

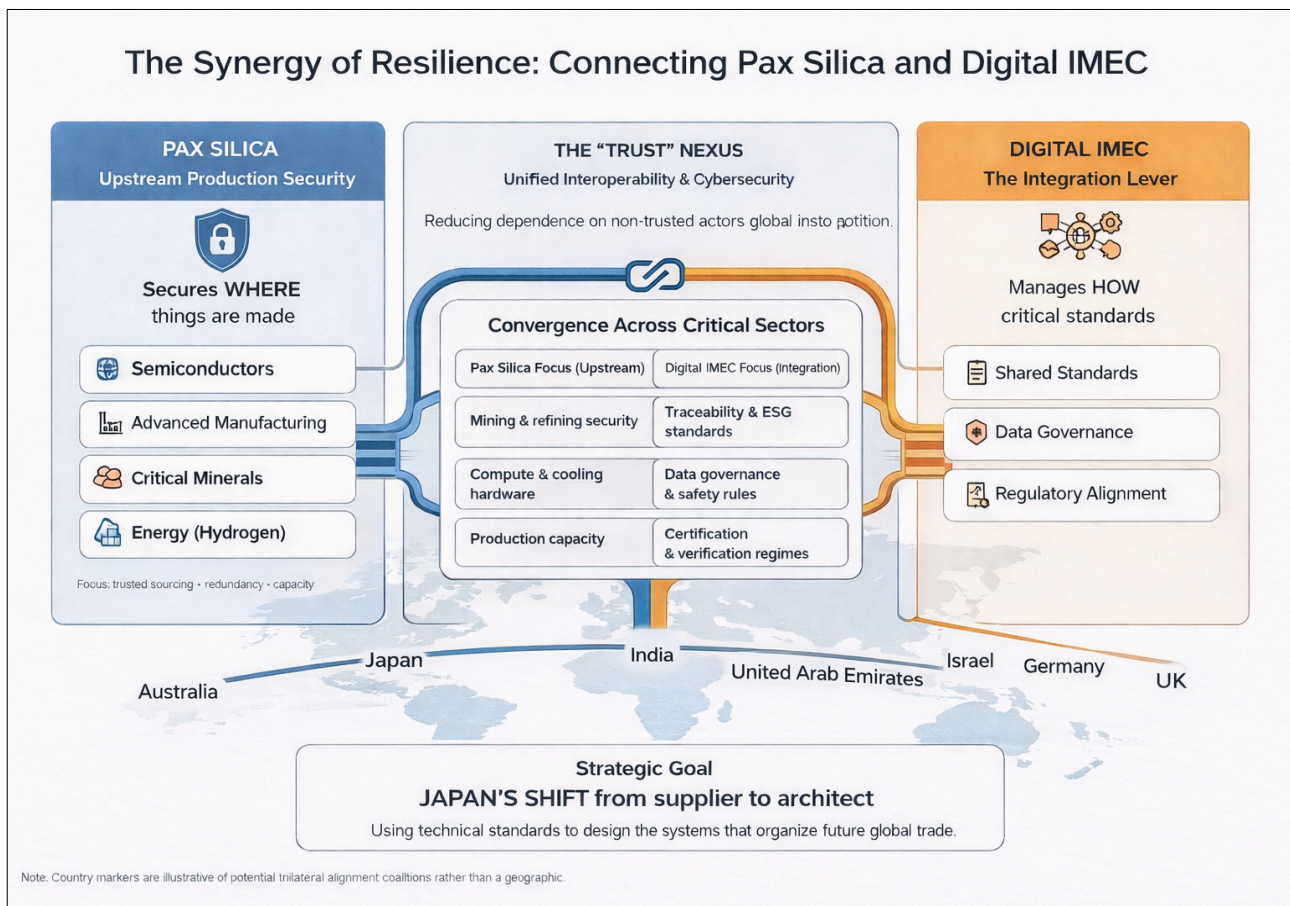
## From Pax Silica to Digital IMEC: Japan's Strategic Opportunity in a Reconfigured Middle East

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Over the past year, the nature of economic power has shifted. Control over production remains necessary, but it is no longer sufficient. Disruptions in the Red Sea and the growing risk of instability around the Strait of Hormuz, intensifying competition over AI infrastructure, and the weaponisation of critical minerals all point to the same conclusion: resilience at the point of production does not automatically translate into strategic leverage. Once goods, data, and capital begin to move across borders, vulnerability re-emerges. What matters is not only where things are produced, but how they are integrated, governed, and scaled.

This shift helps explain the emergence of the US-led Pax Silica initiative, launched in December 2025 to strengthen trusted production networks across critical minerals, semiconductors, and advanced manufacturing. As of early 2026, its core participants include the United States, Japan, South Korea, Australia, the United Kingdom, the Netherlands, Singapore, Israel, the United Arab Emirates and Qatar, with India most recently joining, reinforcing the emerging Asia–Middle East linkage at the heart of the initiative. Other actors, including the European Union and Taiwan, have participated as observers and dialogue partners.



Japan's participation reflects recognition that upstream resilience has become a strategic requirement. Yet Pax Silica addresses only one layer of the challenge. Production security alone does not determine who shapes the rules of cross-regional economic interaction.

A similar dynamic underlies the India–Middle East–Europe Economic Corridor (IMEC), announced at the September 2023 G20 summit in New Delhi. Often described as a physical connectivity project linking ports and railways across Asia, the Middle East and Europe, IMEC's deeper significance lies elsewhere. Its strategic value increasingly sits in the technological, digital and regulatory domain: the systems, standards, and governance frameworks that allow production networks to operate predictably across regions.



## Beyond Physical Infrastructure: The Logic of a Digital IMEC

IMEC's physical components remain important, but their viability depends on a deeper layer of coordination. Customs interoperability, data governance, certification regimes, financing standards, and regulatory alignment. Are not ancillary to physical connectivity. Without coordination in these areas, even well-protected production capacity loses value once it crosses borders.

The term Digital IMEC captures two closely related aspects that extend IMEC beyond its physical infrastructure. Together, they add a functional layer that transforms IMEC from a geographically bounded corridor into a framework for cross-regional participation, including by countries such as Japan that are not located along IMEC's physical route.

The first aspect concerns the digital layer of the physical infrastructure itself. This includes customs coordination, security frameworks, technical standards, and the governance mechanisms required to make physical connectivity operational. Interoperable customs platforms, secure data exchange, smart port systems, hydrogen certification regimes, and mineral traceability mechanisms are what allow goods, energy, and inputs to move predictably across jurisdictions. These systems shape transaction costs, risk allocation, and, ultimately, who sets the operating rules of regional commerce.

The second aspect involves cooperation among IMEC members on strategic technologies. This includes areas such as AI, data centres, quantum computing, and semiconductors. Cooperation at this level goes beyond facilitating trade. It influences where compute capacity is located, how data is governed, which standards prevail, and how industrial ecosystems scale across regions. In this

sense, Digital IMEC is not only about enabling physical flows, but about coordinating the technological foundations of future economic growth.

These two aspects are closely interlinked. Digital governance of physical infrastructure enables strategic technology cooperation, while shared technological ecosystems increase the value, resilience, and attractiveness of the corridor itself. Both dimensions are also closely connected to Pax Silica. While Pax Silica focuses on securing trusted production upstream, Digital IMEC determines how that production is integrated, governed, and scaled across regions.

For Japan, this matters because engagement with the Gulf has traditionally centred on energy security and downstream investment. Digital IMEC opens a different pathway: participation in shaping the systems through which future trade, energy transition, and industrial cooperation are organised. For Japan, the opportunity today exists to design those systems rather than just adapt to frameworks shaped by others.

Three developments illustrate what is at stake.

### **1. Maritime vulnerability.**

The Red Sea disruptions of 2024 showed that physical redundancy alone does not guarantee resilience. The Suez–Red Sea corridor carries roughly 12 percent of global trade and close to 30 percent of container traffic. Rerouting shipments via the Cape of Good Hope added 10 days or more to transit times and sharply increased costs. Without real-time cargo visibility, automated customs processing, and interoperable port systems, longer routes quickly translate into systemic inefficiency. Given Japan’s high dependence on maritime energy imports, this is a strategic concern.

### **2. Critical minerals.**

Gulf states, particularly Saudi Arabia and the UAE, are investing heavily in processing and refining capacity, positioning themselves as intermediaries between resource-rich regions and industrial consumers. China’s dominance, around 70 percent of rare earth mining and close to 90 percent of refining, rests less on extraction than on integrated processing and system control. Reducing exposure requires traceability across extraction, processing, and manufacturing. This is feasible only if certification standards, data systems, and quality protocols align across regions. Japan’s strength in industrial standards offers leverage here, but only if exercised early.

### **3. AI infrastructure.**

During 2024, Gulf sovereign wealth funds earmarked and deployed tens of billions of dollars in AI compute capacity and data centres, particularly in the UAE and Saudi Arabia. Japanese firms supply critical technologies in cooling, power management, and system optimisation. Yet without influence over data governance frameworks, AI safety standards, and cloud interoperability rules, these relationships risk remaining transactional. Early participation in standards formation converts supplier roles into structural partnerships.

These dynamics intersect precisely in the space Digital IMEC seeks to structure. The question for Japan is whether its existing projects in the Gulf connect to broader integration frameworks or remain isolated bilateral engagements.

## Japan's Strategic Position in a Fragmented Regional Landscape

Japan enters this environment with distinctive advantages. Its Middle East relationships span political divides. It maintains working ties with Saudi Arabia and Iran, the UAE and Qatar, Israel and Arab states. This balanced engagement, built over decades, creates credibility where integration systems must operate across sensitive political boundaries.

At the same time, new regional linkages are taking shape. The Abraham Accords have opened channels connecting Israeli capabilities in cybersecurity, semiconductors, and digital systems with Gulf capital and ambition. This creates scope for triangular cooperation in which Japanese industrial capacity and standards expertise complement Israeli innovation and Gulf financing. Integrated mineral and energy projects already demonstrate how such arrangements function when governance frameworks are credible and transparent.

Gulf policymakers increasingly view Japan not only as a technology provider, but as a reference point for industrial policy, quality control, and long-term planning. National strategies in Saudi Arabia and the UAE frequently cite Japanese approaches to manufacturing and infrastructure management. This creates receptivity to Japanese-led standards frameworks. When Japanese public and private actors engage early, governance principles can be embedded at the design stage rather than negotiated retroactively.

The strategic Pax-Silica-Digital IMEC framing opens the door to new opportunities, adding more partners for such cooperation from both Asia and Europe.

Japan's comparative advantage lies less in capital scale or speed, and more in its ability to translate technical coordination into durable institutional practice across politically diverse partners.

This capability is particularly relevant as Saudi-UAE competition grows and coordination becomes more selective, underscoring the importance of integration models that allow cooperation to proceed without requiring political alignment.

## Sector-Specific Integration Opportunities

Several sectors illustrate how Digital IMEC can translate into concrete strategic value.

### Hydrogen

Japan's path to carbon neutrality depends on large-scale hydrogen imports, with Gulf producers expected to play a central role. Yet global hydrogen certification remains fragmented. Aligning standards on carbon intensity, safety, and verification is essential for investment and long-term contracting. A coordinated Pax Silica/IMEC framework can bridge Gulf production and Asian demand if governance mechanisms are shaped early.

### Ports and logistics

Gulf ports are investing heavily in automation and digital management, with competing technology providers already active. Port digitisation creates lock-in effects: once systems are adopted, downstream partners are incentivised to align. Participation in defining cybersecurity, data governance, and interoperability standards, therefore, has consequences beyond individual contracts.

## **Semiconductors**

Japan's efforts to rebuild advanced manufacturing capacity intersect with Gulf investment capital, Israeli design expertise, and India's expanding fabrication ambitions. These initiatives proceed in parallel. An integration framework can connect financing, precision manufacturing, design, and scale, but only if standards for verification, intellectual property protection, and supply-chain transparency align from the outset.

## **Critical minerals**

Secure access to cobalt, nickel, and related inputs is increasingly tied to traceability and ESG compliance. Digital systems linking extraction, processing, and manufacturing reduce regulatory and reputational risk.

While many early use cases emerge in the Gulf due to capital availability and implementation capacity, the logic of Digital IMEC expands to other partners in the Middle East, India and partners in Europe.

## **Competition Through System Design**

China understands the strategic implications of Pax Silica, IMEC and similar frameworks. Belt and Road investments created physical infrastructure and financing dependencies, while the Digital Silk Road created an effective platform for technological cooperation. Digital IMEC adds a strategic layer: regulatory architecture, data governance, and standards formation.

Gulf states have demonstrated sophisticated hedging behaviour. They host Chinese digital infrastructure, American security assets, and Japanese long-term industrial partnerships simultaneously. Japan's strength lies in domains where trust matters: certification integrity, data security, and operational reliability. Utilising the nexus between Pax Silica and Digital IMEC will position Japan as a strong cross-regional player in both realms of rare minerals and technology cooperation.

## **From Concept to Architecture: Looking Ahead**

This article outlines the strategic logic linking Pax Silica's focus on trusted production with the digital and regulatory dimension of IMEC. It has argued that production resilience does not generate strategic influence unless embedded within integration systems that govern how goods, data, capital, and standards move across regions. What remains underdeveloped is a structured assessment and strategy of how these two frameworks can be aligned in practice.

Moving from conceptual alignment to operational coordination raises concrete design challenges. These include identifying where Japanese technical standards can anchor interoperability; determining which digital domains, customs systems, certification regimes, data governance frameworks, logistics platforms, or traceability mechanisms offer the highest leverage for early coordination; and assessing how industrial policy tools, public financing, and private-sector execution can be sequenced rather than pursued in parallel.

Such work also requires a closer examination of institutional pathways. Pax Silica and IMEC (including its expanded Digital layer) involve overlapping but distinct actors, incentives, and

timelines. Aligning them does not mean merging initiatives but clarifying interfaces: where upstream production security connects to downstream integration, where regulatory alignment reduces commercial risk, and where early governance choices shape long-term market behaviour. In sectors such as hydrogen, critical minerals, port digitisation, and AI infrastructure, these choices will have lasting effects.

A follow-on effort focused on Pax Silica–Digital IMEC integration would therefore serve a specific purpose. Rather than proposing new initiatives, it would make strategic sense to integrate and maximise the existing ones, focusing on system design: mapping friction points, identifying sequencing options, and clarifying where limited but targeted coordination can yield disproportionate strategic returns. In an environment where competition increasingly revolves around systems, infrastructure and resources, this is critically important.

## Conclusion

As Japan seeks to reposition itself strategically in the Middle East and beyond, it now faces an opportunity. Pax Silica strengthens upstream resilience. Digital IMEC determines whether that resilience converts into sustained influence. The Middle East offers conditions well suited to this broader strategy: capital seeking diversification, demand for credible standards, and alignment with Japanese technological and institutional strengths.

Engaging early would allow Japan to shape integration systems while they remain fluid. Governance frameworks harden quickly once adopted. Delayed engagement risks locking Japanese firms into (or out of) architectures defined elsewhere.

For Japan’s Middle East strategy, the question is how long-standing relationships built around energy and infrastructure will evolve in a rapidly changing regional and international landscape. Will it translate into influence over the systems that will govern future cross-regional commerce, or remain transactional, gradually weakening? By adopting a proactive approach, Japan today has an opportunity to position itself well in this quickly evolving environment.

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## Bio

Dr. Gedaliah Afterman is a foreign policy expert and strategist specializing in geopolitics, geoeconomics, and cross-regional strategic cooperation between Asia, the Middle East, and Europe. He heads the Asia Policy Program at Reichman University’s Abba Eban Institute and lectures on international relations and strategic affairs at Reichman University and Tel Aviv University. He is also a Senior Non Resident Fellow at the Emirates Center for Strategic Studies and Research (ECSSR) in Abu Dhabi.

A former Australian diplomat, Dr. Afterman has advised governments, international organizations, and leading think tanks on issues including great-power competition, Chinese foreign policy, technology governance, and regional connectivity initiatives such as IMEC. He is the co-founder and director of Geo Horizon, a platform focused on technology-driven cooperation among “tech middle powers.” His writing appears regularly in international policy journals and media outlets, and he is a frequent participant in Track II dialogues across Asia, the Gulf, and Europe.