Geopolitical Risks in Technology Supply Chain

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Background

In recent years, geopolitical risks in the technology supply chain have gained unprecedented attention, largely fuelled by the rapid advancement of artificial intelligence and escalating tensions between the United States and China. As nations increasingly recognize the strategic significance of technology, supply chains have become battlegrounds for influence and security. The interplay of trade policies, national security concerns, and global competition is reshaping how companies and governments navigate the complexities of sourcing and production, making it imperative to understand these evolving dynamics.

Aligned with this, companies need to strengthen their organizational resilience and adaptability against geopolitical risks impacting their technology supply chains.

In the first half of this article, we explore the current geopolitical dynamics and the forces reshaping the technology supply chain, examining their impacts on the corporate world. In the second part, we illustrate potential strategies and remediation plans that companies can adopt to address these geopolitical risks and challenges.

Given the complexity and breadth of the topic, we have sought insights from various subject matter experts and leaders, each providing a unique perspective.

The following experts have significantly contributed to enriching this article with their knowledge in their respective fields:

/ ALAIN LI
Former Regional Chief Executive Officer of Richemont in Asia and President of the French Chamber of Commerce in Hong Kong. In addition, Alain is an Independent Non-Executive Director of Remy Cointreau and Senior Advisor at Sia Partners.

/ JOSHUA CHU
Group Chief Risk Officer at XBE and Director at China Information Technology Development Limited. In addition to his professional roles, Joshua is also the current serving Co-Chair of The Hong Kong Web3 Association, director at Corporate Counsel Hong Kong Association. He has also been recently appointed as Legal Advisor to the Hong Kong Blockchain Association. Joshua's practice is mainly focused on the field of dispute resolution and technology law.

/ STÉPHANE MONSALLIER
Founder and CEO of System-In-Motion, a leading company in the field of AI education and integration, committed to empowering established companies to seamlessly adopt AI technologies. Stephane is a renowned AI expert and keynote speaker, he is deeply involved in Shanghai's entrepreneurial scene, mentoring tech startups and contributing to La French Tech Shanghai

/ JÉRÔME LECAT
CEO and co-founder of Scality, a leader in software solutions for global data orchestra.tion and distributed file and object storage. A serial entrepreneur and business angel, he has 20 years of internet infrastructure start-up experience

Geopolitical Tensions impacting global supply chains

Chip war and AI race

The U.S.-China chip war has escalated into a defining struggle for **technological dominance**, particularly in **semiconductors** and **artificial intelligence**. The United States has intensified its export controls and tariffs to limit China's access to advanced technologies, leading to increasing **supply chain fragmentation** and global trade disruptions.

In February 2025, the U.S. government imposed a **10% tariff** on **all Chinese imports**, citing national security risks and China's role in the synthetic opioid crisis. This decision adds to previous restrictions on **Chinese access to high-end semiconductors and AI hardware**, reinforcing Washington's broader strategy of economic containment.[1-2]

China retaliated with its own measures, placing **10% tariffs** on **U.S. crude oil, agricultural machinery, and large-engine cars**, along with a **15% tariff on coal and liquefied natural gas**. These countermeasures, effective February 2025, increase **trade pressures** on key U.S. industries. In addition, China launched **antitrust investigations** into major U.S. tech firms, including Google, aiming to gain leverage in negotiations while exerting pressure on key American businesses operating in the Chinese market.[3]

Despite these restrictions, **China is accelerating its domestic AI sector**. **DeepSeek**, a leading Chinese AI firm, has made notable progress with R1, an AI model that **performs efficiently on less advanced chips**, directly challenging the effectiveness of U.S. **export restrictions**. However, while China is making strides in **software**, its ability to produce the **most advanced chips** remains constrained due to its inability to access extreme ultraviolet (EUV) lithography machines, a critical tool in manufacturing next-generation semiconductors. **ASML**, under pressure from the U.S. government, has been barred from selling its latest EUV technology to Chinese firms like **Huawei** and **SMIC**, further widening the technology gap between China and global leaders like **TSMC** and **Intel**.[4]

Huawei, despite its growing isolation from Western semiconductor supply chains, is pressing ahead with its Ascend 910C AI chip, aiming for **mass production in early 2025** to compete with **Nvidia**. However, yield rates remain a major challenge, as Huawei still lacks access to advanced lithography equipment to produce **high-performance AI chips at scale**.[5]

The United States, in contrast, is doubling down on domestic semiconductor production. The **CHIPS and Science Act**, originally passed in 2022, has now secured **$450 billion in private**

investments and created over 56,000 jobs in the semiconductor industry as of **January 2025**. This initiative is driving major expansion efforts by **Intel**, **TSMC**, **and Samsung**, reducing America's reliance on foreign semiconductor suppliers.[6]

Beyond hardware, **data control** has become a growing factor in the U.S.-China AI race. **China's Great Firewall** continues to **block foreign tech platforms**, ensuring that Chinese AI giants such as **Baidu**, **Tencent**, **and Alibaba** retain exclusive access to domestic user data, a critical component in machine learning and AI advancements. Meanwhile, the United States has escalated its efforts to **curb Chinese digital influence**, particularly through a crackdown on TikTok, which is seen as a potential conduit for Chinese data collection on U.S. users. The U.S. Supreme Court has upheld a law requiring **ByteDance to sell TikTok's** U.S. operations by January 19, 2025, or face a complete ban. President Donald Trump extended the enforcement deadline by 75 days, moving it to April 5, 2025, to allow for negotiations with potential U.S. buyers.[7-8]

China-US decoupling and trade realignment

The U.S.-China economic decoupling has expanded beyond semiconductors to industries like **automotive manufacturing**, **pharmaceuticals**, **and rare earths**, with the U.S. imposing tariffs and investment restrictions to curb China's global supply chain influence. The recent 10% tariff on all Chinese imports marks a significant escalation, aiming to reduce reliance on Chinese manufacturing and shift supply chains elsewhere.

As these trade barriers intensify, multinational corporations are moving to **diversify production**. **Apple** are increasing **manufacturing capacity in Vietnam**, **India**[9], while **Taiwanese chipmakers** are considering alternative locations for **semiconductor fabrication plants**.[10] This shift reflects a wider strategy among global firms to avoid overexposure to geopolitical risks.

At the same time, China is accelerating its domestic semiconductor manufacturing under the **'Made in China 2025'** strategy, aiming to reduce reliance on foreign technology. While the initial goal was to

> "I would refrain from framing it as mere Sino-US geopolitical tensions. Based on the latest available information, it seems that the underlying issue behind 'trade tension' stems from how the globe is increasingly viewing trade as well as the issue of capacity. For instance, we are no longer just seeing 'western' countries raising the issue of China's capacity, but essentially, it is an issue that is raised whenever a nation might see any forms of 'trade imbalance'. This is likely going to be a persisting issue considering the fact that China is the 'biggest' trading partner to most countries that she is trading with. When you are the largest trading partner, the issue of 'balance' is unavoidable, and it comes down to how diplomats manage the narrative. An emerging narrative is how China's manufacturing capacity is helping countries facing inflation crisis hedge its inflation. I am of the view that this is an excellent, but under articulated narrative that the public of most counterparty nations are not really hearing. Insofar as from what we can really see, what is driving the divide/tension amongst nations is in fact the commonality, specifically, no one likes competition."
>
> **Joshua Chu**
> Group Chief Risk Officer at XBE

achieve **70% self-sufficiency by 2025**, industry estimates suggest China may reach only about 30% by then.[11] To boost production capabilities, the Chinese government has invested heavily, including a recent **$47.5 billion state-backed semiconductor** fund launched in 2024[12] , bringing total investments in the sector to around $145.5 billion since 2014.[13] Despite these efforts, China continues to face **challenges in producing cutting-edge 5nm and 3nm chips** due to restrictions on advanced lithography technology.[14]

As export controls tighten, tariffs rise, and supply chains shift, the global economy is fragmenting into regional blocs, forcing companies to navigate new trade barriers and reassess long-term investments. The battle over semiconductors, AI, and data sovereignty will remain central to the global economic landscape in the years ahead.

Hong Kong's special position

Hong Kong continues to serve as a pivotal financial hub for foreign companies investing in mainland China. In 2024, **Invest Hong Kong (InvestHK)** assisted 539 overseas and mainland companies in establishing or expanding their businesses in the city, marking a 41% increase from the previous year. This surge brought in over **HK$67.7 billion in investment** and created approximately 7,000 jobs during their first year of operation.[15]

> As for 'impact', we are seeing impacts across all sectors really. Whilst the news covers tech companies the most, we are seeing the same in professional services including law firms, audit firms and business consultancy."
>
> **Joshua Chu**
> Group Chief Risk Officer at XBE

The **Office for Attracting Strategic Enterprises (OASES)**, established to draw high-potential strategic enterprises globally, has successfully attracted **66 such enterprises to Hong Kong**. These companies span key industries, including life and health technology, artificial intelligence and data science, financial technology, and advanced manufacturing and new energy technology. Notably, nearly half of these enterprises are leading companies in their respective sectors, **with 80% planning to establish** their global or regional **headquarters in Hong Kong**.[16]

> The ongoing Sino-US geopolitical tensions are significantly impacting various business factors for companies operating in or with China. Costs are rising due to increased tariffs and the need for compliance with new regulations. Complexity in operations is escalating as companies must navigate a more fragmented global market and adapt to different sets of rules and standards. Innovation is being stifled as collaboration between Chinese and American firms becomes more challenging, limiting access to shared research and development resources. Supply chain disruptions are frequent, with companies facing delays, increased shipping costs, and the need to find alternative suppliers or routes."
>
> **Stéphane Monsallier**
> CEO of System-In-Motion

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Companies are modifying business structures, such as a Hong Kong firm changing its headquarters to Jersey to work with US banks.”

Alain Li
Former regional Chief Executive of Richemont.

However, Hong Kong faces significant headwinds. The city's **increasing integration with mainland China** has **led to concerns among international firms**, particularly around data security and censorship issues. The **imposition of U.S. tariffs on Chinese goods**, which include **products from Hong Kong**, further complicates the city's position as a conduit between East and West. In response, **Hong Kong has filed a complaint with the World Trade Organization (WTO)**, challenging the legality of these U.S. measures.[17]

Despite these challenges, Hong Kong remains an attractive destination for businesses due to its **strategic location and robust legal infrastructure**. In 2024, the city launched a new **HK$10 billion Innovation and Technology Industry-Oriented Fund** to channel more investment into emerging and future industries, further bolstering its appeal to international innovation and technology companies.[18]

Yet, the balance is shifting—**approximately 80% of the firms** benefiting from government incentives in Hong Kong **are now from mainland China**, signaling a growing **dependence on Chinese capital**.[19] Additionally, American firms in the region must now comply with an increasingly complex regulatory environment, which has led some to consider relocating to alternative business hubs like Singapore.

The city's **shifting business climate** has also influenced multinational software corporations. For example, **Salesforce** closed its Hong Kong office in 2022, shifting **Chinese operations to Alibaba Cloud**, citing regulatory hurdles and local expertise in navigating China's complex tech environment.[20]

In conclusion, the geopolitical landscape is being fundamentally reshaped by the U.S.-China chip war, trade realignment, and Hong Kong's evolving role as a financial intermediary. As the competition for technological dominance escalates, companies and governments must adapt to the shifting tides of trade policies, sanctions, and supply chain realignments.

“

Access to advance tech, innovation and data are challenges facing both Hong Kong and Mainland. Whilst much has been made about how ‘Hong Kong is the gateway into China’, the reverse is the same in that Hong Kong is China's gateway/access to the western world.”

Joshua Chu
Group Chief Risk Officer at XBE

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Hong Kong has, to a certain extent, tunnel visioned in terms of looking to China. Hong Kong can draw inspiration of its key advantages. Chinese business does still want to get out to do business with the remaining 6 billion people of the world and Hong Kong ought to showcase how it is facilitating outbound trade just as much it focuses on China-bound opportunities.”

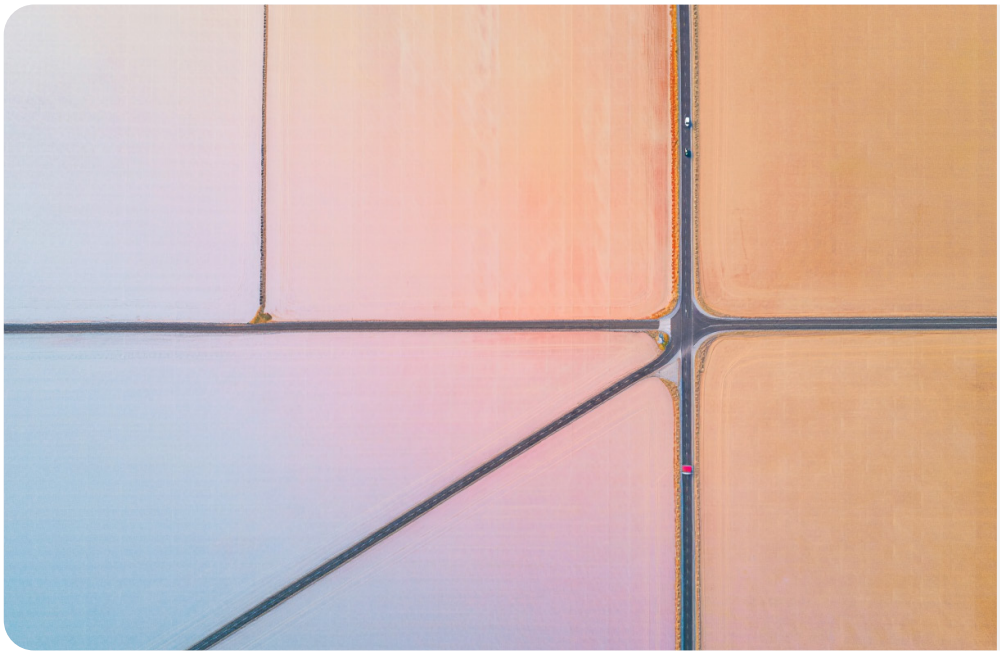
Joshua Chu
Group Chief Risk Officer at XBE

Challenge for businesses navigating geopolitical risks

Navigating fragmented regulations and trade barriers in a shifting geopolitical landscape

In today's geopolitical climate, companies must contend with increasingly fragmented regulatory environments. For instance, the **GDPR** in Europe, combined with **China's Data Security Law**, means that companies like **Microsoft** and **Google** must invest in creating localized data storage solutions to comply with vastly different data protection standards.

These regulatory frameworks present a form of geopolitical risk, as they impose significant **compliance costs** and **operational complexities** on global businesses. Firms must constantly adapt to evolving regulations in multiple jurisdictions, which can restrict data flows, limit market access, and introduce legal uncertainties that complicate long-term planning.



"We are seeing a rise in ringfencing and compliance costs. This is great for professional advisors in helping companies craft the necessary policies, but can be resource draining (as they are spending more on non-profit generating aspect of the business) which in turns diminish ROI, P&L."

Joshua Chu
Group Chief Risk Officer at XBE

Tariffs and trade barriers further complicate matters. The U.S.'s tariffs have forced companies to reconsider their sourcing strategies. Firms are adapting by either passing on higher costs to consumers or shifting production to other low-cost regions like Southeast Asia. **Hasbro**, for instance, has shifted part of its production to countries like Vietnam, India, and Mexico over the past few years.[21] Similarly, manufacturers such as **Foxconn** and **Goertek** have moved production from China to Southeast Asia to circumvent tariffs. These moves are necessary as firms explore cost-effective production locations while navigating the complexities of ongoing trade barriers.

In China, **foreign firms** like **Volkswagen** face growing regulatory burdens as the Chinese government enforces policies aimed at reducing reliance on foreign technology. Under the **"Made in China 2025"** initiative, local companies are being pushed to achieve self-sufficiency in areas such as automotive manufacturing, placing additional pressure on foreign firms operating in the region. This push for self-sufficiency has further strained relations between the U.S. and China, adding layers of unpredictability for companies.

> "Key technology supply chain challenges in Mainland China include dependency on foreign components, regulatory hurdles, and the need for rapid adaptation to changing trade policies. Companies must also deal with the complexities of local compliance systems, which can differ significantly from their headquarters' systems. Additionally, there is a growing need to invest in local technologies and suppliers to mitigate the risks associated with geopolitical tensions."
>
> **Stéphane Monsallier**
> CEO of System-In-Motion

Vulnerabilities in global supply chains

Global supply chains, already exposed during the COVID-19 pandemic, continue to face significant vulnerabilities exacerbated by geopolitical tensions. One of the critical risks is **supply disruption** and **lock-in**, which can be seen in industries with limited supplier bases, such as semiconductors. The ongoing **global chip shortage** has shown that over-reliance on a few suppliers can paralyze entire sectors. For instance, the **automotive industry** was hit hard, with production lines halted due to a lack of chips, causing companies like **Ford** and **General Motors** to lose billions in revenue during the crisis in 2021.

Moreover, **inaccessibility of supply technology** due to sanctions and export restrictions continues to be a threat. The U.S.'s sanctions on **Huawei** and its subsidiaries, for instance, not only barred the company from accessing critical semiconductors but also indirectly affected **Apple**, which faced production delays due to the chip shortage. This has cascading effects, illustrating how geopolitical conflicts can have far-reaching consequences for global supply chains, for instance in technology-dependent industries.

Additionally, the rise in **cyberattacks** targeting critical infrastructure adds another layer of vulnerability. The **Colonial Pipeline incident in 2021** crippled fuel supplies across the U.S., demonstrating how dependent global networks are on seamless digital and physical coordination. Cyberattacks of this magnitude reveal the fragility of modern supply chains, which now extend well beyond traditional manufacturing and distribution, encompassing digital infrastructure as well.

A prime example of a company navigating these challenges is **Apple**. In response to the U.S.-China trade tensions, Apple has taken steps to diversify its supply chain away from a heavy reliance on Chinese manufacturing hubs. Since 2020, Apple

has significantly expanded its operations in **Vietnam** and **India**[23], making it a cornerstone of the **China+1 strategy** that many multinationals are adopting[24]. Additionally, Apple has incorporated **geopolitical risk assessments** into its financial and operational strategies, maintaining contingency plans for disruptions, such as its decision to allocate **$100 billion for stock buyback and dividends** in 2018 and continued through 2021-2023 with $90 billion each year to assure investors amid the uncertainties in its global supply chain.

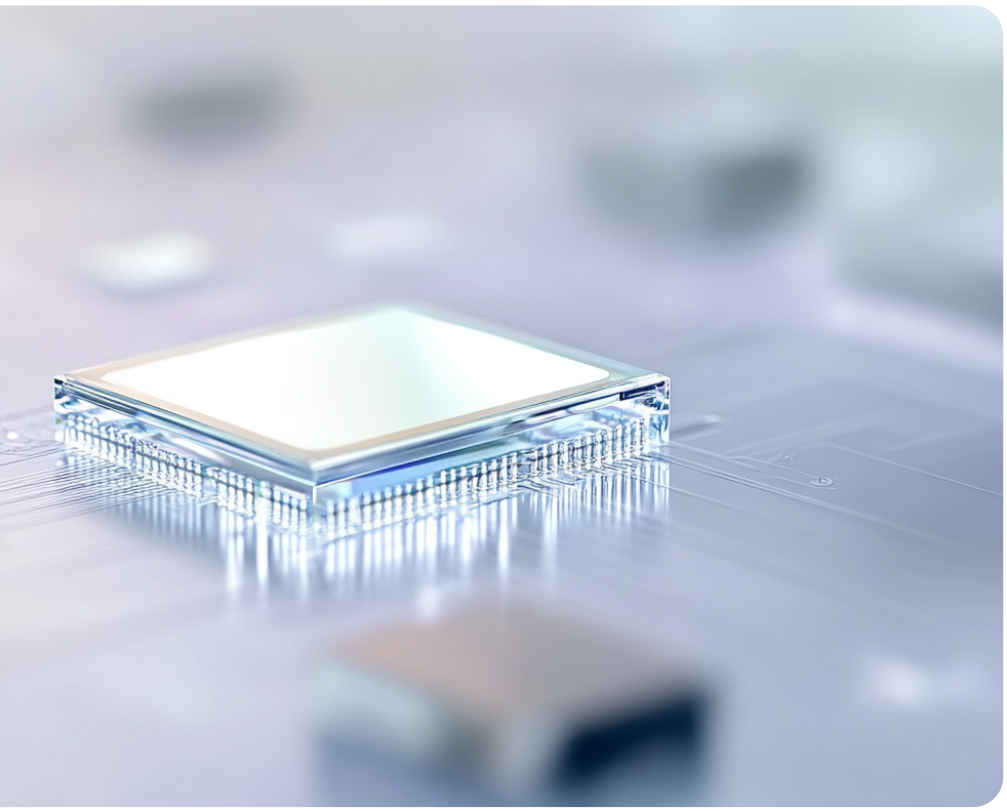
Investment risks and market uncertainty

The intersection of **market volatility** and **geopolitical risks** has significant implications for investment strategies. Political developments can swiftly alter investment climates, especially within the technology sector.

Furthermore, the **risk of capital flight** has emerged as a critical concern. Investors are increasingly withdrawing capital from high-risk regions, prompting U.S. firms to reassess their exposure to Chinese markets. A notable instance occurred post-pandemic when many investors moved to divest from Chinese tech firms amid rising tensions and regulatory uncertainties.

In response to these challenges, firms are making **long-term strategic adjustments** by incorporating geopolitical risk assessments into their financial planning. Companies like **Intel** have initiated comprehensive reviews of their investment strategies, leading to a significant pivot towards diversifying their manufacturing capabilities outside of China. The company's recent announcements about investments in **Europe** and **the U.S.** are indicative of a broader trend among tech firms to ensure adaptability in the face of fluctuating geopolitical landscapes.

By actively managing investment risks associated with geopolitical uncertainties, companies can better position themselves to navigate an increasingly complex global market.



> "Companies need to conduct thorough risk assessments, as trade measures can emerge overnight, such as the investigation and tariffs on French cognac/brandy in China."

Alain Li
Former regional Chief Executive of Richemont

Strategies to adapt

As geopolitical tensions escalate, it is critical for companies to evaluate its **dependence on U.S. and Chinese markets and supply chains**, mitigating risks through diversification of supply sources, investment in technological independence, and strengthening IT risks and cybersecurity capabilities to enable **resilient supply chains**.

Short term actions

Regulatory and Compliance Adaptations

In the short term, organizations must focus on building and maintaining strong compliance frameworks that can swiftly respond to evolving global regulatory demands. With the rapid development of technologies and new geopolitical tensions, businesses face increasing complexity in ensuring that they remain compliant with international and regional regulations. Companies must take immediate actions to minimize legal liabilities and avoid operational disruptions caused by sanctions or changes in export controls.

One of the critical actions is to **identify the relevant regulatory bodies, laws, and compliance requirements** that specifically affect their sector. For technology companies, this often includes export control and cybersecurity regulations. Understanding the global regulatory environment and which jurisdiction governs their data is key, especially as data sovereignty laws are increasingly enforced. Companies need to navigate these complexities by conducting thorough scenario planning for regulatory changes, ensuring they can pivot quickly as new laws are implemented.

Furthermore, businesses should **assess the impact of regulatory modifications** on their supply chain activities. This includes evaluating the compliance risks associated with third-party suppliers, particularly those located in foreign jurisdictions with different legal frameworks. Given that jurisdictional sovereignty is often determined by the nationality of the managing company, not the physical location of the data, organizations must thoroughly understand the legal obligations of their technology and data providers.

To mitigate these risks, companies must **establish or enhance their internal compliance programs**. This involves creating a more formalized internal control framework to monitor regulatory developments and address compliance gaps as soon as they arise. **Strengthening internal IT tools** is also es-

sential to improve monitoring systems and help track changes in regulations efficiently.

In addition to setting up internal measures, it is important for organizations to **provide regular training programs** to ensure that relevant departments understand and are equipped to handle new regulatory requirements. This includes developing specialized expertise in the regulatory landscape and tailoring training to specific roles within the company.

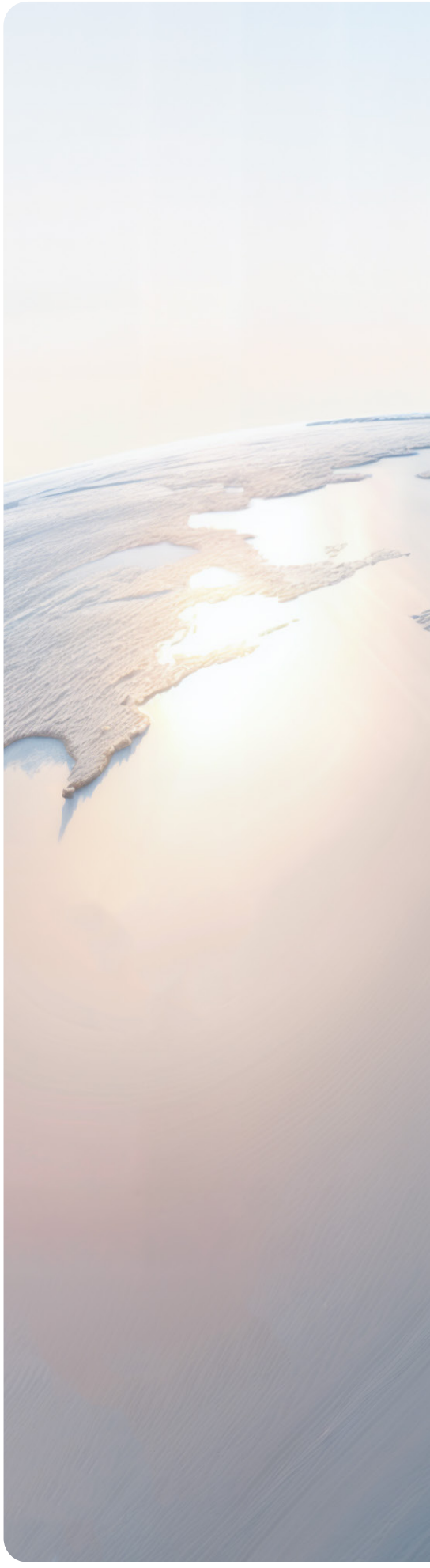
Finally, businesses should foster strong relationships with external stakeholders, including regulators, industry bodies, and international organizations, to ensure ongoing compliance and anticipate potential regulatory shifts. **Facilitating interaction with stakeholders** can also provide valuable insights into forthcoming regulations and create a collaborative environment for addressing compliance challenges.

> “The real question isn’t so much about where data is stored, but about which legal jurisdictions apply to data. If it is processed by a US-based company, US law governs it, regardless of the data’s physical location.”
>
> **Jérôme Lecat**
> CEO and co-founder of Scality

Third Party Risk Management, including Geo-political risk

For businesses without a **reversibility framework**—a formal mechanism to rapidly switch or replace critical technology and service providers—**Third-Party Risk Management (TPRM)** becomes an essential short-term solution for dealing with geopolitical volatility. By carefully evaluating each partner’s compliance posture, financial health, and exposure to political tensions, companies can take proactive measures to limit potential disruptions.

> “For organizations that do not have a reversibility system, the key question is which short-term strategies to implement. TPRM stands out as a particularly meaningful approach because it offers direct ways to address and mitigate immediate geopolitical risks.”
>
> **Jérôme Lecat**
> CEO and co-founder of Scality



To operationalize TPRM with a focus on geopolitical factors, organizations can concentrate on three critical steps:

/ **1. Conduct Focused Risk Assessments:**

Develop a clear methodology to evaluate third parties against **geopolitical risk indicators**, such as exposure to regions prone to sanctions, trade disputes, or sudden regulatory shifts. This can include assessing the likelihood of disrupted supply chains or abrupt changes in export controls that might affect a supplier's ability to deliver products or services.

/ **2. Strengthen Contracts and Transparency:**

Revise existing agreements to require **enhanced visibility** into suppliers' sub-vendors, data handling practices, and overall risk profile. Include clear terms specifying how to respond if a provider faces geopolitical complications, detailing service levels and timelines for escalation in the event of interruptions.

/ **3. Implement Continuous Monitoring and Contingency Plans:**

Set up ongoing surveillance for signs of **geopolitical instability**, changes in regulatory requirements, or new economic sanctions. At the same time, develop short-term response plans, such as pre-negotiated backup contracts with alternate vendors or on-demand capacity expansions, to ensure operational continuity should a key provider suddenly become unavailable.

By focusing on these core actions, companies can promptly **mitigate the immediate geopolitical risks** related to their third-party relationships. While TPRM may not fully replace a robust reversibility framework, it provides a practical and immediate path for bolstering supply chain and operational resilience in an increasingly uncertain global landscape.

Diversifying supply chains and sourcing

In the short term, organizations must take proactive steps to **reduce vulnerabilities in their supply chain** by diversifying and de-risking their sourcing strategies. This involves identifying and establishing relationships with multiple suppliers across different regions, so that production and delivery are not overly reliant on any single market. While this approach offers protection against geopolitical disruptions, trade restrictions, and other unforeseen events, it inevitably brings **increased costs** related to logistics, contract administration, and inventory management. Furthermore, certain industries that rely on specialized components may find complete diversification impossible; nevertheless, even partial diversification can significantly lower the risk of severe supply chain failures.

To amplify the benefits of this strategy, companies should invest in **robust supply chain monitoring and analytics** to gain real-time visibility into potential disruptions and supplier performance. By assessing the technical capabilities, financial stability, and regulatory compliance of backup suppliers in advance, businesses can pivot more swiftly if their primary vendor becomes compromised. Such thoughtful planning not only helps preserve operations amid sudden geopolitical shifts but also contributes to **long-term adaptability**. Ultimately, although diversification may not eliminate every risk, it provides a critical buffer that enables organizations to remain agile in an increasingly unpredictable global environment.

> "Diversifying and derisking supply chains is important but costly and not always feasible to completely mitigate the risks."
>
> **Alain Li**
> Former regional Chief Executive of Richemont

> "Companies should identify and establish relationships with alternative suppliers in different regions to mitigate the risk of supply chain disruptions."
>
> **Stéphane Monsallier**
> CEO of System-In-Motion

Long term actions

Isolation and Resilience strategy

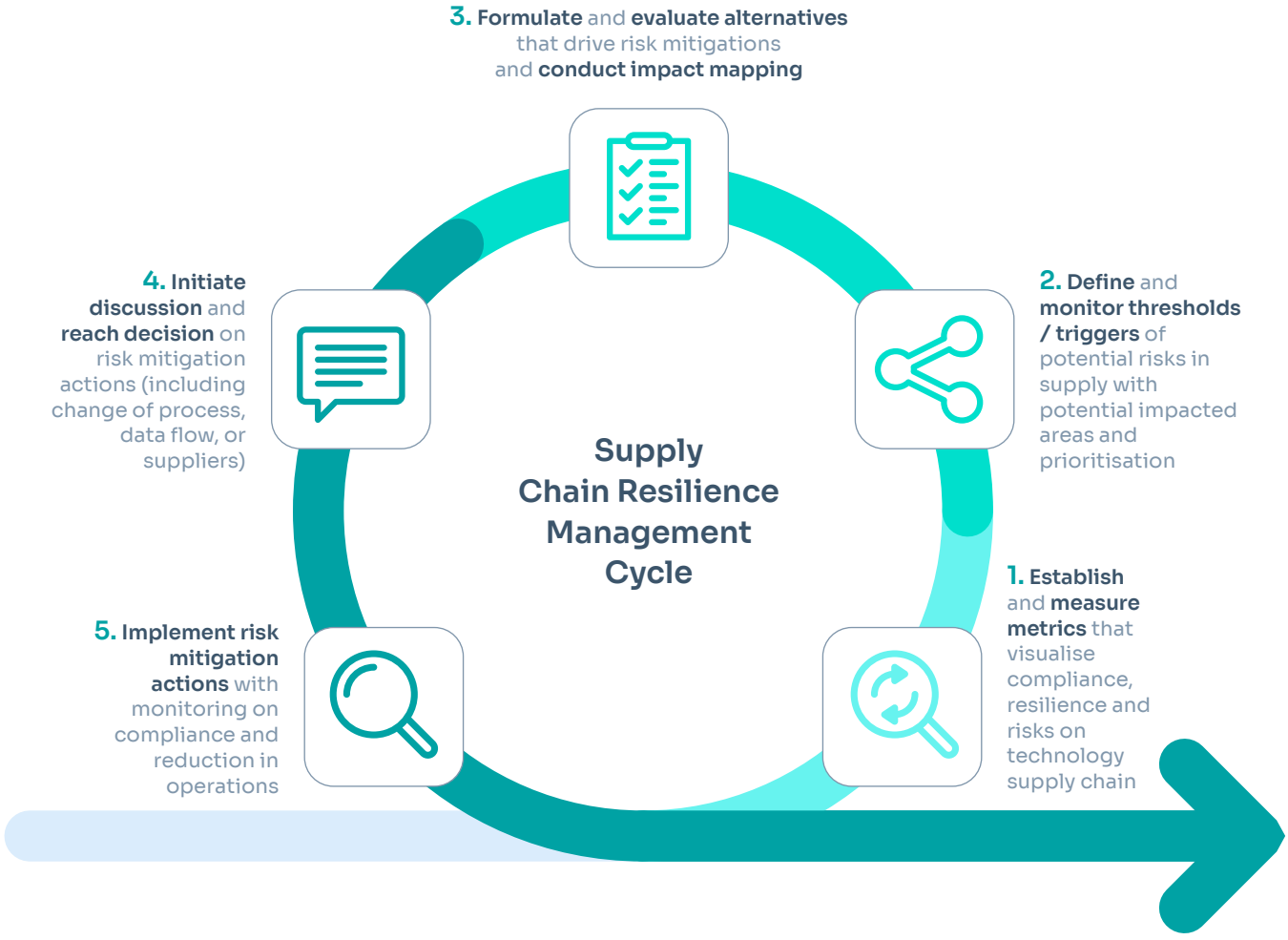
In the long term, companies must prioritize building resilient supply chains that can withstand geopolitical disruptions while maintaining operational continuity. Isolation strategies, aimed at reducing dependencies on critical suppliers.

One key approach is to establish a flexible architecture that allows organizations to swiftly adapt to constraints. This requires having a well-thought-out contingency plan in place, particularly when a critical supplier may no longer be available without notice. This issue becomes especially pressing for cloud and SaaS providers due to the legal complexities and jurisdictions involved, where customers are often not entirely autonomous.

> It is crucial to have a plan in advance that allows for flexibility in the architecture, accommodating the loss of a key supplier suddenly. This issue is particularly significant for cloud and SaaS, given the challenges with jurisdiction and customers not being fully independent."

Jérôme Lecat
CEO and co-founder of Scality

/THE SUPPLY CHAIN RESILIENCE MANAGEMENT CYCLE AIMS TO ENABLE RESILIENCE AND COMPLIANCE UNDER GEOPOLITICAL RISKS AND DISRUPTIONS



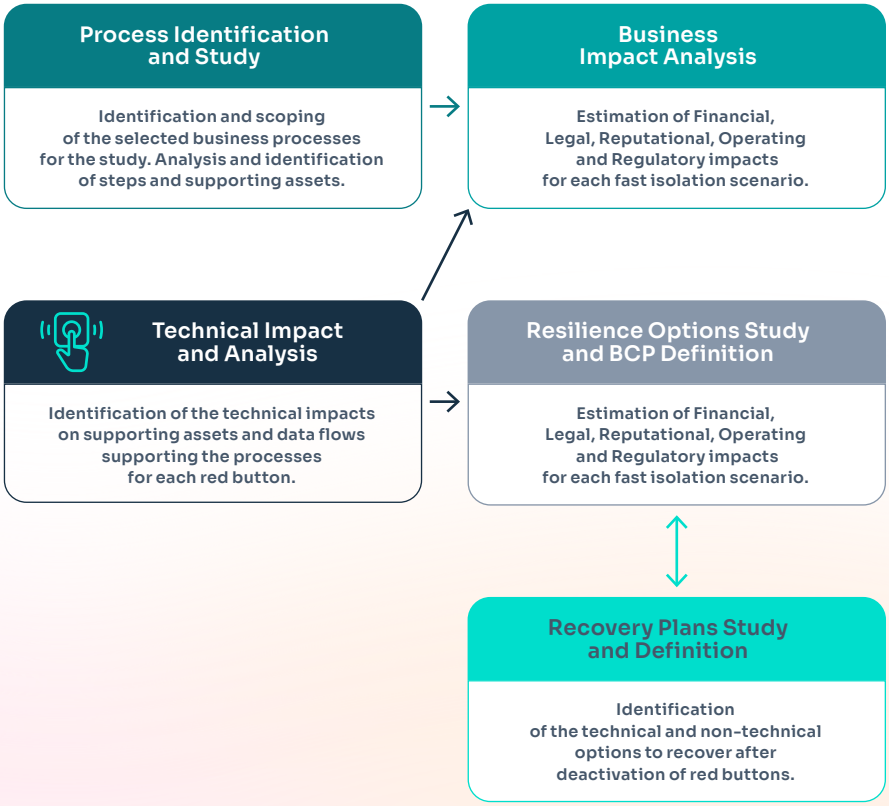
To achieve this, companies should conduct thorough risk assessments of their technology supply chains. This includes understanding current and future risks of critical technologies, evaluating supplier dependencies, and assessing the legal and operational implications of jurisdictional sovereignty. Companies must identify potential points of failure and establish alternative sourcing strategies well in advance.

For instance, the following actions can be taken:

- **Identify and Monitor Risk Triggers:**
  Define thresholds for potential risks in the technology supply chain and evaluate areas likely to be impacted, ensuring prioritization of critical issues.
- **Evaluate and Formulate Alternatives:**
  Conduct scenario planning for key technology suppliers and assess potential alternatives in case of disruptions. This proactive evaluation of risk mitigation strategies allows companies to better withstand the impact of sudden supply chain interruptions.
- **Implement Risk Mitigation Actions:**
  Establish clear processes for monitoring compliance and reducing operational risks. Companies should actively engage in dialogue with suppliers, initiating discussions and making timely decisions on risk mitigation actions.

By adopting these measures, organizations can reduce their exposure to supply chain risks and strengthen their resilience. Building isolation into supply chain strategies is essential to safeguarding operational integrity, particularly when geopolitical tensions heighten uncertainties.

/HIGH-LEVEL APPROACH ON IT ISOLATION



Localization strategy

Over the long haul, organizations must look beyond immediate regulatory pressures and develop a robust localization strategy to address geopolitical risks in their technology supply chain. While short-term compliance measures help companies remain agile amid shifting global regulations, a sound localization roadmap ensures they can sustainably adapt to varying legal frameworks, market expectations, and consumer needs across different geographies.

A cornerstone of this approach is **assessing alternative providers and solutions** in each target market. As one might do when examining new technology options, companies should begin with **market research** and **initial interviews** to understand local vendors' offerings and technical capabilities:

- **1. Conducting market research**
  to identify and assess local providers capable of meeting functional, technical, and security requirements.

/ 2. Elaborating a robust framework

To ensure the chosen solutions can deliver operational resilience and meet evolving regulatory standards.

/ 3. Evaluating supplier maturity

By reviewing the vendor's financial stability, geographic presence, and track record of delivering consistent results under diverse regulations.

/ 4. Identifying process risk exposure

Related to each solution, comparing technology fit, functional fit, and operational fit.

/ 5. Assessing regulatory fit

By examining the organization's maturity, financial resilience, and any relevant location-based restrictions (e.g., data sovereignty or export controls).

/ 6. Establishing an engagement model

With the shortlisted suppliers, taking into account the results of feasibility analyses and risk assessments.

/ 7. Selecting suppliers and solutions

Through a comprehensive evaluation of feasibility, long-term risk, and alignment with local regulatory requirements.

Beyond these steps, building deeper **local capabilities** at each layer of the technology stack—application, data, infrastructure, and security—proves essential. For instance, many businesses operating in China opt for **local hosting solutions** (whether private or public clouds offered by providers such as Ali Cloud, Tencent Cloud, or local on-premise deployments) to comply with Chinese regulations on data residency. Elsewhere, integrating region-specific touchpoints, such as WeChat in China or distinct e-commerce portals in different parts of Asia, helps organizations tailor their offerings to local consumer preferences while respecting national cybersecurity and data protection laws. Moreover, companies must recognize a global trend toward local procurement.

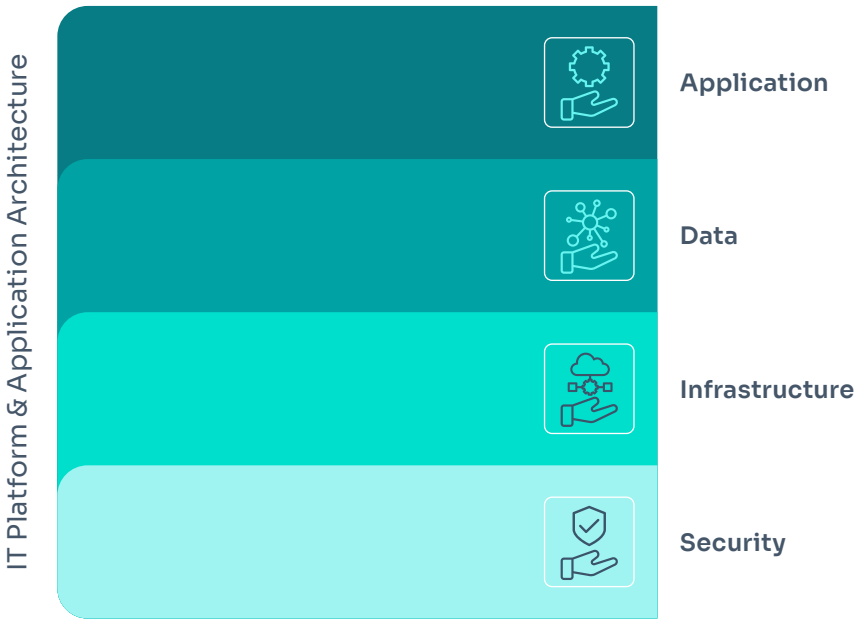
> "In many countries—like Japan, South Korea, Saudi Arabia, and even the United States—there is a growing desire to 'buy local.' It's less explicitly discussed in the US, perhaps because it's seen as the norm. But this is something I see significantly impacting purchase decisions. Depending on the customer's country, they may choose different server brands for essentially geopolitical reasons."
>
> **Jérôme Lecat**
> CEO and co-founder of Scality

Such preferences underscore the importance of tailoring hardware, software, and service choices to align with local expectations. Even if data physically resides in one jurisdiction, the nationality of the managing company may impose the laws of an entirely different region. Consequently, a well-structured localization strategy requires a **holistic evaluation** of how technology choices intersect with both market expectations and sovereignty considerations.

Finally, **investing in ongoing local compliance expertise** is

indispensable. This includes maintaining close relationships with regional regulators and industry bodies to gain early insight into emerging requirements. By fostering a network of local experts, alliances, and customer communities, organizations can more effectively anticipate regulatory shifts and adjust their technology roadmaps accordingly, ensuring that their long-term localization strategy remains a powerful mitigant against geopolitical uncertainties.

LOCALIZATION STRATEGIES ACROSS THE DIFFERENT TECHNOLOGY ARCHITECTURE DEPENDING ON BUSINESS REQUIREMENTS



Moves of China for China Strategy

- **The experience layer with customer / consumer facing applications is usually among the first wave of pilots, incl.**
  - .WeChat touchpoints
  - .E-Commerce / ordering portal
  - .Digital services
  - .Marketing automation
  - .SCRM
  - .Sales enablement
  - .Distributor ERP and CRM
- **All data related capabilities enabling customer / consumer facing applications should be built first**
  - .Consumer Data Platform
  - .Data storage
  - .Data analytics
  - .Data visualization
- **China-based hosting solutions, especially private and public cloud solutions:**
  - .Private hosting (on-premise, Private cloud, etc.)
  - .Public cloud (Ali Cloud, AWS, Azure, Tencent Cloud, etc.)
  - .APIs
- **Build the most basic local capabilities and align with global standards**
  - .Compliance: CSL, DSL, PIPL
  - .Assessment: CPCS, CBDT, PIA
  - .Network and boundary security
  - .IAM, Zero Trust
  - .Vulnerability scan and Pentest
  - .SIEM, SOC, SOAR
  - .Incident Response

Long-term actions:

1. Invest in Local Technologies: Companies should invest in developing local technologies and capabilities to reduce dependency on foreign components and intellectual property.

2. Strengthen Local Partnerships: Building strong relationships with local partners can help companies navigate regulatory challenges and enhance their market presence.

3. Develop Decoupling Plans: Preparing for potential decoupling scenarios by creating contingency plans and investing in systems that can operate independently of headquarters can ensure business continuity.

Supply chain strategies:

4. China for China: Focus on localizing the supply chain to serve the Chinese market more effectively, leveraging local suppliers and production facilities.

5. Regional Hubs: Establish regional hubs to serve different markets, reducing the dependency on any single country and enhancing supply chain resilience.

6. Technology Integration: Utilize advanced technologies such as to enhance supply chain visibility, efficiency, and adaptability."

Stéphane Monsallier
CEO of System-In-Motion

Future outlook

As geopolitical tensions continue to reshape the global business environment, supply chain resilience is no longer an option—it is a necessity. Businesses must navigate a complex web of political risks, regulatory changes, and operational challenges to ensure continuity and competitiveness.

Short-term strategies, such as regulatory adaptation, third-party risk management, and supply chain diversification, provide immediate protection against disruptions. However, these must be supplemented with long-term initiatives to build truly resilient supply chains capable of withstanding future crises.

Companies that take a proactive approach to managing geopolitical risks will emerge stronger and more competitive, while those that fail to adapt will find themselves vulnerable to the next wave of political disruptions. In the end, supply chain resilience is not only about surviving today's challenges but also about positioning for success in an increasingly uncertain future.

> “Tensions between the US and China are expected to continue, with the possibility of further retaliatory measures. Companies need to plan for the next 3-5 years, as the current volatility is likely to persist. There is no one-size-fits-all solution, and companies must proactively manage the evolving trade and geopolitical landscape.”

Alain Li
Former regional Chief Executive of Richemont

> “We will have to live with geopolitical risks for at least the next 10 years; they are not going to decrease. It's a reality of today's world, and we need to plan accordingly.”

Jérôme Lecat
CEO and co-founder of Scality

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