



03/07/2026

The Pax Silica Initiative and the Securitisation of Critical Minerals for Artificial Intelligence

Introduction

The speed of adoption and the scaling up of generative artificial intelligence models in recent years have transformed the dynamics of international security and shifted the focus of strategic competition from *software* dominance to the material infrastructure underpinning global computing capacity.

Against this backdrop, technology has come to be viewed as a critical vector of state power and sovereignty, far beyond the metrics of the free market or corporate innovation. The Pax Silica initiative, launched by US diplomacy and a core group of allies in late 2025 and substantially expanded in June 2026¹, formalises this paradigm shift through a geopolitical architecture designed to secure and coordinate access to the essential physical components of advanced computing.

This process of technological securitisation is a response to the geo-economic fragmentation that characterises the current international system, in which global supply chains are under strain due to systemic competition between Washington and Beijing. Historically, the great powers structured their alliances around control of energy and hydrocarbon routes, and shaped a 'petropolitics' that defined the stability of the last century.

The transition towards a digitalised economy dependent on processing power has given rise to a geopolitics of computing, in which critical minerals serve as the new foundation of national security. Some authors have pointed out that the rise in trade restrictions and protectionist barriers on these raw materials reflects a trend towards the fragmentation and regionalisation of strategic resources².

Under this logic, the Pax Silica constitutes a doctrine of hemispheric and technological security. Its scope goes beyond that of a bilateral tariff cooperation agreement or one aimed at facilitating trade in minerals, as its purpose is to coordinate a bloc of trusted

¹ US DEPARTMENT OF STATE. 'Pax Silica Summit', *Announcement from the Office of the Spokesperson*. 22 June 2026. Available at: <https://www.state.gov/releases/office-of-the-spokesperson/2026/06/pax-silica-summit-invitation/> (accessed 25 June 2026).

² HIDALGO GARCÍA, Mar. *Restrictions on trade in critical minerals: towards global geo-economic fragmentation*. IEEE Analysis Paper 10/2024. https://www.ieee.es/Galerias/fichero/docs_analisis/2024/DIEEEA10_2024_MARHID_Restricciones.pdf (accessed 25 June 2026).

producers and consumers and to reduce exposure to actors considered a cause for concern by the West within the supply chains serving the semiconductor industries and supercomputing clusters.

The viability of this ecosystem depends on the inclusion of partners from the Global South who possess the geological reserves or strategic position necessary to sustain the demand for technological infrastructure. It is here that the Argentine Republic, through a shift in its international positioning and the reconfiguration of its domestic regulatory framework, emerges as an actor capable of influencing the balance of critical resources for the era of artificial intelligence.



Figure 1. Geo-economic flows and coordination nodes of the Pax Silica initiative in the face of global supply constraints. Source: Author's own work based on data from the Centre for Strategic and International Studies (2025).

The geo-economic paradigm shift: from control of crude oil to computing sovereignty

The global transition towards the centrality of artificial intelligence has altered the coordinates of classical geoeconomics and forced a shift in the definition of strategic resources. Throughout the 20th century, the projection of power by the major powers rested on the ability to secure hydrocarbon routes and consolidated a financial and geopolitical architecture inextricably linked to the oil matrix.

Today, the centre of gravity of national security has shifted towards advanced computing infrastructure, an ecosystem where sovereignty is measured by data processing capacity and by physical control over the materials that make this possible³. The rise of the so-called 'mineral yuan' in contrast to the petrodollar system illustrates how global financial governance is beginning to be subordinated to the physical availability of technological raw materials⁴.

This shift is reshaping the West's systemic vulnerabilities. The development of generative artificial intelligence depends on value chains characterised by extreme geographical concentration, where the processing of rare earths, the refining of lithium and the manufacture of state-of-the-art semiconductors fall largely within Beijing's sphere of influence.

The risk of 'armed interdependence' – understood as the coercive exploitation of trade bottlenecks – has ceased to be a theoretical hypothesis and has become an operational reality, manifested in the proliferation of restrictive export licences and quotas on metals such as gallium, germanium and graphite.

The US response, through the 'Pax Silica', seeks to break this de facto monopoly by building an alternative supply bloc, in line with a broader doctrinal shift that prioritises the consolidation of its hemispheric sphere of influence and the shifting of burdens onto allies⁵.

The material dimension of the challenge is magnified because the digital transformation and the energy transition rely on the same critical inputs. The infrastructure required to support large-scale computing—including globally distributed mega-data centres—demands high-purity silicon, monumental volumes of copper for power distribution, and lithium for storage systems that compensate for the intermittency of clean electricity grids.

³ VAN DEN HURK, Arnoldus M. *The new geopolitics of the 21st century: the TESIS doctrine as a pillar of Spain's mineral sovereignty and national security*. IEEE Opinion Paper 102/2025. https://www.defensa.gob.es/ceseden/-/ieeee/la_nueva_geopolitica_del_siglo_xxi_2025_dieeeo102 (accessed 25 June 2026).

⁴ CHOMÓN PÉREZ, Juan Manuel. *The 'mineral yuan' challenges the petrodollar in the era of the energy transition*. IEEE Opinion Paper 02/2024. https://www.ieee.es/Galerias/fichero/docs_opinion/2024/DIEEEEO02_2024_JUACHO_Yuan.pdf (accessed 25 June 2026).

⁵ GÓMEZ MORENO, Guillermo. *Securing the home front to compete in Asia: the hemispheric pivot in US strategy towards China*. IEEE Opinion Paper. 12 June 2026. Available at: <https://www.defensa.gob.es/ceseden/-/ieeee/2026-asia-estadosunidos-china-opinion> (accessed 25 June 2026).

This dual technical requirement places the European Union and its transatlantic allies in a position of acute external dependence, where a disruption in the supply of a single mineral component can bring entire⁶ industrial chains to a standstill.

The Pax Silica operates as a strategic containment network that aims to align the security criteria of technology consumers in the Global North with the economic incentives of producers in the Global South.

The architecture of the Pax Silica: from minerals to data centres

The initiative goes beyond the supply of raw materials. The framework published by the State Department covers the entire supply chain, from critical minerals and energy through to advanced manufacturing, semiconductors, computing infrastructure and logistics⁷.

The core of *chip* manufacturing is provided by economies such as South Korea, Japan, Taiwan and the Netherlands, where the companies that dominate this sector are concentrated. For their part, suppliers from the Global South are involved in the early stages of the supply chain, providing raw materials and energy.

This structure reveals that the coalition is building a technological bloc with its own rules, capable of channelling investment, coordinating flagship projects and protecting sensitive infrastructure throughout the entire production chain.

The operational framework includes specific financial instruments. The initiative provides for a support fund for mineral extraction and processing, infrastructure and manufacturing assets, as well as minimum price and advance purchase mechanisms backed by the alliance's core economies, complemented by US development banks and export credit agencies.

⁶ INTERNATIONAL ENERGY AGENCY. *The Role of Critical Minerals in Clean Energy Transitions*. IEA, Paris, 2021. IEA web link (accessed 25 June 2026).

⁷ On the architecture of the initiative's value chain and the distribution of its links, see 'Argentina joins the Pax Silica: it enters the US artificial intelligence coalition via the minerals and energy link', *Shale24*. 24 June 2026 (accessed 25 June 2026).

This provision translates the rhetoric of economic security into the capacity to mobilise capital and defines the appeal that the coalition offers to suppliers willing to align themselves with it.

Latin America's integration: strategic alignment over geological endowment

Latin America occupies a central place in the material architecture of the Pax Silica due to its endowment of strategic mineral resources, as the region accounts for more than half of the world's lithium reserves and a substantial portion of global copper reserves⁸. However, the composition of Latin American membership up to June 2026 introduces a nuance that warrants careful consideration.

Alongside Argentina, Chile, Costa Rica and Panama signed up⁹. Costa Rica lacks a significant mining profile in this sector, and Panama suspended operations at its main copper mine in 2023 following a ruling by its Supreme Court and a cycle of social protests. The inclusion of both countries cannot be explained by their geology, but appears to be driven by other factors.

This observation necessitates a shift in the admission criteria from resource endowment towards geopolitical alignment and position within the value chain. The selection of partners is based on a combination of political reliability, control of logistics routes, energy capacity and a willingness to operate under the bloc's rules.

Panama provides a first-rate logistics hub by constituting a natural *chokepoint*, whilst Costa Rica signals regional alignment. This interpretation puts Argentina's accession into a new light. The country is part of a test of hemispheric alignment that transcends the strictly geological value of its reserves, thereby increasing both the strategic importance of its accession and the sovereign cost associated with it.

⁸ SIROIT, Gastón. *Critical minerals for energy transitions in Latin America and the Caribbean*. OLADE / ECLAC, 2024. Available at https://www.olade.org/wp-content/uploads/2024/02/Minerales_Criticos_ALC_OLADE.pdf (accessed 25 June 2026).

⁹ The simultaneous accessions of Argentina, Chile, Costa Rica and Panama were announced by Under-Secretary of State Jacob Helberg during the opening of the Washington summit. See 'Argentina joins a US global initiative to secure AI supply chains', *La Nación*. 24 June 2026 (accessed 25 June 2026).

Argentina's value proposition within this framework centres on two large-scale mineral deposits located along the mountain range. The country boasts a portfolio of world-class copper projects, including deposits such as Taca Taca, El Pachón, Los Azules, Josemaría and the integrated Vicuña complex, the commissioning of which is critical to supplying the cabling, power transformers and high-efficiency cooling systems required by the new artificial intelligence data centres¹⁰.

In the lithium market, Argentina's position offers advantages linked to an institutional model that has historically been receptive to private capital. It is worth highlighting here a difference that current circumstances have made unavoidable. Chile, another signatory, manages its lithium under a national strategy of state control and majority public ownership of the most valuable salt flats, whilst Argentina channels investment through a system of market incentives.

Both countries now form part of the same bloc with divergent regulatory models, and this divergence defines the terms of competition for capital within the coalition itself.

The regulatory framework: the RIGI as a geopolitical enabler

The instrument that transforms this geological potential into an attractive proposition for members of the Pax Silica is the Incentive Regime for Large Investments (RIGI), a reform designed to provide fiscal, exchange rate and legal predictability for a period of thirty years for large-scale capital outlays.

In the logic of secure supply arrangements between strategic partners, guarantees of free access to foreign exchange and tax stability act as trust-building factors that Western powers and their corporations demand before committing to long-term investments.

The local regulatory framework ceases to operate as a mere tax instrument and becomes a piece of geopolitical coordination that facilitates the material flow from the subsoil of the Andes to the decision-making hubs of the global digital ecosystem. The scheme's

¹⁰ UNITED STATES GEOLOGICAL SURVEY. 'Mineral Commodity Summaries 2025', USGS. Reston, 2025. <https://doi.org/10.3133/mcs2025> (accessed 25 June 2026).

portfolio comprises mining projects worth tens of billions of dollars, with the Vicuña copper complex being the first project to be classified as a long-term strategic investment¹¹.

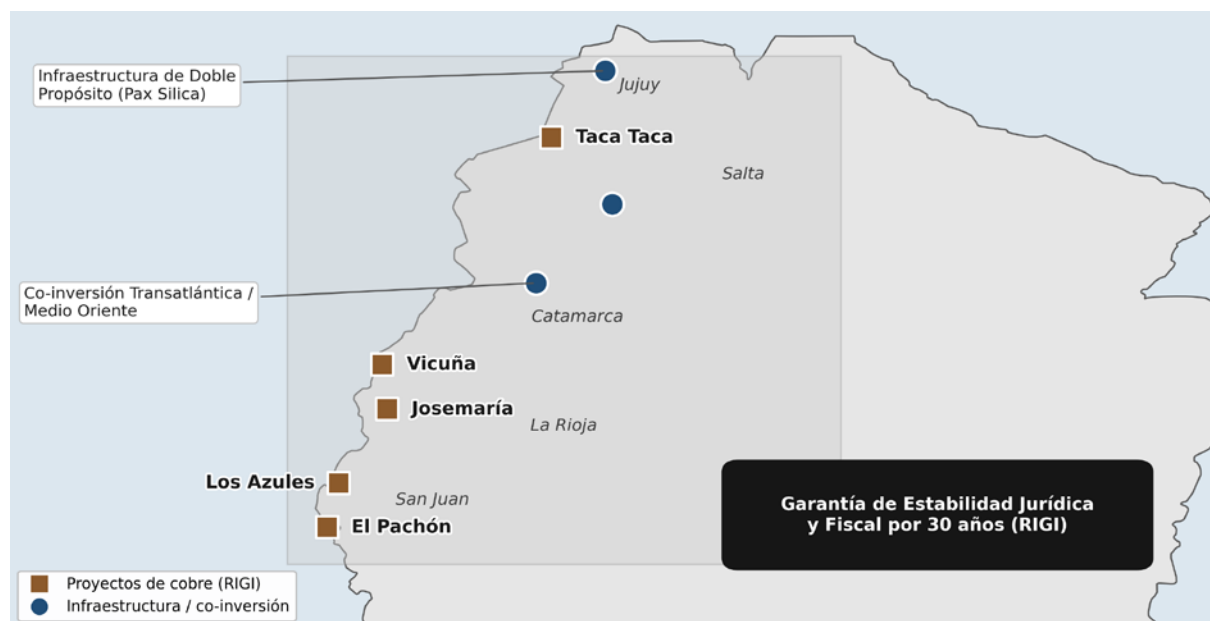


Figure 2. Geographical distribution of the main copper and lithium deposits in Argentina under the regulatory framework of the RIGI. Source: Compiled by the authors based on data from the United States Geological Survey (2025).

Financing dynamics and market incentives

The operational design of the Pax Silica introduces instruments aimed at correcting the structural flaws in the global market for mineral commodities, which is characterised by artificially induced volatility. The strategy of overproduction and price manipulation employed by Asian state-owned corporations has traditionally functioned as a geopolitical barrier to entry, by depressing the market values of lithium and rare earths in order to financially strangle Western projects at the exploration stage.

To counteract this practice, the initiative provides for mechanisms such as guaranteed minimum prices and long-term forward purchase contracts backed by the budgets of the alliance's core economies. The implementation of these price stabilisation bands makes

¹¹ Regarding the Incentive Scheme for Major Investments and the approved mining portfolio, with the Vicuña copper complex as the first example of a long-term strategic investment, see the coverage of Argentina's accession, Shale24, 24 June 2026 (accessed 25 June 2026).

it possible to insulate the development of new deposits from short-term price cycles and to guarantee the commercial viability of operations in allied jurisdictions¹².

This economic safety net alters the conditions for bankability in the Argentine mining sector and transforms projects with high geological risk into assets suitable for structuring international corporate financing. Credit institutions require predictable cash flows to grant syndicated loans under project finance arrangements, a requirement that is difficult to meet in the local market due to the sovereign risk premium.

In this regard, Spain plays a significant role in sectoral coordination and acts as a financial and corporate bridge between European Union guidelines and the Ibero-American business environment. Major Spanish-headquartered banks, with a long track record in structuring infrastructure loans in the region, find in the coalition's market guarantees and the co-investment funds of the European Union's Global Gateway strategy the risk mitigation framework necessary to lead the syndication of capital towards Andean copper and lithium megaprojects¹³.

The structural shortage of materials required for the expansion of advanced computing infrastructure has also altered the behaviour of technology corporations, which have moved away from their role as end consumers to take on an active role as direct financiers at the base of the industrial chain. The large companies responsible for developing the foundational models of artificial intelligence deploy their own capital to secure exclusive supply contracts and participate in funding rounds for the mining companies operating in the field.

¹² WORLD BANK. 'Commodity Markets Outlook', *World Bank Group*. Washington D.C., 2025. <http://documents.worldbank.org/curated/en/099756111072525099> (accessed 25 June 2026).

¹³ EUROPEAN COMMISSION. 'Global Gateway: a strategy for investment in infrastructure and value chains'. Brussels, 2021. https://international-partnerships.ec.europa.eu/policies/global-gateway/global-gateway-overview_es (accessed 25 June 2026).

This phenomenon of reverse vertical integration responds to the need to safeguard data centre expansion plans against potential geological bottlenecks and makes the supply of metals a critical variable in IT planning for the coming decade. Through these joint investment dynamics, the Argentine mining sector gains access to non-traditional international liquidity, enabling it to accelerate the bringing of its resources into production.



Figure 3. Dynamics of financial transitions for converting sovereign risk into bankable high-tech assets. Source: Author's own work based on the operational guidelines of the European Commission's Global Gateway strategy (2021).

Critical considerations, systemic challenges and conclusions

Integration into this closed technological architecture poses foreign policy and economic governance challenges that a rigorous prospective analysis cannot overlook. The first source of friction lies in managing relations with the People's Republic of China, the main destination for Argentine agricultural exports and a country which, , holds a substantial volume of capital invested in the salt flats of the Puna, as well as being a counterparty to the currency swap agreement that underpins part of the Central Bank's reserves.

Joining a bloc explicitly defined as a tool for reducing dependence on China poses an alignment dilemma that goes beyond strictly commercial considerations. Argentine economic diplomacy will need to operate with a considerable degree of sophistication to

ensure the flow of Western investment without triggering reprisals in sensitive sectors or paralysing Asian capital projects already underway.

Integration into the Pax Silica also reopens the debate on the risk of neo-extractivism and asymmetry in the international division of technological labour. The main structural danger lies in consolidating the country's position as a passive supplier of critical raw materials with little local added value, whilst the stages of semiconductor design, algorithm training and intellectual property retention remain concentrated in the global North.

To prevent the Andean region from functioning as a quarry for external digital infrastructure, the state and the private sector must use the alliance's platforms as negotiating tools and make access to resources conditional on obtaining tangible benefits in return, such as purified chemical processing within national territory or the establishment of regional data centres powered by renewable energy developed for the deposits themselves.

It is also worth taking a step back to examine the stabilisation instrument itself. The minimum price and advance purchase mechanisms that the coalition presents as a safety net constitute, at the same time, a form of managed dependency, insofar as they link the profitability of projects to the budgetary decisions of the central economies and to the country's continued membership of the bloc.

The predictability they offer comes at the cost of reduced autonomy, as the producer is exposed to the strategic priorities of the alliance and to the costs of a potential withdrawal. Opportunity and conditionality operate, within this framework, as two sides of the same coin.

Argentina's accession to the Pax Silica constitutes a far-reaching geopolitical development that redefines the strategic purpose of its natural resources. Copper and lithium mining is moving beyond the exclusive sphere of commodity markets to become part of the Western technological bloc's national security framework.

The risk mitigation tools designed under this umbrella – in particular price stabilisation mechanisms and the inflow of corporate capital – offer the country a means of alleviating the foreign exchange bottleneck that has constrained its macroeconomic development.

The outcome of this integration will depend on the abundance of the Cordilleran subsoil and, above all, on the ability of political and business leadership to transform mineral wealth into genuine, long-term technological capabilities, without subordinating the country's strategic autonomy to the logic of a bloc that defines its priorities elsewhere.

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