Invest Korea

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Gearing Up for Technological Cooperation

Yeong Cheol Seok

President

Korea Institute for Advancement of Technology

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Gyeonggi Autonomous Driving Center: Creating a Sustainable Autonomous Driving Ecosystem

KOTRA is Korea's national trade and foreign investment promotion agency

With 127 offices in 84 countries, KOTRA functions as a global business platform

We provide comprehensive support for foreign investors, as well as business matchmaking services for foreign buyers and Korean businesses. Furthermore, KOTRA supports business partnerships between global enterprises and promising Korean SMEs, while creating global jobs through its vast trade and investment networks overseas. By staying up to date on the latest information on trade, exhibitions and investment, we're able to offer necessary support to Korean businesses and foreign companies.

Hydrogen Economy & Future Mobility

Foreign Direct Investment

Market Kurly forms Wall Street syndicate to ready NYSE IPO this year

S. Korea's up-and-coming online grocery platform Market Kurly has picked Wall Street investment banks to lead its initial public offering in the United States within the year with hopes to become another e-commerce sensation from Korea after Coupang.

According to sources from the investment banking industry on Mar. 25, Market Kurly assigned Goldman Sachs, Morgan Stanley and JP Morgan for the syndicate team to package its IPO scheme in the U.S.

The startup which pioneered early-morning door delivery of fresh food had IPO contract with Samsung Securities for domestic listing but opted for the New York Stock Exchange (NYSE) upon cue from bigger e-commerce player Coupang whose value enlarged to USD 60 billion from a USD 4.2 billion IPO earlier this month.

The online grocer was founded in 2014 by Sophie Kim, a former Goldman Sachs analyst. It delivers fresh food to customers' door by seven in the morning when ordered before 11:00 p.m. the night before. It has built a loyal customer base with reputation of offering high-quality and healthy food. Global investment companies such as Sequoia Capital China, Hillhouse Capital and DST Global have made investments in the company.

Trade & Commerce

S. Korea's exports grow 12.5 pct in first 20 days of March

S. Korea's exports rose 12.5 percent on-year in the first 20 days of March on robust shipments of chips and autos amid the pandemic, customs data showed Mar. 22.

The country's outbound shipments stood at USD 33.9 billion in the March 1-20 period, compared with USD 30.1 billion a year earlier, according to the data from the Korea Customs Service.

Imports increased 16.3 percent on-year to USD 33 billion, resulting in a trade surplus of USD 820 million during the cited period, the data showed.

By sector, outbound shipments of memory chips, a key export item, rose 13.6 percent on-year during the cited period.

Semiconductors accounted for about 20 percent of exports by S. Korea, home to Samsung Electronics Co., the world's largest memory chip maker, and its smaller rival SK hynix Inc.

Outbound shipments of autos gained 13 percent, and exports of petroleum products also rose 12.4 percent amid an uptrend in oil prices.

The S. Korean economy is on a recovery track, aided by robust exports of semiconductors and vehicles. S. Korea's exports, which account for half of the economy, rose 9.5 percent in February from a year earlier to extend their gains for the fourth consecutive month.

Last month, the Bank of Korea (BOK) revised up its 2021 growth forecast of exports to 7.1 percent from its estimate in November of 5.3 percent.

S. Korea's exports of medical products to EU jump amid pandemic

S. Korea's outbound shipments of medical products to the European Union (EU) more than doubled on-year in 2020, data showed on Mar. 19, with Seoul seeking to further expand exchanges with the EU to cope with the coronavirus pandemic.

Exports of pharmaceutical products and medical instruments came to USD 4.67 billion in 2020, rising sharply from USD 2.29 billion posted a year earlier, according to the Ministry of Trade, Industry and Energy. Over the period, the combined exports to the bloc edged down 1.2 percent on the pandemic fallout.

Trade and medical officials from S. Korea, meanwhile, held a virtual meeting with European counterparts on the day, in which they vowed to make joint efforts to fight the COVID-19 pandemic.

Industry

IMF sharply ups 2021 growth outlook for S. Korea to 3.6 pct

The International Monetary Fund (IMF) on Mar. 26 sharply raised its growth outlook for S. Korea this year, citing robust exports and the country's fiscal policy support amid the pandemic.

The IMF forecast the S. Korean economy to grow 3.6 percent this year, up from its estimate in January of 3.1 percent.

The upward revision came as the IMF issued a report on the outcome of its annual consultation with S. Korea held in January.

The IMF said Asia's fourth-largest economy is expected to recover this year, "supported by a gradual normalization of COVID-related factors and stronger external demand." It also took into account the anticipated impact of the latest KRW 15 trillion (USD 13 billion) extra budget.

Retail sales up 10 pct in Feb. on strong performance of offline stores

Retail sales in S. Korea rose 10 percent in February from a year earlier on the back of the Lunar New Year's holiday, with offline stores delivering better-than-expected performance as pandemic-weary people went outside.

The combined sales of 26 major offline and online retailers reached KRW 11.6 trillion (USD 10.2 billion) last month, up from KRW 10.6 trillion a year earlier, according to the data compiled by the Ministry of Trade, Industry and Energy.

Sales from offline stores jumped a whopping 14 percent as people purchased gifts for the Lunar New Year's holiday, which fell in January last year. It marked the first on-year growth since October 2020.

S. Korea estimated to have ranked 10th in 2020 global GDP rankings

S. Korea's economy is estimated to have ranked 10th in the world in 2020 despite the coronavirus pandemic, data showed Mar. 15.

The nominal GDP of Asia's fourth-largest economy was estimated at USD 1.62 trillion last year, according to the data by the Organization for Economic Cooperation (OECD).

The amount is larger than Russia's USD 1.40 trillion, Brazil's USD 1.39 billion and Australia's USD 1.33 trillion.

The estimated 2020 GDP ranking is up two notches from a year earlier. S. Korea's economy also placed 10th in the world in 2018. GDP, the broadest measure of an economy's performance, refers to the total value of goods and services produced within the economy in a given period. The estimated ranking is based on the OECD's growth forecasts, the foreign exchange rate and the GDP deflator, a gauge of inflation.

S. Korea's rise in the global GDP ranking came as the country's economy fared better than other major nations last year despite the coronavirus outbreak.

Government & Policy

S. Korea to spend KRW 1.1 tln for Level 4 self-driving technology

S. Korea said on Mar. 24 it plans to spend KRW 1.1 trillion (USD 974 million) by 2027 to speed up the development of Level 4 self-driving vehicles and boost related technologies.

At Level 4, one stage before full autonomy, the vehicle can drive itself under limited conditions and does not require human intervention.

Under the plan, S. Korea will support 84 projects to develop vehicle convergence, information and communication and road traffic technologies, as well as self-driving services and the broader ecosystem of self-driving vehicles.

Major S. Korean tech and auto companies have also been racing to develop more advanced self-driving vehicles in recent years.

Telecom operator LG Uplus Corp. partnered with Hanyang University's ACE Lab and local self-driving technology company Controlworks to demonstrate an autonomous vehicle that can park on its own using LG Uplus' high-speed 5G network last year.

S. Korean auto giant Hyundai Motor Group has commercialized Level 2 self-driving technology and is currently planning to unveil Level 3 autonomous vehicles next year, in which the system can perform most of the driving but still requires human intervention.

Source: www.investkorea.org, Yonhap News Agency, Pulse by Maeil Business News Korea

Korean Free Economic Zones

There are nine KFEZs in Korea.

KFEZ: Korean Free Economic Zone

The Korean Free Economic Zone (KFEZ) is a global business hub where the world's capital and information flourish, providing the best and the most favorable business environment for global corporations.

KFEZs are specially designated business districts designed to improve the business climate and living conditions for foreign-invested companies in Korea and to extend measures to provide regulatory relief by which to promote and attract foreign investment.

Starting with the FEZ in the city of Incheon since 2003, the number of FEZs in operation has grown to nine: Incheon, Busan-Jinhae, Gwangyang Bay Area, Gyeonggi, Daegu-Gyeongbuk, Chungbuk, the East Coast, Gwangju and Ulsan.

The cumulative total of foreign direct investment attracted in KFEZs is USD 19.2 billion as of 2020. Also, the number of businesses residing around KFEZs including the world's flagship companies such as GE and BMW totals 6,140.

Today, KFEZs have become one of the most appealing investment destinations and top of mind for global investors seeking business opportunities in Asia.

Cumulative FDI Inflows

USD 19,185,000,000

No. of Tenant Companies in KFEZ

6,140 EA

Logistics Hub of Northeast Asia

Korea is located at the center of Northeast Asia, emerging as one of the world's top three economic powerhouses. Located between the world's second and third largest economy, China and Japan, Korea provides direct flight access to as many as 147 neighboring cities (which are reachable by air within three hours) with a population of more than a million.

As a transportation hub, its geographical advantage makes Korea the most ideal location to enter the Northeast Asian markets whose economy comprises of more than 1.6 billion people.

Country	Population (Rank)	GDP (Rank)
Korea	28	10
China	1	2
Japan	11	3

※ Sources: Official population clock, International Monetary Fund, 2020

Tax Exemption

In accordance with statutory ordinance stipulated on the 『Special Act on Designation and Management of Free Economic Zones』 and 『Restriction of Special Taxation Act』, KFEZs offer exemptions or reductions in tariffs, acquisition tax and property tax for foreign-invested companies and business project operators in KFEZs.

Foreign-invested companies in KEFZs

Classification		Benefits	Requirements
National tax	Tariffs	100% exemption for 5 years	Imported capital goods only
Local tax	Acquisition tax	100% exemptible for up to 15 years pursuant to ordinances enacted by each municipal government	- Manufacturing, tourism: USD 10 million or more - Logistics, medical institution: USD 5 million or more - R&D: USD 1 million or more (employing 10 or more researchers)
	Property tax	Exemptible for up to 15 years pursuant to ordinances enacted by each municipal government	

Business project operators in KFEZs

Classification		Benefits	Requirements
National tax	Tariffs	100% exemption for 5 years	Imported capital goods only
Local tax	Acquisition tax	100% exemptible for up to 15 years pursuant to ordinances enacted by each municipal government	A company ;whose foreign investments take up over USD 30 million, ;whose foreign investors represent more than 50% of the company ownership ;whose project costs are more than USD 500 million.
	Property tax	Exemptible for up to 15 years pursuant to ordinances enacted by each municipal government	

Regulatory Relief Package

KFEZs extend measures to provide regulatory relief as a means to incentivize and support business activities of foreign companies in Korea. By relaxing the level of legislative scrutiny, KFEZs are shaping a more conducive business environment to help companies concentrate more on running business in Korea.

Classification	Details
Relaxation in labor laws	- Not obliged to fill vacant job positions with persons of national merit, the disabled, or the elderly - Unpaid leave is permitted - May expand the type of work and terms of dispatched worker assignments
Exemption of Liability for 『Seoul Metropolitan Area Readjustment Planning Act』	Any foreign-invested company in an FEZ shall be exempted from liability to comply with provisions prescribed in the Article 7: Restricted actions in the overcrowding control area, Article 8: Restricted actions in the growth management area, Article 12: Imposition and collection of the overcrowding charges, Article 18: Quota system management for the crowd-inducing facilities, Article 19: Control on the mega-scale project development of 『Seoul Metropolitan Area Readjustment Planning Act』
Easier Access to Foreign Exchange Transaction	A foreign-invested firm may directly engage in foreign currency transfer to clear a business transaction, up to a limit of USD 20,000

Financial / Site Support

Following statutory provisions concerning the『Act on Designation and Management of Free Economic Zone』,『Foreign Investment Promotion Act』and municipal legislative framework on investment promotion, KFEZs offer a full range of financial or site support programs to help foreign-invested companies gain better access to finance, infrastructure or office space for rent.

Classification	Details	Requirements
Cash grants	A foreign-invested company whose foreign investors represent more than 30% of the company ownership may be granted subsidies covering construction costs to build production/ R&D facilities, recruitment /HR training etc. The scope and the coverage of the grants shall be provided under specific terms mutually agreed upon by all parties to a negotiation.	A foreign-invested company whose foreign investors represent more than 30% of the company ownership may be granted subsidies. The scope, coverage and eligibility of the funding program shall be decided after deliberative process to assess multiple factors: the impact of technology transfer, the scale of job creation and the potential candidate's technology capacity etc.
Support to build up infrastructure	A foreign-invested company may be granted subsidies funded to build out industry infrastructure: roads, railways, airports, ports, water supply and sewage system and waste treatment facilities etc.	- 50% of cash grants shall be sourced from the government budgets. - 100% of cash grants shall be offered, provided that the Free Economic Zone Committee approves the potential candidate's grant application.
Support to run overseas education program / research institutes	A foreign-invested company may be granted subsidies covering the establishment, operation and construction of overseas education and research facilities.	A company that meets assessment criteria stated such as contribution to national development, brand reputation, etc.
Rent assistance	A foreign-invested company may lease publicly (government) owned property for up to 50 years. - The rent shall be equivalent to 10/1,000 of the land price	Foreign-invested companies
Tenancy rent reduction or exemption	50%-100% exemptible pursuant to ordinances enacted by each municipal government	Foreign-invested companies

Systemic and Professional One-Stop Service

Each FEZ designates individual project managers who support all investment procedures from preliminary review for investment to follow-up management. The project managers not only provide business consulting for new investment opportunities and prospective investment partners, but also administrative support for legal affairs, accounting and tax management. This will help investors make swift business decisions.

The Grand Transition toward a Low-Carbon Economy

The Hydrogen Economy, Key for the Korean Green New Deal Policy

The hydrogen industry which refers to an economy that relies on hydrogen as fuel for energy production, storage and commercial applications is largely comprised of hydrogen energy production on the supply side and the utilization of energy generated across the hydrogen value chain on the demand side.

The supply side of the hydrogen economy represents a set of activities stepping into the full lifecycle of hydrogen production, storage and delivery to the end-users, which inevitably accompanies the full range of infrastructure and hydrogen storage-distribution technologies, whereas the demand side of the market is predominantly focused on hydrogen mobility and fuel cells.

The hydrogen industry in Korea is currently estimated to enter the prototyping process in the development phase, although it may slightly differ by segment. The business is presumed to set foot in the commercial market in 2025 and be in the rapid growth stage in 2030.

The industry ecosystem in which small and medium-sized enterprises (SMEs) tend to take up a large share of the market is primarily divided into two sectors; one is for hydrogen production, storage and transportation where SMEs represent an important source of the economy, and the other is for hydrogen-powered vehicles and fuel cells mounted on fuel cell electric vehicles (FCEVs) developed mainly by large companies (and a few small businesses).

With regard to processing technologies to formulate resources, the production of by-product hydrogen extracted from petrochemical plants is now almost ready for its commercial debut. Other types of hydrogen production using a method of steam-methane reforming (SMR) or electrolysis, the process that uses electricity to decompose water into hydrogen and oxygen, on the other hand, still remains in the early stage where preliminary feasibility studies are undertaken along the development timeline.

For hydrogen storage and transportation, the technology whereby hydrogen is kept under certain pressures in the form of compressed gas is in the phase of commercialization, while other processing technologies such as hydrogen liquefaction and liquid organic hydrogen carrier (LOHC) are in a relatively nascent stage of development.

Market analysis says Korea, which has already showcased its fuel cell vehicles in 2013, is highly competent in hydrogen mobility, but trails a bit in untapped commercial transportation applications like hydrogen vessels, trains or UAVs that are mostly in the early stages of development.

By its industrial applications, fuel cells are classified into four segments: transportation, on-site hydrogen storage for households (or buildings) and stationary or portable power stations. Korea is considered to be at the forefront of fuel cell technologies virtually for any application but transferable power generators.

According to a list that compares FCEVs sales by country, Korea maintained the top spot with 7,682 hydrogen cars sold (or distributed) nationwide in the first half of 2020, and its fuel cell capacity deployed as of 2019 was approximately 408 MW. The data implies much of the R&D investments (over 50%) or development efforts that the government has long made concentrates largely on hydrogen applications in transport such as vehicular technologies or fuel cells.

Still, much remains to be done in developing hydrogen refueling facilities or Green Hydrogen (hydrogen generated without fossil fuels) technologies. Korea currently runs 58 fueling stations across the country, which falls short of the initial target stated in the “Plan to Develop Hydrogen Infrastructure and Refueling Station (Oct. 22, 2019)”. And the fact that it lacks the resources to develop commercial solutions and feasibility assessments to substantiate the viability of the Green Hydrogen business well implies that the country needs a kick start in mapping out a detailed policy framework to overcome the limitations in hydrogen production.

Korea's Hydrogen Economy Roadmap

Korean government has sought a more active role in helping push hydrogen business growth forward since it has announced the state-led initiative entitled the "Hydrogen Economy Roadmap" in January 2019. Among others, the government's effort to enact the world's first legislation on the hydrogen industry, dubbed the "Hydrogen Economy Promotion and Safety Management Act" (Hydrogen Act), which recently came into force on Feb. 5, 2021, was assessed to be the very first step into a transition toward the hydrogen economy.

The Hydrogen Act entails a dual-track approach: a legal framework as a means to support and explore the potential of the hydrogen economy, as well as for preventive and protective measures for safety management. The Ministry of Trade, Industry and Energy (MOTIE) is set to endorse the ratification of "Hydrogen Roadmap 2.0" and the "Action Plan on Hydrogen Economy" following the enactment of the Hydrogen Act.

Government Policies to Help Develop the Hydrogen Industry in Korea

Policy	Objective
Hydrogen Economy Roadmap (Jan. 17, 2019)	- Set a target to become a leading country in the hydrogen industry with two vital pillars: FCEVs and fuel cells - Provide all-encompassing policies that broadly extend to the overall hydrogen production cycle from fuel generation, storage, transport to utilization, goals and action plans to push forward the hydrogen agenda by 2040 which aims to make "hydrogen economy" a new growth driver and source for the global transition towards clean energy
Hydrogen Economic Standardization Strategy Roadmap (Apr. 3, 2019)	- Set international industry standards particularly in the areas where Korea can take the lead in related technologies (to acquire 20% of the industry standard certificates) - Enforce national industry standards in accordance with international technical standards in common use - Mandate technologies of key components to be accredited by the Korean Industrial Standards (KS) to ensure product quality and safety
Plan to Develop Hydrogen Infrastructure and Refueling Station (Oct. 22, 2019)	- (Supply of hydrogen energy) Meet hydrogen demand through production diversification and infrastructure development in storage and transportation - Continue efforts to ensure price stability and affordability of hydrogen power - (Installation of hydrogen refueling station) Establish 310 publicly available fueling stations in operation by 2022 - General purpose + bus only services in major cities: 260 - Nationwide transport hub including highways, rapid transit stations, etc.: 60
Hydrogen Technology Development Roadmap (Oct. 31, 2019)	- (Hydrogen production) To meet energy demand, equivalent in volume to 5.26 mln tons by 2040 and to lower the energy price to KRW 3,000 per each kilogram, cheap enough to compete with fossil-fuel sources by 2040 - Progressively develop green technologies to mitigate climate change and greenhouse gas emissions - (Safety/ Environment/ Infrastructure) Complete the entire process of facilitating industry base by the year 2030 as a means to pave the way for the development of hydrogen technologies applicable to the overall production cycle - (Hydrogen fueling infrastructure) Help improve manufacturing self-sufficiency, decreasing reliance on imported fueling technologies
Comprehensive Hydrogen Safety Management Plan (Dec. 26, 2019)	- Facilitate safety management system to reach globally acceptable level (Enactment of Hydrogen Act, TF formation etc.) - Put primary focus on facility management (three main facilities: fueling stations, hydrogen production hubs, fuel cell power plants - Embrace sustainable, safe hydrogen economy/Promote a culture of health and safety at work
Hydrogen Act (Jan. 9, 2020)	- Passed the world's first "Hydrogen Economy Promotion and Safety Management Act" at the 2020 legislative session - Put legislative ground in place in relation to safe use of low-pressure electrolysers (using renewable energy sources to supply hydrogen power) and hydrogen production-processing facilities
Plan to Improve Competitiveness in the Hydrogen Ecosystem (July 1, 2020)	- (Businesses) 1) Foster world-leading companies by each business segment: production, transport and utilization of the hydrogen economy 2) Devise policies to encourage more companies to join activities in the hydrogen sector - (Local municipalities) 1) Lay out a plan to ensure stable supply of hydrogen energy 2) Build multilateral partnerships to network among the government, municipalities and locally based innovative businesses and to form a hydrogen ecosystem - (Global business) Run business projects overseas* to help the hydrogen ecosystem in Korea scale up and take the lead in the global hydrogen industry

* Source: Data sourced from the government's hydrogen policies by the Korea Institute for Industrial Economics and Trade (KIET)

Future Mobility that Lies at the Heart of the Rapidly Evolving Industrial Landscape

Korea's future car industry is sharpening its competitive edge in an ever-changing business landscape with the advent of unforeseen trends such as slow growth in the global market for finished vehicles, a paradigm shift that arises across all industries and the drive toward environmental sustainability.

As global demand has dried up, finished car exports[1] in Korea which had been on a roll-coaster ride since they reached the peak of USD 48.4 billion in 2014 have experienced a downward journey, falling to USD 37.4 billion in 2020. In stark contrast to Korea's finished vehicle exports slipping into contraction, EV sales have constantly been on the rise accounting for a larger share of total auto exports.

In the face of disruptive tech-trends driving the new wave of auto-innovations such as self-driving cars, emission-free electric vehicles and future transportation technologies, the conventional automotive industry is busy forming cross-sector partnerships between car manufacturers and software companies or developing new collaboration models with battery makers.

Increasingly tougher environmental regulations adopted across major economies have pushed global carmakers to produce less polluting cars like EVs or FCEVs. To this end, Korea's future mobility industry has begun to expand into global markets for greener and autonomous vehicles, while developing future mobility platforms and technologies to unlock growth opportunities.

Korean automakers have seen green car sales hit fresh record highs both at home and abroad amid a slump in finished car exports in 2020. With a rise in domestic sales of all types of green cars[2], eco-friendly cars have started to expand the market share, representing over 10 percent of total car sales for the first time.

Export volume of green cars in 2020 totaled 276,439 units, up 6.8 percent year-over-year, and the proportion of trade values and volumes shipped overseas in total auto-exports recorded 19.1 percent and 14.7 percent respectively.

As of 2019, Korea, the fifth most competitive in the global plug-in hybrid or hybrid vehicle market, was reported to be the fourth largest EV exporter.

Moreover, Korea has continued increasing R&D investments in self-driving car technologies, shaping a network infrastructure as foundation for autonomous driving.

The government has built a full-mock city named "K-City" to test and simulate autonomous vehicles in 2018, and the Ministry of Land, Infrastructure and Transport (MOLIT) instituted a statutory base for the dedicated testing site by bringing the "Act on the Promotion of, and Support for Commercialization of Autonomous Driving Motor Vehicles" into force in May 2020.

Government spending on the promotion of Intelligent Transportation System (ITS) has consistently increased since 2011, and the budgets allocated in 2017 (KRW 571.2 bln, sourced both by the public (KRW 225.1 bln) and private (KRW 212.2 bln) sectors) have more than doubled in size from the 2011 national spending (KRW 259.5 bln).

Korea, Laying Out Intensive Support Programs to Help Pick Up the Pace of the Commercial Introduction of Future Mobility Technologies

In line with MOTIE's "Fourth Basic Plan for Eco-Friendly Vehicles," Korea is aiming to build an ecosystem to help promote the viability of pollution-free cars across our society and industry as a whole, and to further expand EV adoption nationwide.

Under such plan, the Korean government is on target to increase the number of green cars on the road adding up to 2.83 million (7.85 million) or 51 percent (83 percent) of all new car sales figures in Korea by 2025 (2030), thereby consequentially contributing to a 24 percent of reduction in greenhouse gas emissions by 2030.

The Korean government rolled out the "Strategy to Encourage a Widespread Adoption of Future Cars and to Take the Lead in the Future Mobility Industry" in October 2020, which outlines actions needed to reach targeted goals: to export 460,000 EVs; 70,000 hydrogen fuel-cell cars and 300,000 hybrids; and to build up the share of green cars to 35 percent of total finished car exports by the end of 2025.

By implementing a set of mandatory guidelines that spell out insurance requirements determining the

1) MTI 741: Reference sourced from the Korea International Trade Association (KITA) and Korea Automobile Manufacturers Association (KAMA)
2) Hybrid cars, EVs, plug-in hybrids and FCEVs

scope of liability and the initial grant of coverage, along with safety standards for self-driving vehicles, the Korean government is planning to authorize extensive but conditional autonomy (Level 3) to self-driving cars starting in 2022, and to target complete the full rollout of level 4, which ensures a high level of autonomy without requiring any human intervention for commercial use starting in 2024.

In an attempt to push the plan forward, the authorities are set to further advance vehicular sensor networks to help cars running on the roads become more fully cognitive and intelligent so as to form what's called "Cooperative-Intelligent Transportation System (C-ITS)," which allows safe, connected and highly automated mobility on almost all (inter)state highways stretching nearly 4,075 km by the end of 2025.

Such efforts to promote a nationwide adoption of future vehicles, to form an infrastructure and to advance technologies of future transportation are highly anticipated to spur automotive businesses on to accelerating market expansion overseas.

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Government Policies in 2021 to Help Drive the Future of Mobility in Korea

Policy	Objective
Autonomous Driving Technology Development Innovation Project (Jan. 2021)	- Lay foundations for full commercialization of integrated forms of level 4+ self-driving technologies by 2027 - Total budgets (2021-2027): KRW 1.974 trillion (Government spending: KRW 832 bln) - ① Convergence across automotive technologies ② Convergence between ICT and automotive technologies ③ Convergence between traffic infrastructures and automotive technologies ④ Self-driving service ⑤ Support 5 main agendas which entail 84 detailed tasks to shape an autonomous vehicle service ecosystem
Mid-Long Term Master Plan for the Development and Supply of Eco-Friendly Cars (Feb. 2021)	- Expand the adoption of green cars: 2.83 mln by 2025, 7.85 mln by 2030 - Develop clean, alternative fuel performance as efficient as internal combustion engines - Advance future technologies to explore pollution-free solutions like green hydrogen or methane in the age of carbon neutrality - Help 500 (1,000) machinery parts makers partner with automotive producers manufacturing future cars by 2025 (2030) - Foster promising small and mid-sized companiesSMEs in future vehicle manufacturing
Regulatory Reforms to Improve Green Car Infrastructure (Charging Networks, Parking Facilities, Commercial Applications) (Feb. 2021)	- Expand workplace/residential EV charging networks accessible to the public - Expand "Green Vehicle Parking Only" spaces to accommodate more eco-friendly cars - Impose tougher enforcement to punish violators illegally parking in a space reserved for EV drivers or those committing an act of sabotage to disrupt EV charging - Improve locational conditions to accelerate the development of fueling-station infrastructure
A Plan to Develop a Precise Roadmap For Self-Driving Cars (Mar. 2021)	- Ready to unveil highly detailed map datasets required to test autonomous vehicles once road construction projects come to an end - Newly insert provisions to be notified or published by the Road Management Agency which stipulate detailed information on the subject of application, amendatory clause, period and proceedings to make specific alternations or modifications in existing laws

* Source: Ministry of Trade, Industry and Energy (MOTIE), Ministry of Land, Infrastructure and Transport (MOLIT)

Cover Story

Yeong Cheol Seok

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Gearing Up for Technological Cooperation

Invest Korea talks to Yeong Cheol Seok, President of the Korea Institute for Advancement of Technology (KIAT), to learn more about KIAT, industrial technology innovation, and the advantages of doing business in Korea.

The Korea Institute for Advancement of Technology (KIAT) was established in May 2009 as a public agency under the Ministry of Trade, Industry and Energy (MOTIE), with the objective to promote industrial technology innovation and support the development of related policies. KIAT strives to create synergy between industry, academia and research institutions to contribute to Korea's leap forward in becoming a leader in the 4th Industrial Revolution.

With an extensive background in industrial technology research and a Ph.D. in Economics from Ohio State University in Columbus, Ohio, USA., Dr. Yeong Cheol Seok has been serving as president of KIAT since June 2019. Prior to his position at KIAT, he has accumulated a deep knowledge and experience in the field of industrial technology at the Korea Economic Research Institute and MOTIE, and has also taught at the University of Cincinnati and Inha University.

Read on to learn more about KIAT, industrial technology innovation, and the advantages of doing business in Korea.

Dr. Seok, can you tell us a little bit about yourself?

Sure. I'm actually a researcher by training—my expertise is in conducting technology policy research and making policy recommendations to government ministries. Over the years, some of the recommendations that I've made as a researcher have been selected by the government in their decision making process, and I do take pride in those accomplishments.

I attended Ohio State University in Ohio, USA, and my doctoral thesis is regarding R&D competition among major companies. Industrial organization is a subdivision in the field of economics. Back when I was in school, the economics of innovation was not a popular subject matter, but one of my professors had told me that this would be a big topic in the future, so I listened and decided to specialize in that area. Right after graduation, I got a job at the University of

Cincinnati as assistant professor.

During one of my summer vacations, I visited Korea and had the opportunity to meet with a government official at the time. He persuaded me to come back to Korea to work for the Korean government, which I had never even dreamt of. He pointed out that the United States was already advanced and doing well, and insisted that I come back to help my home country in a time of need and contribute to the development of the Korean economy. That conversation with him sparked a sense of patriotism within me and I eventually made the decision to come back to Korea in 1994, where I've worked for the Korean government ever since. It's now been about 27 years.

> "As one of the world's top 10 exporters, Korea is a unique market providing a plethora of opportunities to not only domestic companies, but to foreign companies as well."

What is the Korea Institute for Advancement of Technology (KIAT) and what does it do?

KIAT is a government service agency. We support industrial technology innovation in Korea and develop related policies. In addition to supporting R&D activities, we also promote innovation in companies by creating diverse foundations in fields like technology commercialization, research equipment construction, regulatory innovation, international technology cooperation, and professional training. We also study domestic and foreign policies related to industrial technology and support mid- to long-term industrial technology strategic plans established by the government.

KIAT's budget for this year is KRW 2.0284 trillion. This is 7.4 percent of the Korean government's R&D budget of KRW 27.4 trillion this year. KIAT plans to help the Korean economy recover quickly from the shock of COVID-19 and pave the way to take another leap forward. In order to implement the Korean New Deal, we are planning to digitalize, greenize, and reorganize major industries.

In addition, fostering new industries is crucial to gaining a competitive edge in the 4th Industrial Revolution, and active regulatory innovation is needed to foster new industries. Our government operates regulatory sandbox systems in five areas, and among them, KIAT handles applications and deliberations on two regulatory innovations: Industrial Convergence and Regulation free zones (Regional Innovation). Notably, we are entrusted with the office of the Industrial Convergence Regulatory Sandbox and support regulatory innovation across various industrial sectors in Korea.

Norway's UMOE and Korea's NK discuss technological cooperation. (Photo provided by KIAT)

Korea is garnering a lot of global interest these days. Why do you think that is?

Recently, Korea has attracted the attention of the world for various reasons. K-pop and Korean films for one, but I think the world is also noticing the competitiveness of Korea's manufacturing industry. The COVID-19 outbreak has disrupted the global value chain, causing factories around the world to shut down and paralyzing economic activities; fortunately, Korea succeeded in its initial disease control efforts and did not suffer from panic. Thanks

to this, the perception of Korea as a safe and reliable production base has spread throughout the world. The proportion of manufacturing industries in Korea's industrial structure is about 27.8 percent, higher than manufacturing powerhouses like Germany (21.6%), Japan (20.8%) and the U.S. (11.6%).

As a result, Korea ranked third among major countries in the OECD with a real growth rate of -1.0 percent last year. (1st: China with 2.3%, 2nd: Norway with –0.8%). From coronavirus diagnostic kits to masks and recently developed special syringes (Low Dead Space (LDS) Syringe), Korea's manufacturing industry has indeed played an important role in effectively managing COVID-19.

Would you consider Korea to be a good investment destination?

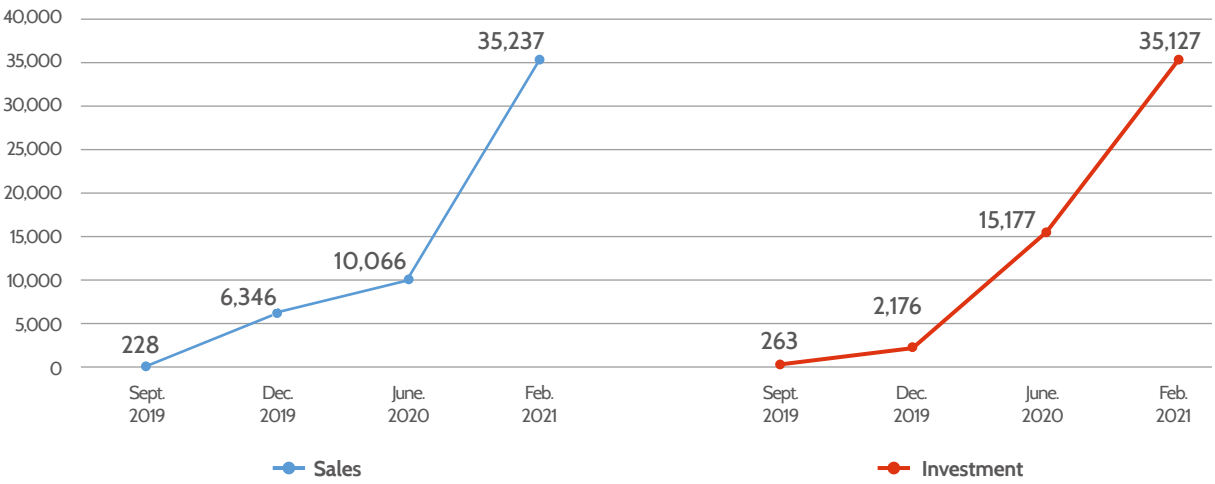
As one of the world's top 10 exporters, Korea is a unique market providing a plethora of opportunities to not only domestic companies, but to foreign companies as well. The world's top 10 exporters, excluding China and Hong Kong, all saw a decline in their exports last year due to the pandemic, but Korea's exports were only down by 5.5 percent from the previous year, ranking in seventh on the list. Also, despite the fact that the overall global foreign direct investment (FDI) decreased by about 40 percent last year compared to the previous year, FDI in Korea only declined by 11 percent. FDI in Korea reached a whopping 20 billion dollars for the sixth consecutive year. The numbers prove that Korea is still a safe and attractive investment destination despite the global crisis.

The key element of this phenomenon is the competitiveness of Korea's manufacturing sector. Compared to other countries around the world, Korea is very small in size, but offers an open economy. Many foreign professionals always ask me, "How is Korea able to manage its diverse manufacturing industries so effectively?" I'm actually impressed myself about the way that Korea can handle not just one, but over 10 different manufacturing industries—from semiconductor, display, shipbuilding, automobile, you name it. It's extremely difficult to imagine that such a small country can manage it all and manage it well. This is great strength of the Korean economy.

Several foreign companies have already used Korea as an R&D base, and we also have witnessed many foreign companies entering the industrial

[Industrial Convergence Regulatory Sandbox] Sales & Investment Growth Status

Unit: KRW millions



(Graph provided by KIAT)

convergence regulatory sandbox that we run at KIAT. Not only are foreign companies joining hands with Korean companies to enter the Korean market, but a growing number of foreign companies are now investing directly into the market here.

Can you elaborate on some examples of foreign investment into Korea through KIAT's regulatory sandbox?

As part of the Digital New Deal project which is part of the Korean New Deal policy, regulatory sandboxes help businesses that are digitize many of their existing offline-based operations. For instance, the Over-the-Air (OTA) service is an electronic control system that can update existing cars wirelessly and enhance vehicle performance. Through deregulation, Tesla has been able to use this technology to run its business overseas by introducing new technologies to the Korean market and meet the needs of Korean consumers remotely. The OTA service offers a much more convenient method of repairing and maintaining cars—it saves consumers time and energy that's needed when physically going to the car repair shop.

In line with the Green New Deal project, another part of the Korean New Deal which focuses on the development of the hydrogen economy, we have introduced a high-capacity hydrogen tube trailer for hydrogen transportation through a joint agreement between Korean company NK and Norwegian company UMOE. The companies signed a technology transfer agreement and applied for the regulatory sandbox system to push for more demonstration tests of their technology in Korea. This is just an example of other projects in new fields of contact-free industries, electric vehicles, hydrogen economy, etc. that are currently underway but ones we cannot elaborate on at the moment.

This photo shows a Type 4 Skid tube trailer.
(Photo provided by KIAT)

Furthermore, as interest in Korea's leading technology companies is increasing, overseas investment cases are also continuing to grow. For now, attention is being paid to the bio sector, and smart automated external defibrillator (AED) is a great example. It's a matter of seconds when one's life is in danger due a heart attack or heart condition, so that's where cardiopulmonary resuscitation via smart AEDs come in. Smart AED has shown a significant increase in exports and investment from abroad as well.

KIAT supports innovation in industrial technology and supports the success of foreign companies in the form of technical cooperation, not just direct investment. Currently, BMW in Germany and the International Microelectronics Centre (IMEC) in Belgium are conducting joint R&D with domestic companies and are planning to expand their cooperation this year.

From the perspective of foreign companies, they can secure key technologies strategically by collaborating with Korean companies that are highly competitive in manufacturing. Meanwhile, for Korean companies, such cooperation can lead to a stable entry into the global supply chain. As a result, I think it's a win-win situation for both sides.

Last July, the government announced the Korean New Deal policy, and the regulatory sandbox is emerging as a key task. What exactly is a Regulatory Sandbox and what role does it play in the Korean New Deal?

Regulatory sandbox is a system that supports companies that have a difficult time spearheading innovation due to existing regulations that impose certain limitations. Through the sandbox, companies can conduct live experiments on their newly developed technologies and services in a controlled environment and launch them in the market in a streamlined way. While overseas sandboxes are mainly concentrated in one area, such as fintech, Korea is currently operating in five categories: Regulatory Sandboxes for Industrial Convergence, regulation free zones (regional innovation), ICT, fintech, and smart city. Among them, the Industrial Convergence Regulatory Sandbox operated by KIAT supports a wide range of

> "The numbers prove that Korea is still a safe and attractive investment destination despite the global crisis."

new convergence technologies. In particular, unlike other fields, the Industrial Convergence Regulatory Sandbox does not impose restrictions on eligibility for application, covering the widest range of both subjects and tasks.

KIAT has been operating the regulatory sandbox for three years now, even before the announcement of the Korean New Deal in last year. When I came to KIAT in June 2019, there was no official division to handle the regulatory sandbox—there was just a temporary task force that conducted this function. The first thing I did was to formalize it by creating the Regulatory Innovation Division. We currently have various new projects pouring in and are realizing the impact of the Digital and Green New Deals that have been highlighted in the Korean New Deal. As I said before, active regulatory innovation should be the top priority in order to proceed with new projects, and regulatory sandboxes are emerging as a key task. The Industrial Convergence Regulatory Sandbox is laying the foundation for innovation in a future society that is centered around the Digital and Green New Deal tasks.

Since the implementation of the system in 2019, 75 companies have already been given opportunities for commercialization through deregulation through KIAT for two years. Now that we are celebrating the third year of the system, the results are also gradually appearing. More than half of the 75 passing tasks I mentioned are leading Digital and Green new deals, raising national interest in sandboxes. Foreign countries are also showing great interest directly and indirectly in the form of investment and direct entry into the Korean market. And since last year, we've been actively utilizing the fast-track system to promote the new technology to enter the market faster. The fast-track system simplifies the deliberation process and actively supports market entry and commercialization only for businesses that have proven to be safe and new projects similar to previous cases. Korea's "bbali bbali" culture is a good advantage to have in terms of operating a regulatory sandbox. Even now, we are striving to streamline the system by improving it for faster and safer operation.

Do you have any words of advice for potential foreign investors interested in investing in Korea?

As the saying goes, "Crisis is an opportunity." In a way, the COVID-19 crisis has become an opportunity for Korea to solidify itself as a manufacturing powerhouse and let the world know it. I believe informing foreign companies that Korea is a safe and competitive production base can be an effective tool in attracting investment in Korea's manufacturing sector. Korean companies who possess outstanding technological competitiveness can be great partners for foreign companies.

Furthermore, Korea's efforts to innovate existing regulations stand out more than in any other country. I hope the fact that Korea is where innovative business ideas and technologies can be realized to the fullest extent will be highlighted to foreign investors. I would also like to emphasize that KIAT is the official channel supporting the Korean government's initiative for international technology cooperation. If you are interested in the technological competitiveness of Korean companies and the K-manufacturing industry, I can assure you that going through KIAT is the easiest and fastest way to conduct business with Korea.

By Grace Park

Executive Consultant

Investment Public Relations Team

Korea Trade-Investment Promotion Agency (KOTRA)

"SOSLAB, A Solid-State LiDAR Solution Provider"

About SOSLAB

Founded in 2016, SOSLAD specializes in Light Detection and Ranging (LiDAR). Four Ph.D. researchers who were working with LiDAR at the Gwangju Institute of Science and Technology (GIST) started the company with the ambition to "make the world a safer place with LiDAR." By late 2020, SOSLAD grew into a company with more than 40 members including researchers holding master's and doctoral degrees who have worked for major companies including Samsung, Hanwha and Continental. Based on their experience of having developed mechanical LiDAR and MEMS mirror-based LiDAR, SOSLAB researchers have recently succeeded in developing solid-state LiDAR and launched a project for integration on mass-produced cars.

Investment Attraction and Background

Because LiDAR surpasses radars in terms of resolution and range accuracy as well as adapt more flexibly to lighting conditions compared to cameras, it is an essential device in ensuring the performance reliability of level-3 or above autonomous driving. As illustrated in Figure 1, research agency Yole Développement in a report projected the LiDAR market to grow from USD 160 million in 2019 to USD 380 million in 2025, and expected that the market will be driven by the mass purchase of LiDAR devices for the production of self-driving cars.

Having attracted additional investment and successfully developed solid-state LiDAR as of recent, SOSLAB now aims to commercialize and mass produce solid-state LiDAR for integration on cars. In order to complete product refinement, process designing, test, evaluation and certification for product

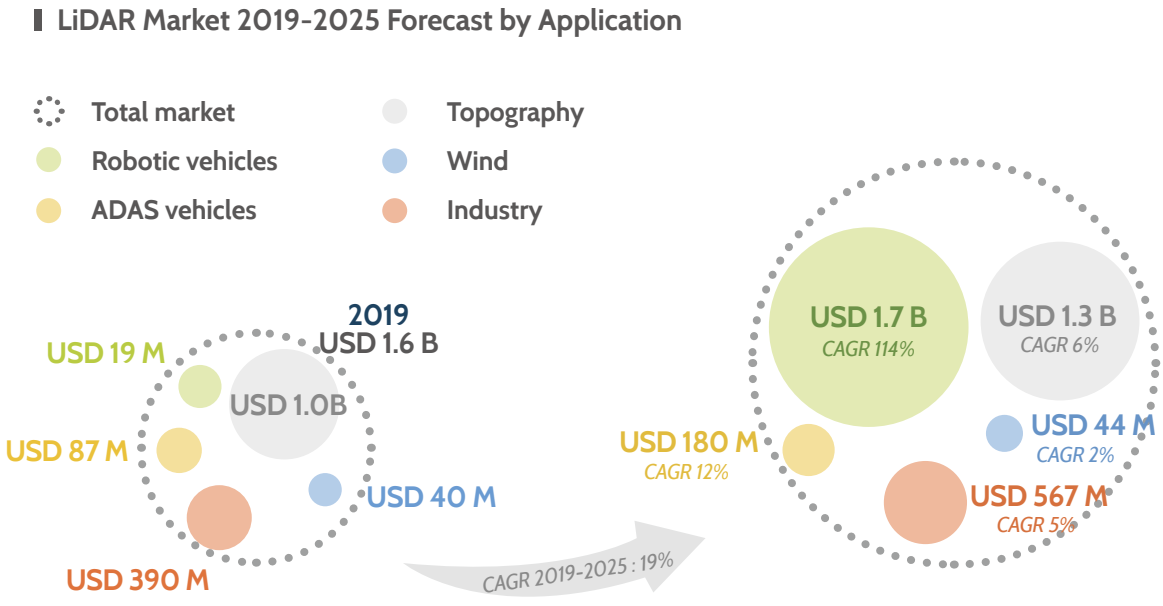


Figure 1. Yole Développement report: LiDAR market forecast (2019-2025)

commercialization, SOSLAB now requires experts and facility investment not in R&D but from the perspective of auto parts production. Honda's luxury sedan Legend with level-3 autonomy was launched on March 5, 2021, and will be followed by BMW and Mercedes Benz planning to introduce level-3 self-driving cars this year. Most global automakers have also announced their plans to release LiDAR-fitted autonomous vehicles from 2022. SOSLAB plans to commercialize solid-state LiDAR as an auto part by targeting mass production in 2025, and it is looking for strategic investors who will support the acceleration of LiDAR mass production.

Merits for Investors

When LiDAR is analyzed from the market perspective, exports foresee that the next-generation LiDAR to be integrated on cars after 2022 will be solid-state LiDAR. Considering LiDAR's productivity and price competitiveness, the LiDAR devices to be used on cars in 2022 can meet the required performance of OEMs but have structural limitations that make it difficult to satisfy conditions such as size, price and weight. Numerous overseas LiDAR developers are working on solid-state LiDAR, as in the cases of ibeo's launch of ibeoNEXT and Ouster's release of ES2, and in the auto part sector, solid-state LiDAR appears on track for commercialization. Since no domestic players have successfully developed solid-state LiDAR, SOSLAB has competitive edge in this area and is expected to preoccupy the market if it prepares commercialization and mass production with the right partner.

Key Strategy and Plans for the Future

By building a partnership with the tier-1 auto part suppliers, SOSLAB plans to put on the market the main module of LiDAR device that scans the surrounding environment and the software for detecting objects based on LiDAR data. SOSLAB is discussing cooperation with Korea's tier-1 automakers based on its LiDAR system and module designing expertise acquired from having researched and developed LiDAR from 2016; its manufacturing knowhow including the assembly technology for optics alignment and others; and its recognition software, which detects and identifies objects. The

initial target is to have SOSLAB's key module supplied to domestically-produced cars, but in the long-term, SOSLAB envisions to grow as a global supplier of automotive LiDAR by referring to the business strategy of global LiDAR developers and by investigating ways to conclude an IP deal or apply a licensing business model to the key module.

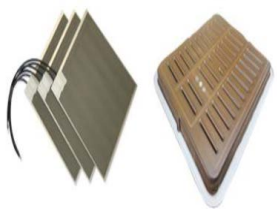
The mass production and supply of automotive LiDAR signifies that sensors are becoming more common and used more diversely in today's world, like cameras in the past. SOSLAB envisions to grow as a leader of the global LiDAR market by following in the footsteps of other Korean players who are championing areas related to the Fourth Industrial Revolution. SOSLAB looks forward to your continued support and interest.

By Jiseong Jeong
CEO
SOSLAB
stopstar@soslab.co

Invest Korea Market Place

Invest Korea Market Place (IKMP) is an online business matching platform available on Invest KOREA's website with information on approximately 300 Korean companies seeking to partner with foreign investors. This month, Invest Korea introduces some outstanding companies in Korea's hydrogen and future mobility industries.

COMPANY A



EV fan heater

Investment Requirement		Company Profile	
Amount	USD 1 million	**Patents and Certificates**	Application of 3 patents including a patent for the development of heating/heat sink materials for the control of electric vehicle batteries
Investment Structure	Financial Investment and JV	**Financial Performance**	(Sales) USD 0.26 million (in 2018, Unaudited)

Investment Highlights

The company has self-developed a high-performance special heater based on thick-film technology (hybrid IC type). It features short temperature rising time, uniform temperature distribution, and the semi-permanent life cycle compared to the existing heating elements such as nichrome wire. Because of the selective heating and miniaturization, the range of technical application is significantly wide, the power consumption is reduced by up to 40%, and it weighs less than conventional heaters. In addition, existing fans can be changed to vehicle heaters.

COMPANY B

KAR mobility

Investment Requirement		Company Profile	
Amount	USD 6 million	**Patents and Certificates**	Registering (or applied for) 18 patents for a steering system equipped with a display unit, a touch-type automatic transmission shifting system and a method thereof, etc.,
Investment Structure	M&A, JV	**Financial Performance**	(Sales) USD 1.73 million (in 2017, Unaudited)

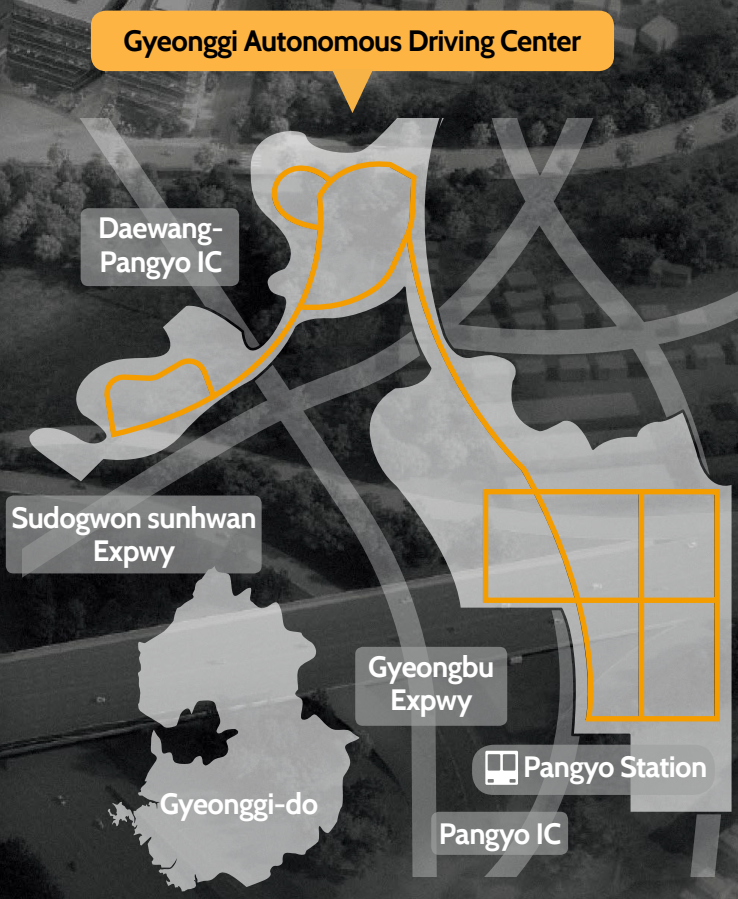
Investment Highlights

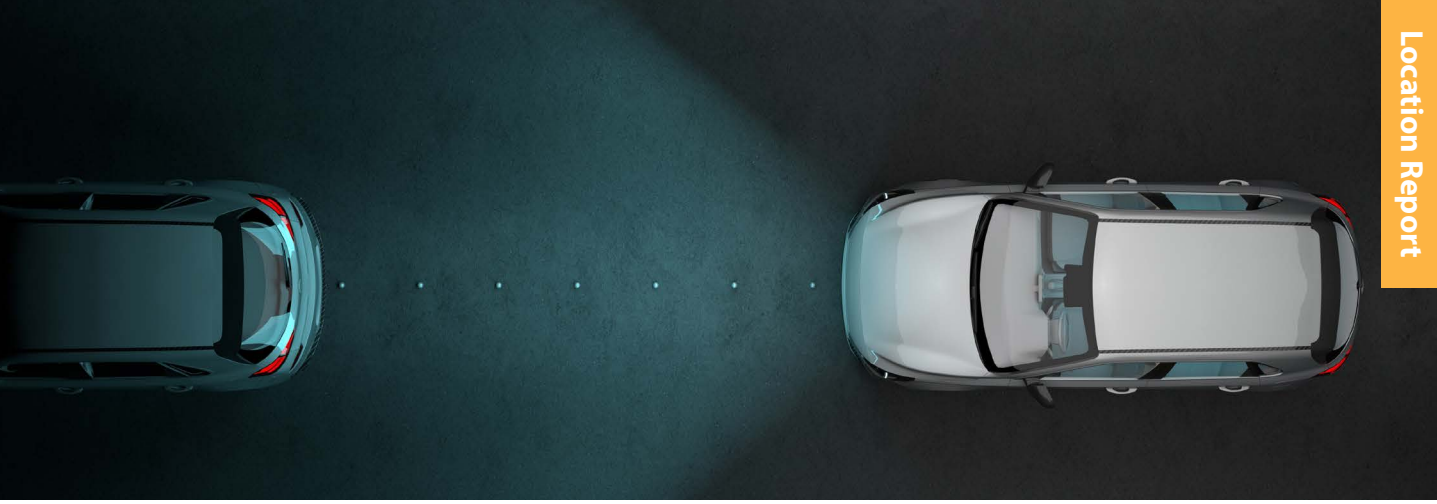
As the first partner of Hyundai Motor Company, the company boasts expertise in new technology development and mass production, and infrastructure. It is the only company in Korea that can deal with engineering, electric equipment, control, manufacturing, designs, and finish processes in relation to a self-driving car. The company is recognized as Korea's top manufacturer when it comes to self-driving cars because of its differentiated original technology. It is currently devoted to jointly developing technologies related to self-driving with major countries such as Germany, the U.S., Switzerland, India, and others. Moreover, it is promoting an eco-friendly mobility platform made with vehicle manufacturing technology and self-driving products.

*For more information please e-mail **ikmp@kotra.or.kr**, or visit the Invest Korea Market Place page on **www.investkorea.org.***

Gyeonggi Autonomous Driving Center: Creating a Sustainable Autonomous Driving Ecosystem

The Gyeonggi Autonomous Driving Center (GADC) is the operating organization of Pangyo Zero City (autonomous driving experimental complex), located in Pangyo Techno Valley 1 and 2. This center collects data and develops mobility services for residents by providing empirical support for autonomous vehicle companies. Also, the GADC contributes to the creation of a public autonomous driving system in the country by promoting Gyeonggi-do and Industry-Academia-Research Institute.





Background

○ An autonomous driving experimental complex in Pangyo Techno Valley 2 based on an open platform is under construction, where autonomous vehicles and related technologies such as AI will be tested (November 2016 - December 2021)

○ As part of the autonomous-vehicle infrastructure completed (Pangyo Techno Valley 2, Zone 1 in November 2018, and Pangyo Techno Valley 1 in April 2019), the GADC was established to operate and manage the autonomous driving experimental complex.

Center Overview

○ Center name: Gyeonggi-do Autonomous Driving Center

○ Opening date: May 31, 2019

○ Business location: Gyeonggi Business Growth Center (B1, 2nd and 9th floor) in Pangyo Techno Valley 2

○ Operation method: Consignment by the Advanced Institute of Convergence Technology (January 2019 - December 2021)
- Under the agreement, a new organization under the Institute of Convergence Technology, dedicated to the operation of the experimental complex was established (GADC, March 15, 1993)

Main Functions of the Gyeonggi-do Autonomous Driving Center

○ **Managing the Pangyo autonomous driving experimental complex**
- Management of the autonomous driving infrastructure such as IoT facilities and V2X infrastructure in Pangyo Techno Valley 1, 2

○ **Operating the integrated control center and data center**
- Support autonomous driving demonstration test and monitoring, and collect and manage driving big data
  * Create a test environment for autonomous vehicles and sensors on the general roads in the Pangyo Techno Valley 1, 2

○ **Operational support for autonomous vehicle startups**
- Recruit autonomous vehicle startups and provide research space, supporting technology development
  * Promote the development and commercialization of prototypes of autonomous vehicles by supporting tenant companies

○ **Operating of the Gyeonggi-do self-driving car “Zero Shuttle”**
- Operate the Zero Shuttle as a public platform to test and evaluate the technology and design the next model of ZERO-shuttle

Guide for Tenant Companies in the Gyeonggi Autonomous Driving Center

○ **Criteria**

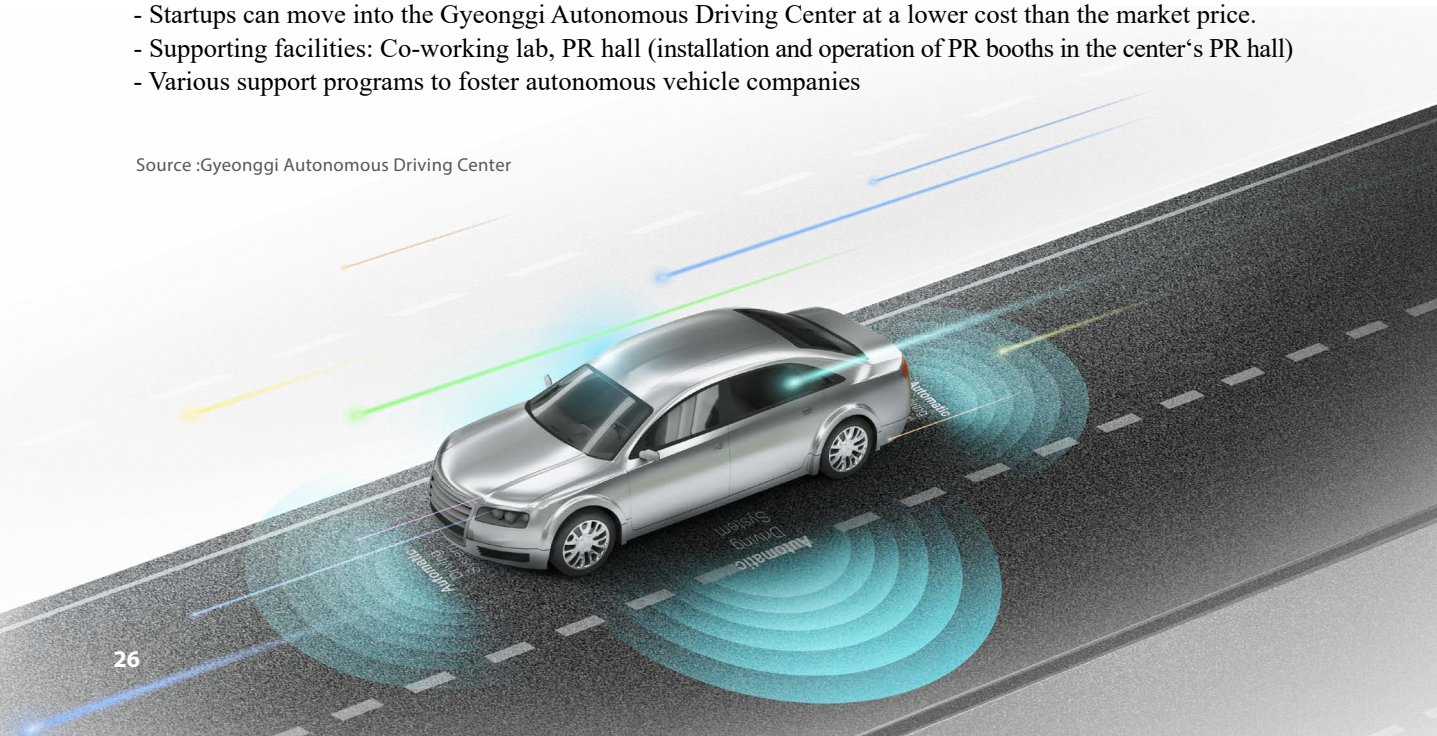
- Companies that fulfill the requirements for permission to enter Pangyo Techno Valley 2
- Startups in the autonomous driving industry, which must be established within 10 years (as of the announcement date)
  ※ Startups must be small and medium-sized businesses and established within 7 years as of now
- Corporate companies running their business inside the metropolitan area, based on the location of the head office (as of the announcement date)
- Companies related to autonomous vehicle technology

1. **Spatial information** (autonomous vehicles and integrated control center)
2. **Embedded** (autonomous vehicles and IoT)
3. **Vehicle control** (autonomous vehicles)
4. **UX/UI** (autonomous vehicles and service infrastructure)
5. **Security** (integrated control center, IoT, etc.)
6. **Big data and data processing** (integrated control center)
7. **Service platform** (integrated control center, infrastructure)
8. **Electric vehicle infrastructure** (service infrastructure)

○ **Benefits for tenant companies**

- Startups can move into the Gyeonggi Autonomous Driving Center at a lower cost than the market price.
- Supporting facilities: Co-working lab, PR hall (installation and operation of PR booths in the center's PR hall)
- Various support programs to foster autonomous vehicle companies

Source :Gyeonggi Autonomous Driving Center



When two or more foreigners make a joint investment and the total investment amount is not less than KRW 100 million, is this recognized as FDI?

Every month, Invest Korea provides answers to some frequently asked questions submitted by foreign-invested companies in Korea and potential investors.

Q. **When two or more foreigners make a joint investment and the total investment amount is not less than KRW 100 million, can this be recognized as foreign direct investment (FDI)?**

A. It is not recognized as foreign direct investment. When two or more foreigners make a joint investment, the amount invested by each person should be not less than KRW 100 million (Article 2(3) of the Enforcement Decree of the Foreign Investment Promotion Act).

If you have further questions please contact +82-1600-7119

or visit ***www.investkorea.org***

Korea 101: Central Administrative Agencies and Local Governments

Living in Korea, published by the Investment Consulting Center, provides necessary information and helpful tips for day-to-day life in Korea. Here's what's featured this month.

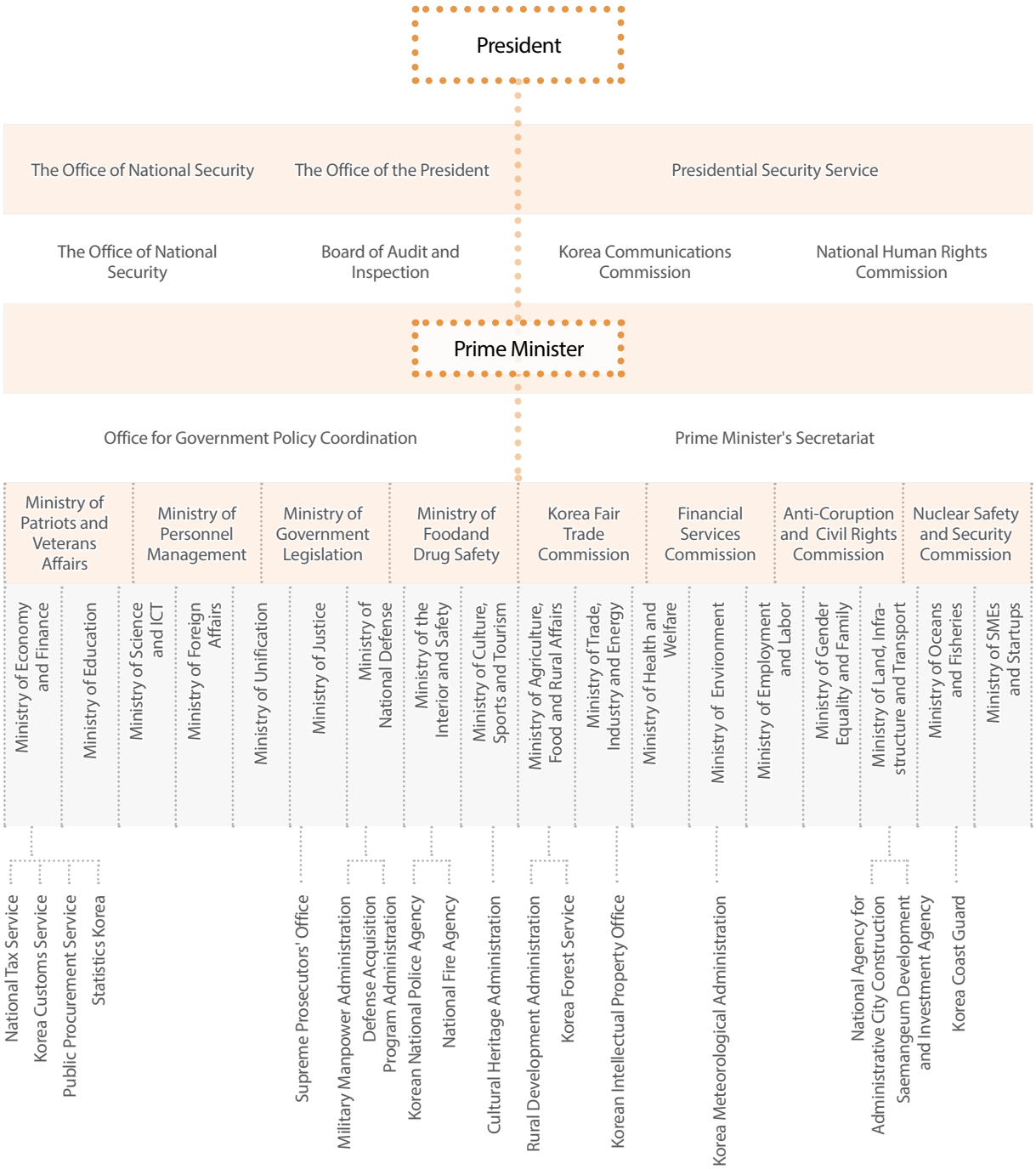
Central Administrative Agencies

Central administrative agencies are liable to provide public service for the entire nation. The agencies are headed by the president. The prime minister assists the president while supervising ministries. Ministers direct and oversee their ministries while executing matters as prescribed by legislation. Korea's central administrative agencies, or the administration for short, consists of 18 bu, 5 cheo 17 cheong, two won, four sil, and six committees (Total: 52 agencies as of 2019). Out of six committees, the National Human Rights Commission is an independent agency.

Local Governments

According to the Local Autonomy Act, local governments in Korea are classified into two categories: upper level local autonomy (17 - special metropolitan city, metropolitan city, metropolitan autonomous city, Do and special self-governing province) and lower level local autonomy (226 - Si, Gun, and Gu) (as of 2019).

Each local government has local officials appointed or dismissed by the head of the local government elected by residents' direct elections and executive organs composed of state officials appointed or dismissed by the president or relevant ministers on the recommendation of the head of the local government. The local government also runs a local council elected by residents' direct elections that are responsible for legislation, amendment and repeal of local ordinances; deliberation and determination of budgets; approval for settlement of accounts; audit and inspection of administrative affairs; and acceptance and handling of petitions, etc. Local governments cover local finances through local tax revenues and non-tax income including service charges and user fees; local subsidies from the central government; national subsidies, and local taxes.



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Hallowed History

Hansik Through the Ages

In their extensive and storied culinary development, ancient Koreans tended to food with philosophy and principle. The Hansik that endures to this day has been passed down over millennia, and as history has shown, the shaping of the Korean palate has required elements like formality and manners in addition to taste.

Heeding Formality

Korea's ancestors followed mannerisms even in their treatment of food. Not the type to nonchalantly eat, they kept count of side dishes designated per occasion, even for ordinary meals. Each assembled meal featured evenly balanced combinations between plant- and animal-based items, between the main dish and side dishes, and the five primary ethnic colors.

The late 19th-century cookbook "Siuijeonseo" thoroughly conveys the Korean emphasis on such meal arrangements. The work has diagrams of meals facilitating understanding of situations like banquets, set apart from main feasts for the person at the center of the event. Such fare consisted of *hwachae* (fruit punch), cold beef slices, *naengchae* (chilled salad), *japchae*, (stir-fried glass noodles and vegetables), *hangwa* (Korean sweets), *tteok* (rice cake) and others.

Ritual Fare

Food for celebratory occasions such as weddings, funerals and 60th birthdays were customarily piled on plates. At funerals, which were attended by all relatives of the deceased's lineage, descendants — as recipients of an inheritance — served up a massive feast. Food was stocked upwards as a sincere and respectful gesture of looking up to the dead.

Such styles of food presentation are also reflected in Buddhist customs. Food prepared for Buddhist rituals tends to be flashy and elaborate, reaching upwards in cylindrical form and embodying classic forms of traditional ritual food. During the Three Kingdoms period, the Korean Peninsula adopted these practices given the prevalence of Buddhism at the time. Ritual fare was later transmitted to Japan, where it developed into a modified version to serve the nobility there.

Funeral Fare

Considered a custom of convergence between the living and the dead, a funeral was a way of expressing reverence for one's ancestors. A phrase in traditional linguistics (神人共食 or shiningongsik) labels funeral fare as food shared between humans and gods. Each household had its own method of preparing food for ancestors, a practice evolving over time throughout

generations, varying by region and depending on the environmental factors of culture and biodiversity. Compared to that in ancient times, funeral food nowadays tends to stress quantity and diversity more. Yet certain clans uphold a simplified cuisine when a loved one dies. For instance, the descendants of a noted clan in Korea skip rice cakes, which they deem lavish, in a funeral. For similar reasons, the distinctly ritualized funeral of scholar Toegye Yi-hwang excluded sweets kneaded with flour, honey and sesame oil.

Traditional Liquor Pairings

Koreans traditionally enjoyed seasonal specialties not confined to food as seasonal liquor was consumed with complementary dishes. In spring, doogyunju (azalea liqueur) was served alongside durupjuksunchae comprising seasoned fatsia shoots (durup) and bamboo shoots (juksun). Yeonggyejjim (braised pullet) and gwahaju (liquor from fermented glutinous rice cake) provided energy to stave off the summertime heat. Hansan sogokju (liquor from chrysanthemum, among other herbs and flora) and the fall snack songisupsanjeok (pine mushroom skewers threaded with cooked beef) were wondrous supplements to Korea's pleasant autumn vista. During winter, distilled liquor soju made a nice pairing with domijjim (braised porgies).

Every dish in Korean cuisine features intricate mixtures of wide-ranging elements: multiple ingredients and colors, ornate garnishes and dressing. Millennia of historical and cosmic dynamics, not to mention a spirit of reverence for nature's divine mechanisms, have helped to conceive authentic culinary culture on the Korean Peninsula.

Source: "Hallowed History" Written by Chung Hae-kyung (Professor of food and nutrition at Hoseo University), KOREA (April 2020), Korean Culture and Information Service (KOCIS)

Export Surge Invigorating Future Prospects

Without doubt, sluggish export performance had been one of the chronic malaises that dragged down the Korean economy in 2018. Peaking at 15.8 percent in 2017, the export growth rate slowed down to 5.4 percent in 2018, and eventually plummeted to two negative growth points of –10.4 percent in 2019, followed by –5.5 percent in 2020. Back to back negative export growth had happened only twice since 1960. First it occurred in 2015-2016, then in 2019-2020. Consequently, the export value, once reached a record level of USD 605 billion in 2018, dwindled to USD 512 billion by the end of 2020, which was lower than the 2011 level of USD 555 billion. Naturally, economic growth rate slip down from 3.2 percent in 2017 to 2.9 percent in 2018 and 2.0 percent in 2019.

One might wonder why Korean exports have slowed down since 2018 even before the COVID-19 pandemic, and they might easily tempted to connect it to semiconductor exports, the most dominant component of the country's exports. Indeed, the semiconductor exports slowed down significantly during 2019 and 2020 after showing unprecedented growth in 2017 and 2018, which in turn, had contributed to the downfall of overall export. However, this should not disguise the fact that exports excluding the semiconductors showed exactly the same pattern as the total exports, meaning that the 70 percent of exports excluding semiconductors tells the same story in 2019 and 2020. This means that the semiconductor industry cycle can only explain a part of the truth.

No matter what was behind it all, Korea's exports have shown tremendous rebound since the fall of 2020. The rate of export growth surged to 7.1 percent year on year in September, 2020 and reached 12.6 percent in December of that year. This growth trend continued in January and February, 2021, demonstrating 11.4 percent and 9.5 percent, respectively. For the first two months of 2021, total exports grew 10.5 percent, and export figures excluding semiconductor exports jumped 8.2 percent. This means that exports are recovering not just in the semiconductor sector but throughout the whole spectrum of commodities. For example, automobile exports increased by 43.3 percent, marine structures and ships by 16.8 percent, and synthetic chemical resins by 25.8 percent. Of course, there are still some lagging industries such as petroleum products and auto-parts, but the general export environment has become very favorable compared to the previous two years.

After several years of unprecedented public expenditures, the rapid accumulation of national debt and the worsening of fiscal integrity have required the government to be less dependent upon the public expenditure policy as was the case in the past. The current public sector-led growth policy was successful only in preventing an economic meltdown, but it is not enough to make positive economic growth sustainable for the indefinite horizon. At this very critical juncture, the excellent performance of exports is shedding an invigorating light for sustainable growth in the coming years. It is easy to forget the importance of exports for sustainable growth and job creation, especially for Korea, but nobody should take exports for granted. As such, the government has to pay more attention and encourage furthering the country's exports.

By Professor Se Don Shin

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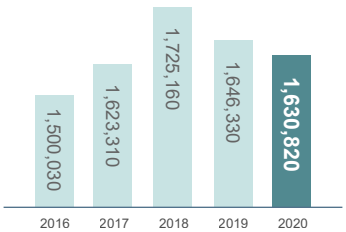
** The opinions expressed in this article are the author's own and do not reflect the views of KOTRA.*

Economic Indicators

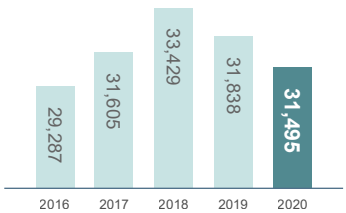
Here's a look at Korea's major economic indicators that provide an overview of the country's recent economic developments.

Source:
International Monetary Fund (IMF), Bank of Korea (BOK), Korea International Trade Association (KITA), Ministry of Trade, Industry and Energy (MOTIE)

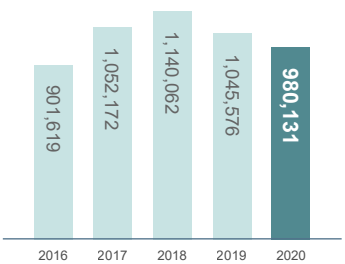
GDP
(Unit: USD million)



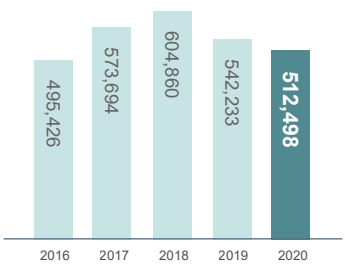
Per capita GDP
(Unit: USD)



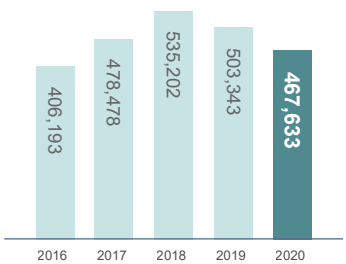
Trade volume
(Unit: USD million)



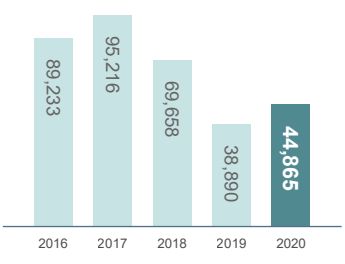
Exports
(Unit: USD million)



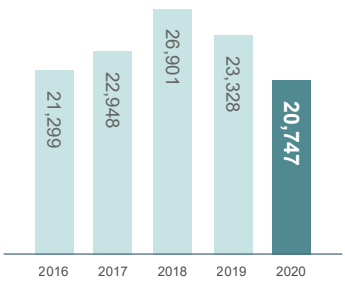
Imports
(Unit: USD million)



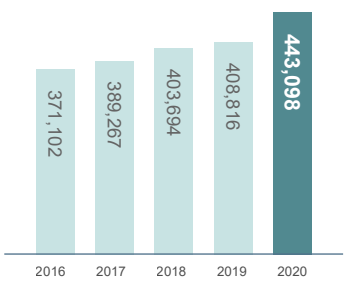
Trade balance
(Unit: USD million)



FDI
(Unit: USD million)



Foreign exchange reserves
(Unit: USD million)



Invest KOREA's Services

Foreign Investment Ombudsman

The Office of Foreign Investment Ombudsman is an organization established in 1999 to provide close aftercare support and grievance resolution services for foreign-invested companies, and is dedicated to resolving any difficulties that foreign-invested companies face while doing business in Korea.

One-Stop Service for Foreign Investors

The Inbound Investment Consulting Department not only assists foreign investors and foreign-invested companies in the investment review and implementation stage, but also offers customized services to help foreign investors and their families get comfortably settled in Korea.

Invest Korea Market Place (IKMP)

IKMP is a project aimed at discovering promising Korean SMEs seeking to attract foreign investment and matching them with foreign investors who have compatible needs. Projects looking for investment are posted on our website at *www.investkorea.org*.

Job Fair for Foreign-Invested Companies

IK organizes regular job fairs to help foreign-invested companies discover qualified local talent, and job seekers find employment through job consultations, on-site interviews, and more.

Invest Korea Plaza (IKP)

Invest Korea Plaza (IKP) is Korea's first facility dedicate to the incubation and investment of foreign investor. Each year, more than 40 foreign-invested companies rent out offices in the plaza and utilize IK's one-stop service.

IKP also provides serviced offices, business lounges, video conference rooms and a shower and sleeping lounge to maximize convenience for foreign investors.

IKP Offices for Lease

Foreign-invested companies

Companies planning to notify investment: Those who expect to report foreign direct investment of which the arrived amount is over USD 100,000 within 1 year of move-in.

IKP Occupancy Procedure

Counseling in occupancy → Application for occupancy → Screening committee evaluates application → Result notification(result confirmed in 1-2 weeks) → Conclusion of lease contract → Move into IKP

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Clean KOTRA, Green KOTRA

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