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The strategic push of South Korea's semiconductor industry



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Abstract:

The Republic of Korea has been adversely affected by political and economic tensions between the U.S. and China, by global trade tariffs, and by events such as the tensions with Japan in 2019, which led to trade restrictions on the sale of basic materials for the Korean semiconductor industry. Government strategies and plans have positioned the Korean semiconductor industry as a critical global player; however, integration into global supply chains and specialization in memory chips have created serious imbalances and threats for the country. To mitigate these threats, the Korean government has implemented a series of measures in both the civilian and military sectors aimed at enhancing economic security and protecting national interests by reducing risks to an industry as critical as the semiconductor sector.

Keywords:

South Korea, Geopolitics, Strategy, Semiconductors, Techno-nationalism

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Introduction

Over the last decade, the technological sphere has become a battleground for major powers vying for political, economic, and military supremacy. Within this arena, semiconductors stand out, having become key pieces on the geopolitical chessboard.

According to PwC, the semiconductor sector is projected to grow from $627 billion in 2024 to $1 trillion in 2030[1]. Key sectors expected to absorb this production include data centers to support the growth of artificial intelligence and machine learning; the automotive sector, particularly in the area of electric vehicles; the telecommunications and connectivity sector; the energy sector; and the defense sector.

As a consequence of the critical role of these products in the global economy and their direct impact on national security, a race has been unleashed to achieve the greatest possible autonomy and self-sufficiency in the supply chain. Both the United States and the People's Republic of China have developed plans and strategies to reduce their vulnerabilities and expand their advantages. This push has spread across the globe, and other actors such as Japan, India, the European Union, and the Republic of Korea (hereinafter South Korea) have implemented their own strategies in its wake.

As a result of a series of threats (the escalation of trade tensions between the US and China, the potential outbreak of conflict over Taiwan and restrictions on the export of critical materials by Japan and China, among others), the South Korean government has implemented a series of measures in both the civilian and military sectors aimed at increasing its economic security and protecting national interests by reducing risks to a critical industry such as semiconductors.

Toward technological autonomy in semiconductors

South Korea's path to technological autonomy began in 2022 with the identification of 12 critical and emerging technologies, as well as 50 key technologies for supply chain security, emerging industries, foreign affairs, and national security[2]. Specifically, for those

[1] PriceWaterhouseCooper. Semiconductor and beyond Global semiconductor industry outlook 2026. Available at: https://www.pwc.com/gx/en/industries/technology/pwc-semiconductor-and-beyond-2026-full-report.pdf

[2] MSIT. MSIT Unveils First Master Plan for Developing Critical and Emerging Technologies (2024-2028): A Blueprint for National S&T Sovereignty. Available at: https://www.msit.go.kr/eng/bbs/view.do?sCode=eng&mId=4&bbsSeqNo=42&nttSeqNo=1034

industries where South Korea was well-positioned in terms of development and production, the plan set the goal of achieving a leading position in technological development and maintaining a strong presence in the global supply chain. The ultimate objective is to create what South Korean industry has termed a "*super-gap*" that solidifies its technological superiority over competitors. To this end, the Ministry of Science and ICT pledged its support in promoting public-private R&D initiatives and providing strategic support to the supply chain regarding critical and emerging materials.

In March 2023, the government published the Special Law for the Promotion of Strategic National Technologies, acting as a framework law for all technologies classified as strategic, including semiconductors[3]. The stated purpose of the law is to "*contribute to the development of the national economy and national security by fostering strategic national technologies of great national importance, thereby promoting the development of new future industries and establishing sovereignty in science and technology*." Strategic national technologies are those considered to have "*strategic importance in terms of diplomacy and security, have a substantial impact on the national economy and related industries, and serve as a basis for future innovation, such as the creation of new technologies and new industries*."

Each strategic national technology will be developed through a five-year master plan that must establish measures to promote and protect the industry. Among the measures established by law are the designation of strategic research and development programs and, subsequently, the promotion of the dissemination of results to the market, particularly to emerging companies, and their commercialization. State actions may include the use of venture capital funds in conjunction with the Ministry of SMEs and Startups.

[3] LawViewer. Special Act on the fostering of National Strategic Technology. 2023. Available at: https://elaw.klri.re.kr/eng_mobile/viewer.do?hseq=62878&type=sogan&key=54



Clean room in a Samsung 'fab'– Source: Samsung Newsroom.

The law provides for a wide range of measures aimed at promoting protected sectors. First, the law recognizes the importance of standardization for technological sectors (technology diffusion, interconnectivity, technological development, etc.). Therefore, the government must research, develop, and distribute standards that affect strategic technologies; encourage the exchange of human resources specializing in standardization; support global standardization activities through both public and private sector representatives; and support the inclusion of South Korean Standard Essential Patents in global standards. This initiative is similar to the strategy developed by the Chinese government called '*China Standards 2035*'.

Secondly, the law designates certain organizations as Research Institutes specializing in national strategic technologies, with a range of functions including technology-related research and development, human resource development, and cooperation with technology-promoting entities and international cooperation related to said technologies[4].

[4] These include the Korea Advanced Institute of Science and Technology; the Gwangju Institute of Science and Technology; the Daegu Gyeongbuk Institute of Science and Technology; and the Ulsan National Institute of Science and Technology.

No less important is the promotion of human resources in strategic sectors, especially in South Korea, where internal and external pressures threaten the skilled workforce in critical sectors (low birth rate, lack of skilled labor, competition from foreign companies that poach skilled workers, etc.). In this regard, both the State and local authorities must develop policies aimed at training and securing workers in these sectors, creating a stable environment, especially for research personnel. In addition to trying to prevent the brain drain, a challenge all countries face is preventing the leakage of highly sensitive information related to these technologies, whether due to the departure of workers with technical expertise and trade secrets or through illicit activities that violate intellectual property rights.

The Korean Intellectual Property Office also plays a fundamental role in this regard, both in establishing expedited patent granting procedures for technologies considered strategic, by supporting the management, commercialization, and transfer of intellectual property rights, analyzing patent patterns and trends, and assisting in the resolution of patent disputes.

Finally, the government is expected to promote research and development through cooperation between civilians and the armed forces, and to strive to accelerate the utilization of research and development results to secure national strategic technologies with high potential for use in the areas of national defense and security. This element is essential in the South Korean case due to its extreme dependence on foreign military technology, particularly in semiconductors for the defense sector.

The initiatives for industrial development are structured around three pillars. The first pillar consists of the Special Law to Strengthen Competitiveness and Support the Semiconductor Industry, which includes numerous provisions aimed at promoting the industry's development across all sectors. The second pillar is the Master Plan for the creation of several semiconductor clusters to implement the strategy, and finally, the so-called *'K-Chips Act'* which focuses on aspects related to taxation, exemptions, and financial aid for the industry.

The Special Law for Strengthening and Supporting the Competitiveness of the Semiconductor Industry, approved in January 2026, aims to contribute to national and economic security and the development of the national economy by strengthening the competitiveness of the semiconductor industry and establishing semiconductor

sovereignty through the creation of an innovation ecosystem, thus laying the foundation for the sustainable growth of the semiconductor industry. To this end, an institutional structure has been created through the Committee for Improving the Competitiveness of the Semiconductor Industry, whose main function is to act as the central policy coordination body by reviewing key initiatives, coordinating with ministries, reviewing master plans, and analyzing national strategic issues related to semiconductors.

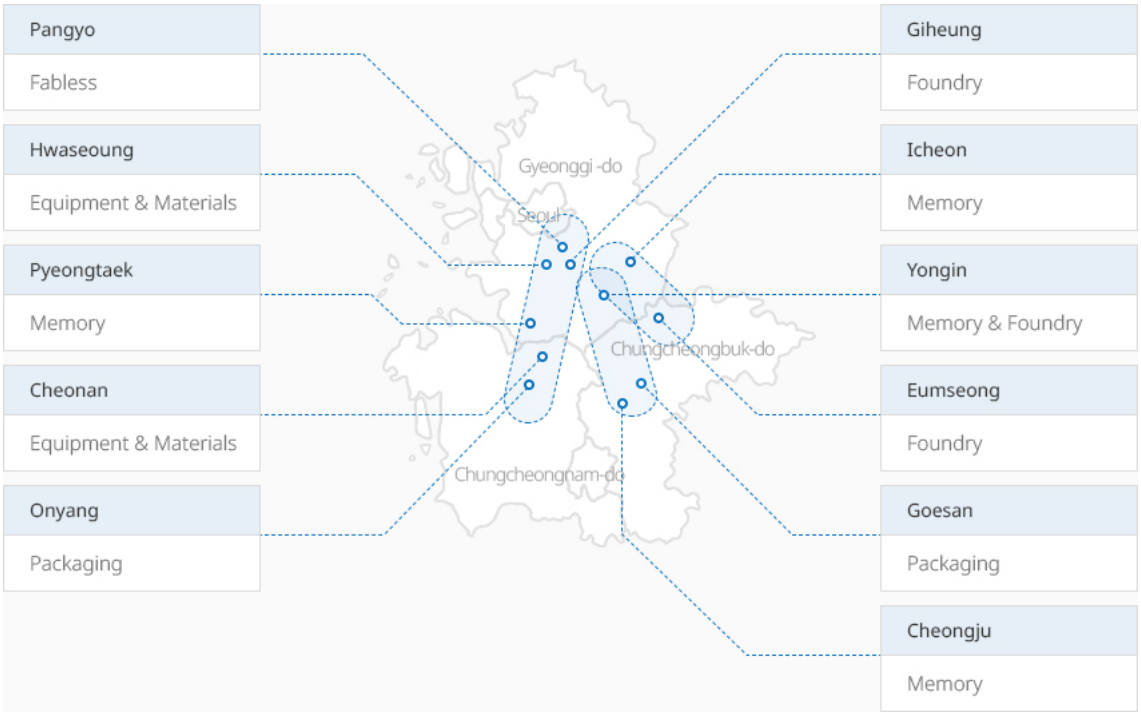
One of the key elements of this law is the legal integration of semiconductor clusters and their recognition as areas of strategic importance for production, research and development, packaging, and testing, as well as other related semiconductor activities. Each cluster will be designated by presidential decree and will have a development and promotion plan that includes, among other elements, industrial development objectives, infrastructure projects, land use and facility planning, and human resource development measures.

In addition to planning, the law establishes the possibility for the government to provide assistance with necessary infrastructure for semiconductor manufacturing plants, such as electrical, water supply, and transportation facilities. To facilitate the start-up of industrial operations, the law also provides for streamlining administrative procedures, especially those related to licenses, application approvals, building permits, and environmental impact assessments. Alongside these measures, the central and local governments must support the development and construction of facilities and provide shared infrastructure for all companies.

Recognizing the importance of developing the entire supply chain, the law aims to prevent funding from being concentrated in a small number of multinational corporations. To this end, it establishes measures to support the entire industrial fabric, including companies that supply basic materials for the production process, equipment manufacturers, packaging and testing companies, startups, and SMEs. To strengthen the industrial ecosystem and prevent vulnerabilities, the law includes provisions for monitoring potential supply chain risks, taking steps to diversify the supply chain, and promoting the creation of strategic reserves.

Measures are also planned to support research and development, giving special priority to advanced semiconductor technologies, innovation in production processes, and semiconductor materials and equipment. The law also addresses international cooperation and financial aspects. Internationally, the government is promoting the country's participation in international semiconductor initiatives, such as the Chips 4 Alliance, as well as establishing cooperative projects in the technological field, the global supply chain, and academic exchanges. Finally, as in other countries, a special fund is planned to provide stable and continuous financing to the industry, from infrastructure development to worker training and development.

The practical implementation of the strategy focuses on building a series of clusters to house a large number of factories and boost semiconductor production nationwide.



K- Semiconductor Belt – Source: Invest Korea.

The crown jewel of the South Korean project is undoubtedly the Yongin mega-cluster. Spearheaded by the two leading companies in the sector, Samsung and SK Hynix, the project is expected to cover 21 million square meters once completed. The Yongin cluster is divided into several complexes. The Idong-eup and Namsa-eup complexes belong to Samsung Electronics and are projected to cover approximately 7 million square meters. Samsung plans to invest around 360 trillion won to create six logic semiconductor factories dedicated to AI and high-performance computing. SK Hynix, for its part, will have

its headquarters in Wonsam-myeon in a complex of approximately 4 million square meters, where it plans to invest 600 trillion won to establish four factories dedicated to DRAM and HBM memory semiconductors. More than 90 companies specializing in the manufacture of semiconductor materials and equipment will be located around these two complexes. The cluster is expected to open its first factory in 2027, reaching 16 factories by 2047. By 2030, the government anticipates that the factories will be producing approximately 7.7 million wafers per month[5]. Upon completion of the project in 2047, it is expected that, operating at full capacity, it will supply a significant portion of the world's semiconductor production[6].

To ensure smooth operations, both the national and local governments have agreed to implement numerous infrastructure projects. A fundamental requirement for the industry is a continuous and uninterrupted power supply. To this end, the Gyeonggi provincial government has signed a Memorandum of Understanding (MoU) with KEPCO to guarantee a 5.5 gigawatt power supply for the factories in the complex. Furthermore, the Ministry of Climate, Energy and Environment has launched a 2.21 trillion won (US$1.5 billion) project to construct water supply facilities with a capacity of 1.073 billion cubic meters, essential for semiconductor production[7]. In order to supply materials and equipment and facilitate the movement of workers as well as to proceed with the distribution of the production of this cluster, the government has also paid attention to road and rail infrastructure by developing the Osan-Yongin and Yongin-Seoul expressways, expanding national highways 45 (Daechon-Jangseo) and 17 (Yangji-Pyeongchang) along with railway projects such as the extension of the Bundang and Gyeonggang lines[8].

In the same Gyeonggi province lies the Pyeongtaek complex, home to Samsung's operational base. This massive complex is the largest in the world, with three operational plants (P1, P2, and P3). A fourth (P4) is in the final stages of construction[9], and the last

[5] Ministry of Science and ICT. Government of the Republic of Korea. Available at: https://www.msit.go.kr/eng/bbs/view.do?sCode=eng&mId=4&bbsSeqNo=42&nttSeqNo=952

[6] The Korea Herald. Yongin unveils semiconductor map for mega chip cluster. Available at: https://www.koreaherald.com/article/10672944

[7] Korea JoongAng Daily. Gyeonggi govt., KEPCO sign MOU to build underground power grid for SK hynix's chip fab. Available at: https://www.koreajoongangdaily.com/business/gyeonggi-govt-kepco-sign-mou-to-build-underground-power-grid-for-sk-hynixs-chip-fab/12237629

[8] Chosun Biz. Yongin builds 'Silicon Road' to power Korea chip clusters and resident mobility. Available at: https://biz.chosun.com/en/en-society/2026/01/29/CIPNIP7D2VDVPNZNI26AS4RAXE/

[9] DigiTimes. Samsung equipment orders signal new DRAM fab plans for 2026. Available at:

two (P5 Fab 1 and Fab 2) are projected to begin construction in 2026, with a combined production capacity of 600,000 wafers per month[10].

Adjacent to these complexes to the north are three traditional industrial production centers: Giheung, Hwaseong, and Icheon. Giheung is the birthplace of Samsung's semiconductor manufacturing. Built in 1983, this complex is dedicated to the fabrication of nodes ranging from 350 nm to 8 nm and houses an R&D center focused on fundamental research and the design of next-generation semiconductors. Near Giheung lies the Hwaseong complex, dedicated to DRAM memory production and home to a campus of the Dutch company ASML. Finally, the Icheon campus is the headquarters of SK Hynix, acting as the company's command center, divided into three floors (M10, M14, and M16) dedicated to the production of DRAM, NAND, and HBM memory.

These production hubs benefit from the presence of Pangyo Techno Valley (known as South Korea's "Silicon Valley"), a location that concentrates a large number of startups (around 1,700). Forty percent of semiconductor design companies and the Fabless Industry Association are headquartered in this technology hub, making it an essential asset for South Korea's strategy. Furthermore, the semiconductor belt is home to several universities that pay special attention to the sector, such as KAIST, POSTECH, and Seoul National University.

Finally, the last pillar of the strategy is based on a tax package aimed at easing the tax burden on semiconductor companies. On February 27, 2025, the National Assembly passed the '*K-Chips Act*' to support the competitiveness of domestic companies through tax benefits. Among the planned measures are corporate tax deductions for investments in semiconductor manufacturing facilities, production lines, and so on. While large companies can deduct 20% of their corporate tax, SMEs benefit from a 30% deduction. Investments in R&D, laboratory equipment, and design tools also qualify for deductions (20% for large companies and 30% for SMEs). Energy prices are a key factor in the industry's competitiveness, so subsidies are planned for companies located in clusters, allowing them access to 10% discounts on electricity. The legislation also prioritizes water supply given the critical need for ultrapure water in manufacturing operations. The total

https://www.digitimes.com/news/a20260409PD216/samsung-equipment-dram-fab-2026.html

[10] Maeil Business Newspaper. Samsung pushes for early start on new Pyeongtaek plant. Available at: https://www.mk.co.kr/en/business/12039674

amount of all these aid measures is estimated to be around $18 billion[11].



Yongin construction site – Source: The Korea Herald

As we noted at the outset, the strategy has a dual civilian and military dimension. The government has acknowledged the country's leading position in the civilian sector, but also its disadvantage regarding semiconductors for the defense sector, where dependence on external suppliers is extreme[12].

The new government of Lee Jae-myung established as one of its initiatives the goal of entering the top four defense powers by promoting the '*K-Defense industry*' and innovation in the acquisition of defense systems. Despite encompassing a wide range of defense technologies, semiconductors hold a special place in the overall strategy, as defense officials indicated that of the 6,985 semiconductors integrated into defense systems, 85% originated in the US and were manufactured in Taiwan, introducing a serious vulnerability in the event of a conflict in Taiwan or an escalation of tensions

[11] Pwc. Corporate - Tax credits and incentives. Available at: https://taxsummaries.pwc.com/republic-of-korea/corporate/tax-credits-and-incentives

[12] Yonhap News Agency. S. Korea launches consultative body on defense semiconductor industry. Available at: https://en.yna.co.kr/view/AEN20240711003500315

between the US and China[13]. Therefore, the objective of this initiative was to boost the industrial base and reduce dependence by increasing the supply of locally produced semiconductors to 50% by 2029, thus displacing foreign semiconductors[14].

This initiative was further supported by the publication in June 2026 of the Law for the Promotion and Support of Defense Semiconductors. Similar to its civilian counterpart, the defense semiconductor legislation establishes an administrative structure by creating a Defense Semiconductor Promotion Committee under the Ministry of National Defense and chaired by the Minister. This body is responsible for implementing the Basic Plan, designating commercial operators, and identifying strategic technologies. A critical element supporting the Basic Plan is conducting industry analysis studies to determine defense market patterns, supply routes, the different technological levels of various states, and supply chains at both the national and international levels.

Of particular importance are the creation of a semiconductor information system, the promotion of research and development projects, and the establishment of a system for protecting strategic technologies. The information system is designed to collect and manage information from studies and analyses conducted, semiconductor-related technologies, technology ownership and transfers, industry personnel, and information from research and development projects. Regarding the promotion of R&D projects, the law stipulates that both the Minister of National Defense and the Defense Acquisition Program Administration can promote such projects in various areas, including packaging materials, semiconductor design, conversion of semiconductors for the civilian sector, and the development of standards for technology transfer. Finally, the strategic technology protection system requires all designated commercial operators to establish and implement a series of measures to prevent the leakage of sensitive information. These measures include the creation of access permits to protected areas and the inspection of personal belongings upon entry, the signing of confidentiality agreements for professionals who come into contact with sensitive information, and any other measures prescribed by presidential decree. The Commissioner of the Defense Acquisition Program Administration can investigate, recommend, and correct any

[13] The Elec. South Korea Targets 50% Localization Rate for Defense Semiconductors by 2029. Available at: https://www.thelec.net/news/articleView.html?idxno=10594
[14] DigiTimes. South Korea aims for 50% domestic defense semiconductor supply by 2029. Available at: https://www.digitimes.com/news/a20260522PD208/semiconductors-security-production-chips-government.html

deficiencies he detects in these systems to ensure the watertightness of the projects[15].

As we can see, South Korea has developed an ambitious industrial policy in the last two years to strengthen leading aspects of its industry and to relaunch a sector such as military semiconductors in which it has a relative disadvantage and a serious dependence.

The new industrial push: Challenges and limitations

While it is true that South Korea has used industrial policy since the 1960s to achieve its economic development goals, the new industrial push goes beyond the traditional objectives of economic growth, increased productivity, and job creation. Industrial policy has become a genuine geopolitical tool, used directly and unequivocally to strengthen national security and strategic autonomy in a severely degraded global landscape. The strengthening of China's ambitious industrial policy and the resurgence of industrial policies in the US, Japan, and the EU have generated the need to promote its own industrial strategy to avoid falling behind in the global semiconductor race. However, the country faces a series of challenges in successfully completing its political and economic efforts.

First, the country will continue to be limited, like its competitors, by existing technological bottlenecks in the market. The dependence on companies such as the Dutch ASML for photolithography, the Japanese TOK, JSR Corporation or Shin-Etsu Chemical for photoresistors, the Taiwanese TSMC for logic chips or the American Cadence or Synopsis for EDA tools will continue in the short and medium term despite the heavy investments in these sectors and the partnerships between companies such as Samsung and ASML, SK Hynix and Nvidia or Rebellions and TSMC.

The inability to achieve industrial self-sufficiency across the entire semiconductor production chain must be addressed in the short term by diversifying the sources of materials, equipment, raw materials, and technological tools. In this regard, it is relevant to mention a Washington initiative called the '*Chip 4 Alliance*', which includes the US, Japan, South Korea, and Taiwan. Its objective is to foster cooperation in semiconductor

[15] Korean Law Information Center. Semiconductor Industry Support Act. Available at: https://www.law.go.kr/lsInfoP.do?lsiSeq=286713&viewCls=lsRvsDocInfoR

production and strengthen these countries' supply chains by promoting friend-shoring.

Secondly, maintaining the 'super-gap' in this sector requires substantial public and private investment in those areas where South Korea possesses a technological advantage. This is crucial to prevent any competitor from approaching the technological frontier that grants South Korea the undisputed industrial leadership. The objective of this strategic approach is clear: to make the country an indispensable player in a sector fundamental to the development of AI, satellite communications, autonomous vehicles, and cloud computing. This would replicate the so-called '*silicon shield*' enjoyed by Taiwan and increase South Korea's strategic value for countries like the US and Japan.

Despite its current undeniable superiority in the memory sector, South Korea's 'super-gap' faces a clear challenge from China's industrial strategy. Indeed, the '*Made in China 2025*' strategy aimed to replace foreign semiconductor production with domestically produced semiconductors and technology in order to increase its strategic autonomy in this field. The Chinese semiconductor memory industry is advancing rapidly thanks to massive liquidity injections from the so-called 'Big Fund' and similar aid programs like those analyzed in this article[16]. In this regard, the rise of two companies (YMTC and CXMT) focused on NAND and DRAM, respectively, is noteworthy. Both companies have been gaining market share in recent years. YMTC has increased its global market share from 8% to 13% in one year[17], while CXMT has risen from 3% to 8% in the same period[18]. Both companies are expected to continue strengthening their global position, positioning themselves close to Samsung and SK Hynix in both production and technological development.

In addition to fierce competition from China, South Korea faces two key challenges in maintaining its leadership in the sector. First, to meet government targets, it needs to strengthen its human resources policy, as the Ministry of Trade, Industry and Energy itself projects a labor shortage of approximately 56,000 workers by 2031[19]. Besides the labor

[16] The China Integrated Circuit Industry Investment Fund, better known as the 'Big Fund,' is a public-private investment vehicle established by the Chinese government to develop its industrial policy in the semiconductor sector. Through this fund, the Chinese government has financed numerous companies such as Hua Hong, SMIC, and YMTC.

[17] Counterpoint Research. Global NAND memory market share. Available at: https://counterpointresearch.com/en/insights/global-nand-memory-market-share

[18] Counterpoint Research. Global DRAM revenue surges to near $100 billion mark in Q1 2026. Available at: https://counterpointresearch.com/en/insights/global-dram-revenue-surges-to-near-dollar-100-billion-mark-in-q1-2026

[19] Asia News Network. South Korea's chip talent shortage crisis reinforced by medical school obsession. Available at: https://asianews.network/south-koreas-chip-talent-shortage-crisis-reinforced-by-med-school-obsession/

shortage and low birth rate, South Korean companies face competition from foreign firms (from the US, Taiwan, and China) that offer higher salaries to attract talent and experience. Second, South Korea has less capacity to compete with China's financial muscle, as evidenced by the amount of direct government aid it has provided to companies. While China, through the third 'Big Fund' alone, has contributed almost $48 billion (not counting the $142 billion in the 2014-2023 period), South Korea's direct public aid has amounted to $19 billion[20]. If South Korea fails to catch up technologically with countries like the US or Taiwan in design or cutting-edge logic semiconductors, China's industrial push could significantly reduce its presence and profit margins in the memory sector.

Related to the above is the persistent threat of leaks or theft of classified and sensitive information relating not only to semiconductors but to all technologies classified as strategic national technologies. Although, as we have seen, South Korean legislation has established several measures to prevent and punish the unauthorized transfer of this type of information, the fact remains that rivals such as China and North Korea continue to conduct operations to illegally acquire the intellectual property of South Korean companies. Both North Korean cyber incursions[21] and the illegal acquisition of information through former employees will continue to pose serious challenges and jeopardize the strategy of maintaining a considerable advantage over immediate competitors[22]. In fact, the South Korean National Police arrested 378 people last year in connection with the illegal leaking of technological information, representing a 45.5% increase over the previous year[23].

While this new industrial push in semiconductors is correctly aligned with the country's economic and geopolitical interests, the internal and external scenarios present, as we see, multiple challenges that will condition the room for maneuver of both the government

[20] Reuters. South Korea announces $19 billion support package for chip industry. Available at: https://www.reuters.com/technology/south-korea-announces-19-bln-support-package-chip-industry-2024-05-23/
[21] Foreign Interference. North Korean state hackers target South Korean semiconductor manufacturers in coordinated espionage campaign. Available at: https://foreigninterference.org/post/north-korean-state-hackers-target-south-korean-semiconductor-manufacturers-in-coordinated-espionage-campaign
[22] Korea Pro. Espionage threats continue to undermine South Korea's edge in hi-tech sectors. Available at: https://koreapro.org/2024/11/espionage-threats-continue-to-undermine-south-koreas-edge-in-hi-tech-sectors/
[23] Business Korea. China Targets Korean Tech, Industrial Espionage Surges. Available at: https://www.businesskorea.co.kr/news/articleView.html?idxno=261202

and the companies.

Conclusion

South Korea has joined the intense global competition to achieve the greatest degree of autonomy and control over the semiconductor production chain. Like other countries in the region, South Korean governments have understood that industrial policy should not focus exclusively on economic development or on addressing market failures and social imbalances, but rather on reducing strategic vulnerabilities in those technologies that will shape the future of the coming decades.

Maintaining its status as a middle power while securing its supply chain, increasing production capacity, and strengthening its competitive and technological advantage over its rivals is a political imperative if Seoul wants to enhance its national security and strategic autonomy in an increasingly challenging global landscape.

If South Korea succeeds in becoming an indispensable hub in the supply chain while simultaneously reducing serious deficiencies in crucial areas such as raw materials, equipment, design, and the manufacturing of advanced semiconductors, it could leverage this increased autonomy to project greater influence in the global market. However, the success of this strategy hinges on the delicate balance between the US and China. US regulatory power, export conditionality, and investment requirements could pose significant obstacles if not managed effectively, as could restrictions on rare earth exports, access to the Chinese market, and competition from Chinese government-backed companies. South Korea's actions must be carefully calibrated to avoid being irreversibly drawn into one camp or the other, thereby damaging its position in the region.

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