

Invest Korea

November 2022

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Gilead Sciences Korea

To Create a Better, Healthier World for All People

The Korean Pharmaceutical Industry's New Leap forward into the Global Market
Daegu-Gyeongbuk Medical Cluster, the New Center of Korea's Medical Industry
Tionlab Therapeutics, Leading the Technological Innovation of the Pharmaceutical Industry to Improve
the Quality of Life of Patients

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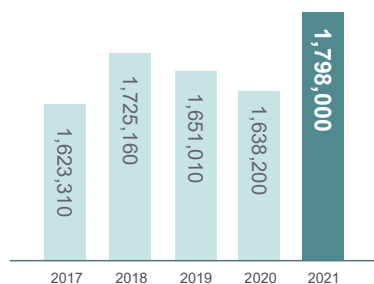
Economic Trends

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

Korea's Major Economic Indicators from 2017 to 2021

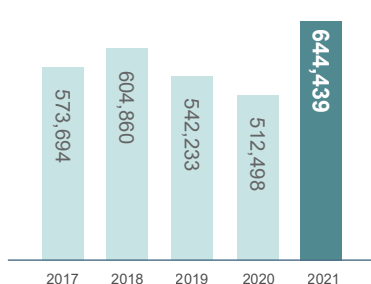
GDP

(Unit: USD million)



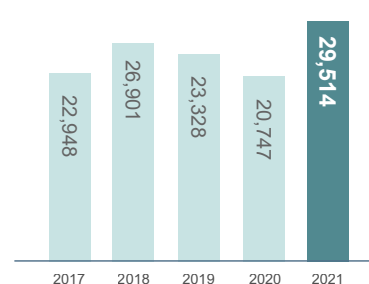
Exports

(Unit: USD million)



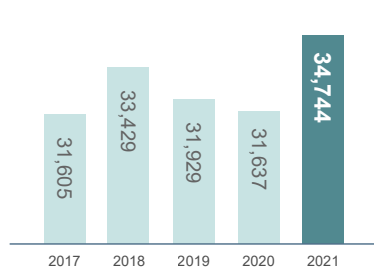
FDI

(Unit: USD million)



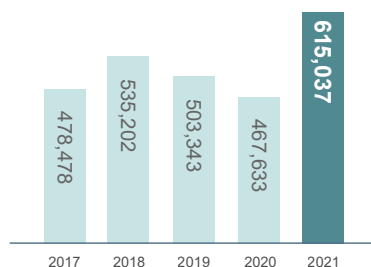
Per capita GDP

(Unit: USD million)



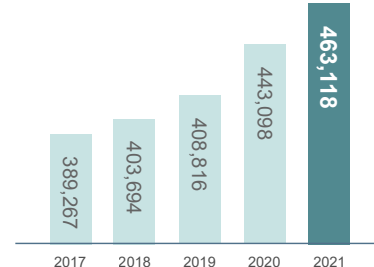
Imports

(Unit: USD million)



Foreign exchange reserves

(Unit: USD million)



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

October Economic Trends

The economy added 707,000 jobs year-on-year in September 2022 and the unemployment rate fell by 0.3 percentage points from a year ago to 2.4 percent. The growth of consumer prices declined by 0.1 percent year-on-year in September due to a slower increase in petroleum prices and the core inflation rose by 4.5 percent.

In September, Korean treasury yields rose, the won weakened, and stock prices fell as major economies accelerated monetary tightening and the British financial market showed signs of uncertainty. In August, housing prices and prices of Jeonse (lump-sum deposits with no monthly payments) both declined further by 0.21 percent and 0.2 percent, respectively, from the period month.

While the economy has continued to improve gradually due to recovery in employment and in-person service industries, amid continued high inflation and declines in some indicators of economic sentiment caused by the volatile global financial market bogged down by concerns over the escalation of the war in Ukraine and China's lockdowns, there are concerns of economic slowdown such as a drag on export recovery in the future.

Source: Ministry of Economy and Finance (moef.go.kr)

S. Korea draws US\$20 mln investment from Dutch, German semiconductor firms

S. Korea has drawn investment of a combined USD 20 billion from Dutch and German semiconductor companies, the industry ministry said on Oct. 14..

The investment pledges were made as Moon Dong-min, a deputy minister for trade and investment, visited the Netherlands and Germany for trade talks earlier this week, according to the Ministry of Industry, Trade and Energy.

Of the investment cases, Dutch semiconductor equipment supplier ASM decided to invest

USD 10 million to build a production factory and a research and development center in S. Korea.

The S. Korean ministry also had consultations with Carl Zeiss of Germany about an investment of a similar scale, it added.

KSB, a Germany-based pumps and valves manufacturer, discussed with S. Korea about its investment in expanded facilities and an R&D center in S. Korea.

Renault plans hundreds of millions of euros to groom S. Korea as new export hub: CEO

French auto giant Renault Group hopes to invest hundreds of millions of euros in the next six years to make S. Korea a new export hub for its mid- to large-size vehicles, Luca de Meo, chief executive officer of Renault S.A., said on Oct. 11 during his first visit to Korea since his inauguration in 2020.

The new mid- to large-size release will likely be a hybrid model, de Meo said in a press

conference in Seoul. Renault Korea Motors, Renault's Korean operation, unveiled the new crossover SUV model concept coming out 2025 on the same day.

Its crossover SUV XM3 has successfully garnered a positive response in the global market, and cumulative shipments exceeded 200,000 units at the end of last month.

FDI pledges to S. Korea hit record high through September: data

Foreign direct investment (FDI) pledges to S. Korea rose 18.2 percent on-year during the first nine months of this year on the solid growth in investment in such advanced sectors as chips and batteries, the industry ministry said Oct. 5.

The country received USD 21.52 billion worth of FDI commitments during the January-September period, compared with USD 18.21 billion logged a year earlier, according to the data by the Ministry of Trade, Industry and Energy.

It marked the highest amount ever for any

nine months of data. It is also the first time that the country received more than USD 20 billion worth of FDI through the third quarter. A total of 2,498 investment pledges were made during the cited period, up 12.7 percent from the previous year.

"The country saw an increase in foreign investment in such advanced sectors as semiconductors, electric vehicles and batteries. Stable manufacturing bases, manpower and innovative technologies, as well as the government's efforts, have attracted foreign investment," it added.

Trade & Commerce

S. Korea, Uruguay agree to speed up free trade talks with Mercosur

S. Korean Prime Minister Han Duck-soo and Uruguayan President Luis Lacalle Pou agreed on Oct. 12 to speed up negotiations on a free trade deal between Seoul and South America's Mercosur bloc, a senior diplomat said.

S. Korea and Mercosur held their seventh round of free trade negotiations in September last year, but little progress has been reported

since then.

S. Korea's First Vice Foreign Minister Cho Hyun-dong, who is accompanying Han, told reporters that Han asked the Uruguayan president for cooperation to swiftly resume the free trade talks with Mercosur and reach a deal. In return, the Uruguayan president pledged to make efforts to accelerate the negotiations, Cho said.

Trade & Commerce

Seoul's trade chief in Europe for economic ties, Expo bid support

S. Korea and Hungary have agreed to push for the signing of a new framework meant to promote bilateral trade and investment, Seoul's trade ministry said on Oct. 26.

The agreement was reached during a meeting between S. Korean Trade Minister Ahn Duk-geun and Hungarian Foreign Minister Peter Szijjarto on Monday. Ahn visited Budapest as the first stop of his weeklong three-nation trip

to Europe as a special envoy of President Yoon Suk-yeol, according the Ministry of Trade, Industry and Energy.

During the meeting, the two sides vowed to work on the establishment of the framework as part of effort to enhance bilateral investment and cooperation in digital and clean energy fields and to jointly ensure stable supply chains.

Industry

IMF revises up S. Korea's 2022 economic growth to 2.6 pct

The International Monetary Fund (IMF) on Oct. 11 revised up its 2022 economic growth outlook for S. Korea to 2.6 percent amid the country's improving private spending on eased virus restrictions.

The revision marked a 0.3 percentage point rise from the growth forecast of 2.3 percent that the Washington-based organization made in July. The IMF, however, cut next year's growth estimate for S. Korea to 2 percent from the previous forecast of 2.1 percent.

The updated outlook for this year is in line with the Bank of Korea's forecast of 2.6 percent growth outlook in August.

Asia's No. 4 economy grew at a faster pace in the second quarter of this year as private spend-

ing rose amid eased COVID-19 restrictions.

The country's gross domestic product (GDP)—a key measure of economic growth—increased 0.7 percent in the April-June period from three months earlier, according to the preliminary data from the central bank. The growth slightly quickened from the previous quarter's 0.6 percent rise.

In its latest report, the IMF added that countries should prioritize handling inflation and carry out substantial and consistent belt-tightening moves even if they cost jobs.

The central bank's inflation outlook for 2022 currently stands at 5.2 percent, the highest projection since it introduced the inflation target system currently in place in 1998.

Government & Policy

S. Korea eyes 1.5 tln-won investment by revamping regulations

S. Korea plans to overhaul a set of business regulations as part of efforts to bolster investment, the finance ministry said on Oct. 17, amid growing fears over an economic slump. The decision was made during a meeting of economy-related ministries presided over by Finance Minister Choo Kyung-ho, according to the Ministry of Economy and Finance.

S. Korea plans to overhaul 24 business-linked regulations, which is expected to help the country raise investment worth KRW 1.5 trillion

(USD 1.03 billion), the ministry said. During the previous meetings held in July and September, the government vowed to revamp a total of 86 regulations.

The tasks include setting clear instructions on the installation of explosion-prevention measures at semiconductor production facilities amid the criticism that the existing rules are vague and cause businesses to make unnecessary expenditures.

Gilead Sciences Korea

A Small but Strong Organization Creates Innovative New Drugs for Complete Recovery

To Create a Better, Healthier World for All People

Originally founded in the U.S. in 1987, Gilead Sciences is a research-based biopharmaceutical company that discovers, develops and commercializes innovative medicines in areas of unmet medical need. Then, in 2011, it founded Gilead Sciences Korea as Gilead Sciences' first Asian affiliate. The company released 10 products in the liver disease, HIV/AIDS, and anti-fungal immunity sectors, recording KRW 170.7 billion in domestic sales in 2019, leading the development and supply of innovative new drugs.

Let Us All Learn from Gilead

Tamiflu became familiar to the public with the epidemic of swine flu in 2009. Swine flu claimed the lives of many people, but Tamiflu, which enabled the management of the swine-origin flu at the level of a mild flu, was developed by Gilead Sciences (hereinafter Gilead).

Based in Foster City, California, Gilead is a research-based biopharmaceutical company that discovers, develops and commercialized innovative medicines in areas of unmet medical need. Starting as a company founded by 29-year-old Dr. Michael Riordan in 1987, the company became one of the world's top 10 pharmaceutical companies, with sales of USD 24.89 billion (approx. KRW 28 trillion) in 2014, 27 years after its launch. There are currently more than 14

million people in 140 countries around the world who take Gilead-made treatments. What is the secret of the company starting as a small venture company and growing into one of the world's top 10 pharmaceutical companies in a short period of time? General Manager Lee Seung-woo of Gilead Sciences Korea says the factor behind Gilead's success is selection and concentration.

“When developing Tamiflu® Gilead was a small organization with only 300 people. At the time, two innovative drug candidates were being developed. One was Tamiflu, and the other was the HIV/AIDS treatment called Viread®. We decided to choose one and focused on Viread. As for Tamiflu, we transferred the technology to Roche, a multinational pharmaceutical company. From the beginning, Gilead has focused on what the company could do through selection and concentration.”

Gilead adopts a policy to keep a small number of selected people. Today, 12,000 employees are working at Gilead around the world. This is a relatively small number of people for a multinational company, but they seek an efficient organization. In fact, as of 2019 global sales totaled KRW 27 trillion, and per capita employee sales are overwhelmingly the top in the pharmaceutical industry. Furthering a small organization allows flexibility and agility in making decisions. Two-thirds of production is outsourced, and the entire company is immersed in research to develop new drugs.





Gilead is committed to researching and developing treatments for life-threatening diseases based on its expertise in the antiviral domain. As of 2019, the annual R&D investment alone was about USD 9.1 billion (approx. KRW 10 trillion), and 29 pipeline development projects are underway worldwide. It is investing in more than 400 phase II and phase III clinical studies focusing on HIV/AIDS, hepatitis and anti-cancer drugs.

Gilead has expanded its scope through M&A. In 1999, the company acquired Nextar—with the antifungal drug AmBisome®—and laid the foundation for a new drug development. It also made a bridgehead into Europe with its sales revenue, while in 2012 it acquired Pharmasset®, the developer of the hepatitis C drugs, Sovaldi and Harvoni.

Soon after, Gilead proved its capabilities by completing phase III clinical trials of Sovaldi and then releasing Harvoni, which set a record as the world's most prescribed drug that year, with KRW 16 trillion worth of sales in 2015.

Gilead has been focusing on developing treatments for viral diseases since its inception, and has rapidly grown into a global top-class pharmaceutical company with sales of USD 22 billion (approx. KRW 27 trillion) internationally and market capitalization of USD 95.6 billion (approx. KRW 117 trillion) in 2019 by selling only 26 treatments. In March 2011, Gilead Sciences Korea, a Korean subsidiary of Gilead, was established. It was the company's first Asian affiliate.

As Lee Seung-woo said, "Gilead was such a small company that at first we focused only on the U.S. Then, in the late 1990s, it acquired Nexstar and established affiliates in Europe. About 10 years later, the company established affiliate in Korea, the first one it had done in Asia. Korea is a country where national health insurance is implemented by the federal government. Because the market is so big,

once they earned the government's permission and sales started, it has had the ability to grow to a greater extent. In addition, Korea had the high demand for hepatitis B treatments, which Gilead was focusing on. That was one of the reasons for the company to decide on entering Korea."

In fact, the hepatitis B viral resistance rate is particularly high in Korea, so patients and medical staff had great expectations of Viread. Gilead entered the domestic market with Viread amid the industry's heated interest.

In 2012, Korea's Ministry of Health and Welfare selected Gilead as a role model for "innovative pharmaceutical companies" along with Pfizer (U.S.) and Teva (Israel). Although Gilead was smaller than large global pharmaceutical companies, its process of growing through aggressive out licensing (a system that permits other companies to sell goods or materials with intellectual property rights) based on strong technology suited the needs of Korean pharmaceutical companies. Innovative pharmaceutical companies in Korea scrambled to make Gilead as their benchmark under the slogan "Like Gilead!"

A Mega-blockbuster Deal Worth KRW 100 Billion

When Gilead's entry into Korea was decided upon and the first head of the Korean affiliate was announced, the pharmaceutical industry became even more interested because Lee Seung-woo, known as the "Hand of Midas," was selected. Lee, who had been a General Manager of MSD Korea, AstraZeneca Korea, and Wyeth Korea, has also continued his myth at Gilead Sciences Korea. He made Viread a mega-blockbuster deal worth KRW 100 billion and led the market for hepatitis C treatments with products that included Sovaldi. In addition, the company successfully commercialized innovative new drugs which led to paradigm changes such as Korea's first Single Tablet Regimen for HIV treatment and interferon-free oral hepatitis C treatment, continuing Gilead's world-leading reputation. However, when Lee Seung-woo launched Gilead Sciences Korea, he emphasized value more than sales.

Lee was quoted as saying, "In 2013, I came to Gilead and created a corporate vision with all the employees, about 30 people at the time. I had to unite my employees with various experiences from many different companies. We had a lot of discussions on the topic of things like "What do we want this company to look like in five years?" and

derived the slogan “We will be the most scientific, ethical and patient-oriented company in Korea!” The vision of becoming the most scientific, ethical, and patient-oriented company was worth a challenge regardless of the size of sales. That is how we started, but not even five years since its establishment, the company had already become the leader of the HIV, hepatitis B, and hepatitis C markets. It was very rewarding. I particularly liked sharing the corporate vision with my employees.”

Gilead Sciences Korea does not directly handle R&D. Under the principle of a small but strong organization, partnerships are used a great deal in Korea. It has a long-standing partnership with Yuhan Corporation, with which Gilead has already formed several strategic partnerships to supply innovative new drugs such as Stribild and Genvoya to HIV patients in Korea. Yuhan Corporation is the largest partner among Gilead’s global contract manufacturing organizations (CMOs).

In January 2019, Gilead signed a deal with Yuhan Corporation for a USD 785 million (KRW 880 billion) technology export contract to jointly license and co-develop new drug candidates for nonalcoholic steatohepatitis (NASH). Yuhan Corporation and Gilead jointly conduct nonclinical research, while Gilead is responsible for global clinical development.

Gilead also carries out commercialization around the world, and Yuhan Corporation is in charge of commercialization in Korea. The long-standing partnership between the two companies and the Korean affiliate’s role of a bridge between them have enabled such a large contract. Gilead Sciences Korea, where 70 experts in different fields were working with great teamwork as of 2020, is working hard to develop the nation’s health and medical infrastructure as well as rapidly supply innovative new drugs to Korea by investing in clinical trials and research in Korea.

Remdesivir: The First U.S. FDA-approved COVID-19 Treatment

In January 2020, news of pneumonia came from Wuhan, China. On January 23, the cause of the Wuhan pneumonia was identified as a new coronavirus and Wuhan was sealed off. Until then, people could not even imagine that the COVID-19 pandemic would last for more than a

year. At that point, however, Gilead’s research team was moving fast. Gilead, a company specialized in viruses, had an anti-virus compound library and began reviewing numerous results that it had been studying.

Remdesivir had been developing an Ebola treatment for 10 years, but it stopped work on it because it failed to prove its efficacy. However, the analysis concluded that it could function as a cure for COVID-19. This was a discovery made in Gilead’s accumulated R&D history of new drugs, partly through its Ebola treatment research. Clinical trials began in March 2020 and the U.S. Food and Drug Administration (FDA) approved the emergency use of Remdesivir in May. Remdesivir has since been used as a COVID-19 treatment in many parts of the world. When U.S. President Donald Trump was treated for COVID-19, he was also given the medication, drawing media attention.

As Lee Seung-woo explained: “It is an unprecedented case in the history of treatment medicine. There is no history of clinical trials and manufacturing worldwide in such a short time. We didn’t see this in terms of company profits, we saw it as a crisis of public health and humanity, and decided that anything that could help should be done quickly. As Gilead is a company specializing in antiviral drugs, we worked with a mission, feeling ‘If a company develops it, that should be our company’.”

Lee continued, “Of course, it was not just Gilead’s resources. It was made possible because approval authorities also worked in close partnership with the company to handle an emergency where there were no other options.”

In May 2020, Remdesivir was approved for emergency use, and was then officially approved by the U.S. FDA in October and recognized as the world’s first treatment for COVID-19 infections. The company made early investments to increase supply capabilities, which is how it was possible to make Remdesivir available at hospitals across the U.S. at that point. Aiming to help as many patients as possible in a quick and responsible manner, Gilead invested USD 1 billion (approx. KRW 1.2 trillion) in the development and manufacturing process of Remdesivir by the end of 2020.

Gilead Sciences Korea has been working closely with approval authorities, including the Korea Disaster Control and Prevention Agency and the Ministry of Food and Drug Safety, since the early days of the COVID-19 spread in order to supply Remdesivir. Clinical trials were the only

opportunity for COVID-19 patients around the world to use Remdesivir until it was licensed as a drug; patients in Korea could only receive Remdesivir when they participated in clinical trials.

As Lee said, “Korea conducts the world’s sixth most clinical trials nationwide, and Seoul has the most clinical trials conducted of any city in the world. Seoul has a population of 10 million, or 20 million when the metropolitan area is combined as a whole. There are many large hospitals located in that area. Each hospital’s expertise and their doctors’ enthusiasm for clinical research are so high that not only Gilead but also many multinational companies now conduct global clinical trials in Korea. The company’s past experience in Korea has helped Gilead assist many people during the COVID-19 pandemic.”

Turning a Handful of Pills into One Pill

In Korea Truvada was approved in 2010 before the establishment of the Korean affiliate. Starting with this, the company has been leading the domestic HIV/AIDS treatment market, and has supplied HIV/AIDS medicines to Korea for the past 10 years, including Biktarvy, which it released in July 2019. Other companies have also manufactured HIV/AIDS medicines, but Gilead has made

innovations to its own treatments. With a Single Tablet Regimen of Gilead, patients can reduce their previous 30 to 35 pills taken at a time to one or two pills. For the first time in the world, Gilead succeeded in turning a handful of treatments to just one pill a day.

In 2018, Truvada opened the era of HIV/AIDS prevention in Korea by being approved by the Korean government as a “Pre-Exposure Prophylaxis (PrEP).” This was the result of scientists having a sense of mission and pride at Gilead; they believed that they had to work hard. If not us, they thought, there is no one who can achieve this.

Gilead also developed innovative results in the treatment of hepatitis B and hepatitis C. The resistance rate of the hepatitis B drug, Viread is 0 percent. After eight years of tracking clinical trials, it was confirmed that the rise in rates of drug resistance was 0 percent. The hepatitis C treatment Sovaldi, developed by Gilead, showed a cure rate of 97 percent in domestic clinical trials, and Harvoni showed a cure rate of 99 percent. Now, when hepatitis C develops, it is almost 100 percent cured by taking pills for just 12 weeks. Although Hepatitis C was difficult to treat in the past, Gilead realized a way for people to make a complete recovery. The World Health Organization set a goal of eradicating hepatitis C by 2030. Through Gilead, it has become possible to achieve that goal quickly.



Gilead Sciences Korea conducts a variety of activities for the underprivileged through the Happiness Sharing project.

Lee Seung-woo talked about this by saying, “I think the *raison d’être* of pharmaceutical companies lies in developing these new drugs. Personally, my father died of hepatitis C. At that time, there was no treatment, so it was not uncommon to lose a loving family member to hepatitis C. Now, Gilead dreams of a world without HIV/AIDS. It may take 10 years or 20 years, but we are developing a drug that can cure HIV/AIDS completely.”

Lee continued, “Some people ask why Gilead keeps developing new drugs even though we still have patents for new HIV/AIDS drugs. But we believe that we should continue to develop new drugs for patients. The same goes for hepatitis B. When completely cured, the patient disappears, but Gilead continues to pursue scientific innovations for patients.” Lee says Gilead’s belief is the key to instilling pride and loyalty among employees, and he believes that giving hope and saving lives through new drugs is the real drive behind any pharmaceutical company.

A Patient-centered Company Delivering a Message of Hope

Social prejudice hinders the end of diseases. In the case of COVID-19, there were cases of people who hid their symptoms and lied for fear of criticism from others. The case of AIDS is also serious. The WHO has the slogan “90-90-90.” This refers to their ambitious target: 90 percent of all people living with HIV will know their HIV status; 90 percent of all people with diagnosed HIV infection will receive sustained antiretroviral therapy; and 90 percent of all people receiving antiretroviral therapy will have viral suppression.

In order to become a good partner with Korea as a society, Gilead Sciences Korea has been reviewing the vulnerable areas in healthcare from various perspectives since its launch, and has been continuously fulfilling its social responsibilities. On October 20 every year, “Liver Day,” the company holds various events to enhance understanding of liver diseases.

In addition, through the Africa and South Korea Hepatitis B Initiative (ASOKOBI), the company shared successful cases of dealing with hepatitis B in Korea with public health experts in Korea and African countries, and

promised cooperation to overcome hepatitis B.

There are also other programs such as “Happiness Sharing” to help the underprivileged with different themes every year, such as the “We Can’t, We Can Challenge” campaign to support patients with funds raised by the company’s employees who visit screening projects for multicultural families and HIV/AIDS screening projects for homosexuals. For these continuous CSR activities, the company received the Health and Welfare Minister’s Award (the Grand Prize in the Social Welfare category) at the 6th Social Contribution Awards organized by nine governmental branches in July 2019.

Gilead is committed to social CSR activities based on four principles: responsibility, partnership, sustainability, and adaptability, as well as strengthening treatment accessibility so that patients around the world can receive unlimited benefits of treatment beyond economic conditions and their regional location.

For low-income countries, Gilead uses a “patent donation” model in partnership with local generic companies to increase access to medicines. Through this, more than 10 million patients in many countries, including some African countries, Thailand, and India, are supplied with AIDS drugs at low prices. The effort has helped about 8.7 million people infected with AIDS in low- and middle-income countries benefit from Gilead’s treatments. In addition, generic drug prices have declined by about 80 percent over the past nine years, bringing monthly treatment costs down to USD 3.5 per patient. Egypt and some other countries are the world’s poorest nations with the highest prevalence rate of chronic hepatitis C, and more than 1 million hepatitis C patients have been completely cured using the same patent donation model.

The name “Gilead” came from a tree used to treat patients in the Middle East. The leaf and shield in Gilead’s logo mean giving hope to patients suffering from diseases like ointment from Gilead trees. The leaf signifies healing life-threatening diseases and making progress through science, while the shield refers to protecting against diseases. Gilead is ceaselessly working hard even at this moment to develop and distribute innovative new drugs so that more people can be free from diseases.

New Legislations

Here's a brief look at Korea's newly proposed & enforced legislations.

Newly Proposed Legislations

Legislation	Ministry in Charge	Opinion Submission Due Date
Pre-Announcement of Partial Amendment to the Enforcement Rule of the Electrical Appliances and Consumer Products Safety Control Act	Ministry of Trade, Industry and Energy	November 16, 2022
Administrative Pre-Announcement of Enactment of and Amendment to the Electrical Appliances and Consumer Products Safety Control Operation Guidelines and Electrical Appliance Safety Standards (4 Types)	Ministry of Trade, Industry and Energy	November 16, 2022

Please submit your opinion on the newly proposed legislations and get more information on newly proposed legislations on the Foreign Investment Ombudsman website (<https://ombudsman.kotra.or.kr/ob-en/bbs/i-2651/list.do>).



Newly Enforced Legislations

Legislation	Category	Date of Enforcement
Act on the Integrated Control of Pollutant Discharging Facilities	Act no. 18917, partially amended	June 10, 2022
Special Act on Fostering and Support of Pharmaceutical Industry	Act no. 18902, partially amended	June 10, 2022

To see more newly enforced legislations in Korea, visit the Invest KOREA website (<https://www.investkorea.org/ik-en/bbs/i-2715/list.do>).



Industry Trends

All Industries

In August 2022, Korea's mining and manufacturing industries were adjusted for two consecutive months, but the production of all industries continued to be on a recovery track with the support of strong rebounds in retail sales, equipment investment, and construction investment and the rise of the coincident composite index for four straight months.

Monthly Industrial Activity Trends

Subject	All industries	Mining & manufacturing	Service	Retail sales	Equipment investment	Construction completed
Monthly Change (%)	Δ0.3	Δ1.8	1.5	4.3	8.8	5.0

The production of mining & manufacturing industries fell despite the increase in the production of cars and ships, mostly in semiconductors and chemical products that were bogged down by accumulated inventory and declining exports. The production of all industries slid for two straight months, but the rate of growth widened year-on-year, and the production of services industries spiked, led by the growth in wholesale and retail, finance and insurance, and leisure industries that were boosted by the brisk sales of car and the return of face-to-face activities. Retail sales enjoyed a robust rebound due to the base effect of having declined for five straight months, the increase in outdoor activities in the summer holiday season boosting the sales of cars and clothing, and the growing sales of food and beverages during the Chuseok holiday lifting the sales in all categories of durable, semi-durable, and non-durable goods.

The performance of industrial activities in August confirmed that the economy continued to recover with the support of private consumption despite difficult external conditions, but uncertainties in the economic flow remain high with global economic downside risks escalating from the monetary tightening of major economies and the energy crisis triggered by Russia. In terms of production, the continued recovery of service industries and the easing of disruptions in the supply chain are positive signs, while the slowdown of the global economy weakening the recovery of exports and the devastation caused by the typhoon undermining steel production may burden recovery. Continued recovery of employment and the additional supply of housing may boost consumption and investment, but high prices, the continuation of interest rate increases, and the escalated volatility of financial and foreign exchange markets remain as uncertainties.

Trends by Industry

Automobile

Domestic consumption rebounded by ending the downward trend

In July 2022, production and shipment of cars gained 11.2 percent and 13.9 percent, respectively, from the same period of the previous year, supported by the partial resolution of disruptions in the supply of semiconductors used in cars, and capacity utilization rate also jumped 11.3 percent. Domestic consumption increased for the first time in 2022 by slightly gaining 0.5 percent year-on-year with the support of the inflow of imported cars. Exports in August spiked 28.6 percent from a year ago led by expanded exports of EVs and dramatic increases in the exports to the United States.



General machinery

Production continued the downward trend while exports gained slightly

Production in July declined by 4.4 percent year-on-year and by 3.4 percent month-on-month as equipment investment slowed while maintaining the upward trend and as domestic consumption continued to fall.

Exports in August grew by 2.4 percent from the same period of the previous year despite the continued decrease of exports to China as major economies expanded infrastructure investments and lifted the demands for equipment. Imports in July recorded USD 2.7 billion, up by 2.2 percent year-on-year.



Shipbuilding

Increases in production indicators stalled while exports and imports fell



The decline in accumulated ship orders was limited to 20 percent year-on-year in July 2022 to display better-than-expected market conditions as Qatar continued to order more LNG carriers to support the weakening market conditions of tankers and bulk carriers, alongside the orders of container ships sliding by 12 to 34 percent due to worsening market conditions.

Exports in August fell by 25.8 percent from the same period of 2021 due to the base effect and the continued effect of COVID-19 having slashed orders in 2020. Imports in July declined by 37.6 percent year-on-year as the imports of cargo ships nosedived against the growing imports of ship parts and diesel engines.

Steel

Uncertainties in the domestic and global markets grew as global steel prices start declining

Production in July slid by 3.9 percent from a year ago due to the slowdown of the construction sector and the anticipated fall in prices delaying purchases. With the downward adjustment of global steel prices wiping out the price effect, exports in August grew by 2.8 percent year-on-year with the increase of exports to major countries. Imports in July sharply fell by 14 percent year-on-year, as the slowdown of domestic consumption slashes import demands and as the industry anticipates a decrease in import prices.



Oil refining

Exports of petroleum products recorded a historic high for the month of August

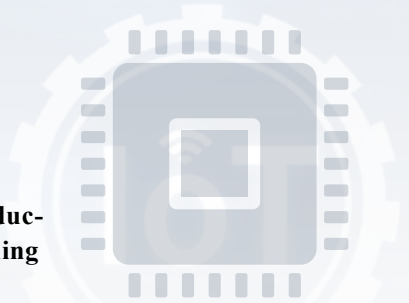
Domestic consumption in July increased by 1.5 percent with the support of recovered demands for transportation oil and petroleum products for petrochemicals. Production in July gained 5.5 percent year-on-year as the global demands for petroleum products lifted capacity utilization rate. Exports in August reached USD 6.5 billion by growing for eighteen straight months, backed by high oil prices and improvements in refining margin, which lifted export unit prices and export volume.



Semiconductor

The amount of semiconductor exports started declining

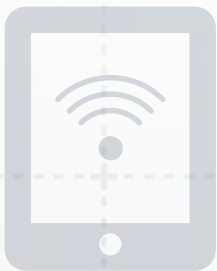
In July 2022, production and shipment of semiconductors are up by 17.4 percent and down by 22.7 percent, respectively, from a year ago as the industry witnessed a sharp decrease in shipment. Whereas exports have continued to grow year-on-year since July 2020, exports in August stood at USD 10.78 billion and declined by 7.8 percent year-on-year to start falling for the first time in twenty-six months. Exports for the month of August have surpassed the USD 10 billion mark for the third time in history, followed by August 2018 and August 2021, but recovery appears unclear as exports start declining after having maintained the upward trend this year.



Wireless communication devices

Downward trend of exports continued alongside growing uncertainties of the global economy

With more experts anticipating a slowdown of the global economy due to China's sluggish economic growth, China's lockdown of major cities, and the interest rate increases led by the US, the overall demands for electronic products including smartphones declined, and exports in August slid by 20.7 percent year-on-year largely caused by declining exports to China and the US. Production and shipment declined by 3.5 percent and 8.6 percent, respectively, from a year ago, and capacity utilization rate also fell by 15.1 percent.



Display

Production slowed by dim smartphone shipment outlook

Production in July slid by 24.5 percent from the same period of the previous year as the economic slowdown sharply dimmed the outlook for smartphone production. Exports in August fell by 5.7 percent due to the sluggish global economy to continue the downward trend for three straight months. However, LCD exports gained slightly by 2.2 percent, mostly in IT panels and car panels with the support of improved added values of LCDs.



**Please note that the latest data available in Statistics Korea are for the previous month in the case of exports and the month prior to the previous one for production.*



The Korean Pharmaceutical Industry's New Leap forward into the Global Market

Korea's New Growth Engine, Pharmaceutical Industry

The pharmaceutical industry is garnering the most attention amid the development of biotechnology due to global aging, the pandemic, and the 4th industrial revolution. Unlike other manufacturing industries, it is directly related not only to economic value but also to a healthy life. And hence, the pharmaceutical industry is considered the only industry that safeguards public health while driving the country's economic growth. Also, global blockbuster new drugs record tens of trillions of won in annual sales, generating enormous high-value-added products. And the infrastructure of drug development and drug production as well as the relevant capabilities dire-

ctly impact people's right to health in emergencies such as pandemics. In particular, the pharmaceutical industry's importance is growing amid crises that may occur internationally, such as COVID-19, trade conflicts in developed countries, and wars. In that sense, it is natural that developed countries and other countries around the world are nurturing the pharmaceutical industry.

The United States, which has the largest pharmaceutical market in the world, established the Medical Advanced Research Projects Agency (ARPA-H) under the National Institute of Health (NIH) in March to step up the development of innovative treatments for incurable diseases. In September, President Biden signed an executive order for advancing the bio-industry to protect the country's bio-industry.



China has streamlined drug approval processes and encouraged new drug development through the China Food and Drug Administration (CFDA) innovation. The country's plan is to increase the scale of the bio-industry up to CNY 10 trillion by 2030 and to strengthen the industry's international competitiveness. In 2018, the UK also laid out plans to establish the UK Research and Innovation (UKRI) by integrating seven research groups, including the Biotechnology and Bioscience Research Society (BBSRC), the Medical Research Council (MRC), Innovate UK, and Research England. It has also announced plans to double its future bioeconomic impact of 2014's GBP 220 billion by 2030. In addition, countries worldwide—for example, Germany's "High-Tech Strategy 2025" and Japan's "Bio Strategy 2030"—are scrambling to dominate the global market by announcing their policies to promote the pharmaceutical industry.

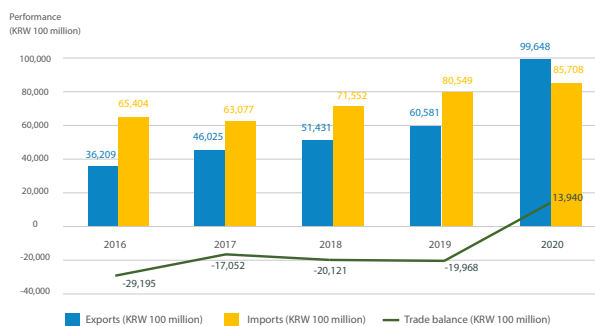
In Korea, the Yoon administration, launched in May, selected “To leap forward as a global center of bio and digital health” as a national agenda, and set policy goals such as jumping into a vaccine treatment powerhouse and fostering the bio-health industry. In particular, the Korea Pharmaceutical and Bio-Pharma Manufacturers Association (KPBMA) gathered about 80 corporate CEOs in one place ahead of the 20th presidential election last year and proposed key strategies for nurturing the pharmaceutical industry to the presidential candidates

at the time. The association requested the creation of an R&D environment to develop global blockbuster new drugs and the establishment of the “Pharmaceutical Bio Innovation Committee,” a control tower that will systematically and efficiently foster the industry. The government appears to agree with this idea and is actively preparing a policy to promote the pharmaceutical industry. At the 4th Emergency Meeting on People's Livelihood Stabilization in July, President Yoon reiterated that "the bio-industry protects public health and is directly linked to our economic growth by creating high-income jobs" and mentioned that he would cultivate the bio-health industry as a national core strategic industry.

K-PHARM Going Global

Korea's pharmaceutical is producing record results yearly based on manufacturing facilities at the level of advanced countries alongside active R&D investment. According to the Ministry of Food and Drug Safety, domestic drug exports grew by roughly 30.5% from KRW 3.6 trillion in 2016 to 4.6025 trillion the following year and have steadily escalated since then, reaching KRW 9.9 trillion in 2020. The number of exporting countries amounts to 214, located in North America, Europe, and Asia. Moreover, according to a survey by the KPBMA, 78 domestic pharmaceutical companies have 13 branch offices overseas and 192 overseas corporations.

Export and import performance and trade balance of medicine by year



Source: the Ministry of Food and Drug Safety

The license-out performance of companies also reached KRW 5.3 trillion in 2018, KRW 8.5 trillion in 2019, KRW 10.1 trillion in 2020, and KRW 13.3 trillion in 2021. As of October this year, 12 technology export contracts worth about \$3.4 billion (excluding non-disclosure contracts) were made. It means the global market is paying attention to the pipelines of domestic pharmaceutical companies. International events such as the J.P. Morgan Healthcare Conference, BIO USA, American Society of Clinical Oncology (ASCO), and American Diabetes Association (ADA) are the main stages on which domestic pharmaceutical companies present their R&D results. Domestic companies are also steadily entering developed markets, such as biosimilars and new synthetic drugs. According to the industry, as of October, about 27 items were approved by the US Food and Drug Administration (FDA) and about 22 items were approved by the European Medicines Agency (EMA).

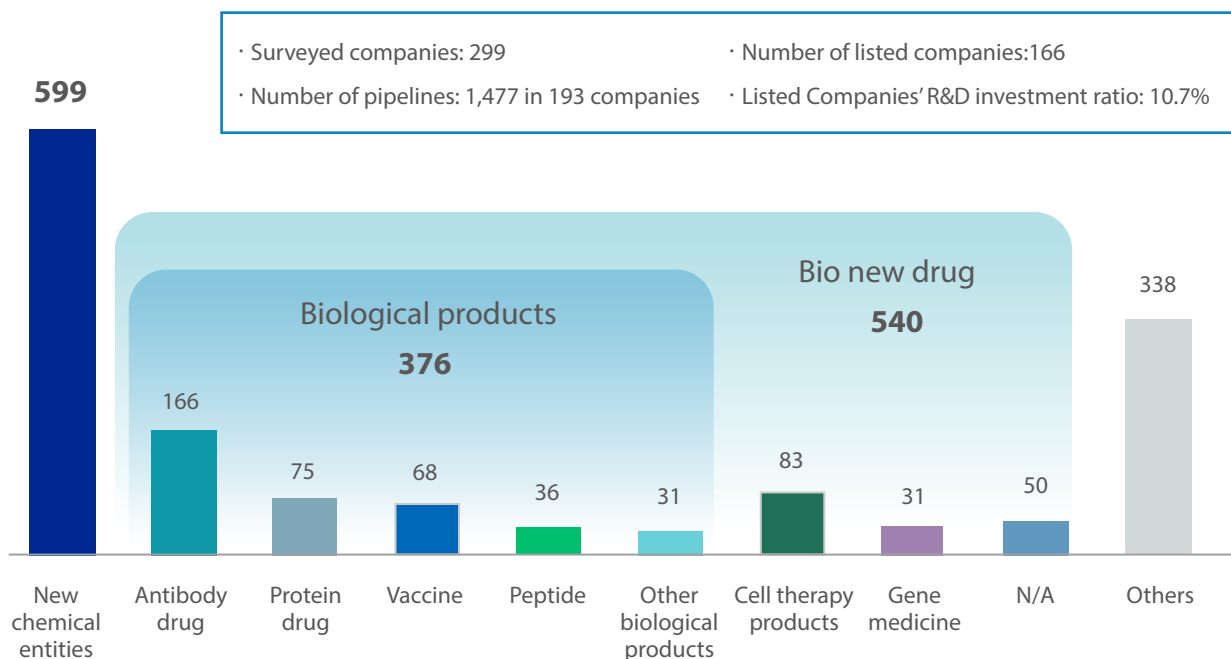
Such achievements are owing to the dedicated R&D investment of pharmaceutical companies. According to

the Financial Supervisory Service, the R&D investment of 64 domestic pharmaceutical companies last year was about KRW 1.8 trillion, or 9.4% of KRW 19.6 trillion in sales. This figure far surpasses the 2.6% ratio of R&D to the average sales of the Korean manufacturing industry. Especially, Celltrion (20.8%), Ildong Pharmaceutical (19.3%), Daewoong Pharmaceutical (16.6%), Hanmi Pharmaceutical (14.4%), Dong-A ST (13.9%), Chong Kun Dang (12.2%), Samjin Pharmaceutical (12.1%), GC Green Cross (11.2%), SK Bioscience (10.7%), Yuhan (10.6%), and many other pharmaceutical firms spent more than 10% of their sales on R&D.

Last year, the KPBMAs surveyed 299 domestic pharmaceutical companies on the progress of new drug development. As a result, there were 1,477 new drug pipelines. This is a 157.8% increase from the results of the survey conducted by the association in 2018 (100 companies, 573 pipelines). It demonstrates the active R&D investment of pharmaceutical companies.

Such efforts by the industry are also leading to imp-

Current pipeline of new drugs by type



Source: Korea Pharmaceutical and Bio-Pharma Manufacturers Association

roved international credibility. The Ministry of Food and Drug Safety of Korea joined the Pharmaceutical Inspection Cooperation Organization (PIC/S) back in 2014 and became a full member of the International Council for Harmonization of Technical Requirements for Pharmaceuticals for Human Use (ICH) in 2016. In 2018, it was also elected to the ICH Steering Committee. Notably, in 2019, it was added to the EU whitelist, and in 2020, it signed a mutual trust agreement between South Korea and Switzerland for Good Manufacturing Practice (GMP). Moreover, early this year, it was selected as the “global bio-manufacturing workforce training hub” by the World Health Organization (WHO) in recognition of its world's second-largest pharmaceutical manufacturing capacity, experiences in consignment production of five types of COVID-19 vaccines, and bio-manufacturing process education infrastructure. Under the COVID-19 pandemic, nevertheless, it was also listed as the third country in the world that developed both treatments (Celltrion's Rekirona) and vaccines (SK Bioscience's Skycobi One). With the efforts of pharmaceutical companies and support from government agencies, K-Bio's entry into the global market is expected to accelerate in the future.

Open Innovation to Co-exist with Overseas Companies and Institutions

Korea's pharmaceutical industry is actively carrying out global open innovation to co-exist with overseas pharmaceutical companies and institutions. Currently, there are emerging various cases of joint development and commercialization between major domestic pharmaceutical companies and overseas companies such as Dong-A ST and MSD (joint overseas expansion of super antibiotics); Yuhan and Janssen (joint development of lung cancer drug and export of the technology); Samsung Bioepis and Organon Korea (commercialization of biosimilars); and Boryung Pharmaceutical and Zullie Pharmaceutical (export of antihypertensive drugs). The KPBMA supports Korean pharmaceutical companies moving into the Cambridge Innovation Center (CIC) in

Kendall Square, Boston, USA. In June, it inked a trilateral Memorandum of Understanding (MOU) with the Korea Health Industry Development Institute, giving strength to the opening of the Korea Bio Innovation Center in Boston. Furthermore, it is ramping up the overseas expansion of domestic companies by forging cooperative relationships through participation in the Massachusetts Institute of Technology (MIT) Industrial Liaison Program (ILP) in the U.S., MedCity in the U.K., and Baselaunch in Switzerland. Besides, the association is slated to build an “Open Innovation Platform” that can collect and utilize the new drug pipelines of domestic and foreign pharmaceutical companies in one place to back active drug development between domestic and foreign companies. It is forecast that K-PHARM's entry into the global market will further expand going forward.

By Jang, Byungwon

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



Tionlab Therapeutics, Leading the Technological Innovation of the Pharmaceutical Industry to Improve the Quality of Life of Patients

About the Company

Tionlab Therapeutics was named as a lab focused on technology and innovation for studying on-demand drugs tailored to each patient. It specializes in developing long-acting injection and innovative lipid nanoparticle-based drug delivery systems that will improve the quality of life of patients.

Background

A long-acting injection and drug delivery system is a new type of drug developed to maintain the effects of drugs for several weeks and even months with a single injection, and it is expected to replace the daily oral administration of drugs or shots.

Patients with chronic diseases must control their diseases with the constant injection of drugs, and the situation of having to take medicine or shots day after day worsen their quality of life as well as the effectiveness of treatment as patients often become reluctant to receive treatment, which reduces medication adherence.

Developed to make taking medication easier and improve the effectiveness of treatment, Tionlab's medicine that is based on a drug delivery system helps maintain the density of active drug substances in the body to a constant level with a single shot, thereby making lives easier for patients with chronic diseases, improving drug efficacy and reducing side effects.

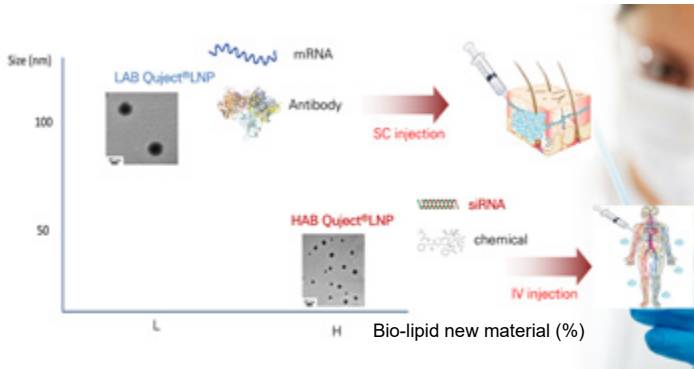
About the Product

Qject@sphere

The long-acting injection system based on high molecules, which uses an FDA-approved substance, can control the initial release by double coating the surface of the microsphere while maintaining the drug density to a constant level for one to six months. Thus, side effects caused by rapid initial release are reduced, and the efficacy is also dramatically improved. Tionlab also possesses the technologies for mass-producing super-homogeneous particles, which will expedite mass production and commercialization.

Based on the technology, Tionlab is developing a system for injecting Semaglutide for one month to treat diabetes and obesity, which will reduce the possibility of side effects by reducing rapid release by less than 5% compared to conventional drugs. Based on the results, the system's effectiveness is being evaluated using animals with diabetes or obesity. Tionlab aims to complete the first phase of clinical trial by 2024 and to launch products by 2027 as the world's first developer of Semaglutide Biobetter. It envisions to be a game changer that will transform the GLP-1 series diabetes/obesity treatment market currently worth USD 19.2 billion.

Bio-LNP Transmitter that can select path of delivery and injection of various drugs (Qject®LNP)



Qject®LNP

Qject®LNP is a highly competitive next-generation lipid nanoparticle (LNP) platform technology that is improved in terms of durability, stability and safety compared to the conventional PEG-LNP used in coronavirus vaccines. The bio fusion platform developed by Tionlab has overcome the limitations of existing LNP drug delivery systems, and Tionlab is currently using the technology in developing a new RNA drug that targets KRAS mutated lung cancer. Animal tests using mice have confirmed that the new RNA drug only targets mutated

cancer cells and has excellent durability and anti-cancer effects. Tionlab plans to also develop an RNA anti-cancer vaccine delivery system using the drug delivery technology. Based on these efforts, Tionlab plans to enter the “new RNA and therapeutic drug delivery system market worth KRW 25 trillion” using the world’s first bio fusion LNP technology.

Competitive Edge and Business Strategy

Intellectual property rights

- Application of ten patents at home and abroad/Registration of two patents in Korea
- Selected by the Ministry of Trade, Industry and Energy as a developer of an upgraded drug targeting the global market (KRW 1.8 billion for four years)
- Selected in the TIPS Project of the Ministry of SMEs and Startups (KRW 0.5 billion for two years)
- Selected in the MSS Network R&D Project of the Ministry of SMEs and Startups (KRW 0.6 billion for two years)
- Selected as a First Penguin Startup (by the Korea Credit Guarantee Fund)
- Currently developing a new drug with Korea’s major pharmaceutical company (LNP delivery system)

Upgrading the platform technology and formulating a business strategy through joint development with domestic and global partners

Business Model	Business concept	Product	Key revenue streams
Own product development & commercialization	LNP materials	LNP materials for drug delivery	Revenue from product sales
Product development in partnerships	DDS-based new drugs	GLP-1 series diabetes treatment (continuous type) GLP-1 series obesity treatment (continuous type) Carcinogens, vaccines, etc.	Licensing and milestone sales loyalty
Technology collaborations	Product development based on platform technology	DDS-based innovative products First-drug	Revenue from R&D support (CDO model) sales loyalty

Own sales

Partnerships

Future Plans

Tionlab’s goal is to successfully complete the series A round this year. After completing the series A round, Tionlab plans to accelerate the R&D of a diabetes treatment drug lasting for one month, followed by the phase 1 of a global clinical trial in 2024. With regard to an obesity treatment drug lasting for one month, Tionlab aims to complete the efficacy evaluation and launch a non-clinical trial.

Secondly, Tionlab plans to upgrade the platform technology through the joint research of vaccines, carcinogens and drugs for ocular diseases that use the Quject®LNP technology. The effort will enable Tionlab to develop pipelines and expedite the product development for exporting the technologies to global pharmaceutical companies.

By licensing out its differentiated drug delivery technology to pharmaceutical companies at home and abroad or conducting joint studies, Tionlab plans to commercialize innovative products ultimately to grow as the world’s leading developer of new drugs based on drug delivery systems.



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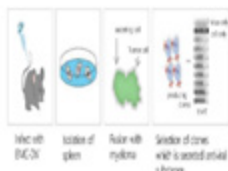
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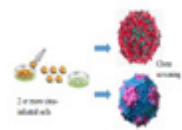
Invest KOREA Market Place

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 pharmaceutical/healthcare industry.

COMPANY A



Cases of discovering virus-inhibiting factors



Cell screening process

Investment Requirement		Company Profile	
Amount	USD 100 million	Patents and Certificates	A total of 46 patents registered
Investment Structure	Equity Investment	Financial Performance	(Sales in 2020) USD 0.41 million

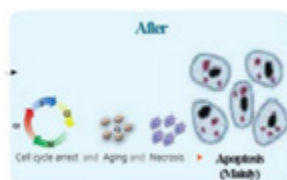
Investment Highlights

- Virus treatment:** The company has produced substances based on new antibody drugs with proven efficacy against various viruses by combining them with vimentin on the surface of cells using a targeted therapy method, and a treatment technology. This drug for clinical tests has been approved by the Ministry of Health of the Russian Federation for the treatment of COVID-19 patients, and is the only domestic antiviral and anti-inflammatory drug in Korea. This drug can be applied to various viral diseases because it acts on cells. It can also be applied to resistant and mutant viruses, and viruses that resist existing treatments.
- Antiviral drug market:** Threats to human health continue to increase due to outbreaks of different viruses as the global environment changes. The company forecasts that the value of the antiviral drug market will rise from USD 30.72 billion in 2020 to USD 43.37 billion in 2024, at an annual average growth rate of 9%.

COMPANY B



Existing effect



Effect of a radiation sensitizer

Investment Requirement		Company Profile	
Amount	USD 3 million	Patents and Certificates	Registered (or applied for) 3 patents at home and abroad
Investment Structure	Equity Investment	Financial Performance	(Sales in 2022, forecast) USD 4.66 million

Investment Highlights

- Radiation therapy sensitizer:** The company develops radiation sensitizers that improve the effects of radiation therapy, and is also developing a new drug that improves the effects of radiation therapy, based on technology acquired from the Korea Institute of Radiological & Medical Sciences. The drug improves the effects of chemotherapy by increasing the radio sensitivity of cells during chemotherapy. Patients can expect an excellent anticancer effect with a lower level of radiation than existing radiation treatments.
- Global anti-cancer agent market:** The number of cancer patients is increasing worldwide due to climate change and dietary change. According to the WHO UICC (Union for International Cancer Control), about 1.8 million people were diagnosed with cancer in 2018 and about 9.6 million people die of cancer every year. The global anti-cancer drug market is expected to show a high growth rate of 12.5% by 2022. According to the Korea Evaluation Institute of Industrial Technology, about 60% of cancer patients in the U.S. receive radiation therapy, and about 100,000 cancer patients are likely to receive radiation therapy every year by 2025.

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



Daegu-Gyeongbuk Medical Cluster, the New Center of Korea's Medical Industry

Established by the government as a high-tech medical cluster for the strategic development of new drugs and advanced medical devices industries, the Daegu-Gyeongbuk Medical Cluster or Medivalley offers a system for organic collaboration and networking and provides technical support needed to vitalize the advanced medical industry. Medivalley is operated based on the Special Act On the Promotion of High-tech Medical Complexes.

- **Name:** Daegu-Gyeongbuk Medical Cluster (Medivalley)
- **Location:** In Daegu Innovation City located in Sinseo-dong, Dong-gu, Daegu Metropolitan City
- **Area**

(Unit: m²)

Total area	Facilities*	Parks, green zone, etc.
1,026,886	439,000	587,886

Category	Facility name	Site area (m ²)	Functions
Government facilities	Core areas	70,100	New Drug Development Center New drug candidate evaluation, optimization, and collaborative development
			Medical Device Development Center Medical device product design, prototype manufacturing, performance assessment
	Operation facilities		Laboratory Animal Center Raising of laboratory animals, collection and preservation of stem cells and samples, device performance tests, operation facilities
			Clinical Drug Manufacturing Center Clinical new drug manufacturing facilities, technological transfer support
Local government facilities	Convenience facilities	26,678	Communication Center Conference room, AV room, accommodation facilities, etc.
Private facilities	Residential areas for personnel at research institutions	15,713	High-tech Clinical Trial Center Preliminary, small-scale clinical tests for finished products
		326,509	Private research institutions Domestic and foreign research institutions, venture center

· Future development plan involving the construction of cutting-edge infrastructure: Medivalley's supporting system will be strengthened to cover the entire processes from the development of cutting-edge drugs to obtaining the license of the Ministry of Food and Drug Safety by building the High-tech Clinical Trial Center (to be completed in 2022) charged with the final clinical testing of new drug candidate substances and medical device prototypes and by building the Pharmaceutical Smart Factory (to be completed in 2024) ensuring most optimal quality management. Moreover, the Future Medical Technology Research Center (to be completed in 2024) providing animal testing facilities mostly testing on mini pigs will be established in addition to the existing Labo-

ratory Animal Center mostly testing on mice. Moreover, the Medical Technology Test Training Center (to be completed in 2025) will provide training with a national testing center, advanced equipment and a training system based on human body simulation.

· New drug development records: Companies operating in Medivalley are contributing to the development of new drugs through technology transfer: Yuhan Corp. exported to Janssen technology worth KRW 1.4 trillion that is used in developing a drug for treating lung cancer, and Voronoi Inc. exported to Brickell Biotech, Inc. technology worth KRW 380 billion that is used for treating autoimmune diseases.

Source: Daegu Gyeongbuk Advanced Medical Industry Promotion Foundation

Trend and Implications of Recent Decisions on Directors' Duty to Monitor and Supervise

I. Directors' duty to monitor and supervise

A director (registered director) of a company has a fiduciary duty to the company. Article 382, Paragraph (2) of the Commercial Act stipulates that the provisions of the Civil Act on delegation shall apply *mutatis mutandis* to the relationship between a company and its directors, and Article 681 of the Civil Act provides that a delegatee shall have a duty to manage the affairs delegated to him/her with the care of a good manager in accordance with the tenor of the mandate (*i.e.*, a fiduciary duty).

One of such fiduciary duties, as acknowledged by the Korean Supreme Court, is the “duty to monitor and supervise.” It is a duty of a director to monitor the performance of other directors, in addition to performing his/her own duties; a director shall not only comply with applicable laws himself/herself, but also monitor and supervise other directors so as to ensure that they comply with applicable laws in performing their duties (see, *e.g.*, Supreme Court Decision No. 2017Da222368 rendered on November 11, 2021).

II. Trend and implications of recent decisions that applied a stricter standard regarding directors' duty to monitor and supervise

The Supreme Court recently applied a stricter standard regarding directors' duty to monitor and supervise. Below are two Supreme Court key precedents that illustrate this trend.

1. Supreme Court Decision No. 2017Da222368 rendered on November 11, 2021

Supreme Court Decision No. 2017Da222368 rendered on November 11, 2021 concerned directors' duty in a case where a company was subject to administrative fines imposed by the Korea Fair Trade Commission (KFTC)

for acts of market collusion. In this case, the court ruled that “the defendant, who is the representative director, cannot be exempt from liability solely on the grounds that he was unaware of the schemes in detail and that he did not directly instruct the executives to engage in such illegal acts. If the defendant continued to neglect his duty to monitor as the representative director, and as a result, caused damage to the company, the defendant should be held liable for such damage.” The court also noted that “the internal accounting management system, which the defendant argued that had been established as an internal control system for the preparation and disclosure of accounting information under the Act on External Audit of Stock Companies, is generally limited to accounting, and the code of ethics enacted in 2003 is nothing more than an abstract and comprehensive guideline on the performance of duties by officers and employees, and thus it is difficult to deem that the appointment and operation of outside directors and auditors, and decision-making through the board of directors, as alleged by the defendant, actually served as means to prevent illegal acts such as price-fixing, collect and report information on suspected or confirmed illegal acts, or further control illegal acts.”

The foregoing Supreme Court shows that, in relation to directors' duty to monitor and supervise, directors shall make efforts to establish an internal control system and perform their duty to monitor and supervise the overall affairs of the company using the established system. In particular, the internal accounting management system under the Act on External Audit of Stock Companies, etc. or an internal code of ethics alone cannot be deemed a sufficient internal control system.

2. Supreme Court Decision No. 2021Da279347 rendered on May 12, 2022

Supreme Court Decision No. 2021Da279347 rendered on May 12, 2022 concerned a shareholder derivative

lawsuit that was filed against the representative director and directors for failing their duty to monitor in relation to the company's practice of bid-rigging in the market. Although the trial court held that only the representative director breached his duty to monitor, the Supreme Court upheld the appellate court's decision recognizing that the other directors and outside directors, in addition to the representative director, also breached their duty to monitor.

In this case, the shareholders of the company filed a shareholder derivative lawsuit against the then-representative director and directors including outside directors of the company for damages in the amount of the KFTC's administrative fine imposed on the company resulting from its practices of bid-rigging in the market.

The trial court held that only the representative director breached his duty to monitor the company's officers and employees.

However, the Seoul High Court, the appellate court, expanded the scope of liability to recognize that the other directors also breached their duty to monitor and supervise. It ruled that "even if the defendants (the directors including the outside directors) were unaware of, could not have been aware of, or had no circumstance to suspect bid-rigging because they were not involved in or reported to on the bidding for individual construction projects, they breached their duty to monitor by failing to establish a reasonable information and reporting system and an internal control system that may have caught these illegal bid-rigging acts by the officers and employees and to fulfill their duty of care to ensure that such system works properly."

In this regard, the Supreme Court dismissed the appeal and affirmed the lower court's decision. In addition, it set out the criteria for determining whether outside directors have breached their monitoring duty by explaining, "however, in the case of outside directors who are not in charge of the company's business affairs, they may be recognized to have breached their duty to monitor if they (i) have failed to make any efforts to call for the establishment of an internal control system where the company does not have any such system in place, or (ii) even if the company has an internal control system, the outside directors have ignored or neglected circumstances to suspect that it is

not being operated properly." The Supreme Court added, "in a case where a director is liable for damages to his/her company arising from his/her violation of laws, regulations or the company's articles of incorporation by willful misconduct or negligence, or negligence in performing duties, the amount of damages may be limited in light of the guiding principle of the damage compensation system—i.e., equitable apportionment of damages. In doing so, the overall circumstances, including the following, shall be taken into account: (i) the substance and nature of the business; (ii) the circumstances leading up to and specific aspects of the director's breach of duties; (iii) the objective circumstances and degree of the director's involvement in the occurrence and aggravation of the damage; (iv) the director's usual contribution to the company; (v) whether the director benefited from the breach of duties; (vi) whether there exists any defect in the company's organizational system; and (vii) whether a risk management system has been established. In this case, it is the prerogative of the trial court to find facts relating to the grounds for limiting the damages amount or determine the ratio of limitation, unless it is significantly unreasonable in light of the principle of equity (see, e.g., Supreme Court Decision 2007Da34746 rendered on October 11, 2007)." This decision reaffirmed the consistent view of the existing Supreme Court precedents and upheld the lower court's decision that limited the director's liability for damages in light of the overall circumstances.

The Supreme Court's rulings above made the Supreme Court's position even clearer: even directors (including outside directors), let alone the representative director, can be held liable for breaching their duty to monitor through an internal control system, even if they were unaware of, could not have been aware of, or had no circumstance to suspect bid-rigging.

By Kim & Chang

Ji-Pyoung Kim (Attorney)

Chang-Hee Shin (Foreign Attorney)

Seung-Hwan Cheong (Attorney)

Seung-Jun Kim (Attorney)

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

Korea 101: Employment

Finding Jobs

Foreigners can work in Korea in line with the purposes they have entered the country for and the type of visa they have received. The following websites can be helpful in finding jobs suitable for you.

Seoul Global Center

Run by the Seoul Metropolitan Government, the website provides information on various trade fairs, employment support measures and job openings for foreigners.

Website: <http://global.seoul.go.kr>

Phone: 82-2-2075-4180

Languages: Korean, English, Chinese

Employment Permit System (EPS)

The EPS provides recruitment/employment support services to employers and foreign workers in Korea in addition to assistance for administrative processes. Information on the country's work permit system, employment procedures and types of work foreigners can be hired for is provided in foreign languages. The EPS also offers differentiated service according to the types of visas such as E-9 (non-professional employment) and H-2 (working visit).

Website: <http://www.eps.go.kr>

Phone: 82-43-870-8000, 82-1577-7114

Languages: over 20 including Korean, English, Chinese, Vietnamese

Immigration Contact Center

This web portal provides diverse information required by foreigners living in Korea. It also provides assistance for administrative processes, employment and investment.

Website: <http://www.hikorea.go.kr>

Phone: 82-1345

Languages: Korean, English, Chinese

TIP 

Foreigner Support Services and Institutions

The Korean government and various private organizations provide services to help foreigners adapt to life in Korea more easily through education on the country's language and culture as well as counseling on an array of topics. The assistance could be critical especially at the beginning when foreigners can find it challenging to establish relations with locals because of linguistic and cultural barriers. Please note that in addition to the following well-known organizations there are numerous organizations, or centers as they are often called, which are more than ready to help you in their communities.

Foreigner Support Organizations

- HANULTARI

Website: mcfamily.or.kr/intro

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What procedure should a foreigner follow when converting his/her individual business into a corporation?

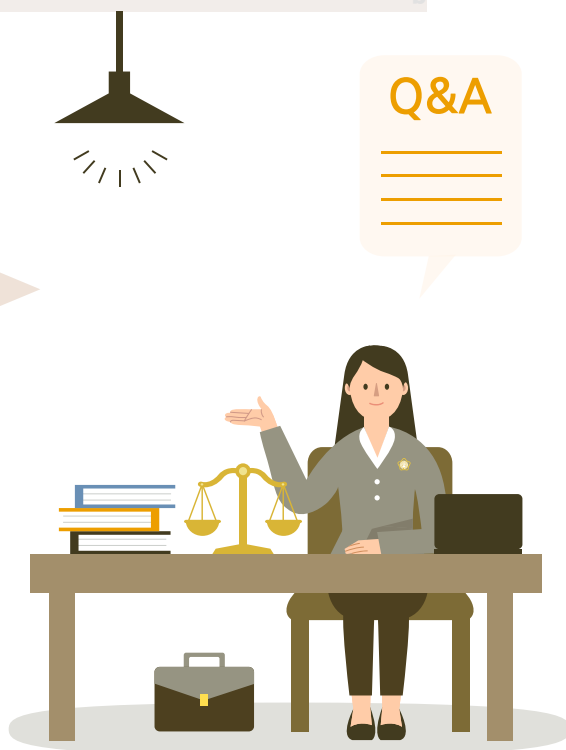
Every month, Invest Korea provides answers to some frequently asked questions submitted by foreign-invested companies in Korea and potential investors.

Q.

What procedure should a foreigner follow when converting his/her individual business into a corporation?

A.

When a foreigner intends to convert an individual business he/she has invested in under the Foreign Investment Promotion Act into a corporation, the general practice is to liquidate the individual business registered as a foreign-invested company and to establish a new corporation by investing the residual assets (cash in Korean won).



- The foreign-invested company can close his/her individual business (by reporting the closure to a regional tax office) and establish a corporation by filing for a cancellation of the registration of a foreign-invested company and notifying foreign investment simultaneously with delegated agencies.
- If the residual assets of the individual business fails to meet the foreign investment requirements under the Foreign Investment Promotion Act (at least KRW 100 million and acquisition of at least 10 percent of voting stocks), the foreigner can establish a corporation only after bringing in foreign currency funds to fill the amount in short and making a payment for shares to a relevant bank (or submitting a certificate of balance). After a corporation is established and business registration is completed, the corporation should be registered as a foreign-invested company with the submission of all required documents of proof.
- An individual business can be converted into a corporation through investment in kind instead of through the common practice of cash investment after business closure and liquidation. In case of the establishment of a stock company, a corporation can be established under Article 290 (Matters on Irregular Incorporation) of the Commercial Act after an appraisal by a certified appraisal agency and an application for registration of alteration of foreign-invested company can be submitted together with documents certifying the changed details. (The foreign-invested company registration number remains unchanged; a certified copy of corporate registration, a certificate of business registration and a shareholder register should be submitted and the original copy of the certificate of the registration of a foreign-invested company of the individual business should be returned.)

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The Science of Palace Architecture



Injong Hall in Changdok Palace was used for important celebrations and ceremonies, and official receptions were held in the forecourt. The forecourt is of particular interest, as it was clearly built to maximize the quality of the acoustics. Both the eaves of the building which overlook the forecourt and the granite paving slabs of the floor make use of the principle of 'diffuse reflection' to ensure even distribution of sound, similar in respects to techniques used in modern theatres. The cloisters which surround the forecourt served to amplify and extend the sound to improve the quality still further. The paving stones also distributed light evenly, making the interior of the forecourt unusually bright. Even the soil beneath the slabs was chosen carefully to ensure efficient drainage of rainwater

Changdok Palace was one of the five palaces of the Choson royal family, and is famous for its beautiful garden. The most important building in the palace was Injong Hall, which served as an audience chamber, and was used to hold important national events such as coronations and royal celebrations. Foreign envoys and delegations were officially received in the forecourt of the hall. At such events, civil officials stood by their rank stone³⁶ on the eastern side, and military officials on the western side. Recent studies have shown that the Injong Hall and its forecourt were designed with great care, specifically with such events in mind.

It was very important for the entire audience to be able to hear the proceedings, and very difficult to ensure this in the days before amplifying speakers. In his paper “Acoustics of the Injong Hall’s Forecourt,” Professor Chon Chin-yong notes that the eaves of the Hall are ideally designed for diffuse reflection³⁷, and as a result sound spreads well in the courtyard below. Seen from its side, the Hall’s eaves extend some way beyond the wall, and curve upwards slightly at the end. This not only has the effect of reflecting the voice of a person speaking at the front of the Hall back to the speaker, but also ‘scatters’ it throughout the yard. The roof of the Injong Hall is in many ways similar to the acoustic shell found in modern-day theaters, which helps amplify the sound of stage performers for the benefit of the audience and the performers themselves.³⁸



■ Sound reflection ■ Light reflection

The paving stones in the courtyard also played an important acoustic role. The forecourt is covered with large, thin stone panels, cut from granite. Because granite is very solid, it reflects sound well, and its rough surface ensures that sound is diffused in all directions.

Professor Chon also examined the cloisters around the Hall, which are lined with columns on the inside. When the sound from the speaker's platform reached the cloisters, some of it was reflected back into the yard by the columns, and the sound that traveled through the gaps was reflected by the outer wall, and returned to the yard as well. The cloisters therefore act as a two-stage reflector, having a lengthening effect on the sound. In addition, the eaves of the cloister roofs are designed like the



37. Diffuse reflection is the means whereby light or sound is reflected from an uneven or rough surface and scatters or diffuses in a number of directions.

38. Malga Kim, “Secrets of Changdok Palace,” Donga Science, February 2007, 104-109

underside of a balcony in a modern theater, amplifying the reflected sounds and making them converge in the forecourt. In terms of structure, Injong is akin to a huge concert hall.

The designers also approached the issue of lighting with wisdom. The Hall appears brighter than usual, because of the granite stone panels used in the forecourt. Of the different minerals comprising granite, white mica gives it a shiny appearance, while quartz (a major component of glass) gives it transparency. The white component of granite reflects light of every wave length, making the Hall appear even brighter.

As with sound, the natural lighting of the Injong Hall is enhanced by the rough surface of the granite stones. Movies can be seen from any seat in a cinema because the cinema screens are based on the principle of diffuse reflection – if one touches the screen, one can feel that it is uneven. Similarly, in the courtyard, light is reflected at uneven angles and spreads out in all directions, meaning

that it is distributed evenly at every point in the Hall.

Another notable feature of the palace architecture is its efficient drainage system. Beneath the thin granite floor panels, there is a layer of decomposed granite soil. As Professor Yi Chae-gun of Sangmyong University explains, “Decomposed granite soil is white clay without any viscosity, and because it consists of large particles, it absorbs and releases water well. It is therefore used in the drainage facilities of modern buildings.”³⁹

In the Injong courtyard, the granite soil draws away the rainwater, and to prevent the soil itself being washed away or causing dust, granite panels were laid over the top, leaving an adequate distance in between for drainage. When it rained, the water would travel down from the Hall’s roof, pass underground via the granite soil, gather at the catch-pit and pass along the subterranean stone waterways, out of the Palace grounds. In every corner of this traditional work of Korean architecture, hidden wonders can be found.

39. Ibid.

Source: Excerpt from “Fifty Wonders of Korea” Vol. 2 Science and Technology, Korean Spirit & Culture Promotion Project



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 dedicated to the incubation and investment of foreign investors. 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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