replace transactional procurement with co-development, open innovation and data-sharing agreements that build resilience.

- **Align incentives:**

Engineer commercial agreements, data-sharing practices and performance measures around collective success – reliability, performance, quality, responsiveness and innovation – rather than short-term cost (see "Imperative in action 1").

- **Build a digital nervous system:**

Integrate real-time data from production, logistics and policy signals into a unified operations tower. AI turns this data into foresight to help anticipate disruptions before they propagate and enable swift and holistic decisions (see "Imperative in action 2").

- **Enable dynamic resource allocation:**

Treat capital, production capacity and talent as mobile assets. Shift them fluidly across regions and partners as policy, demand or risk profiles change.

Orchestration is ultimately a leadership discipline. To influence outcomes without full control requires humility, diplomacy and the ability to balance transparency with strategic advantage.

○ IMPERATIVE IN ACTION 1

Orchestrating agility in a fragmented toy supply chain

A global quick-service restaurant sources toys from more than 15 suppliers. To improve agility without contractual control, the brand partnered with Black Lake Technologies to deploy a cloud-native shopfloor platform across its toy suppliers to enable real-time production data sharing.

Three suppliers adopted that platform, sharing live production data through a secure interface, while others declined and accepted delivery penalty risks. The brand rewarded the three integrated suppliers with more, higher-margin orders, demonstrating how trust and shared incentives can drive technology adoption, improve visibility and enhance flexibility even in fragmented supply networks.

○ IMPERATIVE IN ACTION 2

Building end-to-end supply chain visibility with cloud-native operations tower

Microsoft has built a cloud-native operations tower to unify its vast, siloed Azure supply chain. Powered by digital-twin and real-time data, it tracks hardware components from hubs to system integrators, through assembly, warehousing and delivery to data centres.

The system provides a single source of verified information for more than 500 decision-makers across organizations and regions, integrating logistics, inventory and deployment into one cohesive view. By enhancing visibility and coordination with partners, the platform enables faster, insight-driven decisions – helping Microsoft ensure cloud capacity meets demand while proactively identifying and mitigating disruptions across its global network.¹²

To build distributed scale, not concentrated scale

The number of leaders regionalizing production for agility and scale has surged nearly

300%

from five years ago.

The rethinking: Decades of cost optimization created concentrated mega-facilities, which enable efficient economies of scale, but become critical single points of failure in an era of geopolitical conflict, climate shocks and heightened protectionism.

The mandate: Replacing concentration with federation. Distributed scale means creating globally coherent, but regionally autonomous and agile networks of production and innovation hubs that are digitally connected, locally resilient and policy-aligned.

How to achieve distributed scale:

– Design a federated architecture:

Modularize production so capacity can shift seamlessly across geographies. A federated network captures economies of learning, not just of scale through a blend of internal resources and external partners, that allows assets to be reconfigured rapidly as conditions evolve (see “Imperative in action 3”).

– Invest in light, flexible factories:

Smaller, automated and energy-efficient facilities shorten supply lines and can be

repurposed quickly to local market demands or disruptions. Adopting on-demand solutions like 3D printing further enhances this adaptability, drastically shortening supply lines and boosting market responsiveness (“see Imperative in action 4”).

– Deploy modular techniques:

Standardize equipment and processes into standardized, repeatable “blocks” or modules so new sites can be swiftly replicated in months, not years. This allows production capacity to adapt quickly to supply shocks, demand changes or regional disruptions (see “Imperative in action 5”).

– Anchor in policy opportunity hotspots:

Locate capacity where industrial incentives, energy reliability and trade access align. Factor policy and regulation into every cost and risk assessment, viewing them as strategic inputs, not afterthoughts.

Distributed networks don’t replace globalization; they rewire it – creating multiple, connected regional engines that together form a resilient global system.

○ IMPERATIVE IN ACTION 3

Cohesive global network for adaptive manufacturing

Siemens launched its Mosaic strategy based on the CRISP framework (“connected; resilient and robust; intelligent; sustainable; people centric”) to integrate globally distributed factories into a cohesive, digitally connected production network.

Mosaic plants are designed to operate autonomously, scale capacity flexibly, support peer factories and share operational intelligence via a centralized planning and scheduling system. The approach emphasizes adaptability and decision superiority – enabling Siemens to maintain delivery commitments, control costs and respond swiftly to any disruptions.

○ IMPERATIVE IN ACTION 4

Networked mills reinvent industrial scale

Nucor’s distributed “mini mill” model (200-300 kilotons vs. 10-20-million-ton mega mills) allowed it to respond quickly to post-COVID demand swings, avoid grid capacity constraints and tap into wider labour pools. Each mill operates autonomously for local flexibility. To prevent coordination gaps, Nucor set up a central business technology unit to standardize data and order routing. The model shows how distributed scale can boost competitiveness under volatility.

Scaling COVID-19 vaccine production through modular design

Right after the COVID pandemic, BioNTech's *BioNTainer* initiative introduced modular, containerized mRNA manufacturing units that can be rapidly deployed and scaled globally. Each *BioNTainer* enables end-to-end vaccine production with advanced automation and digital quality control. The standardized design allows replication and relocation within weeks, ensuring rapid regional response to health crises.

Initial deployments in Rwanda and Senegal demonstrated how modular, intelligent manufacturing can strengthen regional biomanufacturing capacity, shorten supply chains and enhance global health resilience by bringing production closer to demand.¹³





of leaders see resilience as driving growth, not managing risk.

To design for optionality for growth, not redundancy for risk mitigation

The rethinking: Resilience was once insurance against rare events. The companies that will thrive amid structural volatility are those that treat optionality as strategy, not redundancy as cost.

The mandate: Building financial and operational elasticity that allows rapid reallocation of resources when disruption strikes. True resilience is measured not by how steady an organization remains, but by how quickly it recovers and adapts. This approach not only protects revenue and reduces exposure to disruption-driven costs but also enables growth by capturing new opportunities (see “Imperative in action 6”).

How to build strategic resilience:

- **Quantify the return on resilience (ROR):** Apply a “value-at-risk” lens to preparedness – showing that every dollar invested in optional capacity prevents multiple dollars in losses. An ROR metric helps make resilience investments tangible by measuring avoided costs and operational losses during past disruptions and by simulating the financial impact of potential future shocks (see “Imperative in action 7”).

– Codify playbooks:

Develop scenario-driven and trigger-based operating plans that define when to switch suppliers, redirect inventory or redesign products. A pre-planned framework provides the clarity needed to respond decisively, maintain production and serve global customers through any disruption, protecting existing revenue streams and safeguarding reputation.

– Transform data into growth opportunity:

Use the same data and analytics that detect disruption to uncover unfulfilled demand, supply arbitrage in raw inputs and materials or new markets. By analysing internal signals such as inventory levels and supplier interaction data, alongside external signals like trade flows and commodity pricing, companies can surface growth opportunities early, make faster decisions and strengthen competitiveness across all conditions (see “Imperative in action 8”).

Resilience is not a cost centre; it is a growth engine. When designed correctly, it converts foresight into financial performance.

○ IMPERATIVE IN ACTION 6

Turning water scarcity into a growth opportunity

OCP turned a critical water constraint into opportunity – investing early in desalination and water recycling to decouple production from freshwater limits. What began as risk mitigation evolved into OGW-OCP Green Water, a new subsidiary enabling water autonomy for OCP’s sites, while providing clean water to nearby cities and supporting agriculture.

○ IMPERATIVE IN ACTION 7

Quantifying the payoff of resilience investments

Cisco’s end-to-end supply chain risk management framework prioritizes mitigation efforts based on revenue impact and exposure to geopolitical, cyber and continuity risks. The framework evaluates six categories of risk with over 25 subcategories, using data-driven analysis to identify and address the most critical vulnerabilities. Its guiding principle is to mitigate vulnerabilities proactively and ensure continuity of supply to meet committed recovery times and avoid operational losses during disruptions. This approach positions risk management as a strategic value-protection function that informs annual planning and investment decisions.¹⁴

A multi-hub playbook for localized agility

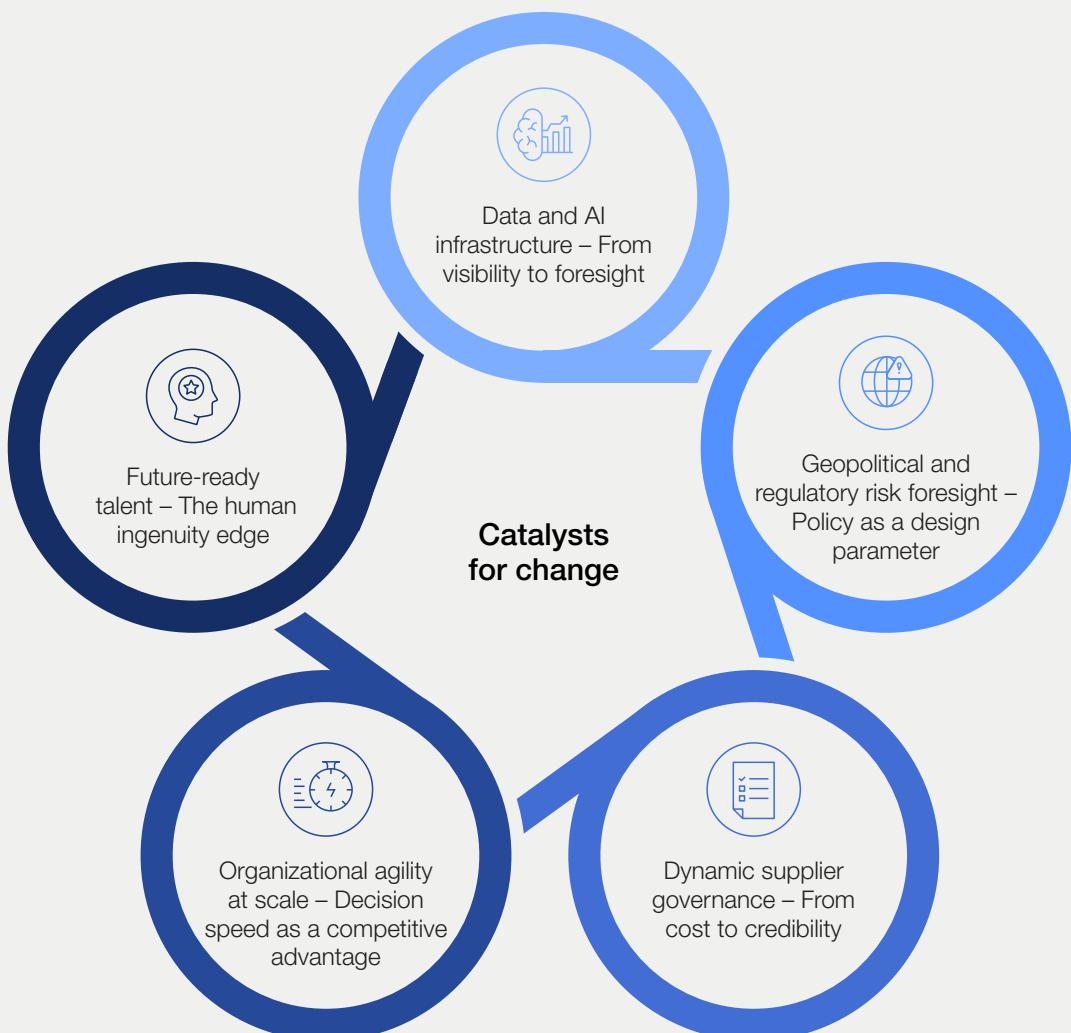
To boost resilience and reduce time to market, Schneider Electric operates a multi-hub, integrating R&D, manufacturing and sales in key markets. This strategy prioritizes speed and adaptability as long-term investments. It focuses on tailoring product design and materials to local availability while designing for global scalability. Co-development with suppliers ensures components fit regional supply ecosystems. Distributed hubs shorten time to market and enhance resilience.

2.2 Catalysts for change: Foundational readiness for adaptive, responsive supply chains

While long-term imperatives define what organizations must achieve, catalysts define the foundations required to bring that strategy to life

(Figure 3). These cross-cutting capabilities transform strategic intent into operational motion.

FIGURE 3 **Foundational catalysts for change**



Data and AI infrastructure – from visibility to foresight

A unified intelligent-infrastructure stack – spanning sensing layer, trusted communications layer and an AI and analytics layer – forms the digital backbone that complements traditional physical infrastructure. Real-time insights, predictive analytics and digital twins connect every node, across suppliers, partners, logistics providers and regulators, into a single nervous system. Data flows seamlessly from factory floor to boardroom, while AI converts those inputs into foresight: anticipating bottlenecks, testing “what-if” scenarios and accelerating product design. By combining internal operational data with external signals such as point-of-sale data, weather and social sentiment, industries gain the ability to sense demand at the product level and adapt production in near-real time. These capabilities turn operational foresight into a daily discipline rather than a quarterly exercise.

Geopolitical and regulatory risk – policy as a design parameter

Policy volatility is no longer background noise. It shapes cost, risk and access. Leading enterprises monitor trade rules, export controls, sanctions and carbon or labour policies to anticipate shifts before they occur. Whether stress-testing network designs against regulatory scenarios, modeling the impact of tariffs or border taxes on cost structures, or assessing incentives for reshoring and clean energy investments, embedding this intelligence into supply chain decision-making has become essential. It enables industrial players to avoid stranded assets and reveals opportunity corridors created by emerging incentives or bilateral agreements. Companies that treat policy as a design parameter, rather than a constraint, are already turning national agendas into corporate advantage.

Dynamic supplier governance – from cost to credibility

Cost efficiency without transparency has become untenable. Leading companies now evaluate suppliers through multi-tiered dashboards to monitor performance, financial health, cyber exposure and ESG compliance in real time. Resilience and ethics are weighted alongside price, providing insights into potential supplier disruptions, from vendor bankruptcy to child labour exposure. Supplier

governance evolves from cost control to credibility creation, which ultimately will be the new currency of trust in an increasingly fragmented world.

Organizational agility at scale – decision speed as a competitive advantage

Organizational structure must move at the speed of events. Agility begins with a culture of empowering decision-making at the edge, supported by psychological safety and digital transparency. Leading crisis-ready organizations decentralize judgement while maintaining coherence through shared data and clear intent. Delivering this level of agility requires rethinking operating models to achieve a balance between clear top-down strategic direction and empowered bottom-up agency. This involves embedding decentralized ownership and streamlining decision rights with established guardrails, building cross-functional teams capable of executing contingency plans without bureaucratic delays. Redesigning structures for speed and resource fluidity ensures industrial players can pivot quickly, preserve efficiency and secure revenue through periods of volatility, while building institutional knowledge for long-term resilience.

Future-ready talent – the human ingenuity edge

Technology enables agility, but people operationalize it. As automation and AI redefine workflows, the premium shifts to talent fluent in both technical and cognitive capabilities – from analytics to problem-solving and systems thinking. Public-private programmes, micro-learning models and digital academies ensure skills evolve as fast as technologies. Closing talent skill gaps requires industry, academia and government to align curricula and accelerate workforce reskilling. Cross-functional mobility and continuous learning embed adaptability, turning agility from aspiration into capability.

Together, these catalysts embed adaptability and foresight into operations, making agility repeatable and measurable. They connect vision to execution, turning orchestration into a well-practiced discipline across the enterprise. Keeping these catalysts relevant requires leaders to evolve with emerging enablers – from quantum computing reshaping security, to synthetic biology redefining manufacturing, to shifting geopolitical alignments demanding new governance models.



Decisions should be made as close as possible to where the impact occurs. Our focus is to empower regional leaders to respond effectively to disruptions and changing conditions by providing transparent data and actionable insights across supply and operations.

Michelangelo Canzoneri, Global Head, Group Smart Manufacturing, Merck Group

2.3 Mastering the playbook: A system to build structurally agile manufacturing and supply networks

These three imperatives – orchestration, distributed scale and resilience as growth – form an integrated operating model whose strength emerges when they work in concert, creating a virtuous, interdependent loop. Distributed networks create flexibility, orchestration synchronizes it and resilience converts it into performance. The catalysts keep this loop learning and evolving.

Structural agility is the corporate equivalent of national readiness. It is the ability to redeploy capital, capability and capacity faster than external volatility unfolds. It turns time and talent, not scale, into the decisive advantage. Leading agile companies measure their speed of redeployment, not the size of their assets, transforming volatility

from a threat into a runway for growth. Companies capable of rerouting production in days, resourcing inputs in weeks and redesigning products in months redefine the pace of competition. They no longer react to uncertainty, they harness it to their advantage.

Yet corporate agility cannot exist in a vacuum. Even the most advanced playbooks depend on the ecosystems that surround them. Without supportive policy, institutional capacity and public investment, corporate strategies risk being constrained. The next section outlines how governments can create the enabling conditions for these distributed, orchestrated, future-ready networks to thrive at scale.



A policy blueprint for adaptive industrial ecosystems

Governments should take a forward-looking approach to build adaptive industrial ecosystems, with strong institutions and flexible processes.

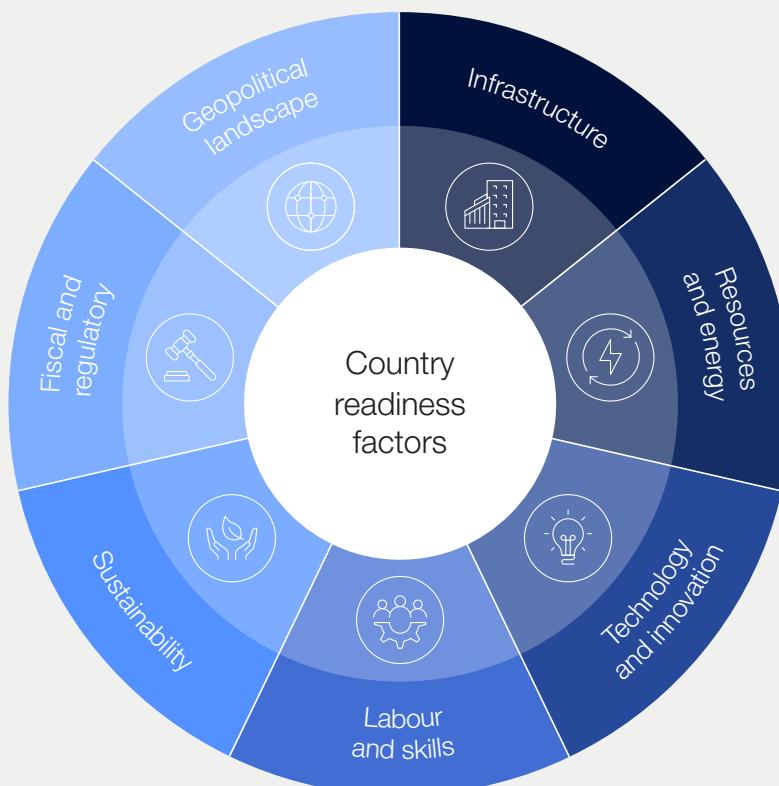
Industrial policy once meant attracting manufacturing investments, but now it means cultivating ecosystems. In an environment of structural volatility, competitiveness depends on how effectively governments build and sustain foundational readiness to support adaptive, future-ready production networks. “The Country Readiness Framework for Manufacturing and Supply Chains”, published in the World Economic Forum’s previous report in partnership with Kearney, identifies seven readiness factors that remain central to policy design and intervention: reliable infrastructure, energy security, technology

and innovation capacity, skilled talent, sustainability ambitions, regulatory coherence and geopolitical balance. Governments that approach these as an integrated system will anchor the next wave of industrial investment.

Drawing on insights from over 100 supply chain executives and government leaders, the following blueprint highlights global best practices on policies and interventions across these seven levers of national readiness, directly reinforcing the corporate imperatives of orchestration, distributed scale and resilience for growth.

FIGURE 4

Country readiness factors for manufacturing and supply chains



3.1 | Policy levers for competitive industrial ecosystems

FIGURE 5

Infrastructure – Connectivity as the backbone of resilience

Country readiness factor	Leading policies and interventions	Expected impact for supply chain imperatives
Infrastructure	<p>1 Create integrated multi-modal logistics masterplans linking ports, airports, rail and roads to strengthen infrastructure quality and network efficiency</p>	 <p>A real-time digital backbone – based on 5G, data centres, data protocols and open API² – synchronizes suppliers, partners and production nodes for seamless orchestration</p>
Resources and energy	<p>2 Advance intelligent infrastructure through large-scale 5G¹ deployment, AI-ready data centres and industrial connectivity to enable real-time production and ecosystem digitalization</p>	
Technology and innovation	<p>3 Establish special economic zones (SEZs) with shared “plug-and-play” infrastructure, integrated digital capabilities (5G, IoT,³ cyber protection), and reliable clean energy grids</p>	 <p>Reduced logistical lead times and plug-and-play industrial zones enable industries to deploy small, flexible factories across regions, with minimal barriers, for a distributed network</p>
Labour and skills	<p>4 Establish open-standard industrial data protocols and APIs to enable secure, interoperable intelligent infrastructure that lowers SME⁴ integration costs and accelerates ecosystem-wide connectivity</p>	
Sustainability	<p>5 Integrate climate resilience by strengthening and protecting assets against extreme weather events and implementing clear actions to mitigate their impact</p>	 <p>Climate resilient and cyber secure ports, roads and energy grids ensure operational continuity during disruptions, protecting both revenue and reputation</p>
Fiscal and regulatory	<p>6 Structure long-term public-private partnerships to finance capex-intensive infrastructure, mobilizing private investment, sharing long-term risk and accelerating delivery of critical national assets</p>	
Geopolitical landscape		

Notes: ¹ Fifth-generation wireless telecommunications technology; ² Application programme interface; ³ Internet of things; ⁴ Small and medium-sized enterprises

FIGURE 6 | Resources and energy – Security of inputs as strategic advantage

Country readiness factor	Leading policies and interventions	Expected impact for supply chain imperatives
 Infrastructure	<ol style="list-style-type: none"> <li data-bbox="457 384 933 557">1 Develop integrated resource strategies, particularly for critical metals and minerals, to secure refined inputs for advanced manufacturing through sustainable extraction and domestic processing capabilities 	 Predictable input costs and shared resource standards enable accurate planning and coordination across supply networks
 Resources and energy	<ol style="list-style-type: none"> <li data-bbox="457 676 965 826">2 Establish sovereign reserves and joint procurement agreements for essential raw materials, critical minerals (e.g. lithium and rare earths), and clean energy to reduce dependency 	
 Technology and innovation	<ol style="list-style-type: none"> <li data-bbox="457 968 965 1096">3 Develop unified resource utilization standards for manufacturers, aligning regulators and industry to boost efficiency and resource circularity 	 Reliable access to critical minerals and clean energy supports regional industrial clusters and reduces import reliance
 Labour and skills	<ol style="list-style-type: none"> <li data-bbox="457 1237 949 1388">4 Build balanced energy systems combining renewables, nuclear and conventional sources to provide reliable, low-carbon and affordable power 	
 Sustainability	<ol style="list-style-type: none"> <li data-bbox="457 1522 949 1673">5 Strengthen energy resilience via public-private investments and targeted incentives to expand clean energy generation and supporting infrastructure 	 Secure supply chains, strategic reserves and diversified energy systems shield operations from commodity and energy price spikes and geopolitical shocks, safeguarding margins
 Fiscal and regulatory	<ol style="list-style-type: none"> <li data-bbox="457 1821 933 1927">6 Mitigate commodity price volatility through strategic stockpiling and by localizing key parts of the value chain 	
 Geopolitical landscape		

FIGURE 7 | Technology and innovation – Scaling frontier capability

Country readiness factor	Leading policies and interventions	Expected impact for supply chain imperatives
 Infrastructure	<ol style="list-style-type: none"> <li data-bbox="457 361 933 518">1 Launch national missions on frontier technologies (e.g. AI, cybersecurity, quantum) to align public R&D funding with sovereign capability and priorities, and accelerate technology diffusion in strategic industries 	 Increased domestic innovation capacity and integrated knowledge ecosystems amplify the competitiveness of local suppliers and partners to produce complex high-value products
 Resources and energy	<ol style="list-style-type: none"> <li data-bbox="457 586 965 720">2 Develop trusted cross-border data frameworks and alliances to enable secure, interoperable exchange of industrial and commercial data while upholding privacy and security standards 	
 Technology and innovation	<ol style="list-style-type: none"> <li data-bbox="457 765 949 945">3 Mandate cybersecurity as a “licence-to-operate” in critical industrial value chains through a national framework requiring baseline standards, shared threat intelligence and cyber-risk awareness programmes 	 Automation, robotics and additive manufacturing along with strong cybersecure foundations make modular, flexible production facilities feasible and secure across multiple locations
 Labour and skills	<ol style="list-style-type: none"> <li data-bbox="457 990 965 1147">4 Deploy incentives and transformation programmes for local companies, including SMEs, to advance industrial transformation, technology adoption (e.g. IoT, cloud computing, robotics, additive manufacturing), and strengthen R&D 	 Establish innovation districts and technology parks via public-private partnerships, acting as testbeds for new technologies and closely integrated with regional industrial clusters
 Sustainability	<ol style="list-style-type: none"> <li data-bbox="457 1394 949 1529">5 Enhance local innovation capacity through clustering of applied R&D centres, universities, suppliers, corporates and venture funds to enable collaboration and create dense networks of knowledge spillovers 	 Strengthen intellectual property-related legal frameworks, enforcement and management systems to build a trusted innovation environment that minimizes infringement risks and safeguards knowledge creation
 Fiscal and regulatory	<ol style="list-style-type: none"> <li data-bbox="457 1686 981 1843">6 Establish clear frameworks and dedicated institutions for technology transfer to accelerate testing and commercialization between universities, research centres and industry 	 Higher diffusion of frontier technologies, secure data exchange frameworks, and SME programmes strengthen trust and connectivity across the ecosystem, enabling broader access and swift response to external signals
 Geopolitical landscape		

FIGURE 8 | Labour and skills – People as engines of industrial readiness

Country readiness factor	Leading policies and interventions	Expected impact for supply chain imperatives
 Infrastructure	<ol style="list-style-type: none"> <li data-bbox="457 384 965 518">1 Develop a national human capital roadmap aligning education and research with frontier sectors, ensuring diverse, future-ready talent pipelines for fields like quantum and nuclear 	 Digitally literate workers operating intelligent platforms ensure coordination and adaptability across complex supply networks
 Resources and energy	<ol style="list-style-type: none"> <li data-bbox="457 619 901 777">2 Establish industry-led “future skills councils” to build a national skills frameworks, define evolving skill standards, guide curricula and coordinate implementation across academia, government and industry 	
 Technology and innovation	<ol style="list-style-type: none"> <li data-bbox="457 862 949 1019">3 Design incentive-based programmes for industry-academic partnerships to deliver hands-on training in applied technologies such as automation, digital manufacturing and robotics to close education-to-employment gap 	
 Labour and skills	<ol style="list-style-type: none"> <li data-bbox="457 1102 901 1226">4 Integrate digital literacy into national skilling frameworks to prepare the workforce for AI-driven, automated industrial workflows 	 Deep pools of technical talent across regions support localized production and enable smaller factories to run advanced machinery
 Sustainability	<ol style="list-style-type: none"> <li data-bbox="457 1349 949 1484">5 Develop data-driven labour market observatories to forecast skill demands, track workforce mobility, and inform targeted policy interventions for regional industrial ecosystems 	
 Fiscal and regulatory	<ol style="list-style-type: none"> <li data-bbox="457 1574 949 1709">6 Implement agile talent mobility frameworks to manage skilled migration and access specialized global talent while upskilling local workforce 	 A skilled, adaptable workforce remains the most resilient asset in a crisis, allowing firms to redeploy talent in regions facing disruptions and maintain operations
 Geopolitical landscape	<ol style="list-style-type: none"> <li data-bbox="457 1843 933 1933">7 Strengthen labour rights and protection to improve talent retention and create a stable, high-quality workforce 	

FIGURE 9 | Sustainability – Aligning growth and resilience

Country readiness factor	Leading policies and interventions	Expected impact for supply chain imperatives
 Infrastructure	<ol style="list-style-type: none"> <li data-bbox="457 422 917 579">Establish national guidance on low-carbon industrial transformation (e.g. green finance, circular supply chains) to steer businesses, investors and institutions towards long-term sustainability drivers 	 Shared sustainability data at both the corporate and product levels, and unified reporting frameworks enable coordinated decarbonization across suppliers and partner networks, ensuring alignment on sustainability goals and compliance needs
 Resources and energy	<ol style="list-style-type: none"> <li data-bbox="457 765 938 826">Create and enforce globally aligned sustainability reporting mandates covering carbon, resource stewardship, material reuse and product longevity to ensure full-chain accountability 	
 Technology and innovation		
 Labour and skills	<ol style="list-style-type: none"> <li data-bbox="457 1096 922 1253">Structure green financing mechanisms and fiscal incentives to catalyse sustainable manufacturing, clean energy deployment and low-emission infrastructure 	 Localized, low carbon production and circular supply chains reduce transport emissions and shrink the supply footprint
 Sustainability	<ol style="list-style-type: none"> <li data-bbox="457 1426 927 1605">Strengthen SME integration in supply chain decarbonization through technical training, efficiency audits and peer learning to accelerate sustainability adoption and measurable emissions reduction 	
 Fiscal and regulatory		
 Geopolitical landscape	<ol style="list-style-type: none"> <li data-bbox="457 1785 927 1920">Integrate policies for biodiversity preservation, circular resource use and ecosystem restoration to reinforce industrial and environmental resilience 	 Circular resource use and clean energy lessen dependence on fragile global commodity chains, such as critical minerals, and improve long-term ecological stability

FIGURE 10 | **Fiscal and regulatory environment – Predictability as a magnet for investment**

Country readiness factor	Leading policies and interventions	Expected impact for supply chain imperatives
 Infrastructure	1 Establish predictable, long-term investment regulations ensuring stability across business and political cycles, aligned with global standards	
 Resources and energy	2 Develop transparent, sector-specific regulatory frameworks through structured consultation with industry, ensuring clarity, accountability and responsiveness to evolving needs	Predictable and transparent regulatory regimes simplify cross-border operations and coordination with global suppliers and partners
 Technology and innovation	3 Implement single-window systems to streamline approval processes and minimize administrative burdens for investors	
 Labour and skills	4 Embed flexibility into regulations to allow adaptation to changing market conditions, enabling timely interventions to support innovation and competitiveness	 Streamlined approvals and consistent enforcement boost investor confidence and accelerate regional manufacturing network expansion
 Sustainability	5 Strengthen sub-national regulatory and governance coherence through a federated model that allows for regional customization under coordinated national oversight	
 Fiscal and regulatory	6 Reinforce rule-of-law and ethical governance by tightening enforcement, curbing corruption and upholding global transparency norms	
 Geopolitical landscape	7 Deploy AI-enabled compliance systems to enhance real-time oversight, flag unethical practices, and ensure adherence to regulatory and legal standards	Strong governance and fiscal stability reduce exposure to regulatory and financial risks of building diversified, resilient networks

FIGURE 11 | Geopolitical landscape – Diplomacy as economic risk management

Country readiness factor	Leading policies and interventions	Expected impact for supply chain imperatives
 Infrastructure	<ol style="list-style-type: none"> <li data-bbox="457 406 965 541">1 Strengthen international relations through proactive, multi-aligned diplomacy that balances national interests and shields the economy from bilateral or regional shocks 	 Stable geopolitical relations and diversified trade corridors enhance and secure supply networks while strengthening cross-border orchestration
 Resources and energy	<ol style="list-style-type: none"> <li data-bbox="457 698 938 810">2 Diversify strategic trade policies and agreements to lower tariff and non-tariff barriers, while mitigating over-reliance on any single partner 	
 Technology and innovation	<ol style="list-style-type: none"> <li data-bbox="457 945 901 1102">3 Expand access to alternative export destinations and proxy markets to cushion against supply or demand disruptions arising from geopolitical tensions 	 Broader trade agreements and multi-aligned diplomacy open more viable, low tariff locations for distributed manufacturing expansion
 Labour and skills	<ol style="list-style-type: none"> <li data-bbox="457 1260 933 1349">4 Reduce internal regional disparities to enhance political stability and ensure broad-based, inclusive growth 	
 Sustainability		
 Fiscal and regulatory	<ol style="list-style-type: none"> <li data-bbox="457 1529 933 1641">5 Develop national-level geopolitical risk-assessment platforms accessible to investors for informed decision-making 	 Geopolitical stability and risk assessment and guarantees bolster investor confidence by reducing operational exposure to shocks or allowing relocation to trusted partner countries
 Geopolitical landscape	<ol style="list-style-type: none"> <li data-bbox="457 1799 933 1911">6 Provide government-backed insurance and risk guarantees for investments in geopolitically sensitive regions or industries 	

USE CASE 1: INFRASTRUCTURE

China's infrastructure programme catalyses industrial connectivity

The 2020 New Infrastructure initiative by China, formulated to advance digital connectivity, has enabled China to deploy the world's largest 5G (fifth-generation wireless telecommunications technology) network with over 4.25 million base stations and 5G user penetration exceeding 71%. It has created 8 million jobs in the 5G ecosystem, enabling real-time production coordination across vast distances with more than 4,000 5G factories established across the country.¹⁵

USE CASE 2: RESOURCES AND ENERGY

Qatar's national dashboard for critical supply security

Qatar's national dashboard, established to enhance resilience amid supply chain disruptions driven by regional geopolitical circumstances and climate change, tracks 24 essential food items in real time and issues alerts when reserves fall below thresholds (e.g. less than 60-day wheat stock). During COVID-19, its scope expanded to include masks, PPE and critical industrial inputs.

By integrating forecasting and customs data and employing competitive bidding models along with incentives such as "in-country" value points, the system promotes buffer stocks and local production, stabilizes supply chains and enables rapid, data-driven adaptation.

USE CASE 3: TECHNOLOGY AND INNOVATION

China's action plan for implementing National IP Strategy

China aligned its IP regime with the World Trade Organization (WTO) trade-related aspects of intellectual property rights (TRIPS) standards and set high national targets for patent, trademark and copyright filings. Reforms created specialized IP courts and strengthened enforcement while encouraging technology transfer from universities.

By 2023, China far exceeded its targets (4.4 million patent applications, 7.8 million trademark registrations), improving legal certainty and innovation confidence.¹⁶

USE CASE 4: LABOUR AND SKILLS

Ireland's enterprise-led upskilling

Skillnet Ireland uses 70 business networks to deliver subsidized training co-developed by companies, serving over 24,700 firms and 92,400 employees each year. Partnerships with government and educators provide training in digitalization, sustainability, innovation and leadership. This shared model builds a resilient, relevant and adaptive workforce, while keeping training costs stable across the whole ecosystem.¹⁷

USE CASE 5: SUSTAINABILITY

Singapore Green Plan 2030 – A whole-of-nation model for sustainable production and trade

Singapore's Green Plan 2030 is a whole-of-nation sustainability roadmap aligned with global agreements, focusing on five pillars ("city in nature, sustainable living, energy reset, green economy and resilient future"). It includes an SGD 35 billion green bond framework and an SGD 50 million "eco fund" for community and business projects, plus initiatives to plant one million trees and expand nature parks by 50%. These measures reduce environmental risks and reinforce Singapore's position as a sustainable hub.¹⁸

USE CASE 6: FISCAL AND REGULATORY ENVIRONMENT

Tamil Nadu's stable and predictable investment climate

Tamil Nadu has become one of India's most reliable industrial destinations with political stability, consistent regulation, tailored incentives, strong infrastructure and skilled talent. For over 15 years, its predictable policies have attracted long-term global investments.

Japanese firms cite ease of operations and quick approvals, while VinFast (a Vietnamese electric vehicle (EV) manufacturer) built its 400-acre, 50,000-unit EV facility in just 17 months, far faster than the usual 24-36 months, crediting Tamil Nadu's proactive policies and workforce readiness. This stable, investment-friendly environment positions the state as a dependable hub in global supply chains.

USE CASE 7: FISCAL AND REGULATORY ENVIRONMENT

Estonia's e-governance

After regaining independence in the 1990s, Estonia invested heavily in e-governance. Services such as online voting, e-tax filing and digital signatures reduced red tape and face-to-face interactions where bribery could occur. The country is now consistently among the least corrupt in Central and Eastern Europe.

USE CASE 8: GEOPOLITICAL LANDSCAPE

Viet Nam's bamboo diplomacy

"Bamboo Diplomacy" is Viet Nam's guiding approach to foreign relations, symbolizing diplomacy rooted in self-reliance, resilience and adaptability to a complex global environment. This principle enables Viet Nam to broaden and deepen government partnerships and trade frameworks, balancing domestic priorities with global integration.

In a period of global realignment, this balanced approach supports predictable, rules-based connectivity and facilitates smoother trade and investment flows for enterprises operating in Viet Nam.

Morocco's strategic localization to compete globally

Morocco has leveraged Tangier's proximity to Europe and sustained supplier development to become a regional manufacturing hub. Since the 1990s it has built capabilities meeting European standards and developed over 250 automotive suppliers with 60-65% local content, targeting 80%. Industrial acceleration zones require firms to export 70% of output and are being replicated for the battery value chain.

3.2 | Institutional considerations for policy execution

Execution, not policy formulation, is now the true differentiator of national competitiveness. High-performing economies share a trait in that they treat governance itself as a design challenge. Based on global best practices and insights from public-private consultations, high-performing nations share three institutional capabilities that anchor that design.

– **Central coordination bodies – From fragmented mandates to systemic alignment**

Industrial transformation spans ministries, mandates and regions. Governments need high-level, cross-functional coordination entities, such as Panama's Logistics Cabinet, that unify national priorities, integrate readiness factors and arbitrate trade-offs across infrastructure, energy, skills and technology. These entities act as the “control towers” of policy to resolve inter-ministerial conflict, synchronize incentives and ensure that national ambitions translate into executable projects across all levels of government. Importantly, they must also enable bottom-up experimentation by provinces and cities, creating a feedback loop between central strategy and local innovation.

– **Public-private engagement forums – From consultation to co-creation**

To align private investment with public goals, governments should institutionalize formal mechanisms for structured collaboration.

Sector councils, executive roundtables and ecosystem-specific clusters turn dialogue into design. They surface market signals in real time, identify bottlenecks and co-create targeted interventions to link industrial incentives directly to business needs. These forums build mutual accountability and trust, shorten feedback cycles and transform policy-making from episodic negotiation to continuous partnership.

– **Policy performance monitoring unit – From monitoring to continuous improvement**

A dynamic “policy-performance unit” closes the loop between ambition and results. Beyond tracking indicators, it diagnoses why interventions succeed or fail, quantifies the return on policy investment and activates mid-course corrections. Using AI-enabled analytics and cross-departmental data, it treats regulation as a living system that is continuously tested, refined and redeployed. By institutionalizing this learning mechanism, governments embed agility within bureaucracy itself.

Together, these three capabilities form the institutional foundation for national readiness and governance that learns, adapts and leads at the same speed as industry.

3.3 The Manufacturing and Supply Chain Readiness Navigator

Policy and corporate strategy require a shared, data-driven compass to monitor progress and guide decision-making. The [Manufacturing and Supply Chain Readiness Navigator](#) provides that alignment. Built on the previously published Country Readiness Framework for Manufacturing and Supply Chains as well as globally recognized datasets, the navigator is a modular, interactive tool that quantifies a country's readiness across the seven country readiness factors. Rather than a static ranking, it enables comparative analysis that the users can tailor for their specific context and strategic priorities.

- **For industry leaders – A strategic footprint tool**

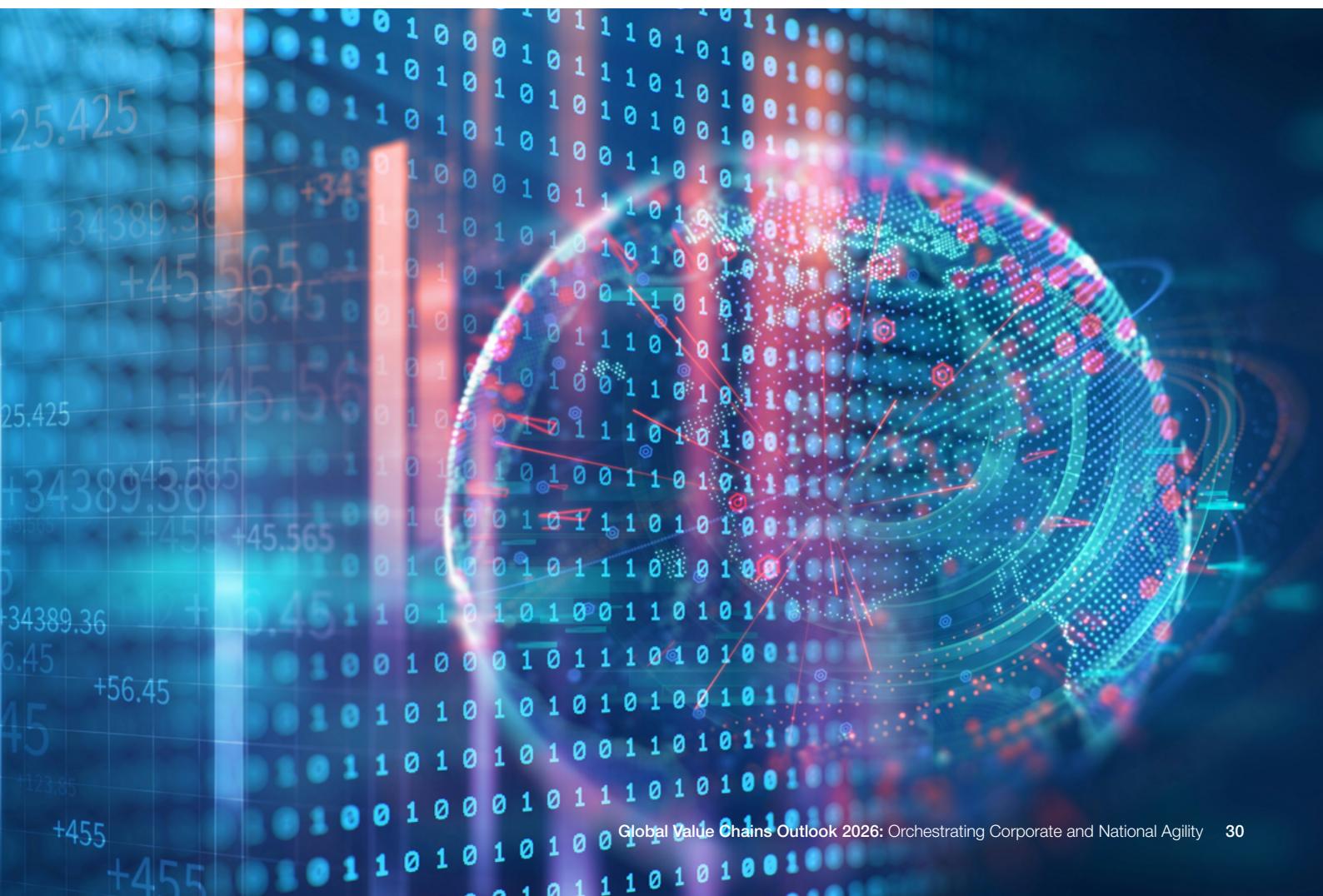
Companies can use the navigator to make data-driven decisions on where to expand or rebalance their global footprints. Leaders can assign importance weightings to each readiness factor based on their context such as industry vertical, product complexity, innovation intensity and risk tolerance. For instance, a semiconductor manufacturer may prioritize infrastructure reliability and energy security, while an apparel company may emphasize workforce capabilities and trade access. The output is a data-driven portfolio of location options aligned to risk tolerance and growth ambition.

- **For policy-makers – A diagnostic and benchmarking system**

Governments can employ the navigator to benchmark national performance and identify ecosystem gaps across the seven readiness factors. The data-driven assessment enables policy-makers to target high-impact reforms and direct resources towards structural competitiveness rather than short-term incentives. Transparent metrics further enhance investor confidence by signaling credibility and progress to global markets.

Ultimately, the Manufacturing and Supply Chain Readiness Navigator bridges industrial ambition and execution. By offering a shared evidence base, it transforms conversation into collaboration to align public and private decisions through a shared lens of measurable readiness.

As value chains fragment and realign, enduring advantage will come from jointly designing and executing industrial strategies that connect innovation with policy, capability with capital and foresight with reform. What emerges is a cohesive blueprint for growth, one that treats disruption as a design condition and as the foundation of both strategy and policy.



Conclusion

The strategies that once delivered decades of success now belong to a different era. The global operating environment has shifted irreversibly – scarcity, fragmentation and volatility are no longer edge cases but structural features of the business landscape. Hyper-specialization and single-point efficiency, once the gold standard of operational excellence, have become liabilities in a world defined by constraint.

But this is not a retreat from progress. It is an evolution of purpose. The mandate before leaders is to **re-architect for structural uncertainty** and build systems that can pivot as quickly as the forces reshaping them. The winners will not be those who forecast the future most accurately, but those who design for divergence to embed foresight, flexibility and trust into the core of how they operate.

For businesses, three interdependent strategic imperatives define this frontier:

- **Orchestrating ecosystems:** Building influence across adaptive networks of partners, suppliers and technologies that can respond collectively to disruption.
- **Scaling through distributed networks:** Structuring production for optionality, modularity and responsiveness, replacing concentration with coordinated autonomy.
- **Building resilience through optionality for growth:** Treating agility not as insurance against risk, but as the source of continuous renewal to capture new market opportunities.

For governments, competitiveness now rests on institutional agility. It requires the ability to turn policy vision into execution. All seven country readiness levers for manufacturing and supply chains must function as one integrated system that moves at the speed of markets. Public-private orchestration will define which economies attract investment, innovation and trust.

Together, these shifts mark the emergence of a new operating logic: foresight over forecasting, orchestration over control, agility over efficiency. They demand leaders who can see around corners, act across systems and align strategy with the rhythm of global change.

The World Economic Forum will continue to provide a collaborative platform that engages governments and industry alike to ensure that the global reconfiguration of production and supply chain ecosystems becomes an engine of responsible growth and shared prosperity in a structurally volatile world. Those who master this discipline, as the architects of adaptability, will transform uncertainty from a constraint into a catalyst for growth. In doing so, they will redefine what resilience means for the world's supply chains. The true measure of leadership in the decade to come will be the ability to turn volatility into vision and design organizations that thrive on the very uncertainty others fear.

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1. Peterson Institute for International Economics. (2025). Global Trade Policy Tracker: Assessing the Economic Impact of Tariff Escalations and Realignments.
2. International Monetary Fund. (2024). Red Sea Attacks Disrupt Global Trade. <https://www.imf.org/en/blogs/articles/2024/03/07/red-sea-attacks-disrupt-global-trade>.
3. International Monetary Fund. (2025). World Economic Outlook: Steering Through Uncertainty.
4. IDC. (2025). Worldwide Artificial Intelligence Spending Guide: Supply Chain and Manufacturing Applications, 2025 Update.
5. International Monetary Fund. (2025). The Global Impact of AI: Mind the Gap. Working Paper WP/25/076.
6. World Economic Forum. (2023). A global rewiring: Redefining global value chains for the future.
7. World Economic Forum. (2024). From disruption to opportunity: Strategies for rewiring global value chains.
8. World Economic Forum. (2024). Beyond cost: Country readiness for the future of manufacturing and supply chains.
9. Cosgrove, E. (2020, July 13). Unilever CSCo: Agility beats forecasting when the supply chain is stressed. *Supply Chain Dive*. <https://www.supplychaindive.com/news/unilever-csco-agility-forecasting-coronavirus/581323/>.
10. International Monetary Fund. (2025). World Economic Outlook: Steering Through Uncertainty, April 2025; World Bank. (2025). Global Economic Prospects, June 2025; OECD. (2025). Economic Outlook, Interim Report: Steering through Uncertainty, March 2025.
11. United Nations Department of Economic and Social Affairs. (2025). World Economic Situation and Prospects: Mid-Year Update; Global Trade Alert (new interventions per year). *Adjusted; cut-off date is December 31. The 2025 figures are as of October 17, 2025.* <https://globaltradealert.org/data-center>.
12. Avanade. (n.d.). *Microsoft Cloud Supply Chain Solution (control tower case study)*. <https://www.avanade.com/en-ch/insights/clients/microsoft-supply-chain-control-tower>.
13. BioNTech SE. (n.d.). *BioNTech introduces first modular mRNA manufacturing facility*. <https://investors.biontech.de/news-releases/news-release-details/biontech-introduces-first-modular-mrna-manufacturing-facility>.
14. National Institute of Standards and Technology and US Resilience Project. (n.d.). *Best practices in cyber supply chain risk management: Cisco – Managing supply chain risks end-to-end*. https://www.nist.gov/system/files/documents/itl/csd/NIST_USRP-Cisco-Cyber-SCRM-Case-Study.pdf.
15. Tomás, J. P. (2025, January 23). Chinese telcos operate 4.25 million 5G base stations. *RCR Wireless News*. <https://www.rcrwireless.com/20250123/featured/chinese-5g-base-stations>.
16. World Intellectual Property Organization. (2024). *World Intellectual Property Indicators 2024*. <https://www.wipo.int/edocs/pubdocs/en/wipo-pub-941-2024-en-world-intellectual-property-indicators-2024.pdf>.
17. IDA Ireland. (n.d.). *Skillnet Ireland and IDA Ireland research study highlights need to develop digital and data skills of all non-IT employees*. <https://www.idaireland.com/latest-news/press-release/skillnet-ireland-and-ida-ireland-research-study>.
18. Ministry of Finance, Singapore. (n.d.). *Green bonds*. <https://www.mof.gov.sg/policies/fiscal/green-bonds/>.



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