

US-KOREA COMMERCIAL RELATIONS BEYOND WASHINGTON AND SEOUL

*A series of briefs exploring on-the-ground issues in
bilateral trade and investment by*



MR. NATHANIEL HAN



MR. CHRISTOPHER JOHNSON



DR. HYUNG GUL KIM



MS. SU HYUN LEE





The East-West Center promotes better relations and understanding among the people and nations of the United States, Asia, and the Pacific through cooperative study, research, and dialogue. Established by the US Congress in 1960, the Center serves as a resource for information and analysis on critical issues of common concern, bringing people together to exchange views, build expertise, and develop policy options. The East-West Center in Washington advances US-Indo-Pacific relations by creating innovative content, publications, exchanges, and outreach activities.



The Korea Institute for Industrial Economics and Trade (KIET) is Korea's only national policy research institution that specializes in studying the nexus where global trade and industry intersect. First established in 1976 to support the industrial development of the Korean economy and to promote the expansion of trade, KIET has for nearly a half-century served as Korea's preeminent think tank for industry and trade policy. KIET has since its inception focused on enhancing national competitiveness and bolstering industrial resilience in response to changes in the global industrial environment.



Korea International Trade Association (KITA) is the largest business organization in Korea with over 73,000 member companies. It was founded in 1946 to bolster the Korean economy through global trade. KITA represents the rights and interests of Korea's business community and serve a diverse range of roles including: providing hands-on support to business, promoting private sector trade cooperation, formulating new trade strategies, nurturing trade professionals and building trade infrastructure.



The US Mission in the Republic of Korea is comprised of the Embassy in Seoul and Consulate in Busan. The mission of the United States Embassy is to advance the interests of the United States, and to serve and protect U.S. citizens in the Republic of Korea.

The views expressed in this publication are those of the authors and do not reflect those of the East-West Center, the US Embassy Seoul, the Korea Institute for Industrial Economics and Trade (KIET), Korea International Trade Association (KITA), or any organization with which the authors are affiliated.

TABLE OF CONTENTS

PREFACE

Introduction

2

Acknowledgments

4

Special Thanks

5

USKCR RESEARCH BRIEFS

1

**Guidance for South Korean Small and Medium Enterprises (SMEs)
Assessing Investment Opportunities in the United States for
Global Expansion**

6

2

**Developing Preferential Investment Zones for Korean Companies
in Rural Areas of the United States and Developing Preferential
Investment Zones for US Companies in Korean Provinces**

15

3

**Understanding Cross-Cultural Decision-Making - Opening the
Door for Korean Businesses in James City County, the Hampton
Roads Region, and the Commonwealth
of Virginia**

28

4

**Developing Resilient Supply Chains for the Semiconductor
Industry: A Comparative Analysis of Gyeonggi Province
and Arizona**

33

PREFACE

INTRODUCTION

This report is the culmination of the US-Korea Commercial Relations (USKCR) – Beyond Washington and Seoul project. USKCR was organized with the support of the US Embassy in Seoul and in partnership with the Korea Institute for Industrial Economics and Trade (KIET) and the Korea International Trade Association (KITA). The project’s overarching goal is to highlight the local impact of US-Korea trade and investment and its value to communities in both nations. To this aim, the East-West Center in Washington brought together a cohort of economic development and commercial affairs specialists from the United States and South Korea for a professional exchange and research program. Each member of the USKCR cohort, following their individual expertise and interest, undertook research that sought to elucidate “on-the-ground” issues affecting US-Korea commercial relations outside of either nation’s capital. This cogent and timely research has been captured in the briefs that make up this report. The East-West is proud to bring the knowledge and insights of the following professionals to the fore in this report:



MR. NATHANIEL HAN
(USA)

Assistant Director of the Korean Corporate Services Group, Savills North America

Researching the challenges faced by Korean companies as they enter the US market.



DR. HYUNG GUL KIM
(KOREA)

Associate Professor Specializing in Foreign Direct Investment and Special Economic Zones, Transnational Law and Business University (TLBU) Law School

Researching the development of preferential investment zones for Korean Companies in Rural Areas of the United States and preferential investment zones for US Companies in Korean Provinces.



MR. CHRISTOPHER JOHNSON
(USA)

Director of Economic Development, James City County, Virginia

Researching approaches to cross-cultural decision-making and opening the door for Korean businesses to locate in James City County, the Hampton Roads region, and the Commonwealth of Virginia.



MS. SU HYUN LEE
(KOREA)

International Trade and Economic Policy Researcher, Korea National Diplomatic Academy

Researching the global value chain (GVCs) of the semiconductor industry in the US and Korea.

Additionally, over the course of the project, the USKCR cohort advanced their research through virtual and in-person workshops, at which cohort members exchanged ideas with one another and engaged with other professionals involved in US-Korea commerce. During the virtual workshops, the cohort dialogued with representatives from the US Foreign Commercial Service and the Southeast US Korean Chamber of Commerce.

In-person workshops were held in Korea and the United States. The Korean workshop was held in Busan, South Korea, with site visits in the neighboring City of Ulsan. In Ulsan, the cohort toured Hyundai Motor's assembly line and port operations, discussed the challenges small and medium Korean firms face when entering the US market with the Ulsan Chapter of the Korean Small and Medium Business Convergence Association ("KSMBCA"), and met with the Foundation for Industry-College Cooperation at Ulsan University. In Busan, cohort members presented their research topics to senior leadership and researchers from KITA and KIET.

The US workshop was held in Atlanta, Georgia, as Korean investment in the area is widespread and dynamic. The workshop featured a roundtable with robust attendance from the economic development and business communities, including firms from the automotive, semiconductor, real estate, and solar sectors. Stateside programming concluded with a visit to the Curiosity Lab at Peachtree Corners, a tech incubator and accelerator.

Stateside programming concluded with a visit to the Curiosity Lab at Peachtree Corners, a publicly funded living lab providing companies the resources and infrastructure to imagine, build, and validate next-generation IoT, smart city, and mobility technologies.



USKCR tour of Hyundai's production facility and factory port.

ACKNOWLEDGMENTS

The East-West Center is pleased to release this report containing the research of four outstanding individuals who are deeply and substantively engaged in US-Korea commercial relations at the national, state, provincial, and local levels. We give sincere thanks to Mr. Nathaniel Han, Dr. Hyung Gul Kim, Mr. Christopher Johnson, and Ms. Su Hyun Lee for their work to examine issues critical to understanding and to enhancing US-Korea trade and investment.

This project was made possible with generous support from the US Embassy in Seoul and with the contributions of the many organizations, officials, and experts who participated in the series of workshops held in the United States and in Korea that informed the participants' research. We particularly wish to thank our partners in Korea—the Korea Institute for Industrial Economics and Trade (KIET) and the Korea International Trade Association (KITA)—for working closely with the East-West Center to ensure the success of this effort.

I thank EWC Program Manager Ross Tokola for the development and management of this project as well as EWC Infographic and Design Specialist Ms. Jeanette Simmons for the design of this publication. I most especially wish to thank EWC Programs Coordinator Mr. Lance Jackson for his tireless dedication to leading project coordination, for providing his expertise on commercial affairs both to convene key stakeholders and to guide project workshop discussions, and for seeing this project and publication through to completion.

The East-West Center's founding mission is to promote collaborative study, exchange, and research to enhance understanding and better relations between the United States and the Indo-Pacific. We are pleased to present *US-Korea Commercial Relations Beyond Washington and Seoul* as a valuable resource to contribute to the advancement of the US-Korea relationship.

Sincerely,



Dr. Satu Limaye
Vice President, East-West Center
Director, Research & East-West Center in Washington

SPECIAL THANKS

SPONSOR



US Embassy in Seoul



PARTNER ORGANIZATIONS

Korea Institute for Industrial Economics Trade (KIET)



Korea International Trade Association (KITA)

COLLABORATING ORGANIZATIONS



The Ulsan Chapter of the Korean Small & Medium Business Convergence Association

The Ulsan Association of Small and Medium Business Convergence, a coalition of 300 small and medium enterprises located in Ulsan, South Korea, aims to promote the development of member companies and the growth of the local economy, thereby advancing Korea's economic prosperity.



Ulsan University Industry-Academic Cooperation initiative

The University of Ulsan is located in the "industrial capital city" of South Korea, the metropolitan city of Ulsan, and provides a wide range of opportunities for practical learning and research, field training, and jobs through diversified university-industry government cooperation projects.



Curiosity Lab at Peachtree Corners

Curiosity Lab at Peachtree Corners, a publicly funded living lab providing companies the resources and infrastructure to imagine, build, and validate next-generation IoT, smart city, and mobility technologies, is located within a 500-acre tech park in Peachtree Corners, GA, a vibrant suburb of Atlanta.



The Gwinnett Chamber

The **Gwinnett Chamber champions business** and serves more than 2,000 member companies in the metro Atlanta area with programs and initiatives that provide networking and exposure opportunities for growth. Recognized for its local, regional, and global impact, the organization earned its 5-star accreditation from the U.S. Chamber of Commerce and was named 'Chamber of the Year' by the Association of Chamber of Commerce Executives (ACCE) in 2023.



Invest Atlanta

Invest Atlanta, the official economic development authority for the City of Atlanta, strives to advance Atlanta's global competitiveness by growing a strong economy, building vibrant communities, and increasing economic prosperity for all Atlantans.



Metro Atlanta Chamber

The Metro Atlanta Chamber (MAC) represents organizations across the Atlanta region, a fast-growing and prosperous metropolis spanning 29 counties. MAC supports foreign companies entering the US market, assists domestic companies with international expansions, and advocates for a business-friendly and inclusive climate.



Southeast US Korean Chamber of Commerce

Southeast US Korean Chamber of Commerce (SEUSKCC), building business relationships, supporting economic growth, promoting investments, and developing friendships between Korea and the United States.

USKCR RESEARCH BRIEFS

1

Guidance for South Korean Small and Medium Enterprises (SMEs) Assessing Investment Opportunities in the United States for Global Expansion

Nathaniel R. Han

*Assistant Director and Team Lead of Korean Corporate Services
Savills North America*

Executive Summary

The prevailing political climate in the United States strongly emphasizes a “protect America and buy American” approach, significantly influencing consumer markets, businesses, and current tax policies. This shift towards localization necessitates a strategic recalibration of business models for companies operating in the US market and targeting US consumers. Both small and medium-sized enterprises (SMEs), alongside established multinational conglomerates, should proactively plan localization efforts within their international operations, particularly in the United States.

In summarizing this brief, three main points emerge. Firstly, the brief will highlight the opportunities for South Korean SMEs and how to leverage their connections in South Korea for US market entry. Secondly, the brief systematically outlines the critical factors SMEs should consider when developing a comprehensive investment plan. Lastly, the brief will concisely discuss essential considerations for experts guiding South Korean SMEs through the process of US market entry.

This brief is shared with the modest aspiration that it may enhance interactions within US-Korea commercial relations.

Introduction

Major companies based in South Korea, formally the Republic of Korea (ROK), have announced more than \$100 billion in new investments in the United States since the beginning of the Biden-Harris Administration, which will create over 40,000 new jobs in the United States.¹ The surge in these investments can be attributed to the comprehensive efforts of the present US government in reshaping the domestic market. South Korean enterprises eyeing the United States, the world’s leading consumer market, seem to have astutely anticipated the shift in market dynamics. For many firms, this prudence prompted swift entry into the US market. Analysis of these vanguard investments reveals a focus on the following industrial sectors:

1. The White House, *FACT SHEET: Republic of Korea State Visit to the United States*, April 26, 2023, <https://www.whitehouse.gov/briefing-room/statements-releases/2023/04/26/fact-sheet-republic-of-korea-state-visit-to-the-united-states/#:~:text=Major%20ROK%20and%20U.S.%20Investments,date%20is%20the%20United%20States>.

- a. Semiconductors,
- b. Electric Vehicles (EVs) and Batteries,
- c. Biotechnology,
- d. Clean energy, and
- e. Culture.

While these large investment moves are spearheaded by multinational conglomerates (MNCs), the trend paves the way for SMEs with genuine technological, manufacturing, and research capabilities. These SMEs aspire to emulate their larger counterparts and penetrate the US market, yet they encounter formidable obstacles such as time constraints, financial burdens, and unforeseen risks. In contrast to MNCs, which can leverage financial resources to engage consultants and conduct extensive research ahead of investment decisions, SMEs must depend on limited information and local community networks for referrals.

In an effort to alleviate these challenges and address key concerns from SMEs, this brief compiled insights gleaned from personal experiences, expert guidance and interviews, along with information from diverse media sources. Recognizing that each company's circumstances and the corresponding local government responses vary, the presented materials were meant to serve as guidelines rather than absolute truths.



Engineer control robotics automatic arms machine welding Electric Vehicle car at factory.. (Getty Images)

Assessing the Present US Investment Landscape Among South Korean MNCs and Potential Opportunities for SMEs

Present Investment Landscape Among South Korean MNCs

As previously highlighted in the introduction, the present US administration has successfully enticed a substantial number of MNCs, including those from South Korea, to invest in the United States. This accomplishment is attributed to pioneering and proactive measures such as the CHIPS & Science Act and the Inflation Reduction Act. The effectiveness of these initiatives is evident, with the anticipation that MNCs will catalyze substantial growth in key segments of the US economy in the future. The South Korean companies that have officially affirmed their commitment to investing over \$1 billion in the United States are as follows:²

- a. Samsung Electronics and its affiliates highlighted over \$17 billion to build a new semiconductor site in Taylor, Texas, and \$12 billion with partners to build electric vehicle battery plants in the United States,
- b. Hanwha Q Cells announced a \$2.5 billion investment in Georgia to expand their plant in Dalton and build a new plant in Cartersville that will produce critical components for solar panels,
- c. LG Chemicals announced plans to invest \$3.2 billion in a plant to manufacture EV battery materials in Clarksville, Tennessee, which will produce enough cathode battery materials to power 1.2 million EVs annually,
- d. LG Energy Solution announced a \$5.6 billion investment in Queen Creek, Arizona, to build advanced battery manufacturing facilities. Also, the company announced a \$3 billion investment in its Holland, Michigan, battery manufacturing plant to install new production lines,
- e. SK Hynix committed to invest \$15 billion in the semiconductor sector through research and development (R&D) programs, materials, and the creation of an advanced packaging and testing facility,
- f. Hyundai Motors Group and Kia Motors broke ground on October of 2022 to construct an EV-dedicated plant in Georgia with an investment of \$5.5 billion,³
- g. SK On and Hyundai Motors Group are collaborating to build an EV battery cell plant in Bartow County, Georgia.⁴

2. The White House, *FACT SHEET: Biden-Harris Administration Highlights Nearly \$200 Billion of Private Sector Investments from the Asia-Pacific into the United States Since Taking Office*, November 16, 2023, <https://www.whitehouse.gov/briefing-room/statements-releases/2023/11/16/fact-sheet-biden-harris-administration-highlights-nearly-200-billion-of-private-sector-investments-from-the-asia-pacific-into-the-united-states-since-taking-office/>.

3. Russ Bynum, "Hyundai Breaks ground on \$5.5B electric car plant in Georgia," Associated Press News, October 25, 2022, <https://apnews.com/article/technology-georgia-electric-vehicles-savannah-congress-3b44cdc012d3fccc447f0d1b909584e-georgia-electric-vehicles-savannah-congress-3b44cdc012d3fccc447f0d1b909584e>.

4. State of Georgia, *Hyundai Motor Group and SK On To Build EV Battery Facility in Bartow County*, December 8, 2022, <https://www.georgia.org/press-release/hyundai-motor-group-and-sk-build-ev-battery-facility-bartow-county>.

Capitalizing on Opportunities for SMEs Amidst Significant Investments by South Korean MNCs

Venturing into a new business environment can be daunting, and establishing a business in a foreign country can prove even more challenging than initiating a new enterprise. While launching a business in a familiar setting allows for leveraging existing networks, information, and resources, entering a new country necessitates overcoming language and cultural barriers that surpass the challenges of starting fresh in a known environment. Consequently, companies often find the prospect of international expansion to be intimidating.

In the juxtaposition between expanding a business into a new country and starting a new business domestically, the foremost and formidable obstacle is securing a reliable business partner when expanding internationally. This extends beyond mere assistance; it entails finding partners who will not only support your endeavors but also engage in purchasing your products, utilizing your services, and contributing to your financial success. Considering these factors, it becomes evident that the scenario for SMEs trailing large Korean MNCs into the United States is quite favorable. The critical aspect, the business partner as the primary source of procurement, is already established. Many South Korean SMEs are already cognizant of these dynamics, and numerous MNCs in their initial stages are inclined to capitalize on them, often bringing SMEs along in the process. These integrated groups are commonly referred to as industrial/business clusters and posit that US municipalities offering tax incentives are also prioritizing the formation of such clusters, thereby achieving a balance in supply and demand.

While the straightforward approach outlined earlier may seem sufficient, the reality of business is far more intricate. South Korean MNCs, which initially enticed SMEs with favorable terms and conditions, are unlikely to commit to exclusive supply agreements indefinitely. Instead, they may patiently await the expiration of exclusive contracts, seeking companies that can provide slightly better-quality products at a marginally lower cost and faster delivery for their own benefit. Simultaneously, municipalities that were initially supportive may naturally become less so as more small businesses enter the scene and clusters take shape, leading to reduced emphasis on tax incentives.

Amidst these dynamics, SMEs are not prone to complacency. While SMEs may have entered the market with the aim of securing exclusive supply contracts from large MNCs, they are driven to pursue additional business and projects. As recognizing the attractiveness of a market extends beyond a single large MNC, SMEs naturally gravitate towards areas with more opportunities for growth and expansion.

Navigating Decision-Making Complexities in US Market Entry for South Korean SMEs

The outline of the US market entry process can differ, and specific steps may vary based on the company's perspective and nature of business. However, drawing from practical experience, thorough research, and relevant case studies, the process generally consists of the following steps:

- 1) Phase 1 – Evaluation & Examination
- 2) Phase 2 – Development & Optimization
- 3) Phase 3 – Implementation & Execution
- 4) Phase 4 – Administration & Management

Before delving into the specifics of each phase, a crucial point should be highlighted. While the outlined steps may seem sequential, they need not adhere to a strict linear progression. Notably, the initial two phases are continuous and iterative processes that culminate in the third phase—Implementation & Execution. These two phases are pivotal, involving decision-making, detailed budget finalization, and a comprehensive review of business feasibility. Arguably, it is prudent to allocate substantial time and resources to these endeavors before making significant human and financial investments. It is a common observation that dedicating more time and resources to fine-tuning the initial two phases results in a smoother transition to subsequent stages.

Phase 1 – Evaluation & Examination

The primary outcomes of the initial phase encompass the assessment and evaluation of competitive and viable sites across various counties and states. This includes scrutinizing site selection costs and conducting a thorough risk analysis. Additionally, the phase involves financial planning assistance and strategic guidance provided by consultants and local experts. An essential milestone of this phase is obtaining second opinions from the input of consultants during successive rounds of elimination—second opinions aid in narrowing down potential site locations. The evaluation and examination process also includes a comprehensive review of logistics and regional factors, along with an examination from an accounting and taxonomic perspective. Moreover, this stage involves coordinating introductions to additional local experts or consultants, a task typically accomplished through local professional networks.

Phase 2 – Development & Optimization

This phase encompasses strategic sessions dedicated to site selection, involving both internal assessment and external comparisons with consultants. The incorporation process should be undertaken, including a review of corporate documents, entity structuring, and registration procedures. A thorough examination of state and local taxes is conducted, involving negotiation where necessary. Additionally, consultation is sought to comprehend and assess tax incentive

packages. The taxation and accounting impact of offered incentives is scrutinized, and an evaluation or impact analysis should be performed from a taxation perspective. Simultaneously, efforts should be directed toward understanding the nuances of doing business in the United States and the selected locality, with advisory sessions with local experts.

Phase 3 – Implementation & Execution

In this phase, a meticulous reexamination of the incentive package, focusing on each company's tax and accounting ramifications, is imperative. Essential information regarding each company's insurance requirements should be gathered through discussions with insurance providers or agencies. This phase also includes the crucial step of opening bank accounts. Global mobility considerations, particularly for expatriates from South Korea, should be factored into the process. Thorough reviews are conducted to identify the tax nexuses created by each company and assessment of all intercompany loans between the headquarters and US entities. At this point, any agreements or service contracts should be undertaken to pave the way for business initiation. Phase 3 should also involve a comprehensive walkthrough of doing business in the United States, leveraging the resources of local networks, including consultants, experts, and professional organizations. Ultimately, the primary focus of this phase is on meticulous preparation and inspection, both before and during the commencement of business operations.

Phase 4 – Administration & Management

The final stage is pivotal for ensuring the long-term sustainability of US operations. It marks the opportune moment to forge enduring partnerships with local experts, professionals, and consultants. Also, building strong relationships with outsourcing companies that are crucial for efficient and profitable US operations is a priority. Talent management takes center stage, encompassing strategic hiring practices and community engagement initiatives. As the first year of operation concludes, detailed preparations are made in accounting and tax, potentially necessitating audits for accurate reporting. This period is instrumental for revisiting tax considerations identified in earlier phases, especially for companies seeking to qualify for income tax returns.

Guiding South Korean SMEs in US Market Entry: Public, Private & Korean SMEs

Embarking on the journey of expanding into the US market, South Korean SMEs probably conducted extensive and comprehensive research utilizing their network and online resources before reaching a conclusive decision. Whether through meticulous information gathering or deploying representatives for preliminary investigations, the decision to explore the US market was undoubtedly a challenging yet pivotal stride in their journey.

Following the initial decision, the company typically develops a preliminary feasibility study and a corresponding business plan. These preliminary studies consist of two primary components: 1) potential income and 2) expenses.

Determining potential income is relatively straightforward, involving negotiations and the establishment of preliminary contracts with business partners and suppliers, irrespective of the industry. Conversely, for SMEs lacking clarity on their potential income, a heightened emphasis on local sourcing becomes imperative. Investing in a new territory without a confirmed or defined supply source poses significant business risks, rendering the consideration of the second aspect of preliminary research—expenditure—unnecessary.

Conversely, the expenditure portion of the feasibility study necessitates extensive information gathering, encompassing details such as the average local wage, real estate prices, and the intricacies of federal and state tax systems. While one might assume this information is readily available online, the reality is that engaging with the local community can expedite the data collection process and create more reliable data. Moreover, senior management tends to find making final decisions based solely on internet data overly risky. The most pragmatic and accurate approach involves seeking insights from other South Korean SMEs already established in the market. However, this avenue presents the drawback of soliciting information from potential competitors, introducing an element of risk.

Thus, the question arises: where should one gather these essential insights? The most straightforward solution is to engage industry experts as consultants—professionals from both private and public sectors, including government and economic development organizations. Both sectors' experts can provide valuable guidance to South Korean SMEs. Expanding on this point, this brief concludes with concise advice to Korean enterprises and the professionals collaborating with them.

South Korean Enterprises – SMEs & MNCs

When offering guidance to South Korean SMEs, it is crucial to acknowledge the potential challenges tied to Korean culture, although recognizing individual variations is important. Drawing from multiple experiences and case studies, many South Korean SMEs encounter consistent issues, especially those venturing overseas for the first time. This brief underscores three key considerations.

Firstly, transparency is paramount in the selection process of consultants and experts. It is advisable to negotiate terms upfront before the commencement of actual work to avoid potential miscommunication or feelings of betrayal. Numerous consultants have shared experiences of feeling undermined at the conclusion of projects, emphasizing the need for clarity in these less transparent aspects of the process. Streamlining negotiations early on can also prevent delays and additional expenses.

Secondly, cost transparency is vital. Openly sharing each cost element with selected consultants and experts to foster a clear understanding is recommended. Vagueness in cost discussions often leads to challenges in aligning services with the organization's needs. This lack of clarity can result in either compromised service quality or unexpected cost increases.

Lastly, trusting the chosen consultant is essential. While it is not obligatory to follow their advice verbatim, cultivating flexibility within guidelines provided by consultants is crucial. Viewing consultants as integral partners, rather than an extra layer of support to an established direction, facilitates smoother collaboration and decision-making processes.

Private Sector – CPAs, Law, Real Estate, etc.

This report acknowledges that a majority of consultants are already attuned to these aspects. However, it petitions to emphasize a few key considerations for private sector professionals first engaging with South Korean enterprises.

Firstly, it is crucial to recognize that the endeavor may prove more challenging than anticipated. Beyond cultural differences and language barriers, individuals and companies with prior Korean business experience are navigating a foreign environment with its own nuances, making it more intricate than starting afresh. Awareness alone is insufficient; initiation demands a nuanced approach.

Secondly, adaptability is paramount. While success is achievable, embracing flexibility can significantly ease the process. Rather than relying solely on directives for results, consider a more adaptable approach—perhaps taking detours, engaging in indirect communication, or employing illustrative case studies for persuasion.

Lastly, a thorough understanding of the reporting structure beforehand is advised. Various companies often operate with distinct reporting systems, and Korean companies particularly contend with structures and decision-making processes divergent from their American counterparts. Therefore, proactively understanding and aligning with these dynamics can prove instrumental in navigating successful collaborations.

Public Sector – Government, Economic development organizations, etc.

While acknowledging the commendable efforts of government and economic development organizations, here are a few key recommendations from a private sector perspective.

Firstly, it is advisable for each local or state to establish and disseminate clear tax incentive guidelines. Many Korean SMEs in the early stages of feasibility studies often resort to online searches for resources, and the absence of readily available tax incentive information may lead them to consider alternative jurisdictions or even abandon their expansion plans. To enhance opportunity capture, it is suggested to create concise guidelines that can be readily provided upon requests and inquiries.

Secondly, there is a need to underscore the significance of cultivating ongoing relationships and symbiotic partnerships. Often, enterprises approach governments or economic development organizations with specific objectives, assuming it is a one-off or short-term collaboration. Emphasizing the enduring nature of these partnerships is critical to prevent missed opportunities.

Lastly, providing a definitive response on capabilities and limitations is imperative. Venturing into the United States represents a significant step for Korean SMEs, each harboring unique aspirations and dreams. Ambiguities in government communication can lead to unrealistic expectations, often resulting in disappointment and potential project abandonment. To mitigate this, transparency is paramount—clearly articulating what can and cannot be accomplished helps maintain robust relationships and prevent project setbacks.

2

Developing Preferential Investment Zones for Korean Companies in Rural Areas of the United States and Developing Preferential Investment Zones for US Companies in Korean Provinces

Dr. Hyung Gul Kim

*Associate Professor at TLBU Graduate School of Law, Korea;
Former CEO of Ulsan Economic Promotion Agency, Korea*

Introduction

The global investment pattern of multinational enterprises (MNEs) has changed tremendously recently. US and Western MNEs focus on shortening supply lines and returning production assets to their home countries. The reasons for this change are as follows:

- 1) post-COVID-19 pandemic shifts in the global value chain (GVC) due to increasing transportation and logistics management risks;
- 2) the accelerated exit of US MNEs from China as firms implement a 'China+1' strategy in the wake of the US-China trade conflict and China's 'Made in China 2025' policy; and
- 3) the accelerated exit of US and Western MNEs from Russia in reaction to Russia's invasion of Ukraine and the beginning of a new Cold War era.

Another new trend stems from a US government trade and industrial policy change. The Biden Administration has relentlessly focused on an industrial strategy to revitalize the US manufacturing base, strengthen critical supply chains, and position US workers and businesses to compete and lead globally in the 21st century. In June 2021, the Biden administration laid out its strategy for improving the resilience of US supply chains for four key products: semiconductors and advanced packaging; high-capacity batteries, including electric-vehicle batteries; critical minerals and materials, including rare earth elements; and pharmaceuticals and active pharmaceutical ingredients.⁵ The US Congress also passed several acts, such as the CHIPS and Science Act of 2022 and the Inflation Reduction Act of 2022, in order to strengthen US supply chains, create jobs, promote economic growth, and attract foreign direct investment (FDI). In response to these US policy and regulation changes, many Korean conglomerates, such as Samsung, Hyundai, SK, and LG, are rushing to the United States to build large-scale factories.

5. The White House, *EXECUTIVE ORDER ON AMERICA'S SUPPLY CHAINS: A YEAR OF ACTION AND PROGRESS*, February 7, 2022, 10, <https://www.whitehouse.gov/wp-content/uploads/2022/02/Capstone-Report-Biden.pdf>.

With the coming of a new Cold War era, many US and Western MNEs are leaving China and Russia. They are considering moves to alternative destinations, such as the United States or Korea, for their manufacturing plants, business headquarters, and research and development (R&D) facilities. Therefore, more targeted measures to facilitate investment by US firms in Korea and Korean firms in the United States would contribute to job creation, provincial economic growth, the stability of supply chains, and economic security in both countries.

Developing Preferential Investment Zones for Korean Companies in Rural Areas of the United States Current Investment Activity of Korean Companies in the United States

The establishment of manufacturing plants in the United States by Korean semiconductor, automotive, and battery companies has increased tremendously since 2022. The amount of US inbound investment announced by the big-4 Korean conglomerates totaled \$56 billion as of November 2022.⁶ The details of the projects are as follows:

- 1) Samsung Electronics is building a new foundry plant in Taylor, Texas, investing \$17 billion.
- 2) LG Energy Solution plans to invest several billion dollars in building a manufacturing plant with GM and Honda.
- 3) In 2023, LG Chemistry announced a \$3 billion investment in a cathode materials plant in Tennessee.
- 4) Hyundai Motor Group broke ground on October 25, 2022, to construct a dedicated Electric Vehicle (EV) and battery plant in Georgia with an investment of \$5.54 billion.⁷
- 5) Kia Motors of Hyundai Motor Group operates a manufacturing plant in Georgia.
- 6) Hyundai Motor Company of Hyundai Motor Group operates a manufacturing plant in Alabama.
- 7) On April 25, 2023, Hyundai Motor Group & SK announced they would jointly build a \$5 billion EV battery cell plant in Bartow County, Georgia.⁸

6. Soo-Eun Yoon, "Rush to Make US investments by Samsung and Other Major Domestic Companies is a 'Butterfly Effect,'" EKorea, November 23, 2022, <https://www.ekoreanews.co.kr/news/articleView.html?idxno=63935>

7. Hyundai Motor Group, "Hyundai Motor Group Breaks Ground on Metaplant America Dedicated EV and Battery Plant," Hyundai Press Release, <https://www.hyundainews.com/en-us/releases/3676>.

8. Hyundai Motor Group, "Hyundai Motor Group and SK On to Establish EV Battery Cell Production Joint Venture in US," Hyundai Press Release, <https://www.hyundainews.com/en-us/releases/3821>.

Demand for Preferential Investment Zones for Korean Companies

When large-scale Korean plants locate in rural areas of the United States, related small and medium-sized enterprises (SMEs) that supply parts and materials to the main plants also enter together into the adjacent area. In the case of Hyundai Motor's existing plants in Georgia and Alabama, about 50 Korean SMEs supply parts to the two large-scale manufacturing plants.

Constructing a plant in the United States is a very long and complicated process, which includes conducting a site search, analyzing the site, commissioning a feasibility study, etc. When trying to establish an investment, an investor must be in contact with several different government authorities as they navigate the administrative procedures required to begin operations.⁹ State, county, and municipal authorities have to clear access to land and approve the construction and occupation of production facilities. For hiring domestic and foreign workers, approval must be obtained from labor and immigration offices. Still, more agencies must be consulted to obtain the required environmental, health, safety, and labor clearances and inspections.

Problematically, Korean SMEs do not have sufficient staffing and budget to undertake such a complicated process in an unfamiliar foreign country. Unlike the big companies, they do not have the capacity to negotiate with federal, state, city, and county governments for fiscal or financial incentives. Developing preferential investment zones for Korean companies within industrial parks, where the tenant company only needs to deal with the staff of a Korean desk who could speak Korean, would be very helpful to Korean SMEs considering investments in rural areas of the United States. Additionally, these preferential investment zones would enable more Korean SMEs to pursue US investments as they aim to supply parts and materials to the larger manufacturing plants.



USKCR meeting with the Ulsan Chapter of the Korean Small and Medium Business Convergence Association ("KSMBCA").

9. United Nations Conference on Trade and Development, *World Investment Report 2019: Special Economic Zones*, June 12, 2019, 194, https://unctad.org/system/files/official-document/wir2019_en.pdf.

Current State of Inbound Investment to Georgia from Large Korean Companies and SMEs

Hyundai-Driven Investment in Southeast Georgia - Tier 1 Suppliers

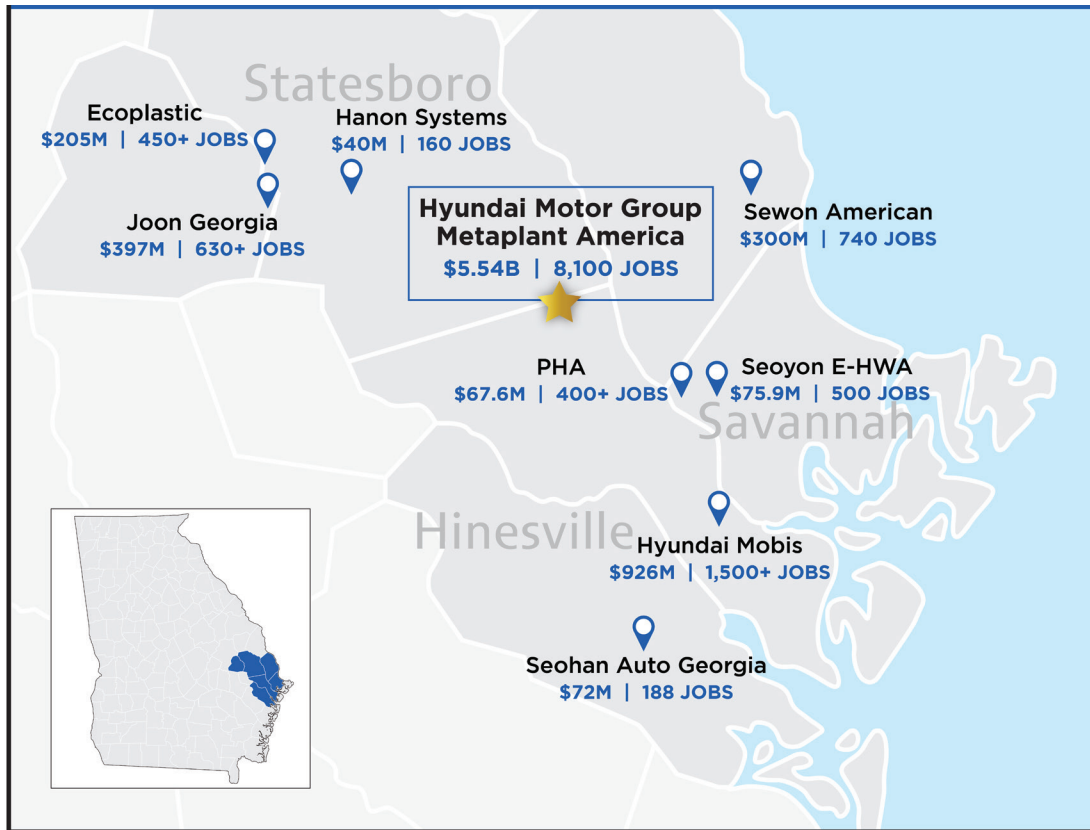


Figure 1 Georgia Department of Economic Development, *Hyundai-Driven Investment in Southeast Georgia*, 2023, <https://www.georgia.org/hyundaimotorgroup>.

The current state of Hyundai-driven investment by Tier 1 suppliers in Southeast Georgia is shown in the diagram below. These suppliers join Georgia’s growing EV ecosystem as the state prepares for a seamless transition to sustainable technology. By fostering fully integrated ecosystems through its support for organic partnerships, Georgia is committed to developing the entire EV supply chain and establishing a closed-loop EV ecosystem in the state.¹⁰

10. Georgia Department of Economic Development, *“The Hyundai Motor Group Metaplant America (HMGMA),”* 2023, <https://www.georgia.org/hyundaimotorgroup>.

Map of the Korean EV ecosystem in Georgia



Figure 2 Sang-Deok Moon, Map of the Korean EV ecosystem in Georgia Korea Magazine, Fortune Korea Magazine, August 14, 2023, <https://www.fortunekorea.co.kr/news/articleView.html?idxno=29610>.

Target Tenant Companies for Preferential Investment Zones

Possible target tenants for the preferential investment zones for Korean companies are as follows:

- 1) SMEs manufacturing parts and materials;
- 2) R&D labs that wish to develop technology with US partners;
- 3) Startups that plan to establish US ventures.

Zone Types

The possible types of preferential investment zones are industrial parks, research parks, and incubation and acceleration centers.

Industrial Parks

The most popular type of investment zone will be an industrial park, which is developed in advance and equipped with the required infrastructure and utilities. Tenant Korean SMEs will be able to lease or purchase the blocks needed to build their plants. The developer may set aside a particular area of the industrial park for Korean companies and lease space to Korean companies on a preferential basis. If the industrial park operator retains staff who can communicate in Korean, Korean tenant companies may feel more comfortable locating at this site as they will not need to hire additional English-speaking personnel for site management.

When a large-scale preferential investment zone for Korean companies is built, a small Korean town with Korean restaurants, a Korean supermarket, etc., can be developed in areas adjacent to the zone. It may make the site more attractive for Korean workers and contribute to attracting additional investments from Korea.

Research Park/Technology Park

Preferential investment zones could also be incorporated into research or technology parks. A good example would be the Research Triangle Park (RTP) in North Carolina. The RTP and its three associated universities, Duke University, North Carolina State University, and North Carolina Chapel Hill, are well-known in Korea. Thus, establishing preferential zones for Korean companies in RTP and other academically notable locations would help more Korean companies locate R&D centers at these sites.

Incubation & Acceleration Center

As many Korean companies and investors are interested in the Silicon Valley area, up-and-coming tech hubs in more affordable areas, such as Lincoln and Omaha, Nebraska, Huntsville and Birmingham, Alabama, and Kansas City, Missouri, could leverage preferential investment zones as an attraction strategy. Preferential incubation and acceleration centers for Korean startups would spark the interest of Korean investors in these locations. Additionally, facilitating more Korean investment would help grow the tech ecosystems of these locations.

Type of Development Scenarios

Generally, preferential investment zones for Korean companies will develop across two overarching scenarios:

- 1) a satellite scenario, in which a zone is developed as a new park or center in an area adjacent to a large Korean company's plant, and
- 2) a sectional scenario, in which a zone is developed by giving Korean companies preferential access to certain blocks or portions of an existing park or center.

Financing

Funds for developing preferential investment zones for Korean companies can be raised through public-private partnerships. A portion of the funding could also be raised via the EB-5 Immigrant Investor Program.

Expected Effect (Ready to Start)

Preferential investment zones will facilitate more investment from Korean firms and contribute to the job creation, economic growth, and regional development of rural areas in the United States. These benefits can be termed as a "Ready to Start" effect.

Developing Preferential Investment Zones for US Companies in Korean Provinces

Current Investment Zones for FDI

There are nine free economic zones (FEZs), 18 complex type foreign investment zones (FIZs), and 15 complex type free trade zones (FTZs)—including nine industrial park FTZs and six seaport/airport FTZs—that have been developed to attract FDI to Korea. In addition to these zones, there are also lease complexes exclusively for foreign-invested companies. These complexes were

designated to promote domestic investment by foreign-capital-backed companies in the wake of the 1997 Asian financial crisis. All four designated complexes are located in Gyeonggi-do. Their purposes and characteristics are similar to those of complex-type foreign investment zones, with slight differences only in occupancy criteria and incentives.

However, as of yet, there are no country-specific preferential investment schemes at any of the foreign investment zones or national industrial parks (NIPs) in Korea. Thus, to expand US-Korea commercial relations, country-specific preferential investment schemes should be put into place.

New National Industrial Complexes Development Plan for Promoting High-tech Industries

On March 15, 2023, Korea’s Ministry of Trade, Industry and Energy (MTIE) and Ministry of Land, Infrastructure and Transport (MLIT) announced a joint strategy for promoting national high-tech industries and a plan to create a “national high-tech industry belt.” The Korean government has also decided to designate 15 new national industrial complexes in areas outside of the larger capital region, totaling 40.76 million square meters. Sites designated as national industrial complexes enjoy many benefits, including expedited permit processing, infrastructure development, and tax deductions. The details of the candidate sites for the new national industrial complexes are shown in the table below.¹¹

Candidate Site		Area	Industry	Candidate Site		Area	Industry
Gyeonggi	Yongin	7.1M m ²	Semiconductor	Jeonbuk	Wanju	1.65M m ²	Hydrogen
Daejeon	Daejeon	5.3M m ²	Nano · Semi-conductor Aero-space	Kyeongnam	Changwon	3.39M m ²	Defense, Nuclear energy
Choongcheong	Cheonan	4.17M m ²	Future mobility, Semiconductor	Daegu	Daegu	3.29M m ²	Future Car · Robotics
	Osong	0.99M m ²	Railroad	Kyeongbuk	Andong	1.32M m ²	Bio-medical (HEMP)
	Hongseong, Naepo	2.36M m ²	Hydrogen · Future mobility, Battery		Kyungju	1.50M m ²	SMR
Gwangju		3.38M m ²	Future mobility parts		Uljin	1.58M m ²	Nuclear power, Hydrogen
Jeonnam	Goheung	1.73M m ²	Space	Kangwon	Kangreung	0.93M m ²	Natural bio
Jeonbuk	Iksan	2.07M m ²	Food-tech	Total 15 sites, 40.76 million m²			

11. Ministry of Land, Infrastructure and Transport, 15 National Industrial Complexes Development Plan for Promoting High-Tech Industries, Government Press Release, March 14, 2023.

Best Practice Case: Development Plan for Advanced Logic Semiconductor Cluster

With special regard to the advanced logic semiconductor industry outlined in Korea's "Strategy to Foster the National High-tech Industry," the government plans to attract \$422 billion in private investment to six leading tech sectors—semiconductors, flat screen displays, batteries, biopharmaceuticals, future vehicles, and robots—by 2026. Additionally, by 2042, the Korean government plans to attract \$230 billion in private investment to the semiconductor sector to create the world's largest advanced logic semiconductor cluster in the Seoul metropolitan area.

The plan envisions a semiconductor mega-cluster that connects existing production sites in Giheung, Hwaseong, Pyeongtaek, and Icheon in Gyeonggi Province. The envisioned semiconductor cluster will harbor five advanced chip fabrication facilities and around 150 materials, parts, and fabless companies by 2042, according to the plan released during an economic policy meeting chaired by President Yoon Suk Yeol. The new complex will be located near existing facilities run by the country's chip giants, Samsung Electronics Co. and SK Hynix Inc., as well as a number of materials, components, and equipment (MCE) companies.

Companies that enter the semiconductor cluster will receive benefits such as a reduction in land acquisition and property taxes, simplified licensing procedures, and a 1.4 times increase in the building-to-land ratio compared to general industrial complexes, the Ministry of Trade, Industry, and Energy said. However, the most significant benefit is that MCE companies are located near anchor companies, creating an ecosystem where technology and information are freely transferred and overseas technologies are incorporated.

The government aims to nurture ten fabless companies with annual sales of over 1 trillion Korean Republic won (KRW) by supporting prototype development. The government is also pushing to invest KRW 3.2 trillion by 2030 to develop technologies for next-generation semiconductors needed for power generation, vehicles, and artificial intelligence, among other things.

Outside the semiconductor sector, the government hopes to engender rapid expansion of the flat screen and EV sectors. The government aims to expand Korea's display screen production capacity by more than 50 percent within the next three years and quadruple EV production.¹²

12. Pulse, "Korea to set up world's largest chip cluster in Seoul metropolitan area", Mael Business News Korea, March 15, 2023, <https://m.pulsenews.co.kr/view.php?year=2023&no=205024>

Target Companies for Attraction

For New National Industrial Complexes

Korea seeks to strengthen its global supply chain (GSC) through a “mother factory” strategy, in which a mother factory that houses advanced high-tech facilities is established domestically to support mass-production factories abroad. This strategy offers ample opportunity for collaboration between the US and Korean companies. The national industrial complexes, announced by the Korean government, present a choice business opportunity for US companies in the equipment manufacturing, software development, technical consulting, and high-tech material manufacturing sectors.

For Industrial Park in Free Trade Zones

As US and Western MNEs diversify away from China and Russia, they are looking for new locations that still offer easy access to China and Russia. As they are not abandoning the Chinese and Russian markets, they want to move their operations to third countries with convenient shipping routes to these markets. From that perspective, Korea would be one of the best destinations, especially Korean industrial parks in free trade zones attached to a seaport or airport.

Expected Effects

If preferential investment zones for US companies are established in Korea’s new national industrial complexes and existing industrial parks in FTZs, Korea would attract a greater number of American companies, thereby enhancing US-Korea commercial relations.

Necessity for Trade Facilitation Measures to Attract Greenfield FDI

Relationship Between International Trade and Greenfield FDI

The typical development phases for global companies to enter a foreign market evolve in the following order as the business expands:

- 1) Exporting through their own sales activity as a trial (→international trade);
- 2) Exporting through a sales agent (→international trade);
- 3) Establishing a subsidiary company for distribution (→international trade);
- 4) Establishing a local plant for manufacturing (→greenfield FDI).

Foreign companies do not build manufacturing plants at the early stages of entering a foreign market. It usually takes intensive effort over the course of several years for foreign companies to develop from phase 1 to phase 4. Therefore, trade facilitation precedes and brings about greenfield FDI.

Trade Facilitation for Building Intra-Industry Supply Chains between the United States and Korea

“The Spirit of Camp David: Joint Statement of Japan, the Republic of Korea, and the United States,” which was released on August 18, 2023, referenced trilateral cooperation on supply chain resilience in the following passage:

We are now cooperating trilaterally on supply chain resilience, particularly on semiconductors and batteries, as well as on technology security and standards, clean energy and energy security, biotechnology, critical minerals, pharmaceuticals, artificial intelligence (AI), quantum computing, and scientific research.

Going forward, our countries are committed to working closely together to launch early warning system pilots to expand information sharing and enhance policy coordination on possible disruptions to global supply chains as well as to better prepare us to confront and overcome economic coercion. We will continue to develop the Partnership for Resilient and Inclusive Supply-chain Enhancement (RISE) to help developing countries play larger roles in the supply chains of clean energy products. We will also enhance cooperation on technology protection measures to prevent the cutting-edge technologies we develop from being illegally exported or stolen abroad. To that end, we will conduct inaugural exchanges between the U.S. Disruptive Technology Strike Force and Japanese and ROK counterparts to deepen information-sharing and coordination across our enforcement agencies. We will also continue to strengthen trilateral cooperation on export controls to prevent our technologies from being diverted for military or dual-use capabilities that could potentially threaten international peace and security.¹³

Korean companies welcome trilateral cooperation on building the global supply chain. However, practical implementation hinges on companies from the three nations actually inking contracts to supply products to one another.

At the USKCR Roundtable with the Ulsan Chapter of the Korean Small & Medium Business Convergence Association, held on July 20, 2023, in Ulsan, South Korea, the CEOs of Korean SMEs showed great interest in building supply chains with US companies. However, they complained that

13. The White House, *The Spirit of Camp David: Joint Statement of Japan, the Republic of Korea, and the United States*, August 18, 2023, 4, <https://www.whitehouse.gov/briefing-room/statements-releases/2023/08/18/the-spirit-of-camp-david-joint-statement-of-japan-the-republic-of-korea>



Figure 3 East-West Center, USKCR Roundtable with the Ulsan Chapter of the Korean Small & Medium Business Convergence Association

they do not have a channel for discussing it. They hoped the US and Korean governments would work to arrange matchmaking opportunities for building supply chains between companies from the two nations.

As governments do not interfere in business transactions among private sector actors, it would be desirable for the chamber of commerce or corresponding industry associations from both countries to arrange the matchmaking opportunities.

Other Related Issues

At the USKCR Roundtable in Atlanta, Georgia, which was held on October 30, 2023, the participants expressed several opinions.

First, they agreed to the necessity for supply chain discussions between chambers of commerce or corresponding US and Korean industry associations as well as the need to arrange more matchmaking opportunities.

Second, Korean SMEs that had invested in the United States expressed an interest in establishing preferential investment zones for Korean companies in Georgia. Representatives from Korean SMEs said that they tried to establish a preferential investment zone before but were not successful as they could not find a way to initiate it. So, the representatives hoped that state or city government would undertake or support the effort.

Third, representatives from Korean companies invested in the United States explained the challenges they faced in recruiting employees for their newly constructed factories. Discussions also highlighted the value of Korean-American employees, who not only speak Korean and English but also understand both cultures. They are trying to cooperate with the university and colleges in their city and state. In case of the city of Atlanta and Georgia state, foreign-owned Korean companies are collaborating with Georgia Tech, Georgia State University, and Georgia Piedmont Technical College. In the area of automobiles, EVs, and clean energy, the city of Ulsan has highly advanced educational institutions, like the University of Ulsan and Ulsan College, which are operated by Hyundai Business Group, and Ulsan National Institute of Science & Technology (UNIST). So, the educational institutions in Atlanta and Ulsan are well-positioned to cooperate with each other through dual degree programs or exchange student programs. These programs would enhance workforce education and training in both locations.

Conclusion and Policy Recommendations

To enhance US-Korea commercial relations beyond Washington and Seoul and increase two-way trade and investment flows, I recommend the following policy measures and business activities. First, developing preferential investment zones for Korean companies in rural areas of the United States and preferential investment zones for US companies in Korean provinces will enable SMEs to build more manufacturing facilities in both countries. These zones will also help build the ecosystem of strategic industries. Preferential investment zones can be developed through public-private partnership structures among each country's governmental agencies, financial institutions, and private investors.

Second, industry-specific channels for business matchmaking between US and Korean companies need to be established. Chambers of commerce or respective industry associations in both countries would be good facilitators for this activity. Furthermore, the trade promotion agencies of both countries may play a coordinating role.

Third, we need to strengthen ties between US and Korean educational institutions, specifically in areas of study that run parallel to industrial and commercial interests. These ties will provide both countries with well-educated, highly skilled, and culturally competent workforces. A workforce such as this would prove highly valuable to foreign investors.

Fourth, the Association of American State Offices in Korea (ASOK) and its 18 member states are working very actively in Seoul, Korea to attract inbound investment and trade to their respective locales. They hold many events such as "Doing Business in the US Seminars" and international relations seminars in Seoul. However, if they expanded their activities beyond Seoul, they could attract more SME investment into the United States as most SMEs in the manufacturing sector are located in the provinces and local cities.

3

Understanding Cross-Cultural Decision-Making - Opening the Door for Korean Businesses in James City County, the Hampton Roads Region, and the Commonwealth of Virginia

Mr. Christopher Johnson

*Director of Economic Development
James City County, Virginia*

James City County is a suburban locality with a population of 80,000 located in southeastern Virginia, approximately two and a half hours from the nation's capital in Washington, D.C. The county is situated on a peninsula between the James River and York River, 45 minutes from Richmond's state capital and 40 minutes from the deep-water Port of Virginia, the second largest commercial port on the East Coast. The county was first settled by English colonists in 1607 at Jamestown in the Virginia Colony. Formally created in 1634 by the Order of King Charles I, James City County was home to the first representative legislative body in the European settlement of North America. Additionally, Jamestown was the seat of government for the entire Virginia Colony.

The larger region, more commonly known as Hampton Roads, refers to a group of seventeen localities with a population of just under 1.9 million, making it the second most populated region in Virginia. The region takes its name from the central water body, the Hampton Roads, that ties the communities together. Water is the region's lifeblood, from the Port of Virginia to the rivers, beaches, and thousands of miles of coastline. Just as roadsteads or "roads" have long served as a safe and protected anchorage for ships, Hampton Roads, as a region, provides a secure location for business and industry to grow. Centrally located on the East Coast of the United States, Hampton Roads has proven to be a premier location for a diverse array of industries including advanced manufacturing, distribution and logistics, food and beverage processing, information technology, and maritime shipbuilding.

In the Spring of 2019, the Virginia Economic Development Partnership (VEDP), the state economic development authority for the Commonwealth of Virginia, received a request for information (RFI) proposal from KPMG Consulting representing an international company seeking to expand its domestic manufacturing, logistics, and distribution operation to the east coast of the United States. VEDP collaborates with local, regional, and state partners to encourage the expansion and diversification of Virginia's economy, working to accomplish these objectives through a variety of activities, including lead generation; business attraction and expansion; trade development; business intelligence; competitive benchmarking; site development; performance-based incentives; and workforce/talent solutions. In addition to its headquarters in Richmond, Virginia, VEDP maintains international offices in Germany, Japan, and South Korea.

When an RFI is distributed to local economic development offices, the company's identity remains hidden behind a generic project identification name. The RFI stated that the company sought to establish a production facility in the United States, aiming to strengthen its market presence and cater to the growing demand for energy-efficient heating solutions in North America. Project G proposed a \$75 million capital investment over a five-year period and the creation of 180 high-wage jobs. The company was seeking a location with an existing building of 250,000 square feet or larger with the ability to triple the building size on adjacent land. The RFI stated that the site ideally would be located within a one-hour drive to a deep-water port and have access to a skilled workforce in the manufacturing sector. The Port of Virginia, at 55 feet, is the deepest port on the East Coast.

Business attraction efforts are often bolstered by offering an incentive package from the state and local governments that includes some combination of tax breaks, grants, subsidies, and infrastructure support. These incentives aim to reduce initial start-up costs, lower the costs of conducting business, and increase the potential for growth and profitability in the early years of operation. Project G was no different, requesting answers to a dozen pages of questions and engineering calculation requests, which would help the company narrow the list of potential sites and make in-person site visits by company executives more productive.



Drone shot of cranes unloading a container ship and straddle carriers loading them onto trucks in Portsmouth Marine Terminal in the Port of Virginia. (Getty Images)

Absent any hints or additional information from the KPMG site selection team regarding the company or the product, the response deadline of 48 hours following the issuance of the RFI was met, and the waiting period began; leaving James City County, along with other localities, to ponder if their proposal “made the cut” and is still under consideration. Sometimes, the state and locality receive follow-up questions and requests for clarification or additional information, but that is the exception, not the rule. Six months passed before our office received notification that company executives were preparing for a site visit to James City County. KPMG informed VEDP that the traveling delegation would include a dozen engineers from Korea and the California-based chief financial officer. At this time, we learned that the company behind Project G was Kyung Dong Navien, a world-leading manufacturer of tankless water heaters and condensing boiler technology.

With less than two weeks to prepare for the site visit, our small staff had a lot of work to do in a short period of time. With no knowledge of the other states and localities being considered for the expansion project, we knew that we had to work quickly to offer the best experience possible for our guests. Our staff reached out to the Virginia Asian Chamber of Commerce and our regional marketing partner, the Hampton Roads Alliance, to help identify professionals from other Korean businesses in Virginia who could assist in providing legal, regulatory, engineering, and administrative assistance while also offering linguistic support throughout the visit. Officials with the Port of Virginia agreed to provide a tour of Port facilities to highlight our strategic location, state-of-the-art fully automated infrastructure, and transportation connectivity that provides access to two-thirds of the United States population within two days. Recognizing the jetlag most of the delegation would be experiencing due to the significant time difference, our staff adjusted the schedule to accommodate more flexible meeting times and arranged for many meals to be catered by chefs from two popular Korean restaurants, which the guests greatly appreciated.

Perhaps the most important lesson we learned from communication with staff at the Virginia Asian Chamber of Commerce was that we needed to comprehend the distinct decision-making approaches prevalent in Korean business culture. Decision-making is a critical aspect of organizational management, and is influenced by a combination of cultural, societal, and historical factors. By examining and appreciating the cultural nuances, hierarchical structures, communication styles, and value systems, we were able to elucidate the fundamental differences between Korean and American business decision-making processes to our advantage. Understanding these differences was crucial for effective cross-cultural communication and collaboration in the business attraction and recruitment process.

Korean business decision-making tends to be more hierarchical, emphasizing respect for authority and seniority. Decisions often stem from top-down directives, where senior executives hold significant decision-making power. Conversely, the American approach is relatively more decentralized, promoting a flatter organizational structure, empowering individuals at various levels to contribute to decision-making processes.

Korean business settings often prioritize implicit communication, relying on non-verbal cues, context, and shared cultural understanding. Implicit communication allows for nuanced decision-making based on unspoken cues. On the other hand, American business culture typically emphasizes explicit communication, focusing on directness and clarity in conveying information and decision-making rationale.

Korean business culture highly values consensus-building, aiming for unanimous agreement among stakeholders. This process involves time-consuming discussions and negotiations to ensure collective buy-in. In contrast, American decision-making often places a high value on individual input, encouraging diverse perspectives and debate, ultimately leading to a decision through voting or the authority of a designated leader.

Korean decision-making tends to be more risk-averse, emphasizing long-term stability and relationships. Decisions are often made with an eye on preserving harmony and maintaining long-standing relationships. American business decision-making can be more risk-tolerant, focusing on short-term gains and agility in adapting to market changes.

Korean leaders often exhibit a paternalistic leadership style, acting as mentors or guardians, fostering a sense of loyalty and dependency. American leaders, in contrast, may adopt a transformational leadership style, inspiring innovation and individual autonomy among their teams.

The differences in decision-making approaches influence business strategies. Korean companies may prioritize stability, relationships, and slower, methodical growth. Meanwhile, American companies might lean toward innovation, adaptability, and faster-paced decision-making to seize opportunities in a dynamic market.

The decision-making process in Korean and American business cultures diverge significantly due to their unique societal values, communication styles, and leadership approaches. Understanding and respecting these differences is crucial for successful cross-cultural collaborations and effective business communication. Recognizing and respecting these diverging approaches can foster better communication, cooperation, and decision-making strategies between Korean and American businesses.

The strategic decision undertaken by KD Navien to establish a North American manufacturing headquarters on the East Coast of the United States exemplifies the company's commitment to meeting the evolving needs of the American market. By establishing domestic manufacturing capabilities, KD Navien aimed to cater to the specific demands and preferences of American consumers more effectively. By adding production in a strategic location with a state-of-the-art manufacturing facility, the company will be able to respond promptly to market fluctuations,

streamline logistics, and reduce transportation costs as well as lead times. The new facility will strengthen its competitive position, enhance operational efficiency, and improve customer service to capitalize on the growing demand for energy-efficient heating solutions in North America.

Foreign manufacturing companies considering establishing domestic facilities in the United States, instead of solely exporting products, face several strategic considerations. Access to a skilled workforce and technology are among the most important factors. The Hampton Roads region benefits from military installations for all five branches of the United States Armed Forces (Army, Navy, Air Force, Marine Corps, and Coast Guard) located within the area. With so many military bases in the region, over 3,000 military personnel stationed in the area retire annually, and many choose to stay in the area as it offers a high quality of life, excellent public education, and recreational options. Having highly skilled individuals with technical expertise seeking post-military employment opportunities makes the region an attractive option for foreign investment. The presence of over a dozen universities, research institutions, and technology hubs is another factor in maintaining the region's very attractive workforce. Additionally, the prevalence of educational institutions in the Hampton Roads region allows many companies to form research and development partnership agreements.

Building strong business networks and partnerships with Korean trade associations, chambers of commerce, and industry-specific groups can enhance trust and facilitate connections between Korean businesses and American partners, suppliers, and clients. These partnerships allow companies to gain a deeper understanding of the American market, reduce logistical barriers, foster innovation, and build stronger partnerships, which can lead to increased competitiveness and sustainable growth in the American marketplace.

While state and local incentives will remain at the forefront of business attraction and recruitment efforts and grab the headlines in press releases announcing deals, the relationships that are forged between company executives and locality professionals are just as meaningful. Failing to carefully examine cross-cultural differences in decision-making can eliminate a site from consideration quite easily, leaving many officials wondering how and why mutually beneficial projects collapsed.

4

Developing Resilient Supply Chains for the Semiconductor Industry: A Comparative Analysis of Gyeonggi Province and Arizona

Ms. Suhyun Lee (Korea)

*International Trade and Economic Policy Researcher
Korea National Diplomatic Academy*

Mapping the Semiconductor Supply Chain

South Korea

South Korea, the world's second-largest semiconductor producer, holds a substantial 21.5 percent market share, ranking just behind the United States. Notably, it is also the third-highest spender on semiconductor manufacturing equipment, investing \$16.08 billion in 2020.¹⁴

South Korea, a prominent player in the global memory chip industry, actively aims to expand its footprint in the US market. Korea has been the world's second-largest semiconductor producer since 2020 when it secured a considerable 18.4 percent global market share. In the same year, South Korea dominated the global memory semiconductor sector, accounting for 56.9 percent of the market. The country's semiconductor exports in 2020 reached \$99.2 billion, with memory semiconductors making a significant contribution of \$63.9 billion, constituting 64.4 percent of the total.¹⁵

Since 2022, South Korea has strategically focused on enhancing domestic capabilities while strengthening ties with the United States. As a member of the Chip-4 alliance alongside the United States, Japan, and Taiwan, South Korea is working collaboratively to navigate shifts in the global semiconductor market. In response to these strategic moves, China has attempted to exert influence over Seoul, specifically regarding the potential application of export controls on South Korean industries similar to measures taken against the United States.

14. "S. Korea's chip equipment spending soars 61 pct in 2020: report," Yonhap News Agency (Seoul). April 14, 2021. <https://en.yna.co.kr/view/AEN20210414002600320>.

15. Emily Benson, Japhet Quitzon, and William A. Reinsch, "Securing Semiconductor Supply Chains in the Indo-Pacific Economic Framework for Prosperity," Center for Strategic & International Studies, May 30, 2023. <https://www.csis.org/analysis/securing-semiconductor-supply-chains-indo-pacific-economic-framework-prosperity>.

To bolster its high-tech sector, South Korea implemented the Special Act to Protect and Foster the National High-Tech Strategic Industry on August 4, 2022.¹⁶ This legislation grants tax benefits, regulatory exemptions, and other incentives to companies producing designated “national high-tech items,” including semiconductors. Ultimately, the Special Act aims to encourage production and increase research and development (R&D) in Korea’s high-tech sector. In a significant move in late March 2023, the National Assembly passed an amendment to the Act on Restriction of Special Taxation. This amendment expands tax deduction rates for companies investing in industries categorized as strategic by the government. Large firms stand to benefit from tax credits of up to 15 percent for investments in semiconductor manufacturing and other strategic technologies. In 2023, investments in semiconductor manufacturing could also qualify for an additional 10 percent tax break, potentially providing a total tax benefit ranging from 25 percent for small firms to 35 percent for larger firms.

Korea’s National Assembly is actively considering further amendments to broaden benefits for the chip industry and semiconductor engineering programs. South Korean officials have announced the goal of locally sourcing 50 percent of semiconductor manufacturing materials, components, and equipment used in South Korean semiconductor production by 2030, a substantial increase from the 2022 level of 30 percent.

- 1) Increase the tax deduction rate for national strategic technologies
- 2) Increase the basic deduction rate pursuant to the temporary tax deduction system
- 3) Increase the deduction rate for the increment of investments pursuant to the temporary tax deduction system

Category	Deduction Rate for Current Investment Amount			Deduction Rate for Increased Investment Amount
	Large Companies	Middle-Standing Companies	SMEs	
General Technologies	1 → 3	5 → 7	10 → 12	+
Newly Emerging Growth and Original Technologies	3 → 6	6 → 10	12 → 18	
National Strategic Technologies	8 → 15	8 → 15	16 → 25	
				3 → 10
				4 → 10

※ Total tax deduction amount for investments = (investment amount x tax deduction rate for the current investment amount) + (increased

Figure 1 Kim & Chang, Chart of tax deductions for tech firms in Korea, 2023, from https://www.kimchang.com/en/insights/detail.kc?sch_section=4&idx=27331.

16. “Enactment of the K-chips act - government’s support and regulatory policies for the semiconductor industry,” Kim & Chang, May 22, 2023, https://www.kimchang.com/en/insights/detail.kc?sch_section=4&idx=27331.

United States

The semiconductor production lifecycle is intricate, capital-intensive, and concentrated in specific geographical regions. Despite the United States maintaining its global leadership in the industry, American chip companies are increasingly reliant on international nodes in the supply chain.

The United States holds a competitive edge in chip design, particularly for logic and graphic chips, as well as in long-term research. In 2018, US design companies such as Qualcomm, Nvidia, Broadcom, and Advanced Micro Devices (AMD) collectively claimed over 68 percent of the global market share for chip design.¹⁷ Recently, the United States has witnessed a resurgence in funding for early-stage chip design companies, with startups like Graphcore, Cerebras Systems, and Lightmatter securing substantial investments from venture capital firms.

American academic institutions continue to attract leading researchers from across the globe, fostering long-term research initiatives. Despite advancements in chip design, the United States heavily relies on Taiwan and South Korea for advanced manufacturing. While Intel is working toward mass-producing its 5-nm chip, it does not provide third-party manufacturing services at a significant scale. Other US foundries, such as Texas Instruments and Global Foundries, do not engage in manufacturing at the cutting edge of technology.

To address the risks associated with the geographic concentration of advanced manufacturing in the semiconductor supply chain, Congress passed the bipartisan CHIPS and Science Act, which President Biden signed into law on August 9, 2022.¹⁸ This groundbreaking legislation allocates \$52 billion to revitalize the extensively outsourced US semiconductor manufacturing sector and enhance research and development activities in US chip technology. The legislation aims to reduce US dependence on foreign manufacturing, concurrently fostering investment in the domestic workforce and promoting innovation within the country.

The CHIPS and Science Act is comprised of three key elements: 1) an initiative to provide incentives for the construction, modernization, or expansion of semiconductor fabrication facilities or equipment; 2) a set of programs led by the Department of Commerce aimed at advancing R&D and workforce activities in the field of advanced semiconductors; 3) additional programs addressing related aspects such as supply chain resilience, national security, and international cooperation.

Specifically, the legislation allocates \$39 billion in direct subsidies to expanding capacities in semiconductor manufacturing, research, packaging, equipment, and materials within the United States.¹⁹ Additionally, Congress recognizes the importance of maintaining US leadership in semiconductor R&D by earmarking \$11 billion for initiatives led by the Department of Commerce.

17. Bo Julie Crowley, Raina Davis, "Made in the USA: Revitalizing the Domestic Semiconductor Industry," *Belfer Center for Science and International Affairs* (2020).

18. Congressional Research Service, *Frequently Asked Questions: CHIPS Act of 2022 Provisions and Implementations, 2023*, <https://crsreports.congress.gov/product/details?prodcode=R47523>.

19. "A Look at the CHIPS-Related Portions of CHIPS+," Alexander Kersten, et al.

Major CHIPS-Related Appropriations Over Time

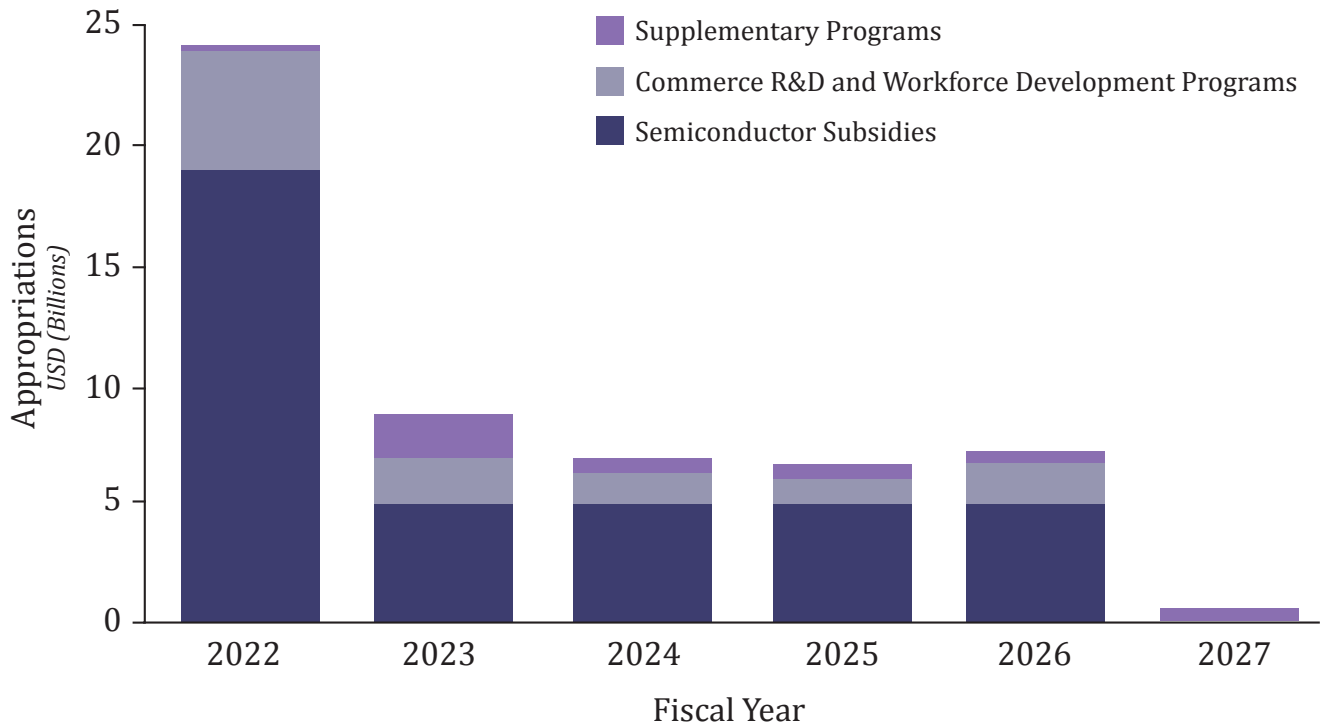


Figure 2 Alexander Kersten, et al., Major Chip-Related Appropriation over Time, Center for Strategic & International Studies, August 9, 2022. https://csis-website-prod.s3.amazonaws.com/s3fs-public/220809_CHIPS_figure1.jpg

These initiatives aim to advance cutting-edge chip research in the United States and cultivate a domestic workforce capable of sustaining such research. Furthermore, supplementary programs, designed to enhance competitiveness in the American semiconductor supply chain, were also funded, including the CHIPS for America Defense Fund with an appropriation of \$2 billion, the CHIPS for America Workforce and Education Fund with \$200 million, the CHIPS for America International Security and Innovation Fund with an allocation of \$500 million, and the Public Wireless Supply Chain Innovation Fund with \$1.5 billion.²⁰

20. Alexander Kersten, et al., *A Look at the CHIPS-Related Portions of CHIPS+*, Korea International Trade Association, August 11, 2022, https://www.kita.net/board/tradeNews/tradeNewsDetail.do;JSESSIONID_KITA=9704A4DAE2A5414EF4B8761520557E20.Hyper-?no=1825573.

Establishing a Global Semiconductor Production Hub

The Gyeonggi Semiconductor Cluster

In light of SK Hynix's commitment to invest 122 Trillion Korean Republic won (KRW) in the Yongin Semiconductor Cluster and Samsung's announcement of a KRW 133 trillion investment in advanced logic chip semiconductors in 2019, Gyeonggi province has formulated support plans to actively promote and incentivize these substantial investments.

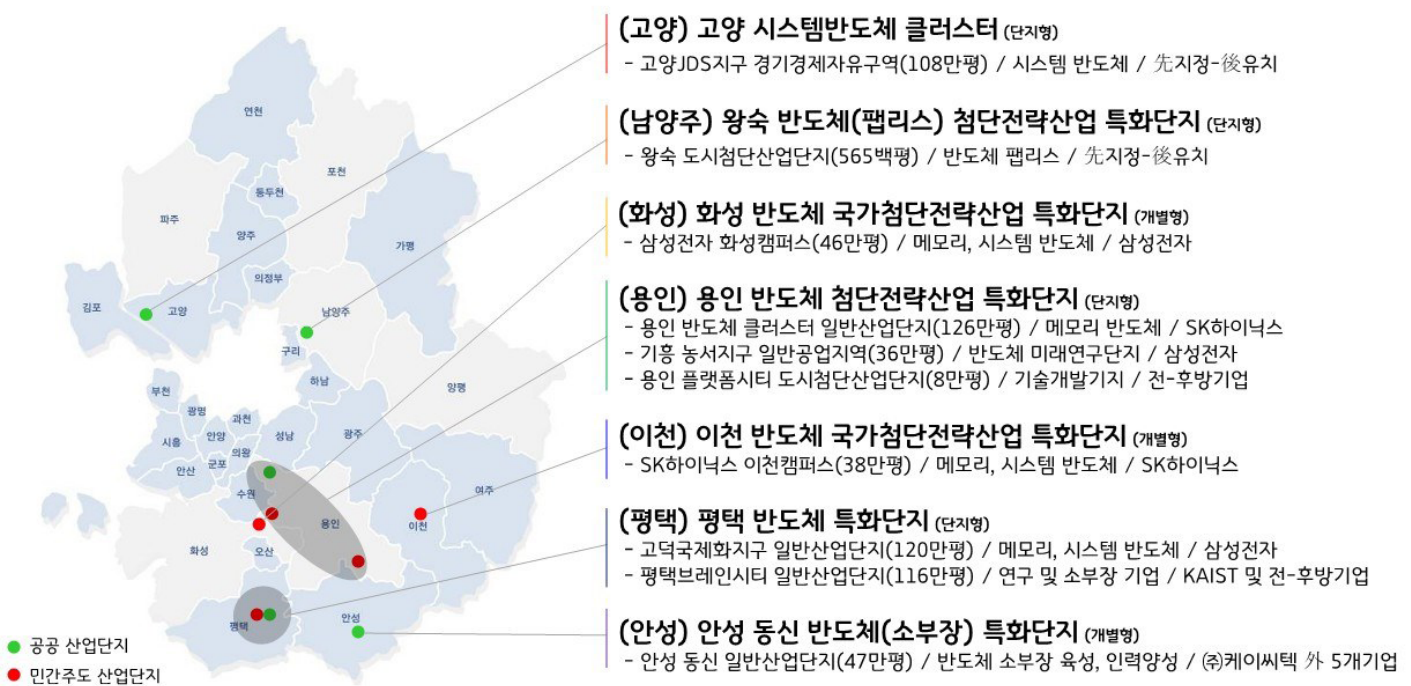


Figure 3 Gyeonggi-do Provincial Office, Map of Semiconductor assets in Gyeonggi province, February 2, 2023, https://pimg.daara.co.kr/kidd/photo/2023/02/27/thumbs/thumb_520390_1677483627_10.jpg

Gyeonggi province's research findings indicate that approximately 43 percent of the total 2018 domestic semiconductor export volume, equivalent to \$54.8 billion out of a \$126.7 billion total, can be attributed to companies within the province.²¹ This notable contribution is primarily due to the fact that around 64 percent of domestic semiconductor companies are headquartered in Gyeonggi province. As per the Korea Semiconductor Industry Association, Gyeonggi Province emerges as the region with the highest concentration of semiconductor companies in Korea, where 162 out of 252 companies are situated. This figure is notably three times greater than the 50 companies located in Seoul, which holds the second position.

21. Gyeonggi-do Provincial Office, Goal of Creating Global Semiconductor Production Base by 2025, KOTRA, May 17, 2019, <https://ikw.kotra.biz/page/region.do?city=gyeonggi&n=3>.

Gyeonggi province currently accommodates several prominent semiconductor facilities, including Samsung Electronics' Giheung and Hwaseong Plants, Samsung Semiconductor Plant 1 in Pyeongtaek within the Godeok International Industrial Complex, and the SK Hynix Semiconductor Complex in Incheon. The Samsung Electronics Giheung and Hwaseong Plants collectively employ a workforce of 41,000 across ten production lines. Additionally, there are 4,000 employees dedicated to a line at Samsung Semiconductor Plant 1 in Pyeongtaek, and the SK Hynix Incheon Plant operates with 18,000 employees across two production lines.²²

As the SK Hynix Yongin Plant, Samsung Semiconductor Pyeongtaek Plant 2, and the SK Hynix Incheon M16 Plant ramp up capacity, the Gyeonggi Semiconductor Cluster is anticipated to reach full formation by 2030. It is projected to emerge as a pivotal hub for global semiconductor production, employing 84,000 individuals across up to 19 production lines.²³ Gyeonggi province is committed to supporting the successful establishment of the Gyeonggi Semiconductor Cluster through all available means, and additional support measures will be implemented to facilitate its growth and development.

Arizona's "Silicon Desert"

Since President Biden assumed office in 2021, companies have pledged over \$58 billion in private-sector investments throughout Arizona. These investments generate new employment opportunities, enhance US competitiveness, revitalize infrastructure, fortify supply chains, and foster support for Arizona small businesses.²⁴

Taking advantage of President Biden's Investing in America agenda, Arizona has become a more enticing destination for global companies seeking investment and expansion opportunities, thereby contributing to the advancement of US competitiveness. TSMC has responded to this favorable environment by significantly increasing its initial planned investment by \$28 billion. This substantial commitment is directed toward constructing two cutting-edge semiconductor manufacturing facilities, marking the largest foreign investment in history.

In the same vein, Intel has confirmed a substantial investment of \$30 billion in a semiconductor plant in Arizona, USA, with plans to construct two semiconductor factories. Intel will collaborate with global asset management companies to raise investment funds and aims to complete the semiconductor plant by 2025.²⁵

22. Goal of Creating Global Semiconductor Production Base by 2025, Gyeonggi-do Provincial Office

23. Goal of Creating Global Semiconductor Production Base by 2025, Gyeonggi-do Provincial Office

24. The White House, *The Biden-Harris Administration's Investing in America Agenda: Delivering for Arizona*, March 2023, <https://www.whitehouse.gov/wp-content/uploads/2023/03/AZ-Investing-in-America-fact-sheet.pdf>.

25. Chavi Mehta and Krystal Hu, "Intel, Brookfield to invest up to \$30 bln in Arizona chip factories" *Reuters (New York)*. August 23, 2022. <https://www.reuters.com/technology/intel-brookfield-invest-up-30-blm-arizona-chip-factories-2022-08-23>.

Complementing these private sector initiatives, Arizona has invested \$100 million of its American Rescue Plan funding into the state's semiconductor industry.²⁶ This investment is specifically focused on fostering a public-private partnership dedicated to expanding Arizona's infrastructure, workforce, and research and development ecosystem for the semiconductor sector.

Arizona's early investment in the semiconductor industry has led to the establishment of an ecosystem that is producing a multiplier effect within its economy. Leveraging the state's low taxes, business-friendly regulatory environment, and the presence of Arizona State University's engineering school, which boasts over 30,000 students, Arizona is actively drawing in more companies. This strategic approach aims to establish Arizona as a crucial link in the resilient semiconductor supply chain, further solidifying Arizona's position as an attractive hub for semiconductor manufacturing and innovation.

Policy Recommendations Based on the US-Korea Workshop

Enhancing the Gyeonggi Semiconductor Cluster

Market Diversification

As previously mentioned, South Korea is a pivotal player in memory chip production, holding a commanding 56.9 percent of the market share.²⁷ More specifically, South Korean companies excel at producing NAND and DRAM memory chips. However, the overall performance of the Korean semiconductor industry lags in non-memory chip sectors. Despite a leading position in the memory chip market, South Korea's market share in all other industry segments remains below three percent.²⁸ This heavy reliance on a single sector segment exposes the industry to high volatility, making it susceptible to supply chain disruptions and macroeconomic trends. As Samsung and SK Hynix prioritize onshore manufacturing and cultivate domestic supply chains, it becomes crucial to allocate ample resources to develop and strengthen non-memory sectors within the semiconductor industry.

To mitigate the risks associated with heavy dependence on the memory chip sector, the Korean government and Samsung Electronics unveiled a significant investment of \$230 billion in March 2023. This investment aims to establish an advanced logic semiconductor mega-cluster on 7.1 million square meters of land in Namsayup, Yongin, by 2042.²⁹ The mega-cluster is envisioned to include over five Samsung Electronics semiconductor factories, around 150 Korean and

26. *The Biden-Harris Administration's Investing in America Agenda: Delivering for Arizona*, The White House.

27. "Securing Semiconductor Supply Chains in the Indo-Pacific Economic Framework for Prosperity," Emily Benson, Japhet Quitzon, and William A. Reinsch.

28. Ji-Hoon Kim, Sungyeob Yoo, and Joo-Young Kim, "South Korea's Nationwide Effort for AI Semiconductor Industry," *Communications of the ACM*, July 2023, <https://cacm.acm.org/magazines/2023/7/274057-south-koreas-nationwide-effort-for-ai-semiconductor-industry/fulltext#R5>.

29. Young-sil Yoon, "Yongin Semiconductor Cluster Construction to Be Shortened by 2 Years," *BusinessKorea*, June 28, 2023, <https://www.businesskorea.co.kr/news/articleView.html?idxno=117276>.

foreign companies specializing in materials, components, and equipment, fabless companies, and semiconductor research institutes. This strategic initiative not only seeks to enhance the development of the domestic supply chain but also emphasizes the need for South Korea to explore avenues for market diversification.

The Korean government’s aspiration to lead the advanced logic semiconductor industry faces notable challenges. The intricate nature of non-memory products within this sector introduces a wide range of demands and preferences across various industries and companies. Successfully navigating this landscape and achieving leadership requires a comprehensive understanding of different segments of the non-memory sector. It is imperative to clearly understand the non-memory sector and employ diverse business approaches tailored to each company to secure leadership in the dynamic and varied landscape of the advanced logic semiconductor industry.

Incorporating SMEs into the Semiconductor Industrial Cluster

In an environment where countries strive to achieve economic security, they maintain their position at the forefront of industry through technological prowess. South Korea has strategically positioned itself as a crucial player in the global semiconductor supply chain, owing to its active R&D initiatives and the enhanced competitiveness of its businesses. Despite these achievements, there are concerns that the outcomes of past efforts may generate controversy over preferential treatment for large companies, while small and medium-sized enterprises (SMEs) play a relatively minor role in South Korea’s semiconductor supply chain.

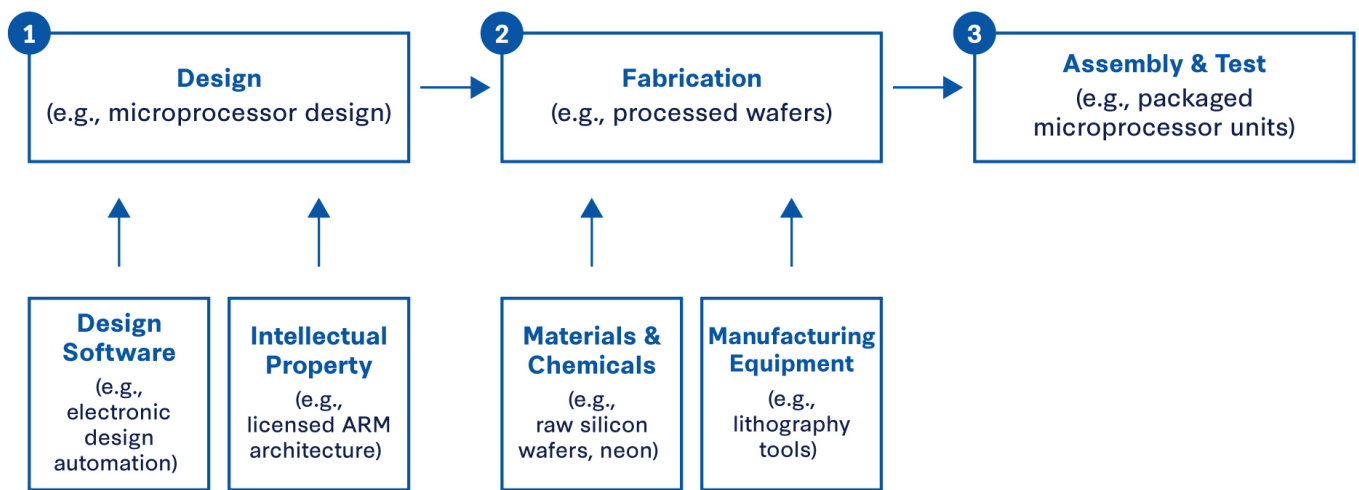


Figure 4 Akhil Thadani and Gregory C. Allen, *Simplified depiction of the semiconductor value chain*, Center for Strategic & International Studies, May 30, 2023, <https://www.csis.org/analysis/mapping-semiconductor-supply-chain-critical-role-indo-pacific-region>.

Semiconductor production involves three key segments: 1) design, 2) manufacturing, and 3) assembly, testing, and packaging (ATP).³⁰ To strengthen its supply chain, South Korea must focus on enhancing its capacity in fabless designing and manufacturing equipment, crucial components of the fabrication process. Often, small and medium-sized companies excel in these segments. A USKCR Atlanta Roundtable attendee familiar with the industry said, “Although SMEs are backbones of the semiconductor industry, policies are disproportionately targeted towards large companies, with mutual growth funds being no exception.”

Globally, the United States and Japan dominate the semiconductor manufacturing equipment market. US firms alone command over 40 percent of the global semiconductor manufacturing equipment market share, while Japanese firms occupy 29 percent. In October of last year, the Bureau of Industry and Security (BIS) strengthened its export controls on semiconductor manufacturing equipment. This underscores the importance of nurturing high-tech materials, parts, and equipment companies to reduce the country’s heavy reliance on specific countries in this critical industry.

In order to create an industrial cluster for shared growth, where large companies and SMEs can flourish together, companies like Samsung could initiate moves to improve competitiveness and self-sufficiency in the local semiconductor industry by strengthening its collaboration with domestic SMEs. For example, Samsung can make an agreement with a local chip production-related facility and begin joint development of equipment needed to produce semiconductors along with local SMEs.

Initiatives led by companies like Samsung are pivotal in establishing an industrial cluster that facilitates shared growth and fosters the prosperity of both large companies and SMEs. These companies can proactively enhance competitiveness and self-sufficiency in the local semiconductor industry by strengthening collaborations with domestic SMEs. For instance, Samsung could enter into agreements with local chip production-related facilities, initiating joint development of essential equipment for semiconductor production in partnership with local SMEs. Such an act could create an environment where both large enterprises and smaller businesses contribute to and benefit from the growth of the semiconductor industry.

30. Akhil Thadani and Gregory C. Allen, “Mapping the Semiconductor Supply Chain: The Critical Role of the Indo-Pacific Region,” Center for Strategic & International Studies, May 30, 2023. <https://www.csis.org/analysis/mapping-semiconductor-supply-chain-critical-role-indo-pacific-region>.

Addressing Talent Shortages:

Like many other countries, a talent deficit is one of the factors impeding the development of Korea's domestic supply chain. According to the Korea Institute for Advancement of Technology, in 2020, only 650 new university graduates from semiconductor-related departments were available to fill 1,600 industry positions. South Korea's semiconductor industry will encounter a shortage of at least 30,000 workers over the next ten years.³¹

In 2022, when the K-CHIPS Act was signed, the South Korean government introduced exceptions to the 1994 quota, which restricts the number of students at universities in Seoul and Gyeonggi province, specifically for semiconductor-related departments. Although the Yoon administration increased the student quota and pledged to train 150,000 individuals, industry experts have expressed doubts about the efficacy of these measures in addressing talent deficiencies in the semiconductor industry.³²

The Education Ministry has recently identified five universities and three university coalitions to receive a combined grant of KRW 54 billion.³³ This funding aims to nurture semiconductor talent, with the condition that the recipients produce at least 50 graduates from semiconductor departments each year and develop specialized semiconductor curricula. These financial incentives are expected to be crucial in enhancing South Korea's talent pipeline for the semiconductor industry.

During the roundtable discussion, there was a call for policies that incentivize talent to work in SMEs. The shortage of manpower is particularly impacting SMEs in fabless design and the semiconductor manufacturing equipment market, making it challenging for them to hire the necessary workforce. Encouraging competitive talent to join SMEs is a crucial step to realizing South Korea's ambitious plans to enhance domestic chip manufacturing.

Policies Derived from South Korean Firms' Challenges in the American Market: Establishing a Resilient Supply Chain

When questioned about the motives behind Korean companies relocating to America, one USKCR Roundtable attendee explained, "Contrary to the belief that geopolitical risks drove Korean firms to move to the States, the decision is actually based on a meticulous assessment of production costs and the innovative environment, which led us to choose to relocate to the States."

31. Alex Kim "CHIP on the Shoulder," Asia Dispatches, Wilson Center, October 10, 2023, <https://www.wilsoncenter.org/blog-post/chip-shoulder>.

32. Eun-byel Im, "Korea to lift school limits in chip expert push," *The Korea Herald (Seoul)*, August 23, 2022. <https://www.koreaherald.com/view.php?ud=20220719000584>.

33. Sung-Eun Lee, "Universities selected to foster semiconductor talent," Korea JoongAng Daily (Seoul), June 13, 2023. <https://korea-joongangdaily.joins.com/2023/06/13/national/socialAffairs/korea-semiconductor-snu/20230613190506757.html>.



USKCR Atlanta site visit to Curiosity Lab at Peachtree Corners, a tech incubator and accelerator focusing on smart city technology.

One Roundtable discussant asserted, “Subsidies initially played a significant role when Korean firms first decided to move to America and establish a presence.” However, in the long run, semiconductor companies in Arizona should consider building or relocating value chain components closer to new fab sites to construct a stable and secure semiconductor supply chain. The semiconductor supply chain is renowned for its complexity, involving steps in more than five countries and three or more shipments across the globe. Since many top-tier companies involved in fabrication (materials and chemicals) and manufacturing equipment, as well as ATP, are located in Asia, attracting these suppliers to Arizona will be essential to reduce production costs for firms relocating to the state. Government incentives alone cannot cover the enormous capital investment required to build leading-edge fabs, and semiconductor companies may want to explore alternative funding strategies beyond debt or small capital to fill the gap. For instance, semiconductor companies could undertake a joint venture with a large asset manager to provide private capital. Such arrangements will allow companies to conserve cash and preserve their debt capacity.

Bridging Cultural Gaps

An Atlanta Roundtable participant opined, “One of the difficulties I faced when locating my company in the United States was finding workers to work for my company.” South Korean companies are renowned for their austere working culture. As with many Asian high-tech companies, their employees strive hard to be competent in the industry, even at the cost of engineers working around the clock or on weekends. To reduce the cultural gap, organizations like the Arizona Chamber of Commerce and Industry and the Arizona Commerce Authority could introduce a program where both employees and employers are provided with lessons designed to illuminate cultural differences and lessen culture shock. Additionally, apprenticeships in the semiconductor industry could be used as a tool to nurture an environment where both employees and employers are satisfied with the work environment.

Addressing Talent Shortages

The semiconductor industry is experiencing rapid growth, with an anticipated average annual growth rate of 6 to 8 percent through 2030 and projected yearly revenues reaching 1 trillion. To keep pace with future demand, the industry needs to double its semiconductor production. However, many fabrication plants are currently operating at full capacity. To address this problem several companies, including Taiwan Semiconductor Manufacturing (TSMC), have announced plans to build new fabs, with TSMC selecting Arizona.

TSMC initially planned to begin production at its new fab in North Phoenix in early 2024. However, due to the shortage of skilled labor, the start date has been delayed to 2025. The challenge of finding qualified employees is not unique to TSMC, and many semiconductor companies are facing a similar talent pipeline issue. According to a Deloitte report, the industry is expected to need over 100,000 new skilled workers annually through 2030. However, the current enrollment in science, technology, engineering, and math (STEM) programs at US universities is insufficient to meet this demand.

Although lack of STEM enrollment is undoubtedly a problem, not all skilled talent in the semiconductor industry requires a four-year or graduate degree. While there are many positions for which a college education is necessary, there are an equal, if not greater, number of positions for which this may not be the case. Community colleges can play a significant role by providing secondary education courses to those interested in the field, nurturing the talents of the future semiconductor workforce.

Arizona should endeavor to fully utilize its domestic workforce. The CHIPS Act includes workforce development programs designed to equip American workers with the skills needed to obtain employment in the semiconductor sector. Roundtable discussions touched on the benefits of a German apprenticeship system, which pairs on-the-job training with related academic study, and the necessity of vocational STEM programs for k-12 students.

Knottily, the time horizon of many workforce development programs eclipses the immediate labor needs of the semiconductor industry. Research suggests that there is a shortage of latent manufacturing talent prepared for jobs in the US semiconductor sector.³⁴ However, the alternative of facilitating the immigration of high-skilled workers to the United States is not inimical to developing a domestic workforce. In fact, duration-bound immigration could be a mutually beneficial proposition. Experienced foreign talent can mitigate labor shortages while working to upskill the domestic workforce via on-the-job training and mentorships.³⁵ Arizona is actively marketing the Silicon Desert to Korean companies, with visits by then-Governor Doug Ducey in 2022 and the current mayor of Phoenix in 2023. Notwithstanding the country's own labor woes, should Korean semiconductor ventures locate in Arizona, programs that facilitate the immigration of experienced Korean workers would add yet another layer of shared value to US-Korea commercial relations.

34. Will Hunt, *Reshoring Chipmaking Capacity Requires High-Skilled Foreign Talent*, (Washington DC: Center for Security and Emerging Technology, 2022), <https://cset.georgetown.edu/publication/reshoring-chipmaking-capacity-requires-high-skilled-foreign-talent>.

35. *Reshoring Chipmaking Capacity Requires High-Skilled Foreign Talent*, Will Hunt.