



## ONE-ON-ONE WITH BRAD BUCKWALTER

President & General Manager, Johnson Controls Korea

### INVESTMENT

#### INVESTMENT NEWS

- CJ Cheiljedang receives USD 320 mln investment from Bain
- Quarzwerke breaks ground for factory in Dangjin

#### INVEST KOREA MARKET PLACE

Investment opportunities in Korea

#### INTRODUCING INVEST KOREA PLAZA



#### ZONE

Energy Valley, the Hub for Korea's New Energy Industry

### KOTRA

#### EVENT OVERVIEW

SEOUL FOOD 2019



#### KOTRA NEWS

Catch the latest on what's been happening at KOTRA



#### KOTRA'S SERVICES

Job Fair for Foreign-Invested Companies



### KOREA

#### INDUSTRY

Current Status and Outlook of South Korea's Power Industry and Smart Grid Policy

#### ECONOMIC OPINION

Trade War: Genesis is Here, Hoping for the Revelation

#### KOREA NEWS

Trade, gov't and policy news

#### KOREA'S SMES

GES KOREA Co.

# CONTENTS

June 2019

<p>03 <b>KOTRA NEWS</b> The latest on what's been happening at KOTRA</p>	<p>07 <b>INVESTMENT NEWS</b> - CJ Cheiljedang receives USD 320 mln investment from Bain - Quarzwerke breaks ground for factory in Dangjin</p>	<p>14 <b>ECONOMIC OPINION</b> "Trade War: Genesis is Here, Hoping for the Revelation"</p>
<p>04 <b>EVENT OVERVIEW</b> SEOUL FOOD 2019</p>	<p>08-10 <b>INTERVIEW</b> One-on-one with Brad Buckwalter, President &amp; General Manager of Johnson Controls Korea</p>	<p>15 <b>KOREA NEWS</b> - Trade news - Government and policy news</p>
<p>05 <b>KOTRA'S SERVICES</b> Job Fair for Foreign-Invested Companies</p>	<p>11 <b>INVEST KOREA MARKET PLACE</b> Investment opportunities in Korea</p>	<p>16-18 <b>INDUSTRY</b> "Current Status and Outlook of South Korea's Power Industry and Smart Grid Policy"</p>
<p>05 <b>KOREA'S SMES</b> GES KOREA Co.</p>	<p>12-13 <b>ZONE</b> Energy Valley, the Hub for Korea's New Energy Industry</p>	<p>19 <b>INTRODUCING INVEST KOREA PLAZA</b></p>
<p>06 <b>EVENTS</b> Information on upcoming KOTRA events</p>		



## KOTRA-BAYER ANNOUNCE FINALISTS FOR 3RD GRANTS4APPS KOREA

On May 8, the Korea Trade-Investment Promotion Agency (KOTRA) and Bayer Korea, a global bio-science company, held a kickoff event for the third “Grants4Apps (G4A) Korea” where they announced three startups selected to take part in the program.

This is the third round of G4A Korea, the Korean version of Bayer’s global open innovation program Grants4Apps Accelerator, which discovers and supports selected digital health technology startups worldwide. G4A Korea provides support optimized for Korea’s promising startups to develop business and enter the global

market through intensive mentorship and consulting based KOTRA and Bayer Korea’s partnership.

A total of three finalists were selected considering technological innovation and the potential to collaborate with Bayer in the future.



## KOTRA HOSTS INFORMATION SESSION ON OVERSEAS M&A SALES

KOTRA and the Korea Financial Investment Association (KOFIA) jointly hosted the “Overseas M&A Sales Information Session” on May 22 at the Financial Information Center in Yeouido, Seoul, Korea.

The session, attended by about 50 participants from M&A-related industries including strategic investors (SI), securities, advisories, as well as accounting and law firms, provided information on M&A in advanced countries such as the U.S. and those in Europe, as well as Vietnam and other Southeast Asian countries highly

sought after by Korean firms.

KOTRA has been supporting Korean companies’ entry into overseas markets through M&A since 2013.

Head of Invest KOREA Shawn Chang said, “KOTRA has been providing Korean companies seeking to enter the global market with opportunities to secure overseas markets, brands, and technologies through the M&A support program. We plan to further strengthen this program in the future, including technology transfer in advanced countries.”

## KOTRA SEEKS TO BOOST PRESENCE OF KOREAN CONSUMER GOODS IN RUSSIA AND CENTRAL ASIA

From May 23 to 24, KOTRA and Lotte Home Shopping jointly hosted the Korean Brand EXPO in Moscow to introduce the latest trends of Korean consumer goods and expand exports to Korea’s northern neighbors such as Russia and Central Asian countries.

A total of 757 consultations were held at the event, with KOTRA inviting 140 online and offline distributors and buyers.

Lotte Home shopping invited Korean companies for participation from the

beauty and living sectors, and provided make-up shows as well as a K-pop cover dance festival. The EXPO was participated by buyers from Russia and 20 European countries.

The regional director general of KOTRA CIS stated, “KOTRA will endeavor to support Korean SMEs in the consumer goods industry to enter Russia and Central Asia in step with the increasing popularity of Korean consumer goods across the CIS region.”

## KOREAN, POLISH BUSINESSES CELEBRATE 30 YEARS OF DIPLOMATIC RELATIONS

To commemorate the 30th anniversary of bilateral ties, KOTRA hosted the Korea-Poland Business Forum jointly with the Polish Investment and Trade Agency (PAIH), the Federation of Korean Industries (FKI), and Korea Importers Association (KOIMA) on May 23 in Seoul, Korea.

The forum provided a platform to facilitate economic cooperation of companies in the two countries, and introduced large scale projects offering bright prospects

for the participation of Korean companies. Notably, Poland has the highest GDP growth rate among 28 EU countries, and building on that, the country’s future industry sector is growing rapidly.

Head of Invest KOREA Shawn Chang anticipated a brighter future for business collaboration between the two countries, as Poland is on a stable path to development, leading to more opportunities for Korean companies.



# SEOUL FOOD 2019

In 1983, SEOUL FOOD was first launched with the overarching goal of revitalizing the F&B industry at home and abroad. Now, the annual event has established itself as one of Asia’s top international food exhibitions drawing in tens of thousands of visitors and offering a vast array of exhibition booths by companies showcasing their food as well as food-related packaging and technology.

SEOUL FOOD 2019, marking its 37th year running, was held for four days from May 21 to 24 at KINTEX in Goyang-si, South Korea. Organized by KOTRA and supported by numerous government and food-related organizations, this year’s event brought together 1,532 exhibitors from 40 different countries, operating 3,008 exhibition booths.

In addition to the exhibition booths, SEOUL FOOD 2019 was packed with other programs including conferences featuring prominent industry figures as speakers, food industry seminars, and events like the SEOUL FOOD Awards 2019 and the Culinary Challenge 2019. Notably, the Global Food Trend and Tech Conference 2019 was opened under the title, “Discovery—The Adventurous Consumer,” with the keynote speaker Patrick Mannion, CEO of Innova Market Insights, presenting on the Global Top 10 Trends of 2019.

Also, the SEOUL FOOD Job Fair was held, where 30 different domestic and international food companies met with approximately 500 jobseekers for the opportunity to hire qualified local talent.

Since its launch, SEOUL FOOD has helped Korean companies export their products overseas, spurred the development of new technologies and products in the domestic food industry, strengthened networks and information exchange between domestic and international food industries, and supported the mod-

ernization of Korea’s food exports.

KOTRA President and CEO Kwon Pyung-oh said, “With the advent of the Fourth Industrial Revolution, the global food industry is focused on state-of-the-art products, innovation, and convergence,” and added, “Through the variety of programs which have been prepared in step with the latest trends at this year’s SEOUL FOOD, I hope Korean food companies can maximize their business opportunities in the global market.”

*By Grace Park  
Executive Consultant  
Investment Public Relations Team  
Korea Trade-Investment Promotion Agency (KOTRA)  
gracepark@kotra.or.kr*



## Job Fair for Foreign-Invested Companies

On an annual basis, KOTRA hosts job fairs specifically designed to help foreign-invested companies in Korea discover qualified local talent. The fair is held once in the first half of the year, and once during Invest Korea Week (IKW) in the second half of the year, bringing together a wide variety of recruiting foreign companies and talented local jobseekers.

The Job Fair for Foreign-Invested Companies offers main programs such as job counseling and on-site interviews, as well as supplementary programs including recruitment seminars, a CSR space, job consulting services, special lectures, and so on. The event also provides an opportunity for participants to gain a deeper understanding of the contribution made by foreign-invested companies to the Korean economy.

The first Job Fair for Foreign-Invested Companies of this year will take place on June 4-5 at COEX in Seoul, Korea. The event is expected to gather approximately 150 foreign-invested companies and about 20,000 job seekers.

For more information, please visit [www.jobfairfic.org](http://www.jobfairfic.org) (website), [blog.naver.com/bestfic](http://blog.naver.com/bestfic) (Naver Blog), or [www.facebook.com/globalkotra](http://www.facebook.com/globalkotra) (Facebook).



## Introducing Korea's SMEs

Every month, KOTRA Express introduces a Korean SME that seeks to expand its network by working with foreign partners. In the June issue, we take a look at one of Korea's most promising companies in the energy sector.

GES KOREA Co. produces Ecoburn, the world's only full combustion inducing agent with pre-combustion treatment technology.

This technology is entirely different from other surfactant additives that overemphasize washing away carbon after combustion. Ecoburn improves fuel quality while increasing fuel efficiency, with the effects being proved through various tests in many countries.

Compared to general detergents used in vehicles and the industrial field in general, Ecoburn helps reduce CO, PM, SOx, volatile organic compounds (VOCs), and more. It stabilizes the carbon molecule structure of fuel, then leads to full combustion by combining the carbon molecule with oxygen.

Ecoburn can be safely used for all kinds of fuels, gasoline, diesel, kerosene, heavy oil, bio fuel, LPG, and so on.



**PremiumPower**  
**ECO BURN**

**Contact Info:**  
**GES KOREA Co.**

**Tel:** +82 043 647 2876

**Address:** #26 Je2Bio Valley-ro  
3Gil, Jecheon,  
Chungcheongbuk-do,  
Korea

**Website:** [www.ecoburn.kr](http://www.ecoburn.kr)

Operated by KOTRA, buyKOREA is Korea's premier e-marketplace. If you want to find out more about the products mentioned above, please visit [www.buyKOREA.org](http://www.buyKOREA.org)



WEB



iOS



ANDROID



## Upcoming Events

Month	6.3-4	6.4-5	6.20-22	6.26-28
June				
	<ul style="list-style-type: none"> <li>• Consumer Goods Showcase Korea 2019</li> </ul>	<ul style="list-style-type: none"> <li>• The 14th Job Fair for Foreign-Invested Companies 2019</li> </ul>	<ul style="list-style-type: none"> <li>• 2019 Green Car Korea</li> </ul>	<ul style="list-style-type: none"> <li>• MWC Shanghai 2019 (Korea Pavilion)</li> </ul>
July-August				
	<ul style="list-style-type: none"> <li>• MTA-Vietnam 2019 (Korea Pavilion)</li> </ul>	<ul style="list-style-type: none"> <li>• Smart Airport Show Korea 2019</li> </ul>	<ul style="list-style-type: none"> <li>• Global Bio &amp; Pharma Plaza (GBPP) 2019</li> </ul>	
September				
	<ul style="list-style-type: none"> <li>• Global Green Hub Korea 2019</li> </ul>	<ul style="list-style-type: none"> <li>• K-Safety Expo</li> </ul>		

## Major Events Organized by KOTRA

	The 14th Job Fair for Foreign-Invested Companies 2019	Green Car Korea 2019 (The 12th International Green Car Exhibition)	Global Bio & Pharma Plaza (GBPP) 2019
Date	June 4-5, 2019	June 20-22, 2019	August 20, 2019
Location	COEX Hall D, Seoul, South Korea	Kimdaejung Convention Center, Gwangju, South Korea	Songdo Convensia, Incheon, South Korea
Industry	Employment	Automobile	Pharmaceuticals, biotechnology, healthcare
Main Programs	Recruitment seminar, CSR space, consulting, special lectures	500 exhibition booths (categories: green cars, car parts, automotive electronics, car accessories, infrastructure and services), Export/Import Conference, business meetings	1:1 business meetings (55 foreign buyers, 100 Korean companies)
Website / Contact	<a href="http://jobfairfic.org/v19">jobfairfic.org/v19</a>  KOTRA's Foreign Firm Employment Support Team <a href="mailto:jf@kotra.or.kr">jf@kotra.or.kr</a>	<a href="http://www.greencar.or.kr">http://www.greencar.or.kr</a> ;  <a href="mailto:info.greencarkorea@gmail.com">info.greencarkorea@gmail.com</a>	<a href="http://bioincheon.kr">http://bioincheon.kr</a>

## The Latest on Korea's Investment Environment



### Visa issuance gets easier for foreign invested companies in Korea

Foreign invested companies doing business in Korea are expected to bring foreigners as executives or managers on board in a much easier way.

The Ministry of Justice (MOJ) announced that the revised company investment and startup visa system would be implemented as of May 1 to boost foreign investment.

An official from the MOJ said, "We expect these measures, aimed at improving conditions for attracting foreign investment and technology startups, will contribute to creating jobs and revitalizing the domestic economy."

### E-Land signs USD 260 mln to sell K-Swiss to Chinese firm

South Korean fashion and retail conglomerate E-Land Group said on May 2 that it has signed a USD 260-million deal to sell its subsidiary, K-Swiss, in line with its efforts to improve its financial footing.

E-Land said the deal to sell its sports brand to Chinese fashion sportswear brand Xtep will be completed by August this year. E-Land acquired the U.S. shoemaker K-Swiss in 2013 for some USD 170 million.

Separately, E-Land said it will set up a joint venture with Xtep to do business in China. E-Land will own a 51 percent stake in the JV.

### CJ Cheiljedang receives USD 320 mln investment from Bain

CJ Cheiljedang Corp., South Korea's leading food manufacturer, said on May 23 that the U.S. private equity fund Bain Capital has invested USD 320 million into its U.S. unit.

Bain Capital is to acquire a 27 percent

stake in CJ Cheiljedang's wholly owned subsidiary CJ Food America, the affiliate of South Korean food and entertainment conglomerate CJ said in a regulatory filing.

"The cooperation with Bain Capital will not only strengthen competitiveness in the global foods market but also is expected to relieve financial burden," said a company official who asked not to be named.

The investment comes after CJ Food America acquired a 70 percent stake in U.S. frozen foods firm Schwan's Company for around USD 1.84 billion.

The move was aimed at strengthening CJ's food manufacturing and distribution in the United States, as well as at increasing its R&D capabilities, the company said.

### Quarzwerke breaks ground for factory in Dangjin

Quarzwerke Group, a German producer of mineral raw materials, is set to build a factory in Dangjin, South Chungcheong Province.

On May 23, Quarzwerke held a ground-breaking ceremony in Dangjin Songsan 2-1 Foreign Investment Zone (FIZ), to commence the construction work of the factory.

The company plans to invest USD 19 million (KRW 20 billion) toward building a factory on a 37,760 sq. meter site for producing industrial mineral materials for electric and electronic materials, plastic, and varnish. The factory is expected to start operation in the latter half of next year.

The local government expects the investment to generate KRW 300 billion in exports, save KRW 100 billion in import substitution, induce KRW 1.06 trillion in production, and generate KRW 750 billion in added value. The factory is also expected to create 70 new jobs when it is up and running.

## What's Trending



### S. Korean cinema finally embraces Palme d'Or at Cannes

South Korean director Bong Joon-ho grabbed the highest honor at the 72nd Cannes Film Festival on May 25 for his black comedy "Parasite."

It is the first time that a South Korean filmmaker has grabbed the highest honor at Cannes. Bong's achievement marks the sixth time that a Korean film has received one of the main competition awards at the Cannes Film Festival. Im Kwon-taek took the best director award for "Chihwaseon" in 2002, Park Chan-wook earned one twice with "Old Boy" (2004) and "Thirst" (2009) and Lee Chang-dong picked up the best screenplay award with "Poetry" in 2010. Jeon Do-yeon won the best actress award for "Secret Sunshine" in 2007.

"Parasite" finished first in a fierce competition against big-name candidates and Cannes laureates like "Pain and Glory" by Spanish director Pedro Almodovar and "Young Ahmed" by the Belgian filmmaking brothers Jean-Pierre Dardenne and Luc Dardenne.

When his name was called at the very end of the closing ceremony of the Cannes Film Festival, Bong shouted with joy and hugged his colleagues. "I didn't prepare a speech in French, but I'm inspired a lot by French movies," he told the audience via a French-speaking interpreter at the awards ceremony. "'Parasite' was an amazing adventure for me." He thanked his staff and cast for their dedication and contribution to completing the masterpiece.

Alejandro Gonzalez Inarritu, the president of the jury, said it was a unanimous decision on "Parasite." In a press conference after the closing ceremony, the Mexican director said, "The film is such a unique experience; it's an unexpected film."





## ONE-ON-ONE WITH BRAD BUCKWALTER

President & General Manager,  
Johnson Controls Korea

### Striving Toward Sustainability, Sophistication, and Modernity

Brad Buckwalter, President and General Manager for Johnson Controls Korea, shares his insight on Korea's building industry and his experience doing business here.

Johnson Controls is a global diversified technology and multi industrial leader serving a wide range of customers in more than 150 countries. The company's 105,000 employees create intelligent buildings, efficient energy solutions, integrated infrastructure and next generation transportation systems that work seamlessly together to deliver on the promise of smart cities and communities. More than 90 percent of the world's tallest buildings are equipped with Johnson Controls' intelligent building solutions, and one in three cars worldwide is powered by Johnson Controls' batteries.

In Korea, Johnson Controls has 480 employees in eight offices across the country, with its head office located in Seoul. Brad Buckwalter, who has been working in Korea for more than 20 years, heads Johnson Controls Korea as President and General Manager. Prior to joining Johnson Controls Korea, he led Otis Elevator and ADT Korea as president. Buckwalter also serves as a board member of the Korea Foreign Company Association (FORCA), corporate advisory board of Solbridge University, advisory board's chairman of the United Service Organization (USO) and is an active member of the Korea Asia Society, striving to contribute to domestic market development and to connect Korea's market to the global market.

We sat down with Buckwalter to hear more about Korea's building industry and his experience doing business here.

#### What brought you to South Korea?

Actually, this is the third time I've been in Korea. I first came here as a freshman in college at a time when Korea was a developing country. I initially spent a year and a half learning the culture and language, and then later on, as I started my business career, it seemed like fate brought me here again. Then, I came here for the third time, where I've now been working entirely in the building industry for the last 25 years.

I can tell you that I've seen a total transformation in Korea and I feel like I'm a part of it. I also feel that I've influenced some of the change, and that's what keeps me here.

#### Please tell us about Johnson Controls and its history.

Johnson Controls is a historic global company, founded in the U.S. in 1885. It was one of the first developers of electric room thermostats, and has been a leader in its industry for many decades.

Many of the big, sophisticated buildings in large cities around the world, let's say, New York, Sydney, Hong Kong or Macau, for example, as well as many large and famous buildings here in Korea, use our products and solutions in one way or another.

It's fun to work at this kind of a company which has been



around for a long time, having a strong history, strong products, and motivated employees.

### **What made Johnson Controls establish a branch in Korea? What are the advantages of doing business here?**

Korea's one of the most important markets in Asia. If you look at the population or the economies in Asia, Japan, Korea and China are probably the top three. If you're a global company, like Johnson Controls, you need a strong presence in Korea. Johnson Controls Korea was established right around the time of the Asian Financial Crisis, but had a strong business profile and continued to grow every year.

The construction market is one of the core sectors of Korea's economy. Every year, there are new, sophisticated, modern buildings being built, and they require our products, so it's a joy to work here. You'll often see one-hundred story buildings that you don't see as much of nowadays in places like the U.S. and Europe. There are top-notch buildings in Korea because they don't want to build the best buildings in Asia, but the best in the world. So for me, as a building guy, with 25 years in the building market, it's a really fun place to be. Some of the projects we've landed just within this year are some of the largest and most important in Asia.

“ Korea's one of the most important markets in Asia. ”

### **How is Korea's building industry different from that in other parts of the world?**

Similar to other industries in Korea, there's a lot of local competition possessing strong engineering and strong manufacturing capabilities.

In Korea's heating/ventilation/air conditioning (HVAC) industry, 90 to 95 percent of the competitors have local engineering and manufacturing centers. They're strong in research and development (R&D), and they spend a lot of money on new products. If you go to Hong Kong, Thailand, Singapore, or Sydney, most of the companies are importing products. But in Korea, most of the products are manufactured here. Just last month, I was at an exhibition held at KINTEX, and it had all of the top companies in this business sector, who all have their own factories in Korea.

### **What were some product development strategies that Johnson Controls carried out to target Korean customers?**

Well, we want to have the best product line available for building owners or building users. Some companies will come

in with a controls product, some companies will have HVAC products, some companies will offer a securities product, and the customer has to spend a lot of time buying these different components. At Johnson Controls, however, we feel we have the best product line-up under one company, and you just need to come to one window and we'll take care of a large portion of the building needs—from fire prevention, firefighting equipment, security equipment, building controls, to HVAC. Having one company with a diverse line-up of products is rare and unique in the building industry.

For example, I used to work at Otis Elevator, where they sell just elevators; I used to work at ADT, where they sell just security equipment. We are a one-stop provider for best-in-class products, technologies and service capabilities across controls, fire, security, refrigeration and HVAC. We have so many different product lines that customers can come to us and we can handle everything at once. The common denominator is that all of our products are the leading products in the global industry. For example, if someone buys our HVAC product, it would come from York, a leading global brand with No. 1 in market share in the U.S. and in most major markets; a fire or security product would come from Tyco, one of the most famous security product brands in the world and in Korea.

We offer a wide range of products and integrate them to provide efficient and centralized control with a data-driven approach, and ultimately realize an intelligent building. We meet all of the customer's needs, so that he/she doesn't need to worry about working with many different companies separately; this is one unique quality that makes us easy to do business with.

### **Were there any challenges your firm faced while doing business in Korea?**

When Koreans build buildings, they always aim to build top-class, world-class buildings. There are a lot of strong competitors here, so we always have to compete with those competitors in their home market.

I don't know if there's a country, anywhere in the world, where we have so many strong local competitors. If you go to Hong Kong, there are two or three foreign companies that are competing in HVAC, whereas in Korea, we have a hundred lo-



cal competitors, so it's an ultra-competitive market, meaning that you better have differentiation in your products to compete. And while we're not the cheapest, we feel very strongly that we not only offer best-in-class products but also connect them for enhanced control and optimization.

“ When Koreans build buildings, they always aim to build top-class, world-class buildings. ”

### How can Korea become a more ideal business environment for foreign companies like Johnson Controls?

It would be beneficial for Korea to become a bit more import friendly, since importing products usually takes a lot of time and requires a lot of certifications. So, if you manufacture in Korea, there's definitely a big advantage.

We do manufacture in Korea through our factory, and although not all of our product lines are manufactured in Korea, the ones we do manufacture here, we have a higher market share of. There's a direct correlation between our market share and the percent content we manufacture in Korea.

### What Korean companies or government agencies do you work with to strengthen your business partnerships?

During the time I've been here, I've kept a strong relationship with KOTRA, because it's difficult to maintain a personal relationship with all the government bodies individually. As a foreign investor and a foreign company in Korea, having a close relationship with the agency and knowing the Foreign Investment Ombudsman is helpful because they can help resolve any difficulties that may arise.

Also, I try to stay active in the chambers of commerce here, including the American Chamber of Commerce (AMCHAM) and FORCA. When there is an industry-wide, and not necessarily a company-specific issue, you can discuss it with one of the business chambers here.

Our fire business is one of the leading businesses in Korea, so we have a long-standing relationship with the fire department. We also try to have close relationships with the government bodies that deal with safety related issues, and I'm personally very involved in and put a lot of my time towards activities like seminars and lectures held by such institutions to contribute from our business aspects.

### What are some future plans that Johnson Controls has when it comes to doing business in Korea and in Asia?

We want to grow as rapidly as possible. We believe in the Korean market; it's one of the strongest building markets in Asia, and in the world in terms of new buildings. It's my goal and the company's goal to grow the revenue and profile of this business as much as possible. I think that's the common goal for Johnson Controls in Asia as well.

We want to be the top, most well-known company in the world for buildings. I don't think we're there yet, and there are lots of strong competitors in the building industry, which are companies and competition I respect, but I will say, that we have a very bright future, and are in a unique and competitive position where we have so many global, diverse products and integrated solutions. Ultimately, we want to continue to strengthen the market presence of all our products and solutions.

### What is Johnson Controls doing to rise above the competition in the Korean building industry?

I'd be proud to say that in addition to our wide-range offerings, we offer strong product quality. Some local competitors may have products with lower price tags, but when considering the life of the building, our products will work well through and through, give no trouble to the owners, and increase the value of the building.

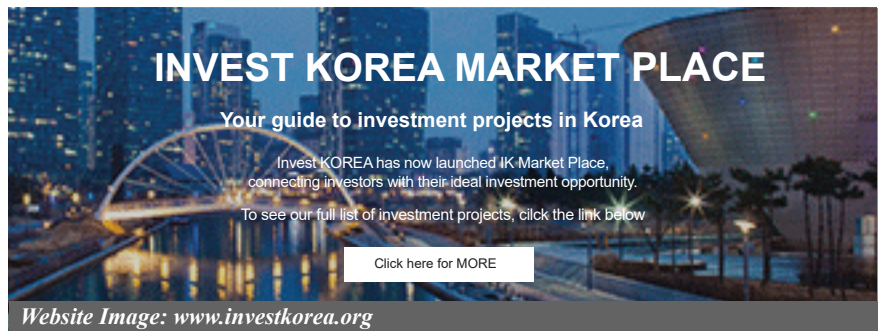
We also have a strong maintenance and service network. We don't just sell products, but when there's a product in a building with our name on it, we put our reputation on it and on how well that equipment works. We take pride in ensuring that no issues happen with any of our equipment, as Johnson Controls products are designed to last beyond the lifetime of the building.

By Grace Park  
Executive Consultant  
Investment Public Relations Team  
Korea Trade-Investment Promotion Agency (KOTRA)  
gracepark@kotra.or.kr

## Introduction

Invest KOREA Market Place (IKMP) is a project designed to help discover and support new investment projects for Korean SMEs, start-ups and local governments seeking foreign investment. Invest KOREA aims to use the IKMP platform to promote the globalization of Korean companies and institutions by utilizing KOTRA's 36 overseas offices devoted to attracting foreign investment.

Every year in March, June and September, the project notice is available on KOTRA's website at [www.kotra.or.kr](http://www.kotra.or.kr). Additionally, project information detailing investment opportunities in Korea is available on the Invest KOREA website at [www.investkorea.org](http://www.investkorea.org).



Website Image: [www.investkorea.org](http://www.investkorea.org)

Below are two Korean companies currently seeking foreign investment. For more details, please contact Seo Dong Hyun, Senior Investment Consultant of the New Industry Investment Promotion Team, at [dhseo@kotra.or.kr](mailto:dhseo@kotra.or.kr).

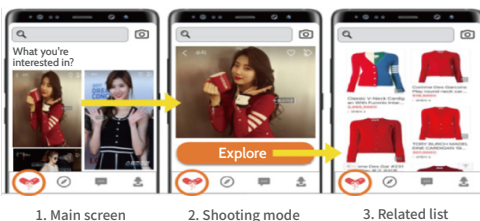
\*Some information remains confidential.

## Investment Opportunities

### 1. ICT Company: Fashion Contents Application

**Investment Highlights:** The Korean Wave has led to a growing interest in Korean fashion, and the development of the Internet environment makes online shopping more accessible in Southeast Asia. As a result, more people in the region also use online Korean fashion shopping malls. The company's image recognition technology allows potential users in Southeast Asia to search for fashion items that are popular in Korea by using images. This service helps customers purchase Korean clothes tailored to their tastes.

#### Product and Technology



1. Main screen      2. Shooting mode      3. Related list

**Company Profile:** The company was founded in February 2018. It utilizes machine learning technology to quickly and accurately search for and provide products similar to the item of a specific photo selected by the user. To increase competitiveness, the company provides a local language support function to enhance the accessibility of Korean fashion items to Southeast Asian markets.

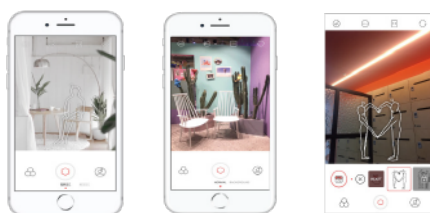
#### Investment Requirements:

- Investment method: Minority (financial investment)
- Amount: USD 0.28 million
- Region: North America, China, Hong Kong, Singapore

### 2. ICT Company: Smartphone Camera Application

**Investment Highlights:** The growing number of smartphone users and the upgraded performance of cameras inserted into smartphones have been leading to the explosive growth of the camera applications market. The company's app enables the user to quickly and easily implement the process of creating the desired composition, predicting the final photo, while manipulating the human-shaped silhouette in the background in real time. It can also recommend and analyze the composition of a portrait that the user is most satisfied with, on top of basic features such as image processing and color correction.

#### Product and Technology



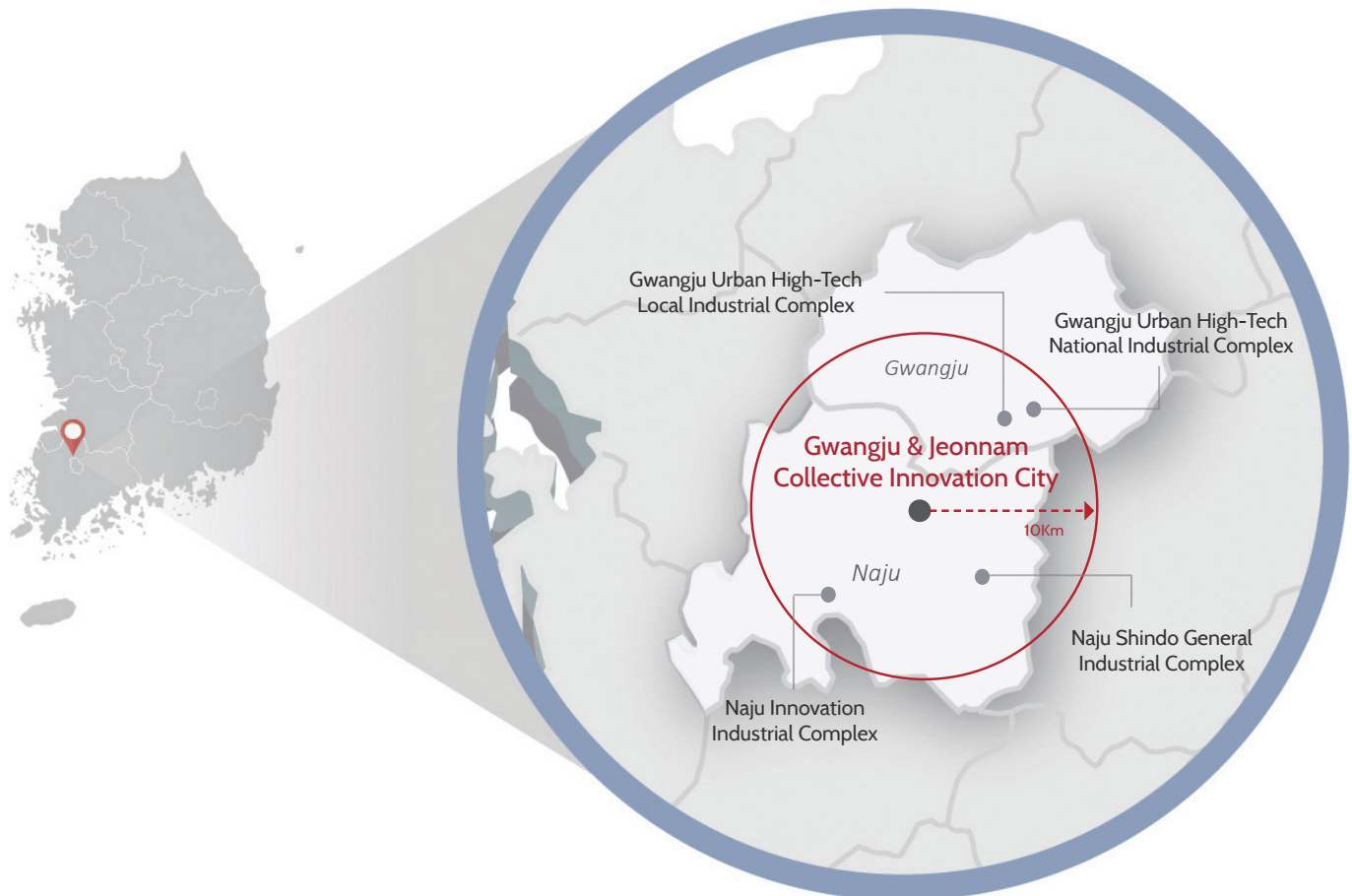
General mode      Background mode      Silhouette pack

**Company Profile:** The company was founded in October 2017. In 2018, it ranked first among paid applications on app stores in 17 countries and ranked first among paid applications in 43 countries. To upgrade the application and develop additional functions, the company plans to invest USD 1.35 million in R&D for the next three years.

#### Investment Requirements:

- Investment method: M&A
- Amount: USD 0.5 million
- Region: North America, China

# Energy Valley, the Hub for Korea's New Energy Industry



In Korea, there is a city wishing to become the world's leading energy city.

It is Energy Valley, which has been growing into the mecca of the new energy industry in Korea.

Energy Valley is Korea's first energy industrial complex, established by the state-run Korea Electric Power Corporation (KEPCO) in cooperation with South Jeolla Province (Jeonnam), Gwangju Metropolitan City, and others. By considering the relocation of KEPCO down to Gwangju & Jeonnam Collective Innovation City in 2014 as an opportunity, a project to build Energy Valley was initiated in order to secure the upper hand in the global energy market. It aims to attract 500 companies in the new energy industry by 2020 and create 30,000 jobs.

The new energy industry is a new type of business providing efficient energy services by utilizing eco-friendly energy and ICT to address major energy issues, including the response to climate change, energy security, and demand management, e.g. energy demand management, smart grid, electric vehicles, ener-

gy self-sufficient island, and solar rentals.

Energy Valley drew much attention since signing an investment agreement with Bosung Powertec, the Valley's first company, in March 2015, followed by 77 other companies in the first year. The number of companies Energy Valley has attracted are as follows: 100 in 2016, 103 in 2017, and 80 in 2018, already surpassing the overall target of attracting 300 companies.

As of December 2018, Energy Valley attracted a total of 360 companies in the energy field, with the cumulative agreed investment amount of KRW 1.5026 trillion. 206 companies (or 57 percent of the total) actually executed investment in such ways as buying sites, and building or operating a factory. The rest, 154 companies, are in the preparation phase. The list of large corporations making the decision to move in include LSIS, Hanwha Energy, Hyosung Heavy Industries, Doosan Heavy Industries & Construction, among others. Foreign companies such as GE of the U.S., Alps Company of Japan, BMF of Switzerland, and ABB of Germany are also scheduled to move in.

By industry, 273 firms are in the new energy industry sector encompassing Energy Storage System (ESS), renewable energy, power ICT, accounting for 76 percent of the total. 19 firms are in the smart grid sector, with the agreed investment amount reaching KRW 158.3 billion, including LGCNS, Sebang Global Battery, and Nuri Telecom.

LG CNS plans to build a smart grid manufacturing facility focused on Advanced Metering Infrastructure (AMI), seeking to expand cooperation into the new energy industry gradually, in such areas as Energy Storage System (ESS) and Power Conversion System (PCS).

Nuri Telecom built a factory in Energy Valley in late 2016, providing AMI solutions to 46 power companies in countries around the world including Sweden, Norway, Ghana, and Vietnam. Sebang Battery is also set to invest KRW 100 billion, the largest scale in Energy Valley to date, which will produce ESS and secondary batteries. As the scale of investment by Sebang Battery is large enough to induce partner companies to follow in its footsteps, the industrial ecosystem of ESS—a core element of smart grid—is expected to be built in the early stages.

## Geographical Conditions of Energy Valley

Energy Valley refers to the industrial complexes (Naju Innovation Industrial Complex, Gwangju Urban High-Tech National Industrial Complex, Naju Shindo General Industrial Complex) located within a 10 km radius of Gwangju & Jeonnam Collective Innovation City. In terms of administrative districts, Energy Valley straddles Gwangju Metropolitan City, Naju City, and Gwangju & Jeonnam Collective Innovation City.

Gwangju Metropolitan City and Naju City has the largest number of smart grid companies in Korea, except for Seoul and capital areas. Gwangju & Jeonnam Collective Innovation City located at the center of Energy Valley is a new city developed jointly by Gwangju Metropolitan City and South Jeolla Province in step with the government's policy to decentralize public organizations. Currently, four public organizations in the energy sector, including KEPCO, KEPCO KPS, KEPCO KDN, and Korea Power Exchange (KPX) have completed relocation. In total, 16 public organizations including those in ICT, culture & the arts, agriculture and bio have completed relocation, resulting in a population of over 13,700 moving to Gwangju & Jeonnam Collective Innovation City. Seoul is within a 1.5 hours' reach, thanks to two KTX stations located within 10 to 20 minutes from Gwangju & Jeonnam Collective Innovation City. Also, it is close to Gwangju Airport, Gwangju Highway, and Honam Highway, boasting easy transportation connectivity with other regions.

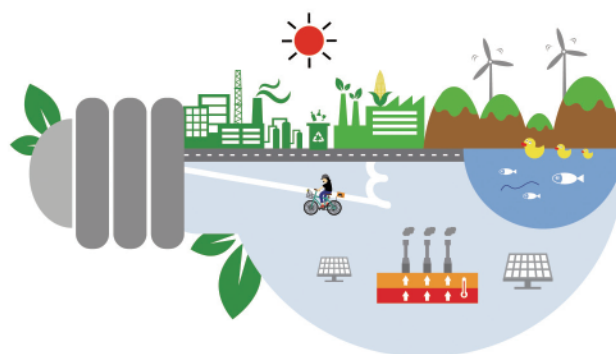
South Jeolla Province, where these cities belong, is home to Korea's largest chemical industrial complex and steel mills, and thus, has the reputation as Korea's industrial resources provider. Jeonnam is ranked 1st in terms of renewable energy production and 3rd in electricity generation. Jeonnam provides industrial sites at 1/5 lower prices compared to the national average, alleviating the early-stage investment burden of companies.

## Vision of Energy Valley

KEPCO is most aggressive in developing Energy Valley into a hub of global energy. Currently, KEPCO is pushing for the establishment of Smart Energy City in Gwangju & Jeonnam Collective Innovation City to which Energy Valley belongs. Smart Energy City is an eco-friendly future city that enhances energy efficiency and functions of city management by converging the information gathered from smart grid infrastructure, i.e. AMI and EVC with the information generated from a city. Currently, a project is underway in Naju City to establish smart city infrastructure including AMI and demonstrate an integrated operation platform.

In January this year, it has been confirmed that Kepco Tech, a university specialized in energy, will be built in Gwangju & Jeonnam Collective Innovation City in 2022. In addition, the Korea Electrotechnology Research Institute, Electrical Equipment Test & Research Institute (tentatively), and Energy New Technology Research Institute (tentatively) are planning to move into Energy Valley. Furthermore, the Ministry of Land, Infrastructure and Transport is to designate Gwangju & Jeonnam Collective Innovation City including Energy Valley as a growth center, intensively fostering relevant industries until 2022. As part of such efforts, Energy Science Park, Next-Generation Secondary Battery Certification Center, and ESS Recycling Technology Development Center will also be established. On this account, Energy Valley is expected to advance into an industry-academia-research cluster in the new energy industry, which is believed to be a driving force in the era of the Fourth Industrial Revolution.

*By Jinho Kim  
Executive Consultant  
Investment Public Relations Team  
Korea Trade-Investment Promotion Agency (KOTRA)  
jinhokim@kotra.or.kr*



# Trade War: Genesis is Here, Hoping for the Revelation

**A** prolonged gargantuan trade war between two Goliaths, namely the U.S. and China, seems never to cease with ease. Already embattled for more than a year, and after months of highly anticipated talks and negotiations between the high-powered delegations, the two sides are far from coming to a mutually acceptable agreement. In fact, the schism between the countries seems to be getting even wider and deeper than Pacific Ocean, when the Trump administration announced immediately before negotiations to raise its tariffs on the USD 200 billion worth of Chinese imports from 10 percent to 25 percent, threatening further to impose similar tariffs to an additional USD 300 billion worth of Chinese imports.

On the surface, the crux of the issue looks like unfair trade practices, including cyber-theft of intellectual property and state-sponsorship of strategic industries, all making Chinese products very competitive in the U.S. markets. More specifically, the U.S. is too weary to disregard China's state-sponsored hacking, manipulated acquisitions of high-tech companies, subsidies to crucial state industries and discrimination against foreign companies, all of which are believed to take American jobs away.

No matter how it may be defined, the trade war between the U.S. and China is, in essence, a war of global dominance. The U.S. never wants to give in to the ever increasing Chinese influence in trade as well as in all other spheres including diplomacy and military involvement. The trade issue is just a small fraction, like a tip of an iceberg, of the entire U.S.-China conflict. This became clear when U.S. Secretary of State Mike Pompeo began to criticize China as an authoritarian regime similar to Russia or Iran. U.S. Trade Representative Robert Lighthizer also complained about Chinese aggression in trade practices. All these

remarks remind us of the axis of evil that former U.S. President George W. Bush as well as then under-secretary John Bolton spoke about in 2002.

With this real intention in disguise, the U.S. will try at first to reduce Chinese exports, followed by the restriction of Chinese investment in the U.S., and finally, interfere with Chinese financial systems and transactions, asking them to abide by global standards and rules, which are crucial ways to rein in the Chinese global influence. This might develop into erecting mutual hatred, à la the bamboo curtain of the 1960s.

The real fear is that China cannot be ignorant about the intention of the U.S. China knows better than anybody else about the real concern, frustration or threat felt by the U.S. Many journalists in China criticize that the U.S. adopts irrational weapons of tariffs misjudging the strength, capability and will of China. Many believe that the U.S. is a declining super power, just trying to upend the emerging Chinese power by useless and inefficient trade barriers. China will definitely resort to its weaponries, and will never give up its principles and integrity to external pressure even at the deadliest cost.

Of course, all the parties will feel the pains of the internecine trade war. China shall witness substantial reduction in its exports to the U.S. Also, the U.S. economy will have some negative influences of Chinese retaliation through shortages, higher prices or inconvenience. Some shortages might be supplemented by imports from third countries, making no real contribution to growth or job creation in the U.S.

Possibly, the trade war between the G2 might spread throughout the world with significant and multiplying ripple effects, which no one can possibly measure its true magnitude. Chinese exports to the U.S. being three times larger than U.S. exports to China, the U.S. trade barriers definitely

have greater damage on the Chinese economy. But it should not be taken to mean that China will easily give in to the U.S. aggression or that the Chinese government will lose public support. It will have exactly the opposite consequence as Chinese political rigidity or integrity is gaining much stronger support by persevering through the economic crunch. So, the negative effects of the trade war on political support should be felt in greater degrees in the U.S. than in China.

As the likelihood of ascertaining political support through the prolonged U.S.-China trade war is much weaker in the U.S., there is a strong chance that the U.S. will soon come up with a strikingly surprising deal with China. That deal has to be struck before China embarks on massive barriers on U.S. exports such as corn, fuel and airplanes. Once the barriers have been imposed, the real and political effects will be beyond public imagination even if they are immediately nullified.

Many analysts believe that a deal could be struck to avoid either political or economic catastrophe on both sides sooner or later between the two political leaders. Even so, real tension will just submerge under water, waiting for another well-suited time to bring up the U.S.-Sino issue again.



*By Professor Se Don Shin  
Dean, Sookmyung Women's University  
seshin@sm.ac.kr*

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

## Trade News

**TURKEY LIFTS PROVISIONAL SAFEGUARD MEASURE ON S. KOREAN STEEL**

Turkey has lifted its provisional safeguard measure against steel products imported from South Korea and other countries, paving the way for South Korean steelmakers to ship more to the country, the trade ministry said May 8.

Last year, South Korean steelmakers shipped some 820,000 tons of steel products, valued at USD 850 million, to Turkey, according to the Ministry of Trade, Industry, and Energy.

Turkey implemented a provisional safeguard measure on five imported steel products in October, last year, by slapping a 25 percent tariff on the volume exceeding the average imported volume from 2015 to 2017.

The trade ministry said Ankara's lifting of safeguard measures will provide South Korean auto plants in Turkey with stable supplies of necessary materials.

**BIOHEALTH, EVS AND OTHER PROMISING SECTORS ENJOY SOLID EXPORTS IN Q1**

Biohealth, electric vehicles and other key promising sectors posted solid exports in the first quarter of the year, bucking a slowdown in exports from Asia's fourth-largest economy, data showed on May 23.

According to data compiled by the trade ministry, the combined exports by biohealth, EV batteries and seven other sectors reached USD 14.5 billion in the January-March period, up 7.9 percent from USD 13.5 billion a year earlier.

Rechargeable batteries saw their exports jump 11.9 percent on-year in the first quarter at USD 1.86 billion on the back of rising demand from not only small-sized electronics but also from automobiles and energy storage systems.

The bio-health sector posted 10 percent growth by shipping USD 1.97 billion over the period, and outbound shipments of electric cars also doubled to USD 660 million over the cited period, the data showed.

## Government and Policy News

**SEOUL TO SPEND KRW 240 BLN FOR NEXT-GENERATION CHIP TECHNOLOGY**

South Korea will spend KRW 240 billion (USD 204 million) in the next 10 years to develop key semiconductor technologies that can alter the paradigm of the chip industry as a whole, the science ministry said May 9.

The medium-to-long term chip sector growth plan centers around securing know-how in such cutting-edge fields as ultra-low voltage and micro-current control elements and developing 3D cells and devices that can mimic the human brain, according to the Ministry of Science and ICT.

The ministry said the government will build up the country's ability to check and verify the performance of new chips so they can reach the market more quickly. More support steps will be taken for medium fabless companies, allowing such businesses to gain easy access to various research equipment that can determine their competitiveness.

The ministry said Seoul will lend support to a consortium of some five universities that plan to set aside KRW 10 billion in the coming six years to train top-class semiconductor designers.

**S. KOREA AIMS TO RAISE BIO-HEALTH EXPORTS TO USD 50 BLN**

On May 22, President Moon Jae-in announced ambitious plans to triple South Korea's bio-health exports to USD 50 billion by 2030.

On a visit to Osong, North Chungcheong Province, the nation's mecca for biotechnology research, Moon stressed, "For us, now is the optimum opportunity to lead the global bio-health market."

Last year, South Korea's exports of med-

icine and medical devices totaled USD 14.4 billion, 1.8 percent of the global demand. The government hopes to expand South Korea's market share to 6 percent and add as many as 300,000 jobs in the industry by 2030.

South Korean biosimilar products, in particular, account for two-thirds of the global market, the president noted. In 2018 alone, South Korea exported new medicine technologies worth USD 4.8 billion, he added.

# Current Status and Outlook of South Korea's Power Industry and Smart Grid Policy

## ■ Intro: Birth, Evolution, and Limits of the Power Industry

The history of the power industry was opened at 3 p.m. on September 4, 1882. The first commercial power plant “Pearl Street Station” serving 400 lamps at 82 customers with 6 power generators. It was the moment that the commercialization of electric energy, which revolutionize the world, began in earnest. Five years later, electric energy arrived at Seoul. The history of Korea's electricity began with the lamps in front of Geoncheonggung Palace in Gyeongbokgung Palace.

Since then, the power industry has expanded by keeping the lights on. The power system that produces and transmits electricity is often called the greatest achievement of engineering in the 20th century. Electricity itself was revolutionary. Not only this, but electricity brought about numerous industrial revolutions as it became widely accessible.

However, paradoxically, the power industry had not experienced innovation as strong as its birth. Although improvement has been made consistently, there was no innovation disruptive enough to make a turnaround. The power industry has continued to grow in scale and complexity, becoming the biggest machine of human history. Over decades, as the power system has exposed its limits, the need for changes has also grown.

First of all, the power system is established and operated under the premise of “demand dictates supply.” Consumers pay the bills depending on their usage in accordance with the rates system, which is pre-determined and has a long change cycle (e.g., once a year or every two years) based on constant power load. However, this principle has the following limits by its nature.

- ▶ Requirement margins including rapid load following and large spinning reserve cause an oversized system resulting in inefficient usage and waste of fuel.
- ▶ Fixed electric prices (charges), its unique characteristics, undermine development towards energy storage, expansion of customer-owned (small-scale) power facilities.
- ▶ As customers are isolated from the supply system, they are vulnerable to both short-term outage and long-term supply emergencies.

Another problem is substantiality. Electric power generation accounts for 30 percent of global warming. The main culprit of the problem is the source for electricity-fossil fuels. With growing voices for Decarbonization these days, the usage and expansion of renewable energy sources has been increasingly called for in the power system. However, renewable energy sources are not appropriate for the existing power system, as they are uncertain and intermittent.

## ■ Smart Grid: Idea to Build a Smart Power Network by Utilizing ICT Technologies

As a solution to address such problems, an overarching idea has been put forward: smart grid to establish and operate a smart power system utilizing ICT technologies. In some respects, the commercialization of electricity has brought about and developed the ICT industry. Conversely, now, ICT is pushing for innovation of the power industry, with smart grid standing at the forefront.

The idea to apply ICT to the power industry was already present in the 1990s when personal computers became widely available in offices. In all the power companies around the world, there have been divisions and staff in charge of telecommunications. However, going further than simply adopting ICT, the idea to integrate ICT with the whole system to create smart grid appeared in the early 2000s.

Most notably, an American Electric Power Research Institute (EPRI) suggested building a new architecture of power system through the “Intelligrid Program” in cooperation with experts from around the world, including the U.S., France, Japan, and others. At around the same time in Europe, a smart grid project was run as an initiative to efficiently support the expansion of renewable energy. Korea has implemented the Power IT project to efficiently use the power system since 2005. The goal has been to efficiently and safely operate power transmission and distribution systems by applying ICT, rather than to more efficiently accommodate various energy resources such as demand resources, electric vehicles and renewable energy.

## ■ 2009-2012: Smart Grid Policy Implementation and System Establishment

The Korean government is planning to actively use big data analysis in resolving social issues. In the past, it has been difficult to reveal the behavior and perception of the public through data. However, with the easing on personal information regulations on the horizon, an attempt will be made to understand social issues through big data. In addressing 40 major social issues calling for urgent resolution, published by the Korean government in 2018, big-data analysis will be applied.

The 1st basic plan of smart grid was devised in June 2012, putting forward 16 policy tasks in four areas—strategy, institutional improvement, technology development, and establishment of the groundwork. It also set the target of building urban centers in seven metropolitan areas.



<Korea's Smart Grid Roadmap Goals by Implementation Area, 2010>

Goals by Phase	1st Phase (2010-2012)	2nd Phase (2013-2020)	3rd Phase (2021-2030)
	Build a Smart Grid Test-Bed (Technology verification)	Build a Smart Grid across the metropolitan area (Smart on the consumer side)	Build a nationwide Smart Grid (Smart on the overall power system side)
Smart Power Grid	<ul style="list-style-type: none"> <li>Smart distribution operation system</li> <li>Smart electricity facilities test, certification</li> </ul>	<ul style="list-style-type: none"> <li>Digital substation</li> <li>Smart distribution</li> <li>WAMS<sup>1)</sup>, WACS<sup>2)</sup></li> <li>Smart electricity equipment</li> </ul>	<ul style="list-style-type: none"> <li>Smart grid total engineering</li> <li>Energy consulting</li> </ul>
Smart Consumer	<ul style="list-style-type: none"> <li>HAN<sup>3)</sup></li> <li>Consumer portal</li> <li>Smart metering</li> <li>Smart home appliances</li> <li>Green home</li> <li>HEMS<sup>4)</sup></li> </ul>	<ul style="list-style-type: none"> <li>Green Building</li> <li>Green IDC<sup>5)</sup></li> <li>Green Factory</li> <li>BEMS<sup>6)</sup></li> <li>FEMS<sup>7)</sup></li> </ul>	<ul style="list-style-type: none"> <li>AMI application system</li> </ul>
Smart Transportation	<ul style="list-style-type: none"> <li>Battery, BMS<sup>8)</sup></li> <li>Power train (motor, inverter, etc.)</li> <li>Charging infrastructure</li> <li>Small EV</li> </ul>	<ul style="list-style-type: none"> <li>PCS for V2G<sup>9)</sup></li> <li>V2G system</li> <li>Mobile AMS<sup>10)</sup></li> <li>Medium and large EV</li> </ul>	<ul style="list-style-type: none"> <li>EV VPP</li> <li>Advanced EV system</li> </ul>
Smart Renewables	<ul style="list-style-type: none"> <li>Renewable power generation-connected stabilizer</li> <li>Operational equipment for low voltage micro grids</li> <li>Power conversion device for small scale storage system</li> </ul>	<ul style="list-style-type: none"> <li>Large-scale renewable power generation-connected stabilizer</li> <li>Operational equipment for distribution network micro grids</li> <li>Power conversion device for medium and large scale storage system</li> </ul>	<ul style="list-style-type: none"> <li>Smart renewable power generation-connected facilities</li> <li>Micro-grid system</li> </ul>
Smart Electricity Service	<ul style="list-style-type: none"> <li>RTP pilot projects</li> <li>Demand response management</li> </ul>	<ul style="list-style-type: none"> <li>Real-time DR<sup>11)</sup> market</li> <li>Smart power market</li> <li>Power derivatives</li> </ul>	<ul style="list-style-type: none"> <li>Integrated power market</li> <li>International power trading</li> </ul>

Source: National Smart Grid Roadmap, Ministry of Knowledge Economy, 2010.1.25

**Evaluation on the 1st Basic Plan of Smart Grid in Korea (2012-2016)**

With expansion of smart grid infrastructure, Energy Storage System (ESS) and charging stations for electric vehicles have been deployed.

Meanwhile, Advanced Metering Infrastructure (AMI), regarded as the core infrastructure of smart grid, has been lagging behind in deployment as it was interrupted by patent disputes over telecommunications technologies.

Demand Response (DR), which is expected to generate new added value and improve overall system efficiency by resolving low resilience of demands—a characteristic of the existing power system—was introduced in November 2014 and secured 4.3 GW capacity of demand response as of August 2018. Considering that the entire generation capacity of Korea is approximately 100 GW, it can be interpreted that 4 percent is set aside as demand response.

However, the plan's original goal of delivering new values to mass consumers has not been reached. The introduction of various rates systems, and utilization of power big data have exposed

limits in creating various services due to the lack of market design, institutions, and fundamentals. In particular, the Jeju Smart Grid Demonstration Project (2009-2013) and K-MEG project (2011-2014), implemented as a demonstration project, have failed to achieve expected results due to an inappropriate subject selection for demonstration, absence of post-management, and insufficient creation of appropriate institutions. In other words, they mostly achieved the goal of infrastructure construction but fell short of creating various services.

**The 2nd Basic Plan of Smart Grid in Korea and the Prospect of Korea's Smart Grid (2018-2022)**

The expired 1st basic plan of smart grid has been evaluated as being focused on “Functionality implementation from a supplier side.” The 2nd smart power grid plan sets the direction as “In the age of energy transition, create a power market ecosystem by putting consumers at the center” to produce practical changes that consumers can actually feel and experience.

1) WAMS: Wide Area Monitoring System, 2) WACS: Wide Area Control System, 3) HAN: Home Area Network, 4) HEMS: Home Energy Management System, 5) IDC: Internet Data Center, 6) BEMS: Building Energy Management System, 7) FEMS: Factory Energy Management System, 8) BMS: Battery Management System, 9) PCS: Power Conversion System, 10) AMS: Asset Management System, 11) DR: Demand Response

Accordingly, it suggests four policy tasks: 1) Stimulate new smart grid services; 2) Create a smart grid town; 3) Expand smart grid infrastructure and facilities; 4) Lay the foundation to expand a smart grid. To this end, the government plans to invest KRW 4.5 trillion, 75 percent up from the 1st plan, to lay the groundwork for creating new services and support the private sector to enter new markets.

To turn the 2nd plan into success, reforming relevant institutions is urgently required. For sure, supplying required infrastructure at the right time is important. However, it is also critical to

implement practical policies to reshape the power industry structure, which has been put on hold, and create a new market. By the time when the 2nd plan is completed, we should be able to see creation of power service markets and emergence of various stakeholders led by consumers. Also, the 2nd plan contains the goal of advancing the power industry into a growth industry which is capable of creating added-value on its own and playing the role as a driving force for job creation and growth, rather than remaining as the basic industry, in step with the government's energy transition plan.

<The Korean Government's Plan for Investment on Smart Grid >

(unit: KRW 100 M)

Implementation Areas		1st Phase (2012-2017)	2nd Phase (2018-2022)
<b>1</b>	<b>Stimulate new smart grid services</b>	<b>817</b>	<b>1,322</b>
①	Expansion of pricing schemes by season and hour	-	-
②	Reform and expansion of national DR	59	228
③	Creation of new business models based on power big data	707	962
④	Introduction and implementation of electricity brokerage	51	132
<b>2</b>	<b>Construct a smart grid town</b>	<b>2,338</b>	<b>1,062</b>
①	Construction of smart grid towns	2,338	1,062
<b>3</b>	<b>Expand the smart grid infrastructure and facilities</b>	<b>14,770</b>	<b>37,071</b>
①	Expansion of AMI infrastructure	4,838	11,413
②	Establishment of real-time power grid operation system	400	827
③	Expansion of power grid ICT infrastructure	9,532	24,831
<b>4</b>	<b>Lay the groundwork to expand smart grid</b>	<b>7,537</b>	<b>5,283</b>
①	Tighter policy cooperation network between the private and the public sectors	-	5
②	Technology development and standardization in five sectors	4,858	3,862
③	Foundation for interoperability standards	1,445	746
④	Support for industrial promotion and exports	479	230
⑤	Stronger protection of consumer rights and personal information	-	5
⑥	Cultivation of innovative talents with convergence thinking	755	435
<b>Total</b>		<b>25,462</b>	<b>44,738</b>

\*During the 2nd basic plan period, investment of the government/public center might change depending on the budget review process.

Source: The 2nd Basic Plan of Smart Grid in Korea, MOTIE, August 2018

By SunKyo Kim, Ph.D. in Electrical Engineering  
Associate Research Fellow  
Korea Institute of Science & Technology Evaluation and Planning (KISTEP)  
sunkyo@kistep.re.kr

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

## Invest Korea Plaza

Invest Korea Plaza (IKP) is the first business incubation complex in Korea for foreign investors. Designed to meet 21st century business needs, IKP offers furnished offices and conference facilities, in addition to on-site comprehensive services ranging from investment consultation provided by representatives of Invest KOREA and numerous government agencies.

### IKP Offices for Lease

#### A. Office exclusively for foreign investors

- Long-term lease: Office lease by a foreign investor seeking to establish a domestic company in Korea
- Lease period: Up to two years, on a yearly basis (lease can be extended after deliberation)
- Short-term lease: Short-term lease of an office by a foreign investor seeking to enter the Korean market
- Lease period: Up to two months (lease cannot be extended)



#### B. Office for related organizations

- Organizations and administrative entities for attracting and supporting foreign investors

### Qualifications for Occupancy

#### A. Long-term lease for foreign investors

- Companies that completed FDI notification: Companies with FDI of USD 300,000 or more that have completed foreign investment notification in accordance with the procedures prescribed by the Foreign Investment Promotion Act
- Required documents: IKP occupancy application form, overview of company and business, FDI notification form
- Companies that plan to notify foreign investment: Companies that are expected to notify FDI of USD 300,000 or more within six months of moving in
- Required documents: IKP occupancy application form, overview of company and business, letter of recommendation by KOTRA's KBC
- Companies that have executed foreign investment: A foreign-invested company with notified subsequent FDI of USD 200,000 or more
- Required documents: IKP occupancy application form, overview of company and business, FDI notification form

#### B. Short-term lease for foreign investors

- For foreign investors conducting market research and business feasibility study to enter the Korean market
- Required documents: IKP occupancy application form, a letter of recommendation by KOTRA's KBC or documents certifying the planned business and market research
- \* Occupancy counseling is required as lease may not be permitted depending on the type and content of the business.

## Economic Indicators

(Unit: USD million)

GDP	2014	2015	2016	2017	2018
Nominal	1,411,000	1,382,400	1,414,700	1,530,200	1,619,800
PPP	1,704,458	1,824,332	1,903,411	1,998,130	2,090,161
GDP Growth Rate (YoY) (%)	3.3	2.8	2.9	3.1	2.7

Source: The Bank of Korea, May 2019

(Unit: USD)

GDP Per Capita	2016	2017	2018 (Estimate)	2019 (Estimate)
Nominal	27,608	29,750	31,346	31,937
PPP	37,810	39,548	41,351	42,985

Source: International Monetary Fund, May 2019

(Unit: USD million)

Foreign Trade	2014	2015	2016	2017	2018	2019
Exports	572,665	526,757	495,426	573,694	604,860	181,503
Imports	525,515	436,499	406,193	478,478	535,202	168,272
Trade Balance	47,150	90,258	89,233	95,216	69,657	13,231

Source: Korea International Trade Association, May 2019

(Unit: KRW)

KRW-USD Foreign Exchange Rate	2014	2015	2016	2017	2018	2019.4
	1,053.2	1,131.5	1,160.5	1,130.8	1,100.3	1,140.95

Source: The Bank of Korea, May 2019

(Unit: USD million)

Balance of Current Account	2014	2015	2016	2017	2018	2019.3
	83,029.6	105,118.6	97,923.7	75,230.9	76,408.5	4,819.6

Source: The Bank of Korea, May 2019

# KOTRA Worldwide

- KOTRA has 129 overseas offices and 10 headquarters worldwide



## Headquarters

### Southwest Asia

Tel: (91-124)4628-500

E-mail: [ktcdelhi@ktcdelhi.net](mailto:ktcdelhi@ktcdelhi.net)

Karachi, Dhaka, New Delhi, Colombo, Mumbai, Kolkata, Bengaluru, Chennai, Ahmedabad

### Southeast Asia & Oceania

Tel: (84-24)3946-0511

E-mail: [kotrahanoikbc@gmail.com](mailto:kotrahanoikbc@gmail.com)

Singapore, Yangon, Auckland, Manila, Melbourne, Sydney, Vientiane, Jakarta, Surabaya, Kuala Lumpur, Bangkok, Hanoi, Ho Chi Minh City, Phnom Penh, Danang

### Japan

Tel: (81-3)3214-6951

E-mail: [kotratky@kotra.or.jp](mailto:kotratky@kotra.or.jp)

Fukuoka, Nagoya, Tokyo, Osaka

### China

Tel: (86-10)6410-6162

E-mail: [pekktc@kotra.or.kr](mailto:pekktc@kotra.or.kr)

Hong Kong, Taipei, Dalian, Guangzhou,

Xiamen, Chengdu, Wuhan, Qingdao, Xian, Shenyang, Nanjing, Changsha, Zhengzhou, Hangzhou, Beijing, Chongqing, Shenzhen, Tianjin, Shanghai

### CIS

Tel: (7-495)258-1627

E-mail: [info@kotra.ru](mailto:info@kotra.ru)

Moscow, Vladivostok, Novosibirsk, Saint Petersburg, Tashkent, Baku, Ulaanbaatar, Almaty, Kiev, Minsk

### Europe

Tel: (49-69)2429-920/9

E-mail: [frankfurt@kotra.or.kr](mailto:frankfurt@kotra.or.kr)

Amsterdam, Beograd, Brussels, Copenhagen, Paris, Helsinki, Prague, Bucharest, Vienna, Frankfurt, Hamburg, London, Madrid, Milan, Munich, Stockholm, Zurich, Budapest, Sofia, Warsaw, Zagreb, Bratislava, Athens

### Middle East

Tel: (971-4)450-4360

E-mail: [ktcdxb@emirates.net.ae](mailto:ktcdxb@emirates.net.ae)

Istanbul, Tel Aviv, Kuwait, Tripoli,

Casablanca, Muscat, Riyadh, Dubai, Damascus, Doha, Alger, Cairo, Tehran, Baghdad, Amman

### Africa

Tel: (27-11)784-2940

E-mail: [kotra@kotra.org.za](mailto:kotra@kotra.org.za)

Maputo, Nairobi, Lagos, Accra, Khartoum, Abidjan, Dar es Salaam, Johannesburg, Addis Ababa

### South America

Tel: (52-55)5514-3173

E-mail: [mexico@kotra.or.kr](mailto:mexico@kotra.or.kr)

Guatemala, Lima, Mexico, Bogota, Buenos Aires, Santo Domingo, Santiago, Sao Paulo, La Habana, Asuncion, Caracas, Quito, Panama

### North America

Tel: (1-212)826-0900

E-mail: [kotrany@hotmail.com](mailto:kotrany@hotmail.com)

New York, Dallas, Detroit, Los Angeles, Atlanta, Vancouver, Chicago, Silicon Valley, Toronto, Washington, D.C.

To subscribe to the KOTRA Express, e-mail [ikonline@kotra.or.kr](mailto:ikonline@kotra.or.kr)



**Head Office.** 13, Heolleungno, Seocho-gu, Seoul, Republic of Korea  
**Tel.** (82-2) 3460-7854 | **Fax.** (82-2) 3460-7920 | **E-mail.** [ikonline@kotra.or.kr](mailto:ikonline@kotra.or.kr)  
**Publisher.** Kwon Pyung-oh | **Director.** Jeong Deok Rae | **Editor-in-chief.** Grace Park  
**Designer.** Jang Yoo Jin | Printed by Samsin Munhwa Printing Co., Ltd

Clean KOTRA, Green KOTRA

**kotra**

[www.investkorea.org](http://www.investkorea.org)

[www.kotra.or.kr](http://www.kotra.or.kr)

INVEST  
KOREA