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One-third of Adolescents Heavily Dependent on Smartphones

Red Ginseng Enjoying Soaring Popularity as Immune System Booster against Coronavirus

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TO OUR READERS

The number of COVID-19 patients is soaring in South Korea. It increased by no less than 505 to 1,776 on Feb. 27, when the number of deaths attributable to the virus rose to 13.

A number of countries around the world took preventive measures such as border closure and entry prohibition. On the other hand, the South Korean government failed to do so, fueling people’s fear.

The ruling Democratic Party of Korea and the government seem to be just focusing on Sinophobia prevention. The Minister of Justice, who is responsible for entry and departure control, said that the Chinese government appreciated the South Korean government’s decision not to block Chinese from entering South Korea. Besides, the Minister of Health and Welfare said that country-specific entry prohibition is not right in terms of quarantine. The Prime Minister mentioned that actions and reactions need to be considered in taking measures. Such considerations, however, cannot be put before people’s safety. This is why the United States, Europe, Russia and North Korea closed their borders and blocked the entry of Chinese.

South Korean President Moon Jae-in made a call to Chinese President Xi Jinping on Feb. 20, and said, “Your difficulties are also ours,” reconfirming the Chinese president’s visit to South Korea scheduled in April this year. The very day alone, the number of patients in Daegu City and North Gyeongsang Province increased by no less than 50 and people are extremely fearfully coming out of their houses.

Despite Moon’s emphasis on the partnership, China’s response returned with blame to South Korea. The Global Times of the Chinese Communist Party mentioned the spread of the virus in South Korea and Japan, criticizing them as being too slow in dealing with the spread, and telling them to learn from China.

The South Korean government’s mismanagement of the infection source inflow from China led to more community-level infections in South Korea and more xenophobia targeting the nation. At present, South Koreans cannot enter Israel and Bahrain, and the United States, Taiwan and Vietnam are maintaining the highest level of travel warning against South Korea.

Under the circumstances, the South Korean government retracted its optimism, giving the highest level of alarm and blaming the Shincheonji church in Daegu City on Feb. 23. In other words, the government made an issue of the spread of infection from the church without admitting its fault, and telling them to learn from China.

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After the MERS outbreak in June 2015, Moon Jae-in as the head of an opposition party bashed the government and called its emergency control capabilities ridiculous. “The super-spreeder of the MERS virus is none other than the government,” he said at that time. The current government has admitted that it is the super-spreeder of COVID-19.

S. Korean Government’s Nonsensical Response to Spread of COVID-19
The Japanese government called into question the legitimacy of a merger between Hyundai Heavy Industries (HHI) and Daewoo Shipbuilding & Marine Engineering (DSME) in making an issue of the South Korean government’s shipbuilding industry restructuring plan by bringing the case to the WTO. According to the WTO’s official records released on Feb. 12, the Japanese government maintained that Korea Development Bank, the largest shareholder in DSME, sold its shares to HHI at an abnormally low price.

In filing the petition with the WTO, the Japanese government claimed that the process of the merger was in violation of WTO rules. It was the first time that the Japanese government made an issue of the merger within the WTO.

Last year, the bank decided to sell the shares to HHI in accordance with the plan. Specifically, it decided to give HHI approximately 59.7 million DSME shares and receive 9.12 million convertible and 6.1 million common stocks from Korea Shipbuilding & Offshore Engineering, which is an intermediate holding company of Hyundai Heavy Industries Group.

The Japanese government maintained that the 15.22 million shares are lower in value than the 59.7 million or so shares and the difference in value can be interpreted as subsidies for the private-sector company provided by the government-run bank. It also maintained that the lending, guarantee and insurance that Korea Development Bank, the Export-Import Bank of Korea and the Korea Trade Insurance Corp. provided for DSME in accordance with the plan also violated the WTO Agreement on Subsidies and Countervailing Measures.

A Futile Attempt to Block HHI-DSME Merger

The Japanese government’s WTO litigation against a business combination between Hyundai Heavy Industries and Daewoo Shipbuilding & Marine Engineering is to keep South Korea’s shipbuilding industry in check.

Hana Financial Investment said in its recent report that Japan Marine United (JMU), which was launched in 2012 in order to do so, announced early this year that it would give up its shipbuilding business. “In addition, Mitsubishi Heavy Industries and Imabari Shipbuilding attempted to put pressure on the industry by forming a partnership related to very large container ships, but they recently decided to give up a part of their shipbuilding business in seven years,” it said, adding, “In short, Japanese shipbuild-
ers failed to catch up with South Korean shipbuilders.”

Restructuring continued for a while in the Japanese shipbuilding industry as in the case of the partnership as well as the establishment of JMU. As a result, in 2015, Japanese shipbuilders succeeded in surpassing their South Korean counterparts in terms of received orders in 16 years.

Still, the former failed to stay ahead of the latter. This is because a large number of engineers were let go. During Japan’s second shipbuilding industry restructuring process in 1988, a number of designers and researchers had to leave the industry with Japanese shipbuilders anticipating no significant change in the merchant vessel market. The companies introduced the concept of standard ship, that is, shipbuilding similar to the production of ready-made articles and Japanese colleges closed their related departments.

The shipbuilding market also continued to evolve unlike their predictions. For example, ship fuels and engines became different and new environmental regulations required smart technologies and techniques. The Japanese shipbuilding industry failed to adapt in the absence of designers. When it comes to LNG carriers, Japanese shipbuilders dominated the market with moss-type vessels in the 1980s, but South Korean shipbuilders overtook them soon with membrane-type vessels. With shipowners preferring the latter for their capacity equivalent to 140 percent of the former’s, South Korean LNG carrier builders have dominated the market since the late 1990s.

In 2014, Mitsubishi Heavy Industries announced that it would develop new moss-type LNG carriers equipped with ultra steam turbines and the performance of the turbines would be 120 percent of existing steam turbines’. The plan, however, failed in the end due to designer-related limitations.

“Japanese shipbuilders have failed to respond to changing market trends such as vessel enlargement and environmental regulations, and they have failed to catch up with South Korean shipbuilders all the way since 2000,” said the Overseas Economic Research Institute of the Export-Import Bank of Korea, adding, “Japan’s attempt to block the combination between Hyundai and Daewoo is futile and meaningless.”

**WTO Likely to Turn Down Japan’s Petition**

However, the petition filed by Japan is likely to be turned down by the WTO although a subsidy that has been normally granted in accordance with the WTO Agreement and yet adversely affected another country’s industry can be regarded as a violation of the agreement.

The key is how to prove the damage. At present, the business combination is under review and the output of the merger is yet to be launched. In order to clarify damage to the Japanese shipbuilding industry, Japan must come up with concrete evidence such as the new company’s business records and the resultant decline in Japanese shipbuilders’ market share. Japan cannot present such data as of now.

The merger cannot be blocked even if Japan manages to win the first trial at the Dispute Settlement Body (DSB). The Appellate Body of the WTO in charge of the last instance is currently paralyzed due to a delay of committee member appointment. This means that South Korea can neutralize Japan’s suit by filing an appeal if necessary.

This is why Japan is trying to delay the merger by filing a WTO suit and putting forward its predicted damage. For the merger to be completed, combination reviews must be completed not only in South Korea but also in foreign competition authorities. The sale of Daewoo Shipbuilding & Marine Engineering cannot be done if any one of Japan, the European Union, China and Singapore objects to the acquisition.

Those in the South Korean shipbuilding industry are saying that Japan has an undisclosed intention in hindering the restructuring of the industry. Leading Japanese shipbuilders such as Imabari Shipbuilding have concentrated on merchant vessels such as container ships and bulk carriers. Meanwhile, Hyundai Heavy Industries and Daewoo Shipbuilding & Marine Engineering have focused on high value-added LNG carriers.

In this regard, they are saying that Japan is trying to get the upper hand in the entangled South Korea-Japan relations by hindering the merger. Their claim is evidenced by the past move of Japan. For example, Japan filed a WTO suit in 2018, claiming that South Korea’s shipbuilding industry restructuring plan violated the WTO Subsidies Agreement. At that time, the Japanese government filed the lawsuit determined in June 2018 immediately after the South Korean Supreme Court’s October 2018 ruling on forced wartime labor, arousing suspicions that the lawsuit was based on a political motivation.
In 2019, despite tough conditions, IFEZ exceeded its foreign direct investment (FDI) attraction goal by as much as 43 percent. Yet IFEZ needs to change its FDI attraction strategy this year as the South Korean government has abolished or reduced incentives for FDI and shifted the paradigm of FEZ development from FDI-based development to innovation-led growth. In reforming the FDI policy, the keyword is customization, says Lee Won-jae, commissioner of the Incheon Free Economic Zone Authority. In an interview with BusinessKorea, Lee says that an investor-specific FDI strategy is the way to go for IFEZ, which accounts for about 70 percent of the FDI attracted by the nation’s seven FEZs. The following are excerpts from the interview. – Ed.

In 2019, despite tough conditions, IFEZ exceeded its foreign direct investment target by 43 percent. What is your outlook for 2020?

We expect to face external difficulties this year as well due to uncertainties in the U.S.-North Korean and inter-Korean relations, Japan’s export restriction on important items against Korea, a global economic slowdown, and the spread of COVID-19. However, IFEZ has set the FDI target for 2020 at US$656 million, a 4 percent increase from 2019. We are determined to turn a crisis into an opportunity. We will more aggressive efforts to attract foreign investment.

The goal was set based on a plan to expand DHL’s logistics warehouses, attract investment in the distribution and logistics sectors of Cheongna FEZ and find new investors for the Golden Harbor project and the tourism and leisure facilities in Yeongjong and Cheongna FEZs.

In addition, IFEZ will do its best to achieve its goals by setting up an investment attraction strategy tailored to companies and utilizing various support programs of the central government. The Korean government has been preparing a new FEZ development strategy after reducing and abolishing incentives for foreign investment since 2019. How is IFEZ responding to it?

In accordance with the Second FEZ Basic Plan for 2018-2027 prepared by the Ministry of Trade, Industry and Energy, the paradigm of FEZ development shifted from FDI-based development to innovation-led growth. The aviation, logistics, biotech-based healthcare and knowledge service industries have been selected as the main industries for IFEZ.

Accordingly, at the moment, IFEZ urgently needs to employ an FDI attraction strategy that fits the new paradigm. We have asked a consulting company to develop a new FDI attraction strategy for IFEZ based on an analysis of our investment resources and capabilities. The plan will suggest a new future direction based on an analysis of successful FDI attraction examples at home and abroad, propose measures to improve the living conditions for foreigners and formulate action plans for each project that needs FDI.

Based on the plan, we plan to set up an investor-specific mid- to long-term investment attraction strategy in the second half of this year and reinforce efforts to attract excellent domestic and foreign companies for each target sector.

Would you walk us through the proj-
ects being promoted to turn the biotech cluster in Songdo International City into a world-class biotech hub?

The Songdo Biotech Cluster is close to Incheon International Airport and has an excellent living environment. A biotech company that sets up a plant here can easily exchange information with such global biotech companies as Celltrion, Samsung Biologics, Samsung Biopis, Merck, and GE Healthcare.

In addition, the cluster is home to the world’s largest biopharmaceutical production facilities in a single city. It is showing remarkable growth in R&D and biopharmaceutical production processes.

Currently, IFEZ is planning to expand the cluster to be built in Songdo Block 11 in connection with the existing bio clusters in Songdo Blocks 4 and 5. To this end, IFEZ will focus on increasing its competitiveness in biotech manufacturing processes and strengthening R&D capabilities in the biotech and healthcare sectors.

To attract companies in the R&D sector, IFEZ will boldly develop residential areas and launch networking support projects that can satisfy demand from R&D companies.

Don’t you think that Yeongjong International City needs additional complex resorts in addition to the three currently in operation or under construction to become a global tourism hub?

Currently, Yeongjong International City is operating Paradise City, Korea’s first complex resort which opened in April 2017. Caesars Korea and Inspire are under construction.

The three complex resorts are smaller in scale than their competitors in cities such as Macau and Singapore. Furthermore, two or three new casino complex resorts will open in Japan in the future, weakening the competitiveness of the resorts in Yeongjong International City.

IFEZ is well aware of the need to build new complex resorts in Yeongjong to enhance its competitiveness as a tourism hub. To this end, IFEZ will continue to discuss additional resort construction with relevant government agencies such as the Ministry of Culture, Sports and Tourism and the Ministry of Trade, Industry and Energy.

Would you tell us your plan to develop the international business complex in Cheongna International City, which has been stuck in limbo for more than 10 years?

The Cheongna International Business Complex was originally planned to become an international financial business center. But we have amended the development plan in consideration of changes in the industrial environment and investment attraction conditions. We have added artificial intelligence (AI), information and communication technology and IoT as the target industries.

IFEZ prepared a new development blueprint last year in cooperation with LH Corp., the operator of the Cheongna International City project, based on research by a research institute. When the new development plan is approved by the authorities concerned in the beginning of March, we will hold a tender to select a bidder in April and choose a preferred bidder in the first half of this year and sign a contract in the second half of this year.

Please tell us your plan to make IFEZ a hub for startups in high-tech industries.

To foster startups and create an advanced new business ecosystem, IFEZ is creating a startup park dubbed Poom. The park is intended to overcome the limitations of public-led job creation efforts. At the part, public and private institutions will work together to create an startup ecosystem.

This is a national project aimed at creating jobs in the 4th Industrial Revolution technologies at Tomorrow City of Songdo International City and build an ecosystem for the smart city, biotech and MICE sectors.

This project is expected to create a self-sustaining startup support ecosystem that combines public resources and private capabilities while working together with public-private partner programs, private accelerators, investment firms and leading companies in fostering startups. At the same time, the project will make Incheon a startups Mecca by helping startups and venture companies interact with each other and come up with good ideas in an open environment.

One of the biggest challenges for FEZs is to make them a good place to live for foreigners. What programs are you planning to implement this year to help foreign residents enjoy their life here?

The language barrier is the toughest challenge facing foreigners in IFEZ. We are operating various programs to support foreigners’ communications with Koreans.

For example, we are operating free Korean language classes. This year, we are planning to send more volunteers for translation and interpretation to apartments where many foreigners live.

In addition, this year, as a pilot program, we will encourage workers at restaurants, hospitals, dental offices, and pharmacies in the Songdo area to use English when they serve foreigners. We plan to set up a network with the foreign residents’ community in Songdo to reflect their voices better in living environment improvement projects.
The successful launch of the Cheonrian 2B, an environmental and marine observation satellite developed by Korea’s own technology in the morning of Feb. 19 (Korean Standard Time) is expected to further solidify Korea’s position as a geostationary satellite powerhouse with three geostationary satellites.

In particular, the Cheonrian 2B is the world’s first geostationary orbital satellite that observes changes in the atmosphere and the marine environment, giving Korea an advantage in the field.

The Ministry of Science and ICT, the Ministry of Environment and the Ministry of Oceans and Fisheries announced, “The satellite successfully lifted off on the Ariane-5 projectile at the Guiana Space Center in South America at 7:18 am on Feb. 19 (Korean Standard Time).”

The Cheonrian 2B was separated from the projectile at an altitude of 1,630 km, 31 minutes after its launch. The man-made moon made the first contact with the Yasaraga Ground Station in Australia six minutes later.

The Cheonrian 2B will approach a stationary orbit with an altitude of 36,000 km from the initial elliptical transition orbit by changing transition orbits five times over the next two weeks.

After safely sitting on the orbit, the satellite will undergo tests on the orbit for several months to ensure more accurate atmospheric and ocean observations. It will also implement performance optimization for environmental and marine payloads on it. In addition, SW adjustment process will be performed to produce the final accurate output by applying exclusive software developed to observe the atmospheric and marine environments.

If these processes are normally completed, the satellite will deliver air environment information beginning in 2021 and marine information beginning this October. Unlike low-orbit satellites that briefly pass over the Korean Peninsula, the Cheonrian 2B will observe the concentration of 20 types of fine dust-causing substances over the Korean Peninsula on the stationary orbit eight times a day.

In addition, the marine payload which has four times the resolution of the Cheonrian 1 produces 26 kinds of information 10 times a day. Accordingly, it will be possible to monitor the movement of pollutants such as red tides, green algae, oil spills, marine debris among others which causes great damage to the Korean marine environment.
The United States Department of Commerce has imposed a provisional anti-dumping duty of 31.64 percent on Nexteel’s carbon steel pipes for ordinary piping. In addition, the department levied provisional anti-dumping duties of 5.11 percent and 23.74 percent on the same products exported by Husteel and some other South Korean steelmakers, respectively.

In its latest annual review, the department used the particular market situation provision again. In general, the department calculates the difference between a product’s domestic and export prices in calculating an anti-dumping duty rate. However, it uses its own discretion on the premise that data submitted by a company is not sufficient for the calculation once it concludes that the company is in a particular market situation. The provision has been repeatedly used against South Korean steelmakers. For example, their oil pipes and oil country tubular goods had to face tariffs of up to 38.87 percent and 17.04 percent last year, respectively.

Such high tariffs are hindering their business in the United States along with an export quota. The United States invoked Section 232 of the Trade Expansion Act of 1962 in 2018 to impose an additional tariff of 25 percent on steel imports. Then, the South Korean government accepted the quota, which is 70 percent of 3.83 million tons as the average exports for the period of 2015 to 2017, in exchange for tariff exemption. “Although we are not subject to Section 232, the United States is still imposing tariffs on lucrative individual products,” said one of the steelmakers.

Their steel pipe exports to the United States reached a 10-year low of US$762 million last year, down 17.4 percent from a year ago, due to the quota, worsening local market situations, and so on. For reference, the volume amounted to US$1,725 million in 2017. The U.S. government is likely to maintain the same stance with regard to imported steel pipes.

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Korean Government Official Expresses Concerns

U.S. Trade Protectionism May Target South Korea

The South Korean government is concerned that the United States may change the target of its protectionist trade policy based on high tariff rates from China to Europe, India or South Korea.

At present, its application of Section 232 of the Trade Expansion Act of 1962 to automobiles for tariffs of up to 25 percent is up in the air. The United States can put pressure on South Korea by using it as leverage with regard to any trade issue.

“The U.S. government postponed the application of Section 232 in November last year and its official stance has not changed since then,” a South Korean government official said on Jan. 16, adding, “It is true that there are some concerns over the possibility of pressure based on the section.”

It is in this regard that the United States recently mentioned the same act and tariff rate with regard to cars imported from Europe, demanding its cooperation regarding the ongoing Iran issue.
The Korea Institute for International Economic Policy (KIEP) said in its report on Feb. 19 that the joint statement of the United States, the European Union and Japan for revising the WTO Agreement on Subsidies and Countervailing Measures, which was released on Feb. 14 and targets China’s industrial subsidy policies and economic structure dependent on state-run companies, can affect South Korean industries as well.

According to the joint statement, more types of subsidies will be included in prohibited subsidies, governments providing subsidies will be responsible for proving their harmfulness, supply distortion will be included in the category of significant damage attributable to subsidies, and state-run companies will be included in the category of public institutions.

The joint statement targets China’s non-market-oriented trade policy. It is rooted in their complaints about the Chinese government’s steel and aluminum subsidies. In 2018, the United States invoked Section 232 of the Trade Expansion Act of 1962 and imposed 25 percent and 10 percent tariffs on steel and aluminum imports on its conclusion that Chinese steel and aluminum exporters were benefiting from the subsidies.

South Korea’s shipbuilding and semiconductor industries may be affected by the joint statement. Early this month, the Japanese government claimed in the WTO that the South Korean government provided fiscal and financial support in violation of the agreement during the restructuring of the local shipbuilding industry. According to an OECD report, South Korean semiconductor manufacturers such as Samsung Electronics and SK Hynix have received budgetary support from the South Korean government. U.S. President Donald Trump has cited the same report in criticizing the Chinese government for its subsidies.

However, the impact on the semiconductor industry can be limited in that not every budgetary government support is a subsidy prohibited by the WTO. In addition, the OECD report mentions no over-capacity as to the semiconductor sector whereas it mentions that over-capacity is occurring in the aluminum industry. The joint statement focuses on industrial subsidies that cause over-capacity.

The central banks of South Korea and Australia have agreed to extend their currency swap contract by three years and expand the swap volume by 20 percent to US$8.1 billion. The Bank of Korea announced on Feb. 6.

As a result, the Korean-Australian currency swap will increase from the current 10 billion Australian dollars/9 trillion won to 12 billion Australian dollars/9.6 trillion won. The currency swap will hold for three years until Feb. 5, 2023, and may be extended upon a mutual agreement.

Australia signed a free trade agreement (FTA) with South Korea in 2014 and their bilateral trade volume stood at US$28.5 billion as of 2019. The Australian dollar is a reserve currency of the International Monetary Fund (IMF) and ranks fifth in foreign exchange trading.
South Korean government held a meeting presided over by Prime Minister Chung Sye-kyun and announced that it would increase trade finance by 3.1 trillion won and provide more assistance, such as temporary tariff reduction, for Covid-19-stricken companies.

In the first half of this month, South Korea’s average daily exports to China fell more than 25 percent year on year to US$360 million in the wake of the Covid-19 outbreak. China accounts for as high as 25 percent of South Korea’s total exports.

Under the circumstances, the government increases this year’s trade finance to 260.3 trillion won so that exporters’ financial conditions can be improved. This year’s trade finance is likely to exceed last year’s by more than 28 trillion won and non-large companies’ portion is estimated at a record high of 105 trillion won. The temporary tariff reduction is based on the application of ocean freight charges, which are less than one-15th of air freight charges, to parts and components urgently imported by air from China.

In the long term, the government is going to focus on supply diversification by promoting reshoring and reducing South Korean companies’ dependence on China. In this regard, Korea Development Bank, Industrial Bank of Korea and the Export-Import Bank of Korea will launch a 4.5 trillion won lending program for reshoring non-large enterprises so an interest rate of 1.5 percent can be applied to those meeting certain requirements.

In addition, the Restriction of Special Taxation Act is expected to be revised within this year so that corporate tax reduction can be applied to reshoring companies’ business expansion in South Korea as well as business foundation in the country.

Prime Minister Chung Sye-kyun presided over a national trade strategy meeting in Seoul on Feb. 20.

**Trying to Reduce Dependence on China**

**South Korean Government to Promote Reshoring for Less Dependence on China**

By Jung Suk-yee

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**A 5 Tril. Won Currency Swap Contract**

**South Korea and Malaysia to Extend Currency Swap Contract for 3 Years**

By Jung Suk-yee

The Bank of Korea announced on Feb. 3 that its currency swap contract with the Central Bank of Malaysia would be extended for three years.

The size of the extended contract is five trillion won as in the case of the contract signed in February 2017. The extended contract is effective until Feb. 2, 2023 and an additional extension is possible at the date of expiration.

The Bank of Korea and the Central Bank of Malaysia signed their first currency swap contract in October 2013 and the contract was extended in January 2017.

South Korea has concluded currency swap contracts with Canada, Switzerland, China, the United Arab Emirates, Australia and Indonesia as well as Malaysia. That with Canada has an unspecified limit and the limit of the rest is US$132.8 billion. In addition, South Korea is in a multilateral currency swap contract in the Chiang Mai Initiative Multilateralization (CMIM) to be capable of withdrawing US$38.4 billion.

This year, the US$7.7 billion currency swap contract between South Korea and Australia expires this month, followed by the US$10 billion contract with Indonesia in March and the US$56 billion contract with China in October.
International credit rating agency Moody’s has adjusted its South Korean economic growth forecast for this year from 2.1 percent to 1.9 percent in view of the impact of Covid-19. The agency lowered its estimate for China as well.

“The spread of Covid-19 in China and its impact on the Chinese economy are likely to adversely affect Asia-Pacific countries’ production activities, tourism industries, etc.,” it said in its report released on Feb. 16, adding, “South Korea’s GDP growth rate is estimated to fall from 2.1 percent to 1.9 percent.”

In addition, the agency cut its forecast for China from 5.8 percent to 5.2 percent when it comes to this year’s GDP growth. For next year, it maintained the previous estimate of 5.7 percent.

The global GDP growth estimate for this year has been lowered by 0.2 percent point. In the case of G20, the estimates for this year and next year are 2.4 percent and 2.8 percent, respectively. Japan’s growth estimate for this year has been lowered from 0.4 percent to 0.3 percent.

The Bank of Korea announced on Feb. 5 that South Korea’s foreign exchange reserves totaled US$409.65 billion as of the end of last month, showing a month-on-month increase of US$840 million and reaching an all-time high again.

“The foreign currency asset management income increased to swell the reserves although the U.S. dollar-converted values of euro- and yen-denominated assets fell due to a strong U.S. dollar,” the central bank explained, adding, “The record high foreign exchange reserves are expected to contribute to the stability of the South Korean economy with global economic uncertainties rising due to the Wuhan coronavirus, Brexit, etc.”

Marketable securities such as government and government agency bonds and asset-backed securities decreased US$6.58 billion year on year to US$378.45 billion whereas deposits in foreign central banks and major global banks increased US$7.44 billion to US$20.29 billion. The IMF SDR edged down by US$20 million to US$3.34 billion and the IMF position also edged down by US$10 million to US$2.78 billion. The gold reserves remained at US$4.79 billion.

As of the end of last year, South Korea ranked ninth in the world in terms of the size of foreign exchange reserves. China topped the list with US$3,107.9 billion, followed by Japan (US$1,323.8 billion) and Switzerland (US$854.8 billion).
Due to Sluggish Exports

South Korea’s Current Account Surplus Hits Seven-year Low in 2019

By Jung Suk-ye

The Bank of Korea announced on Feb. 6 that South Korea’s current account surplus totaled US$59.97 billion last year, down US$17.5 billion from a year earlier and the lowest since 2012.

The central bank explained that the surplus exceeded its estimate for last year, US$57 billion, and the decline in surplus is unlikely to have a significant impact on South Korea’s external economic stability and foreign exchange rates. In December last year, the surplus added up to US$4.33 billion and the country remained in the black for the eighth consecutive month.

Last year, South Korea’s exports were heavily affected by U.S.-China trade disputes and a recession in the global semiconductor industry. As a result, South Korea’s goods exports fell 10.3 percent to US$61.96 billion last year. Likewise, its goods imports fell 6 percent to US$485.1 billion, led by a decline in oil price and a decrease in semiconductor equipment imports. South Korea’s goods account surplus fell US$33.23 billion to US$76.86 billion in 2019.

On the other hand, its service account deficit decreased by US$9.05 billion to US$23.02 billion based on an increase in tourism income. Its travel account deficit fell from US$16.57 billion to US$10.67 billion to lead to the service account improvement. The tourism income hit an all-time high of US$21.63 billion based on a significant increase in the number of inbound Chinese and Japanese tourists whereas South Korea’s tourism expenditures fell US$2.83 billion to US$32.3 billion.

S. Korean Economy Grows 2% in 2019

South Korea Expected to Rank 15th in OECD in 2019 Real GDP Growth

By Jung Suk-ye

South Korea posted an economic growth rate of 2 percent last year, down 0.7 percentage point from a year ago. On the OECD’s real GDP growth list for 2019, South Korea is expected to rank 15th out of its 36 member countries. The country came in 17th in 2018. The average real GDP growth of the 36 member countries is estimated to have fallen from 2.3 percent to 1.7 percent last year and European countries, Eastern European in particular, are expected to top the list.

The United States’ real GDP growth rate for last year is estimated at 2.3 percent, down 0.6 percentage point from a year earlier. The official announcement is scheduled for Jan. 30.

That of Japan, which will be announced in mid-February, is estimated at 1 percent. That of Germany is 0.6 percent, half of the previous year’s growth rate.

In 2019, South Korea’s primary income surplus reached a record high of US$12.2 billion. South Korean companies’ dividends from overseas corporations increased, their dividend income reached an all-time high of US$22.68 billion, and the primary income account improved from US$3.32 billion in deficit to US$3.31 billion in surplus. In addition, the overseas interest income increased to US$18.24 billion to result in an increase in interest income surplus from US$9.39 billion to US$9.52 billion.

The net financial account, which shows capital inflow and outflow, increased US$60.95 billion. When it comes to direct investment, locals’ overseas investment and foreigners’ investment in South Korea increased US$35.53 billion and US$10.57 billion, respectively. As for securities investment, the respective investments increased US$58.58 billion and US$18.46 billion.

South Korea posted an economic growth rate of 2 percent in 2019, down 0.7 percentage point from 2018. South Korea is expected to rank fifth in the G20, in which China is on the top with 6.1 percent. In the group, the respective estimates of India and Indonesia are 5.8 percent and 5 percent and those of Australia, Canada, the European Union, France, Britain, and Russia are 1.7 percent, 1.5 percent, 1.4 percent, 1.3 percent, 1.2 percent, and 1.1 percent, respectively.
Due to Fewer Business Days

South Korea’s Exports Fall Over 6% in January

By Jung Suk-ye

The Ministry of Trade, Industry and Energy announced on Feb. 1 that South Korea’s exports totaled US$43.35 billion in January this year, down 6.1 percent from a year ago. For reference, exports fell 5.2 percent year on year to US$45.72 billion in December last year.

The ministry explained that last month’s decline is due to fewer business days rather than the Wuhan coronavirus. “In January 2020, the number of business days was 2.5 days less than in January 2019 due to New Year’s holidays and the impact of the coronavirus on the monthly exports was rather limited,” the ministry said. In 2018, South Korea’s exports to Hubei Province, where Wuhan is located, accounted for only 0.3 percent of South Korea’s total exports.

The ministry also said that South Korea’s average daily exports for last month were US$2.02 billion and increased 4.8 percent from a year ago, showing an increase for the first time in 14 months. A decline in semiconductor exports dropped from 17.7 percent to 3.4 percent from December 2019 to January 2020.

According to the government, this month’s exports are expected to grow year on year based on the lack of holidays. Experts, in the meantime, point out that the coronavirus will frustrate the expectations. “The Chinese economy’s proportion in the global export market has quadrupled since the spread of SARS in 2003, which means the impact of the Wuhan coronavirus on South Korea’s exports will be far greater,” one of them said. At present, China is the largest export destination for South Korea, accounting for 25 percent of its total exports.

ICT Exports Fall 7.2% on Year in January

South Korea’s ICT Exports Fall for the 15th Consecutive Month

By Jung Suk-ye

South Korea’s ICT exports fell 7.2 percent year on year in January this year, showing a decline for the 15th consecutive month. Display and mobile phone exports remained sluggish although its decline in semiconductor exports decreased to less than 10 percent in 12 months.

The Ministry of Trade, Industry and Energy announced on Feb. 12 that South Korea’s ICT exports and imports added up to US$13.4 billion and US$8.82 billion last month, respectively. Semiconductor exports fell 3.3 percent from a year ago to US$7.29 billion whereas the rate of decrease amounted to 23.5 percent in January 2019. Although DRAM exports remained stagnant, NAND flash and system semiconductor exports jumped 36.9 percent and 16.2 percent, respectively.

Display exports stood at US$1.57 billion, down 21.3 percent from a year ago, as LCD exports continued to decrease. Mobile phone exports fell 28 percent to US$680 million due to an increase in overseas production and a simultaneous decline in finished and semi-finished product exports with a number of customers waiting for new phones.

Last month, South Korea’s ICT exports to China and Hong Kong fell 7.8 percent to US$6 billion with semiconductor exports to the region edging up 0.3 percent, display exports to the region dropping 31.2 percent and mobile phone exports to the region dropping 25.3 percent. South Korea’s ICT exports to the region accounted for 44.7 percent of its total ICT exports.

In the meantime, the exports to Vietnam and the United States rose 2 percent and 5.5 percent to US$2.48 billion and US$1.54 billion, respectively. Those to the European Union fell 12.3 percent to US$860 million and those to Japan totaled US$330 million with a year-on-year decline of 7.3 percent.
Nuclear Power and Renewable Energy Markets Collapsing

Korean Government's Nuclear Phase-out Policy Backfiring

By Jung Suk-yee

The nuclear power generation and renewable energy markets of South Korea are collapsing due to the South Korean government’s wrong energy policy.

In the nuclear power generation market, an increasing number of companies are returning their Korea Electric Power Industry Code (KEPIC) certificates to pull out of the market. Specifically, the number of companies with the certificate fell from 222 in 2015 to 186 last year.

In the renewable energy market, South Korean companies producing polysilicon as a key photovoltaic material are on the verge of shutdown. Irrespective of the government’s loud promotions about how to grow the industry, the market is already filled with cheap supplies from China and electricity costs account for as high as 40 percent of polysilicon production costs.

The South Korean government’s nuclear phase-out policy has led to a higher ratio of LNG, which is more expensive than nuclear power-based electricity, and price pressure is increasing as a result. Last year, the price of electricity applied to industries was 105.8 won per kWh, one won higher than the price applied to houses. Last year was the first time when the former exceeded the latter.

The story is not that different in wind farms. The ratio of domestically developed equipment is about 50 percent at best and the development of turbines, the most important component, is being led by the United States. Besides, multiple wind farm construction projects have been thwarted due to locals’ objection. When it comes to energy storage systems, a total of 28 fires have occurred since 2017 and the government blamed ESS batteries on Feb. 7.

Due to Cancellation of Planned Nuclear Power Plants

Saturation of Spent Nuclear Fuel Storage Facilities Likely to be Reached Earlier than Planned

By Jung Suk-yee

The Korea Radioactive Waste Agency said in its report on Feb. 23 that the Hanul Nuclear Power Plant’s spent nuclear fuel storage facilities, which have a capacity of 9,797 spent nuclear fuel bundles, would reach saturation in July 2030, when the amount of its spent nuclear fuel is estimated to reach 9,826 bundles.

The agency explained that the saturation is likely to be reached seven years earlier than previously planned. This is because the South Korean government canceled the construction of the third and fourth units of the power plant, which were planned to be built with temporary storage facilities for spent nuclear fuel. Experts point out that the government is adding to uncertainties in relation to nuclear power plant operation.

Spent nuclear fuel is high-level radioactive waste lethal to humans and the power plant must be stopped once the saturation is reached. The agency pointed out that discussions are urgently required on how to manage the spent nuclear fuel in the power plant.

Four years ago, the government came up with a plan on how to manage high-level radioactive waste. According to the plan, permanent disposal sites outside nuclear power plants were scheduled to be selected by 2028 and built by 2052. However, the plan was canceled in 2017 and a committee was established to review the issue from scratch.
Six out of 10 Korean companies are concerned about business slumps due to COVID-19 infections, the Korea Economic Research Institute (KERI) said on Feb. 16.

The institute, which is affiliated with the Federation of Korean Industries (FKI), announced the results of a recent survey conducted on the 1,000 largest companies in terms of sales to find out the impact of the COVID-19 outbreak.

About 62 percent of the respondents forecast that the COVID 19 outbreak would adversely affect their business performances. In particular, 83.9 percent of companies with production facilities in China expected a negative impact.

If the outbreak lasts for more than six months like the severe acute respiratory syndrome (SARS) which lasted for nine months from 2002 to 2003, or the Middle East respiratory syndrome (MERS) which lasted for eight months in 2015, sales and exports would decline 8.0 percent and 9.1 percent, respectively, and exports to China will plunge 12.7 percent on year, the survey said. If it subsides within six months, both sales and exports would drop 3.3 percent and 5.1 percent, respectively, and exports to China were forecast to contract 6.8 percent.

If it lasts for more than six months, sales will fall 13.9 percent for automobiles, 12.8 percent for auto parts, 12.4 percent for petroleum products and 11.0 percent for general machinery. In the same scenario, exports will decline 17.8 percent for petroleum products, 14.5 percent for automobiles, 11.6 percent for general machinery, 11.0 percent for auto parts exports, and 10.0 percent for petrochemicals.

Companies Shift into Emergency Mode

A spike in the number of patients infected with COVID-19
has forced many Korean companies shift into emergency mode. Korea has had trouble in importing parts from China, but now it has to worry about shutdowns of industrial plants.

Samsung Electronics and GS Caltex temporarily halted their operations while offline stores visited by infected people such as Shinsegae Department Store’s Gangnam Branch, were locked down. The auto industry, which stopped its factories due to shortages of parts from China, is struggling with sluggish production and sales. The aviation and travel industries are facing a life-or-death crisis.

Samsung Electronics' Gumi Plant shut down all of its worksites and had been in the middle of quarantine work since Feb. 22, industry sources said on Feb. 23. The action was taken in after an employee was infected with the virus. Samsung Electronics plans to restart the plant’s operation on the afternoon of Feb. 24th after finishing the quarantine work. Samsung Electronics is concerned about a disruption in production of foldable smartphones at the factory.

The Daejeon R&D Center of GS Caltex will also lock down itself from Feb. 21 to the weekend in order to preemptively cope with any accidents after it was confirmed that an employee had contacted the family of a confirmed patient in Daegu. The employee was tested negative by medical personnel and the R&D center will resume its operation on Feb. 24.

SK Hynix found out a new employee who contacted an infected person from Daegu and told self-contained about 800 employees at Icheon Campus to quarantine themselves and stay at their homes on Feb. 20. LG Group subsidiaries told employees who commute to Gumi from Daegu to stay at or work from their homes if they visited the same places that infected people in Daegu visited.

Distributing companies that infected people visited closed down themselves and carried out quarantine work. The Gangnam Branch of Shinsegae Department Store visited by an infected person on Feb. 19, shut down its food corner only on the same day. Lotte Department Store’s Yeongdeungpo Branch was totally closed down. The same measure was taken for E-Mart’s Seongsu and Kintex Branches, and Homeplus’ Gwangju Gyerim Branch.

Shrinking production and demand are fueling tensions in the automotive and petrochemical industries. Although problems in the supply of Chinese wiring harnesses have been resolved to some extent, the domestic market is expected to hardly avoid taking a hit as the number of visitors at major car dealerships dropped to one-third of the normal level.

Makers of petroleum products are concerned about sluggish demand amid a slump in the Korean market as well as a drop in exports to China. According to the Oil Price Information Service by the Korea National Oil Corporation, the weekly gasoline price at gas stations across the nation in the third week of February fell by 14.1 won from the previous week due to shrinking demand.

It is the aviation and travel industries that suffered most from the spread of the virus. Flights between Korea and China by Korean airlines to Korea and China shrank 77 percent, and the travel industry also suffered a drop of 80 to 90 percent in new bookings in February. The aviation and travel industries are already tightening their belts including employees returning some of their wages, paid and unpaid leaves, and a cut in working hours. The government decided to support up to 300 billion won in liquidity funds in consideration of these situations. The worst case can take place if such situations are prolonged, experts say.

In the case of the semiconductor industry, however, the worst situations such as downtime have been avoided so far. “Even if some of production employees are confirmed to have the virus, infections will neither take place nor increase via air or due to contacts as the structure of a semiconductor plant at the highest level in cleanliness and sanitation management,” said an official in the semiconductor industry. “But chipmakers are thoroughly managing cleanliness and sanitation in preparation for the worse cases.” At a semiconductor plant, even a few minutes of downtime can result in huge loss.

Although the entire Korean industry has preemptively banned business trips to China, situations are suddenly changing with an increase in new outbreaks, so Korean business people are worried about what will come next.

In commercial areas of Seoul, the fear of workplace closures has become rampant due to the spread of the COVID-19 virus. SK Group has decided to minimize the number of employees working at its main office in Jongno-gu, Seoul to prevent the spread of the COVID-19 virus. Six SK Group affiliates -- SK Corp., SK Innovation, SK Telecom, SK E&S, SK Networks, and SK Siltron -- have told its employees to work at home for up to two weeks. The LS Group closed down LS Yongsan Tower in Seoul as an employee working at the building was confirmed to have the virus and gave an instruction for telecommuting for two weeks to employees at the building. The LG Group canceled the “LG Tech Conference” to be held in April every year to recruit engineering talent in the United States. The LG Group also held a meeting with subsidiaries in the afternoon of the day to discuss the expansion of telecommuting.
Korean companies are delaying the normal operation of their plants in China as the Wuhan coronavirus outbreak has not subsided. They are hampered by local governments’ demanding guidelines, a shortage of manpower, and problems in the supply of raw materials and parts arising from logistics paralysis.

Samsung’s Tianjin plant, which makes TVs for consumers in China, had to put off the start of normal operation by one week after receiving a recommendation from the local government. The local government, which has the authority to approve operations, is tightening safety measures for disease prevention. The Tianjin plant is scheduled to restart on Feb. 19 but this could be delayed depending on the local government’s policy. Of 10 LG Electronics plants in China, three plants are waiting for approval from their local governments. The three are an air conditioner plant in Tianjin, an LCD plant in Hangzhou and a compressor plant in Qinhuangdao. Hanwha Q CELLS is also waiting for the local government’s decision.

They are also faced with problems in the return of workers and the procurement of parts and raw materials. “Only workers who were confirmed to have stayed in their Chinese factories for about two weeks are put into workplaces while other workers are blocked due to infection concerns, which put limitations on raising utilization rates,” an LG Electronics official said. Some employees in some regions have not yet returned to their factories. An official at a car factory in China said, "Most workers find it hard to get by train tickets to return to their plants. This means that if plants begin to run now, their utilization rates will be below 30 percent."

The supply of raw materials and parts is also a big pain in the neck as trucks and freight trains are not operating because logistics itself is in paralysis.

Under the circumstances, the coronavirus is adversely affecting the global IT industry as a whole and the ongoing recovery of the global semiconductor market is likely to be slowed down. This is because the epidemic is affecting the demand side although it is not directly affecting semiconductor production in China. Foxconn’s manufacturing activities in China are predicted to slow down and the smartphone NAND flash and DRAM demand is likely to fall. In the long term, Chinese IT companies may slide back into a slump after the recent trade agreement between the United States and China, which is the world’s largest semiconductor market and one of the most important markets for South Korean semiconductor companies. Specifically, China, which represents 53 percent of the global semiconductor market, accounted for 24 percent of Samsung Electronics’ sales and 48 percent of SK Hynix’s sales for the first three quarters of 2019.

According to media reports, some Chinese smartphone component manufacturers are predicted to fail to supply their products on time and the failure may lead to a production setback on the part of device manufacturers such as Apple. This will have a negative impact on global semiconductor market conditions in that Apple is a major client for memory chip makers such as Samsung Electronics and SK Hynix.

However, the impact is likely to be reflected in the DRAM contract price from next month and this year’s market conditions will deteriorate if the price starts falling again. The price per unit already dropped from US$8.19 to US$2.81 from September 2018 to December 2019. Although some companies adjusted their supply by production line modification, their profits will remain close to their break-even points if demand fails to increase.

Besides, the demand for semiconductors for servers is currently insufficient to raise semiconductor prices. Although Intel announced on Jan. 23 that it would invest US$17 billion this year, new server and PC CPU manufacturing based on the actual execution of the investment will take time. The date of release of Intel’s server CPU Ice Lake, which is expected to lead to more demand from cloud service providers such as Microsoft, Google and Amazon, is yet to be fixed.

If the semiconductor prices fall again, those service providers will delay their purchase, anticipating an additional decline in price. Although American companies such as Micron Technology and Western Digital are expected to benefit from the production setback in China, it concerns over an overall decline in demand that are weighing down on the market.
Supply Chain Collapse for Automakers

Wuhan Coronavirus Forces Korean Automakers’ to Halt Plants in Korea

By Jung Min-hee

Plants in Korea are also extending shutdowns due to disruptions in the procurement of parts arising from the spread of the Wuhan coronavirus in China.

Hyundai Motor and Kia Motors decided to extend the suspension of their Korean plants on Feb. 10. In the case of Hyundai Motor, Ulsan Plant 2, which produces popular models such as the Palisade and the GV80, will resume normal operations on Feb. 11. Line 1 of Ulsan Plant 4 and Asan Plant will begin to operate normally from Feb. 12. The other plants will restart between Feb. 12 and Feb. 27. Kia Motors will suspend the operation of Sohari Plant and Gwangju Plant 2 from Feb. 12 to 13 and close down Gwangju Plant 3 from Feb. 12 to 14.

The automaker said on Feb. 4 that it has decided to halt the operation of its plants in Ulsan, Asan, and Jeonju one by one and stop their production lines until Feb. 11. The carmaker finalized the plan after a consultation with the labor union.

This decision came as it has become difficult for Hyundai Motor to procure wiring harnesses, an essential part in the automobile assembly process. Chinese wiring harness manufacturers announced on Jan. 31 that they would stop operating until Feb. 9. Under the circumstances, Hyundai Motor receives these parts from Korean companies that have production plants in China. Due to the Wuhan coronavirus outbreak, their factories in China were shut down, so Hyundai Motor has no choice but to suspend its operation due to an inventory shortage. As a result, auto plants in Korea are forced to adjust their production speeds. In particular, sometimes, their conveyor belts loitered due to a shortage of parts.

Immediately from the day, the automaker halted the operation of Line 1 of Ulsan Plant 5 that mainly produces Genesis models such as the G90, the G80, and the G70, and Line 2 of Ulsan Plant 4 which produces the Porter trucks. Other plants in Ulsan will stop their production processes sequentially staring on Feb. 5. The Asan plant, which produces the Sonata and the Grandeur, will be closed down on Feb. 7, while the Jeonju Plant, a commercial vehicle production base, on Feb. 6. Hyundai Motor plans to resume the operation of all its factories starting Feb. 11.

In the meantime, SsangYong Motor decided to shut down its manufacturing facilities from Feb. 4 to 12 due to a wiring harness supply setback. Its Pyeongtaek Plant resumed operation on Feb. 13 after a nine-day shutdown. GM Korea’s Bupyeong Plant 1 will suspend its operation until Feb. 18. The plant produces GM’s new model “Trailblazer.” The Bupyeong Plant 2 which produces the compact SUV “Trax” is in operation.

Korean automakers had no choice but to halt their plants again due to the low utilization rates of parts factories in China. Although China’s wiring harness makers restarted the operation of their plants on Feb. 15, only 10 percent of workers have reported for work. After the Chinese Lunar New Year holidays, employees of Chinese parts factories should go to work normally, but their work report rates are low due to concerns about COVID-19 infections. As a result, auto plants in Korea are forced to adjust their production speeds. In particular, sometimes, their conveyor belts loitered due to a shortage of parts.

Hyundai Motor Co. has decided to shut down its plants in Korea due to a supply chain disruption.
Sourcing Diversification
LG, Samsung Reexamining Global Supply Chains amid COVID-19 Outbreak

By Michael Herh

SAMSUNG Electronics is considering producing more consumer electronics products in Southeast Asia and delivering more products from South Korea in view of the possibility that the resumption of plant operations in China may be delayed. Although Samsung Electronics’ semiconductor packaging plant and Samsung Display’s LCD manufacturing plant in Suzhou are still in normal operation, the companies are paying close attention to the current situation in that any delay in production will lead to huge losses.

In particular, LG Group has begun to reexamine the production strategies of its key manufacturing subsidiaries amid the spread of the COVID-19. Last year, the company began to diversify the import sources of electronic materials and components following Japan’s export restrictions against Korea. Now the group is expanding import source diversification efforts to other areas, including the chemical and pharmaceutical sectors.

The group’s major manufacturing affiliates such as LG Electronics, LG Chem, LG Display, LG Innotek, and LG Household & Healthcare have begun to examine their global supply chains due to concerns about disruptions in materials and parts supply from China due to the spread of the new coronavirus.

LG believes the supply chain risk from the COVID-19 is greater than that from the Japanese export restrictions. “In fact, Japan’s export regulations did not affect our production strategies as the restrictions were limited a couple of products,” an LG official said. “On the other hand, the COVID-19 is an issue in China, which accounts for 30 percent of LG Group’s overseas production. We are taking the issue seriously because it may disrupt the production activities at our subsidiaries.”

As a result of this, the group is seeking a full-scale change in its production strategy to reduce its dependence on materials and components from certain countries or companies, not only in the electronics sector but also in the chemical and pharmaceutical sectors.

“The most important point in the reexamination of our production strategy is how to increase the proportion of localized materials and components,” said an official of an electronics affiliate. “We will focus on supporting and fostering Korean suppliers rather than directly making them.”

The South Korean government also is revising laws and increasing incentives to ensure that more large South Korean companies in China return to their home country. After the Act on Assistance to Korean Off-shore Enterprises in Repatriation was implemented in 2013, only 68 South Korean companies did so between 2014 and 2019 and the number stood at four in 2015 and 2017 each. Besides, the 68 companies include 67 non-large companies and Hyundai Mobis is the only large company in the group. It opened a green car parts manufacturing plant in Ulsan City in August last year.

Under the circumstances, many experts mentioned the necessity of retrieving large companies in that the reshoring can be accompanied by a very large number of smaller companies and can be of great help in dealing with Japan’s export curbs and the spread of COVID-19. In relation with that, the Restriction of Special Taxation Act is expected to be revised within this year so that corporate tax reduction can be applied to reshoring companies’ business expansion in South Korea as well as business foundation in the country.
Major economic organizations have lowered their forecasts for Korea’s economic growth amid the COVID-19 outbreak.

The Korean economy is hit hard by global COVID-19 infections that gripped the world. Two of the world's top three credit rating agencies lowered their forecasts for Korea's economic growth in 2020 to the 1 percent range, and some institutions did not rule out the possibility of Korea’s growth staying in the 0 percent range.

Standard & Poor’s predicted that Korea’s growth rate will drop by 0.5 percentage point from 2.1 percent to 1.6 percent in 2020. Moody's Investors Service cut Korea’s growth estimate from 2.1 percent to 1.9 percent, while ING Group revised down its forecast from 2.2 percent to 1.7 percent. Morgan Stanley predicted that Korea’s growth may drop 0.8 to 1.7 percentage points due to the COVID-19 virus.

Domestic economic institutions also made similar forecasts. The Woori Financial Management Institute predicted that if the COVID-19 crisis comes to an end in the first quarter, the Korean economic growth rate will drop by 0.3 percentage point during this period. But the negative impact can double if the outbreak continues into the second quarter and spreads widely outside China. If the epidemic is prolonged, the growth rate will decrease by at least 0.6 percentage point.

Nomura Securities predicted that in the worst case, Korea’s economic growth rate would be lowered to minus 2.9 percent in the first quarter and JP Morgan suggested minus 0.3 percent.

Analysts say that the COVID-9 outbreak has a direct impact on the Korean economy because its fundamental strengths have been greatly weakened. They note that fundamental measures should be taken to promote domestic sales and exports, but the government relies solely on fiscal policies.

"China’s economic growth rate has been lowered from 6 percent to 4 percent, and in the worst case, it may hit 0 percent,” said Cho Kyung-yeop, director of economic research at the Korea Economic Research Institute. “The Korean economy is highly dependent on China and therefore may even record negative growth.

"Korea has been hit directly by foreign variables such as the COVID-19 outbreak. Pro-union and anti-corporate policies have had a major impact on the health of the Korean economy," Cho added. "The government resorts to short-term measures only to rev up the economy temporally even though it needs to make a change in its economic policies."

"The Korean government should have taken strong measures such as blocking the entry of Chinese people from the beginning as other major countries such as the United States did," an analyst said.

“But the Korean government has been unwilling to cope with the problem sternly. So we are facing a man-made disaster.”

In the meantime, the combined market capitalization of the top 10 conglomerates of South Korea decreased by no less than 55 trillion won in about one month in the wake of COVID-19. Specifically, the market cap of their 100 listed subsidiaries decreased by 6.08 percent to 853.9 trillion won from Jan. 20 to Feb. 25 after the first COVID-19 infection in South Korea was confirmed on Jan. 20.

Specifically, Samsung Group’s value decreased 5.94 percent to 481,310.7 billion won. Hyundai Motor Group’s fell 6.81 percent to 79,571.8 billion won. The combined market cap of SK Group’s 19 listed subsidiaries decreased 4.29 percent to 125 trillion won whereas that of LG Group’s 13 listed subsidiaries edged up 0.64 percent to 87,406.5 billion won. In particular, the value decreases of two major distribution business groups were steeper; Shinsegae Group’s market cap dropped 21.6 percent to 7,270.2 billion won and Lotte Group’s market cap dropped 16.2 percent to 16,664.9 billion won.
Korean Investors’ Preference for Foreign Stocks Growing

Foreign Currency Securities Settlement Value Reaches New High Last Year
By Yoon Young-sil

The Korea Securities Depository announced on Jan. 29 that South Korean investors’ foreign currency securities settlement value hit an all-time high of US$171.22 billion with a year-on-year increase of 56 percent last year. The value reached a record high in 2017 and 2018 as well. Specifically, it was US$91.7 billion in 2017 and US$109.72 billion in 2018.

Last year, their foreign currency stock settlement value increased 25.8 percent to US$40.98 billion and foreign currency bond settlement value increased 68.8 percent to US$130.23 billion. The Euro market accounted for 59.3 percent of the total value, followed by the United States, Hong Kong, China and Japan. The five regions represented 98.8 percent of the total value.

South Korean investors’ foreign currency securities settlement value hit an all-time high of US$171.22 billion in 2019.

The foreign currency stock settlement value in Amazon fell 29.9 percent year on year to US$1.64 billion. Those in Microsoft, Alphabet, Nvidia, Apple and Tesla are US$960 million, US$660 million, US$580 million, US$520 million and US$480 million, respectively.

Last year, their foreign currency securities in custody also hit an all-time high of US$43.62 billion, up 20.2 percent from a year ago. The foreign currency stocks in custody increased 46.9 percent to US$14.45 billion and the foreign currency bonds in custody increased 10.2 percent to US$29.16 billion.

Lowest in 6 Years

Stock Issuance Decreases 40% to 5.3 Tril. Won in 2019
By Yoon Young-sil

Last year, as the stock market slumped, the amount of funds raised through stock issuance decreased by more than 40 percent from 2018. Stock issuance in 2019 reached 5,317.2 billion won, down 40.2 percent from a year earlier, the Financial Supervisory Service said on Jan. 28. This is the lowest figure in six years since 5,202 billion won worth of stocks was issued in 2013. Stock issuance through IPOs stood at 2,467.7 billion won, up 6.6 percent from the previous year. IPOs by special purpose acquisition companies (SPACs) increased sharply, while the amount of shares issued through capital increases plummeted 56.7 percent to 2,849.5 billion won.

The KOSDAQ market had 95 IPOs worth 2,080.4 billion won, dwarfing the KOSPI market with 7 IPOs worth 387.3 billion won. IPOs by SPACs totaled 266.4 billion won in 30 cases, up nearly 50 percent from 155.2 billion won in 20 cases in the previous year.

Increases with consideration amounted to 1,722.2 billion won (18 cases) in the KOSPI market, 1,008.8 billion won (32 cases) in the KOSDAQ market and 118.5 billion won (four cases) by unlisted companies.

In the meantime, corporate bond issuance amounted to 170,182.7 billion won in 2019, up 5.8 percent from the previous year. By type, general corporate bonds rose 27.1 percent to 45,036.2 billion won, and financial bonds inflated 0.7 percent to 109,902.9 billion won. Asset-backed securities (ABSs) shrunk 7.2 percent to 14,973.6 billion won.

By fund use, operating funds stood at 23,258.1 billion won, accounting for 51.3 percent, followed by refining funds (37.1 percent) and facility funds (11.6 percent). By credit rating, AA-grade or higher funds were 31,105 billion won (69.1 percent), A-grade funds accounted for 24.7 percent, and BBB-grade funds below 6.2 percent. Meanwhile, commercial papers (CPs) amounted to 388,843.8 billion won, a 9.9 percent increase from the previous year, and short-term bonds increased by 0.5 percent to 1,123,162.7 billion won.
As the South Korean market for easy payment services has grown close to three times in two years, the service providers are now moving to expand their businesses to overseas markets.

They are planning to enable travelers to use their easy payment services without exchanging money, especially in Asian countries where many Korean tourists visit. NHN PAYCO is scheduled to provide a simple payment service in Taiwan in the first quarter of the year, and Naver Pay also plans to enter the Taiwanese market this year.

Industry data show that the daily average of payments made through easy payment solutions reached 162.8 billion won (US$139.44 million) in the first half of last year, an almost triple increase in two years from 50.7 billion won (US$ 4.34 million) in the first half of 2017. The number of transactions settled through easy payment services also increased from 1.6 million in the first half of 2017 to 4.52 million in the second half of 2018, and further to 5.34 million in the first half of 2019. As the easy payment service market is rapidly growing, the service companies are speeding up their expansion into foreign markets.

The purpose of their overseas expansion is to enable domestic customers to use their simple payment solutions without exchanging money during their overseas trips. To this end, they are focusing on Asian countries, including Japan, where many Korean people visit.

NHN PAYCO plans to open its service in Taiwan in the first quarter of the year. PAYCO will enter the Taiwanese market using the local payment infrastructure and franchise store network built by LINE Pay. Earlier, PAYCO entered the Japanese market in August last year by establishing a partnership with Incom Japan, the No. 1 Japanese prepaid card retailer. The Korean company also plans to expand its presence in Thailand and other countries, besides Taiwan.

Naver Pay also plans to enter the Taiwanese market this year, following its entry into the Japanese market. Shinhan Bank is also scheduled to expand its payment service, SOL, to Taiwan and other countries after Japan. With relations strained between Korea and Japan, the bank is considering speeding up the expansion of its simple payment service into South East Asia and China.
The Financial Services Commission met with financial group CEOs and released new financial group supervision guidelines on Feb. 24. According to the new guidelines targeting Samsung, Hyundai Motor, Hanwha, Mirae Asset, Kyobo and DB, the commission will look into their shareholdings in non-financial subsidiaries and the stability of their governance structures in evaluating their capital adequacy.

The guidelines are updated in every July. This year, however, the commission will implement the new guidelines in May so that those can be applied earlier. Each of the six financial groups has a financial asset of five trillion won or more and is engaged in two or more out of lending and deposit, insurance, and financial investment. According to experts, the main target of the new guidelines is Samsung and the main purpose of the new guidelines is to limit Samsung Life Insurance’s and Samsung Fire & Marine Insurance’s shareholdings in Samsung Electronics.

The commission is going to reflect the concept of concentration risk in capital adequacy assessment. In each of the six, the capital adequacy defined by dividing the eligible capital by the required capital must exceed 100 percent and the concentration risk will be included in the required capital along with the contagion risk and the minimum required capital. In June last year, the commission did not apply the concentration risk, saying that the concept needs to be reviewed in relation to legal discussions in the National Assembly. Then, the Solidarity for Economic Reform said that Samsung is the only one of the six that has a high concentration risk attributable to subsidiary investment, the non-reflection of the concentration risk means Samsung Life Insurance can maintain its Samsung Electronics shares, and the non-reflection is a special treatment for Samsung Group.

“Scholars’ consensus is that the contagion and concentration risks are hard to clearly distinguish and it is the latter that has been reflected in international standards,” the commission explained, adding, “We are going to come up with an integrated calculation model by April this year and run a simulation in the third quarter.” The new guidelines will include not only the concentration risk but also non-financial elements such as subsidiary management and business management, the complexity of governance structures, internal transaction volumes, etc.

In addition, the commission is going to guide the groups to set up group-wide internal control systems based on a council including their representative companies and compliance officers. The scope of public disclosure will be expanded from group-specific risks to their financial statuses, investment structures, and risk statuses.

The financial authorities of South Korea recently finalized a plan to improve financial group supervision. The targets of the plan are major financial groups that are not bank holding companies and are engaged in at least two out of lending and deposit, insurance, and financial investment. Specifically, the targets are the financial groups belonging to the six conglomerates of Samsung, Hyundai Motor, Hanwha, Mirae Asset, Kyobo and DB.

Those groups are currently subject to no risk management regulations unlike bank holding companies, which are subject to the Financial Holding Companies Act. Instead, the financial authorities have implemented certain supervision standards applied to them since 2018. The standards, which focus on their capital adequacy levels, are follow-up management tools for risk management based on capital regulation.

According to the authorities’ recent research, further risk prevention is necessary in the six groups and the necessity can be met by adding governance and risk management structures to the supervision scheme. In other words, the same regulations are necessary for financial group supervision with the Financial Holding Companies Act covering governance structures as well as capital adequacy levels. In addition, the plan is expected to control capital concentration risks in the groups and their inter-subsidiary insolvency transfer risks.

The standards were revised in July last year and are scheduled to be revised again this year. Then, those can be turned into a law for forced enforcement.
Exclusion of 30 Percent Cap Rule

Korea Exchange Not to Apply 30 Percent Cap Rule to Samsung Electronics Early

By Yoon Young-sil

The Korea Exchange today announced on Feb. 19 that it will not apply a 30 percent cap rule to the market cap of Samsung Electronics in the KOSPI 200.

The exchange studied a plan to diffuse an impact on the stock market by adjusting the proportion of Samsung Electronics’ market cap in the market caps of companies in the KOSPI 200 as Samsung Electronics’ entry proportion in the KOSPI 200 increased to 33.5 percent as of Jan. 20 of this year from Dec. 2 of last year.

"We considered a lack of response time for index users when a regular adjustment was scheduled to be made in June," the exchange said. "We decided not to make an early adjustment based on industry feedback."

Therefore, the Korea Exchange will study the application of the cap to the KOSPI 200 index in parallel with the regular change in the KOSPI 200 stocks in June.

Alleviating Burden on Samsung Life

Samsung Life Insurance to Be Excluded from Concentration Risk Assessment

By Yoon Young-sil

The Financial Services Commission is planning to exclude the concept of concentration risk from its financial group supervision guidelines to be applied to Samsung Group. According to the current law, Samsung Life Insurance must increase its capital in order to retain 3 percent or more of Samsung Electronics shares. The commission’s decision is expected to slightly alleviate the burden of Samsung Life Insurance.

The commission is going to assess the capital adequacy of certain financial groups based on the single criterion of group risk instead of concentration and contagion risks. The contagion risk can be defined as a deterioration of one subsidiary’s financial conditions attributable to the insolvency of another subsidiary in the same financial group. The concentration risk can be defined as a financial group’s assets lopsided to a particular industry, region, transaction counterpart, etc.

The financial group supervision guidelines of the commission were implemented in 2018 so that the spread and transfer of financial risks attributable to the globalization of the industry can be better controlled.

The concept of concentration risk has been a main issue related to the guidelines. Especially, Samsung Life Insurance’s shareholding in Samsung Electronics has drawn much attention. As of the end of September 2019, Samsung Life Insurance owned 508,157,148 common stocks with voting rights in Samsung Electronics, equivalent to a shareholding of 8.51 percent. In terms of Samsung Electronics’ closing stock price on Feb. 24 this year, the shareholding was equivalent to 9.4 percent of the total assets of Samsung Life Insurance. This means Samsung Life Insurance must reduce its exposure related to Samsung Electronics or increase its capital in order to meet the concentration risk part of the guidelines.

The group risks to be assessed by the commission include subsidiary-specific risks such as subsidiaries’ financial risks and the degree of asset concentration, inter-subsidiary risks such as the degree of dependence on internal transactions, the size of such transactions and shareholdings in non-financial subsidiaries, and risks related to internal control and risk management such as the adequacy and appropriateness of internal control policies.
Blockchain-based Bond Management System
Bank of Korea Developing Pilot 'Blockchain Bond' System

By Jung Suk-yee

The Bank of Korea (BOK) set out to develop a bond management system using blockchains. The central bank of Korea is considering adopting the entire process from bond issuance to settlement on a blockchain platform at once.

On Feb. 18, the BOK announced that it is conducting a proof of concept (PoC) after selecting operators that will run a blockchain-based pilot bond management and settlement system at the end of last year. The simulation development project is led by the Korea Digital Currency Research Team at the BOK.

In November 2019, KEPCO posted a bid for a PoC project for Securities Payment and Settlement based on distributed ledger technology through the Korea Online E-Procurement System named “Nara Jangteo.” According to the announcement, the pilot project for the blockchain-based bond management system will proceed until the end of the first half of this year.

The main goal of the tentative blockchain-based bond management system being developed by the BOK is to simultaneously handle a series of processes from the issuance of bonds to settlement with blockchains. In the current bond system, settlement has to go through the Korea Securities Depository, but on the blockchain bond system, bond issuance and settlement can be integrated into one.

In order to implement this, the BOK is considering operating several nodes related to bond settlement to configure their own nodes on blockchains. In addition, the BOK believes that a system recovery will become easier with distributed node operation rather than with the current centralized system.

The BOK is also considering running multiple blockchain platforms. This is less efficient than running a single blockchain platform, but the BOK was experimenting on various configurations, the BOK said.

"In order to introduce blockchains to the bond settlement system, there are many legal issues that need to be reviewed, so we will not provide service right away," The BOK said. “We are checking whether the system is running nicely by focusing on technological points.”

Bank of Korea Developing Pilot 'Blockchain Bond' System

Research on Central Bank Digital Currencies
Bank of Korea Forms Digital Currency Research Team

By Yoon Young-sil

The Bank of Korea (BOK) is conducting a proof of concept (PoC) for a bond management system.

The Bank of Korea announced on Feb. 5 that it would form a technical research team to cover central bank digital currencies (CBDCs) and conduct legal and technical examinations on the matter. A number of experts and professionals are expected to join the research team from the private sector.

These days, major central banks around the world are considering allowing the use of CBDCs for the purpose of payment between financial institutions. Until recently, the Bank of Korea focused its related research on the current status of the research by those central banks. Its recent announcement, however, implies that its research can lead to CBDC issuance in the future. Still, the Bank of Korea stressed that it would not issue any CBDC in the near future.

The central bank of South Korea formed a joint task force in January 2018 to conduct research on cryptocurrencies and CBDCs. The joint task force continued for one year and the bank has conducted research on its own since then.
Cryptocurrencies developed by South Korean blockchain startups are continuing to rally.

For example, Upbit announced on Feb. 9 that ICON was traded at around 800 won on Feb. 4 after standing at around 130 won in early January this year. Trading at that level in that cryptocurrency exchange was for the first time since October 2018.

The cryptocurrency continued to rise for more than 10 days after Jan. 20. Especially, the price jumped more than 10 percent each day from Jan. 29.

Other domestically developed cryptocurrencies, including TTC, Carry Protocol and Aergo, are continuing to rise this year, too. For instance, the price of TTC rose from 27 won to 46 won between early January and Feb. 6. Aergo and Carry Protocol gained 70 percent and 66 percent during the period, respectively. Each of MovieBloc, Contents Protocol Token and MediBloc already gained more than 30 percent as well.

According to industry sources, the rally has to do with the Wuhan coronavirus, which is highlighting the value of cryptocurrencies as safe digital assets, and the fact that the total deposits of blockchain-based financial services recently topped one trillion won to result in higher expectations for blockchain commercialization.

Malta-based cryptocurrency exchange Binance announced on Feb. 16 that it has opened cryptocurrency purchase services based on the 15 currencies including the South Korean won. Market watchers say Binance’s South Korean market penetration is likely to take shape based on the new service.

The other currencies include those of the United Kingdom, Russia, Australia, Switzerland, New Zealand, Sweden, Turkey, South Africa and Israel. As a result, the number of currencies that can be used for Binance-based cryptocurrency purchase increased from 20 to 35.

Cryptocurrency settlement services based on the currencies will be supported by Simplex, a service provider located in Israel. Users can purchase six cryptocurrencies, that is, Bitcoin, Ethereum, Ripple, Bitcoin Cash, Litecoin and Binance Coin on Binance and trade more than 200 cryptocurrencies with their Visa or Master credit cards.

On Feb. 13, Binance added the South Korean won to its wallets. At that time, main wallet functions such as deposit and withdrawal were not activated and there were no tradable markets. In the afternoon of the next day, Binance removed the won wallet from its list.

Under the circumstances, much attention is being paid to whether Binance will support the won wallet along with the new service. The exchange said that its official stance is yet to be determined and the determination will be made in accordance with its strategy for cryptocurrency accessibility enhancement. At present, the company is recruiting a compliance officer and customer center personnel in South Korea.
With the South Korean government planning to include taxation on cryptocurrencies in its tax reform plan for next year, tax experts pointed out at a seminar held on Feb. 21 that a low level of trading tax should precede gradual transfer income tax application.

The government is scheduled to announce its tax reform plan in the second half of this year.

Experts from the Korean Tax Policy Association said at the seminar that profits derived from cryptocurrency trading should be subject to transfer income taxation. They noted that the transfer income defined in the Income Tax Act must include crypto-assets through prior legislation.

The Korea Blockchain Association made the same proposal. “Still, related laws are still absent and the taxation infrastructure is still insufficient to cover cryptocurrencies and, as such, some supplements need to be added on the expense calculation side,” it explained.

The Korea Blockchain Association pointed out that the expense calculation improvement should start from cryptocurrency acquisition costs so that transfer income taxation can be possible after trading tax imposition. “Acquisition costs need to be clarified for transfer income tax imposition, but cryptocurrency acquisition costs are hard to clarify because the currencies are traded in various exchanges and related information and data are restricted,” it said, adding, “Infrastructure needs to be established after case-by-case trading tax imposition.”

The South Korean government is considering applying a tax rate of 20 percent to income derived from cryptocurrencies by regarding it as not transfer income but miscellaneous income, which includes lottery payouts, lecture fees, royalties, and the like.

The Ministry of Economy and Finance decided in the second half of last year to impose income taxes on cryptocurrencies. Then, the Property Tax Division of the ministry made preparations to include related details in this year’s tax law amendment bill. Also, the International Tax Division analyzed the 80 billion won tax imposed on cryptocurrency exchange Bithumb by the National Tax Services.

Recently, the division in charge of the taxation issue in the ministry has been changed to the Income Tax Division. Experts point out that the change was the first step for the government to classify cryptocurrency-based income as miscellaneous income rather than asset transfer income.

At present, miscellaneous income is subject to an expense deduction of 60 percent and a tax rate of 20 percent is applied to the rest. The calculation is simpler than in the case of transfer income, which requires accurate acquisition costs and transfer prices. Still, controversy may arise with regard to acquisition and reference cost calculation and withholding taxation on cryptocurrency exchanges if miscellaneous income taxes are applied to locals’ cryptocurrencies.
Bumpy Road Ahead

Business Conditions of S. Korean Financial Holding Companies Deteriorating

By Yoon Young-sil

Hana Financial Group’s earnings announcement is scheduled for Feb. 4 and Shinhan, KB and Woori Financial Groups announce their 2019 earnings for the next three days. According to market research firms, Shinhan’s current net profit is estimated at 3,467.3 billion won, up 9.8 percent from a year ago, and KB’s is estimated at 3,324.9 billion won, up 8.3 percent from a year ago.

When it comes to Hana, the estimate is 2,458.8 billion won, up 10 percent from a year earlier. The group’s net profit increased 10 percent in the preceding year. The rosy outlook is based on the company’s business diversification efforts in the non-banking sector and overseas markets. Meanwhile, Woori Financial Group, which is highly dependent on Woori Bank, is predicted to come up with a current net profit of 1,965.9 billion won.

The road ahead is rather bumpy for the financial groups, which managed to post record performances for years despite low interest rates and strengthening regulations on household loans. With low interest rates continuing, their net interest margin (NIM) is likely to fall approximately 10 basis points this year. Although experts are predicting a NIM rebound in the second quarter of this year on condition of no downward benchmark rate adjustment, the market rate has already begun to fall in the wake of the Wuhan coronavirus.

Tighter regulations on the real estate sector are another hurdle. At present, even security deposit loans are subject to stronger regulations, and this is predicted to have an adverse impact on those groups’ financial soundness and growth potentials.

2019 Witnesses US$225 Million Increase

Overseas Investment by Korean Financial and Insurance Companies Keeps Growing

By Yoon Young-sil

Outbound foreign investment by South Korean financial and insurance companies amounted to 19.86 trillion won (US$16.97 billion) in the first nine months of 2019, surpassing the figure for the whole of 2018 by 260 billion won (US$225 million), data released by the Export-Import Bank of Korea on Jan. 6 show.

Overseas investment by Korean financial and insurance companies has continued to expand recently. The figure increased from 10.4 trillion won (US$8.89 billion) in 2016 to 15.4 trillion won (US$13.16 billion) in 2017 and 19.5 trillion won (US$16.74 billion) in 2018. Financial investment companies led the growth in overseas investment. Financial holding companies, credit card firms and finance businesses also invested overseas.

As a result, the number of new corporations established overseas by domestic financial and insurance companies is also on the rise. A total of 265 new corporations were set up overseas by the end of September last year, 16 more than the 249 in the previous year. The figure rose from 113 in 2015 to 156 in 2016 and 182 in 2017.
Lacking a Localization Strategy

Profitability of Foreign Securities Companies in South Korea Drops Last Year

By Yoon Young-sil

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Chinese Stock Market Expected to Plunge

Investors Investing in China Getting Nervous

By Yoon Young-sil

Korea Exchange announced on Feb. 2 that the first Wuhan coronavirus patient in South Korea was reported on Jan. 20 and the aggregate value of the South Korean stock market dropped by 104,324 billion won from that day to Jan. 31. Specifically, the aggregate market capitalization of the KOSPI market decreased from 1,515.299 trillion won to 1,427.047 trillion won, while that of the KOSDAQ fell by more than 16.7 trillion won.

Under the circumstances, investors are paying keen attention to the Shanghai stock market, which was closed for 10 days from Jan. 23 for the Chinese New Year holidays. South Korean investors’ trading volume in the market amounted to 2.27 trillion won in 2019 alone and the net assets of their public funds investing in China amount to eight trillion won.

Experts’ consensus is that the Chinese stock market will plunge once it opens again and the South Korean stock market is likely to be adversely affected for a while.

Those investing in the funds are gradually withdrawing from the funds with the situation as it is. For the past one month, the average return of the funds was negative 2.56 percent whereas that of overseas stock funds as a whole was negative 0.29 percent. The former funds recorded a capital outflow of 126.9 billion won during the period. ELS investors are nervous, too. Last year, the total ELS issuance linked to the Hong Kong H Index amounted to 51 trillion won.

Another consensus is that the panic will be rather short-lived. “The Shanghai stock market was affected for one month after the outbreak of SARS in 2003,” Korea Investment & Securities explained, adding, “At that time, the index fell 9 percent from mid-April to mid-May and the market was stabilized later.” It also said that the impact of the Wuhan coronavirus on the fundamentals of the South Korean economy would be rather limited, the Chinese government has improved its disease response capabilities, and the People’s Bank of China is likely to supply liquidity in a highly aggressive way.
ETF Net Assets Increase 26.1% in 2019

Total Net Asset of ETFs in South Korea Hit All-time High

By Yoon Young-sil

Korea Exchange announced on Jan. 7 that the total net asset of ETFs listed in South Korea hit a record high of 51.7 trillion won at the end of last year, up 26.1 percent from a year earlier, led by a continuous supply of new ETFs and improved local stock market conditions. Last year, 35 domestic and 13 international ETFs were listed to increase the numbers to 335 and 115, respectively. For reference, the South Korean ETF market was opened in 2002 and the total net asset was 344.4 billion won at that time.

Last year, the KODEX 200 ETF attracted the largest investment in the market, 1,292 billion won, and its total net asset was 9.3 trillion won, equivalent to 18 percent of the market. The TIGER 200 ETF attracted 1,103 billion won. The two ETFs are based on the KOSPI 200 index.

The average return of the 450 ETFs was 6.54 percent last year. Specifically, the average return of domestic stock ETFs was 7.83 percent, 0.16 percentage point higher than the growth rate of the KOSPI stock market. All in all, ETFs linked to the U.S. and Chinese stock markets showed relatively higher rates of return.

In addition, a number of fixed income ETFs made their debut last year with investors preferring regular cash payments such as dividends, real estate rental income and bond interests amid low interest rates and economic uncertainties. Korea Exchange is planning to supply various fixed income ETFs this year as well in order to help investors make stable investments.

Wuhan Coronavirus Casts Cloud over Stock Market

South Korea’s MMF Balance Hits All-time High

By Yoon Young-sil

Short-term financial products such as money market funds (MMFs) are attracting more and more money. Although the South Korean stock market was expected to attract investors with real estate regulations strengthened and listed companies’ business performances improving, the Wuhan coronavirus cast a cloud over the stock market and investors are keeping their money in MMFs.

The Korea Financial Investment Association announced on Feb. 10 that the total balance of MMFs amounted to a record high of 140.4 trillion won on Feb. 6 and those products attracted no less than 11.4 trillion won in the latest week alone.

This is because of the lack of alternative investment opportunities. The South Korean government added regulations to the real estate market on Dec. 16, 2019 by prohibiting a loan for a house priced at 900 million won or more and the prohibition led to less investment demand in the real estate market.

Early this year, the local stock market was expected to absorb the money with the market expected to rally based on listed companies’ improved business figures. However, the Wuhan coronavirus broke out all of a sudden, adding volatility to the market to the point of hindering the flow of money.
The size of foreign investment funds available in South Korea increased from 135.94 trillion won to 183.69 trillion won in 2019 alone and more than doubled in three years. The net asset value of the funds was more than 190.87 trillion won at the end of last year.

Such a rapid growth has to do with last year’s domestic stock market slump and low interest rates. With very low interest rates continuing, investment firms raised more capital with ease and found profitable investment opportunities such as overseas real estates.

Individual investors disappointed by the South Korean stock market flocked to foreign investment funds. Especially, overseas real estates and alternative investments led the growth of the funds. Specifically, funds investing in overseas real estate properties accounted for 29 percent of the market, and they were followed by those for international alternative investment (45.99 trillion won), funds of funds (27.17 trillion won), stock funds (17.97 trillion won), derivative funds (17.31 trillion won), and bond funds (8.22 trillion won).

Overseas real estate funds with a size of at least one billion won posted an average return of 9.75 percent in 2019. Especially, the average return of funds for global REITs investment amounted to 20.43 percent. Foreign stock funds gained 27.39 percent and those investing in Russia and China gained more than 30 percent.

The global funds were private equity funds in many cases. Specifically, such funds added up to 146 trillion won last year, 74 percent of the total.
Private Equity Funds Attracting Wealthy People

Overseas Investment Funds Reach 184 Tril. Won, Accounting for 30% of Total Funds

By Yoon Young-sil

Overseas investment funds, which invest in overseas stocks, bonds and real estate, have surpassed 180 trillion won (about US$155 billion), accounting for about 30 percent of all investment funds. Private equity-type overseas investment funds mainly targeting wealthy people have grown rapidly.

The amount of established overseas investment funds at the end of last year stood at 183.70 trillion won (about US$158.3 billion), which represented 28.3 percent of the total established funds, said the Korea Financial Investment Association on Jan. 14.

By type of subscription, private equity funds amounted to 146 trillion won (about US$125.8 billion and 79.5 percent) and public offering funds 37.7 trillion won (about US$32.5 billion and 20.5 percent). The amount of private equity funds was 3.9 times higher than that of public offering funds.

The number of overseas investment funds was 4,673 at the end of 2019, 30.7 percent of the total number. It surpassed the 30 percent level for the first time. Among them, private equity funds totaled 3,314 (70.9 percent) while public offering funds 1,359 (29.1 percent).

Overseas investment funds refer to funds which raise funds from Korean investors and invest more than 60 percent of them in overseas stocks, bonds, derivatives, real estate and special assets.

A low interest rate and a sluggish Korean stock market have been driving more and more investors towards overseas investment products.

The proportion of overseas investment funds in total funds rose from 14.2 percent in 2014 to 15.3 percent in 2015, 17.4 percent in 2016, 22.2 percent in 2017, and 24.7 percent in 2018.

Overseas investment funds have been mainly private equity funds rather than public offering funds. Private equity funds require a minimum membership amount of 100 million won (about US$86.2 million) per person.

While the amount of established overseas investment funds expanded from 53.5 trillion won (about US$46.1 billion) at the end of 2014 to 183.7 trillion won (about US$158.4 billion) at the end of last year, that of established private equity funds rose from 26.9 trillion won (about US$23.2 billion) to 146 trillion won (about US$125.9 billion) during the same period. The amount of established public offering funds inflated from 26.6 trillion won (about US$22.6 billion) to 37.7 trillion won (about US$32.5 billion) in this period.

The number of private equity funds increased by 2,226 from 1,088 at the end of 2014 to 3,314 at the end of 2019 and that of public offering funds grew by 494 to 1,359 to 865 while that of overseas investment funds increased by 2,720 from 1,953 at the end of 2014 to 4,673 at the end of last year. The number of private equity funds grew faster than that of public offering funds.

Last year, the growth of private equity funds slowed down a bit due to the DLF and Lime fiasco, but the fiasco had nearly no impact on foreign investment funds. The amount of all established private equity funds grew from 386.6 trillion won (about US$333.3 billion) at the end of July to 412.4 trillion (about US$355.5 billion) at the end of December in 2019 while that of all established overseas investment funds grew by 19 trillion won (about US$16.4 billion and 15.0 percent) from 127 trillion won (about US$109.5 billion) to 146 trillion won (about US$125.9 billion). The growth of private equity investments accounted for 73.8 percent of the growth of all private equity funds.

By investment type, among overseas investment funds, strong growth was recorded by the real estate type, the special asset type investing in real assets such as ships, aircraft, oil fields, and intellectual property rights, and the mixed asset type investing in real estate and special assets.

The amount of the real estate type rose by 47.2 trillion won (about US$40.7 billion) from 7.3 trillion won (about US$6.3 billion) at the end of 2014 to 54.5 trillion won (about US$47 billion) at the end of 2014, while that of the special asset type by 39.7 trillion won (about US$34.2 billion) from 6.2 trillion won (about US$5.3 billion) to 45.9 trillion won (about US$39.6 billion).
Insurers Downsize Staff, Branches

Korean Life Insurance Companies Trying to Reduce Costs

By Yoon Young-sil

South Korean life insurance companies are reducing their personnel and branches with their profitability on the decline due to a slow economic growth, low interest rates and a low fertility rate.

The Korea Life Insurance Association announced on Feb. 4 that the number of 24 life insurance companies’ offices and branches in and out of South Korea fell from 3,510 to 3,056 from November 2017 to November 2019. During the same period, they reduced their sales headquarters and branches from 151 to 102 and from 1,128 to 920, respectively.

For example, Mirae Asset Life Insurance, which merged with PCA Insurance in 2018, reduced its branches and offices from 153 to 51. The number fell by 53 from 181 in Shinhan Life Insurance.

The number of those working for the companies edged up from 25,383 to 25,598 from 2017 to 2018 and fell to 25,421 in 2019. For instance, 63 out of 856 left Lina Korea between November 2017 and November 2019.

Those companies’ business conditions are continuing to deteriorate. Prolonged low interest rates already dropped their asset management return to a record-low level and IFRS 17, which is scheduled to be introduced in 2022, is yet another burden for them.

To Reduce Insurers’ Risks

Co-reinsurance to be Introduced for Lower Debt Burdens

By Jung Suk-ye

Co-reinsurance in the insurance sector is expected to be introduced in April this year. Risks related to interest rate fluctuations are expected to be shared with reinsurance companies and insurance companies’ reverse margin and recapitalization burdens are expected to be alleviated.

The Financial Services Commission held a meeting on Jan. 30 and discussed the issue as the first step for insurer restructuring. According to its plan, insurance companies will pay savings insurance premiums and additional insurance premiums to reinsurance companies such as Korean Reinsurance Co. and transfer interest rate risks as well as insurance risks to them at the same time.

Accounting procedures will be further clarified, too. Specifically, an insurance company will regard the difference as prepaid expenses or assets and write it off during a contract period and a reinsurance company will regard the difference as an unearned income or liabilities and write it off during the contract period.

South Korean insurers sought recapitalization methods, such as subordinated debt issuance and investment in long-term treasury bonds, with IFRS 17 and the Korean Insurance Capital Standard (K-ICS) scheduled to be implemented in 2022. They have reached a conclusion that those methods have their own limitations and demanded a measure to reduce an increase in liabilities with regard to high-interest insurance contracts.

According to the commission, co-reinsurance is expected to contribute to the financial soundness of insurers and foreign reinsurance companies’ know-how is expected to be shared in that it has already been utilized in the United States and Europe.

“Reinsurance companies need to be capable of bear every risk, including interest rate risks as well as insurance risks,” the commission explained, adding, “As such, foreign rather than domestic reinsurers are likely to be utilized first.”
Honorary professor Choi Joon-seon at the Sungkyunkwan University Law School pointed out that the duty to report applied to those with large shareholdings needs to be adjusted to cover a shareholding of 3 percent or more instead of 5 percent or more so that adverse effects attributable to hedge fund attacks can be reduced.

The Korea Economic Research Institute released his research report on Feb. 11. In the report on responses to shareholder activism and problems related to voting right exercise by institutional investors, the institute and the professor pointed out that hedge fund activism has adversely affected corporate sustainability and shareholder interest by concentrating only on short-term business performances rather than contributing to shareholder value enhancement and agent cost reduction for shareholders and executives. According to them, DuPont reduced costs by cutting back on its R&D investment and shutting down its R&D lab in order to maximize shareholder interest by raising its stock price in the short term after a hedge fund attack.

“The duty to report should be adjusted and the reporting time limit should be changed to within 24 hours so that a balance can be ensured between the freedom of hedge fund activities and adverse effects resulting from the activities,” the institute said in the commissioned research report, adding, “Joint exercise of voting rights must be prohibited at the same time so that hedge funds not subject to the duty to report cannot make a surprise joint attack, which affected no less than 113 listed U.S. companies in the first half of 2016 alone.”

To Address Adverse Effects of Hedge Fund Attacks
KERI Suggests Need to Strengthen Large Shareholding Reporting System
By Yoon Young-sil

Market research firm FnGuide said on Jan. 28 that 197 KOSPI-listed companies and 100 KOSDAQ-listed companies are expected to provide cash dividends equivalent to 26.65 percent and 22.46 percent of their net profits per share, respectively. In July last year, the National Assembly Budget Office announced that listed South Korean companies ranging 0 percent to 100 percent in dividend payout ratio posted an average dividend payout ratio of 29.43 percent in 2018.

Naver and Kakao, which are expected to have grown a lot last year, stand at 7.1 percent and 10.3 percent in dividend payout ratio, respectively. Also, 51 listed companies are likely to pay no dividends this year.

Under the circumstances, institutional investors such as the National Pension Service are predicted to put more and more pressure for dividend payment in upcoming shareholder meetings. Listed South Korean companies’ average dividend payout ratio is much lower than the 2008 to 2018 average of those in G7 countries, 41.58 percent, and that of those in emerging countries, 36.8 percent.

However, it is also pointed out that the dividend payout ratio should not be the sole yardstick for evaluating listed companies’ shareholder return efforts. “The dividend payout ratio based on cash dividends is not sufficient for evaluating the other shareholder return policies such as stock buyback, which is becoming more and more frequent these days,” said an industry expert.
Chinese Firm Starts DRAM Sales

Chinese Semiconductor Companies Growing Fast

By Kim Eun-jin

Changxin Memory Technologies has initiated DRAM chip sales to become the first Chinese DRAM chip supplier. Chinese companies are increasing their presence in the DRAM as well as NAND flash market.

Changxin Memory Technologies’ new products are 8 GB DDR4 mainly used in computers and 2 GB and 4 GB LPDDR4X for use in smartphones. The former are currently produced using a 19-nm process and a 1x-nm process will be put into operation within this quarter so that the monthly production capacity can be increased to at least 40,000 units before the end of this year. Earlier, in May 2016, the company built DRAM R&D and production facilities in Hefei, Anhui by investing 150 billion yuan.

“Unlike a NAND flash memory, a DRAM chip can be used only after its quality and performance are guaranteed,” said an industry expert, adding, “Although Chinese DRAM companies’ productivity is still low, their products can threaten the South Korean semiconductor industry within five years.”

Chinese DRAM companies are still far behind their South Korean counterparts in terms of technology and production capacity alike. It is said that Changxin’s new products are inferior in quality and technology to those of Samsung Electronics and SK Hynix. Still, it is also pointed out that their threat should not be underestimated with South Korean LCD panel manufacturers having already collapsed due to Chinese LCD panel manufacturers’ dumping prices based on the Chinese government’s support.

These days, China is making a huge investment in the semiconductor sector. Last year, China’s investment in semiconductor equipment added up to US$12.91 billion whereas South Korea’s totaled US$10.52 billion. For reference, the respective figures were US$13.1 billion and US$17.67 billion in the previous year and are estimated to reach US$14.92 billion and US$10.34 billion this year.
Samsung Electronics and TSMC Racing to Become First to Start Volume Production of 3-nm Chips

By Michael Herh

Samsung Electronics of Korea and TSMC of Taiwan are waging a fierce war over a 3-nanometer (nm) foundry process. Both companies are planning to begin volume production of 3-nm products in 2022.

TSMC, the world’s No. 1 foundry company, is expected to unveil its 3-nm process technology on April 29 at a technology symposium in North America. TSMC has previously announced its goal to mass-produce 3-nm semiconductors by 2022, but did not disclose a specific technology roadmap. TSMC is expected to begin the construction of a 3-nm plant in Taiwan this year.

In response, Samsung Electronics officially announced earlier this month that it has succeeded in developing the industry’s first 3-nm process technology. Lee Jae-yong, vice chairman of Samsung Electronics, was briefed on the technology breakthrough during his visit to the Semiconductor Research Center at Hwaseong Plant on Jan. 2.

Industry experts believe that Samsung Electronics is slightly ahead of TSMC in 3-nm process development. “We have already made a 3-nm semiconductor sample and verified that it worked nicely,” a Samsung Electronics official said. “We also provided development tools to semiconductor design companies.”

“A chipmaker that starts volume production of 3-nm products first is more likely to win orders for the latest chips from semiconductor design companies,” said Kang Sang-ku, a researcher at the KDB Future Strategic Research Institute.

The narrower semiconductor circuit lines are, the less power semiconductors consume and the better they perform. Compared to 5-nm products, 3-nm semiconductors can reduce chip sizes and power consumption by 35 percent and 50 percent, respectively, and increase performance by 30 percent.

Samsung Electronics and TSMC will also stage a fierce battle this year to become the first to start volume production of 5-nm chips. Samsung Electronics has completed the development of a 5-nm process and is planning to begin volume production of 5-nm products from this year. TSMC is also aiming to start mass production of 5-nm products this year.

In the fourth quarter of 2019, TSMC recorded a 52.7 percent share of the global foundry market, while Samsung Electronics accounted for 17.8 percent. Samsung Electronics has set the goal of becoming the No. 1 system semiconductor maker by 2030.
Samsung Electronics is expected to apply extreme ultraviolet (EUV) exposure equipment to next-generation DRAM production lines for the first time this year to streamline its chipmaking process and reinforce competitiveness.

Industry watchers say that Samsung Electronics is expected to use EUV exposure equipment for production of 10-nm (1z) DRAMs or 1a DRAMs starting this year or early next year. Announcing the development of the industry’s first 1z DRAM in March last year, Samsung Electronics said it would begin its mass-production in the second half of 2019.

"The company is currently testing EUV exposure equipment for production of 1y and 1x DRAMs, but we expect the actual application of the equipment to start from 1a DRAMs around the end of this year," said a researcher at a securities firm.

The EUV exposure equipment is expected to improve Samsung’s productivity sharply, further widening its gaps with competitors such as SK Hynix and Micron Technology. The two rivals do not plan to introduce EUV exposure equipment for DRAM production for the time being.

Micron said in a conference call in December 2019 that it would be possible to apply EUV equipment to one-gamma DRAMs production lines. This means Micron will be two steps behind Samsung Electronics in using EUV exposure equipment. SK Hynix is also testing the application of EUV equipment to DRAM production, but it will be later than Samsung Electronics. “We are developing 1a DRAMs for volume production at the beginning of 2021,” said Kim Seok, executive vice president of marketing at SK Hynix at a conference call in the third quarter of last year.

Samsung Electronics ranked first in the global DRAM market in the fourth quarter of last year with a 46.1 percent share, followed by SK Hynix with 28.6 percent and Micron with 19.9 percent, according to market research firm TrendForce.
Attention Focusing on Samsung Electronics

M&As in Semiconductor Market Showing Signs of Rebounding

By Kim Eun-jin

Mergers and acquisitions (M&As) in the global semiconductor market are expected to increase based on the development of IoT and AI technologies. Industry watchers are paying much attention to the future move of Samsung Electronics with the company aiming to top the global system semiconductor market within 10 years and the ongoing recovery of the global memory chip market expected to improve its financing conditions.

Last year, a total of seven M&As worth more than US$1 billion each were concluded in the global semiconductor market. The number is likely to increase this year.

Market research firm IC Insights said in its recent report that the total M&A value in the market reached US$31.7 billion last year, up 22.4 percent from a year ago and the third-largest behind those of 2015 (US$107.7 billion) and 2016 (US$59.8 billion). In 2019, Infineon took over Cypress Semiconductor for US$9.4 billion. The annual average M&A value in the market, which stood at US$12.6 billion in the period of 2010 to 2014, jumped to US$58.8 billion in the period of 2015 to 2019.

According to IC Insights, this is because of an accelerated integration of the chip industry and transactions for new product and technology addition. “Especially, the rapid increase was led by sectors such as AI and machine learning, autonomous driving, virtual reality, augmented reality and IoT-based hyperconnectivity,” it explained.

Samsung Electronics was not that conspicuous in the M&A market for the past three years whereas it acquired Dacor, VIV Labs and Harman, until 2016. From 2017 to 2019, Samsung Electronics’ M&As were limited to some startups and had no significant impact on its business.

It is pointed out that this move should not continue any longer with leading IT companies such as Intel, Apple and Qualcomm becoming increasingly aggressive in the market for more growth opportunities. “Samsung Electronics vice chairman Lee Jae-yong is planning to repeat his father’s success in the non-memory semiconductor market,” said an industry expert, adding, “Quick competitiveness enhancement based on aggressive M&As can be a viable option to that end.”

M&As in the global semiconductor market are expected to increase with the development of IoT and AI technologies.
Samsung Electronics Ranks First in Global 5G Smartphone Market in 2019

By Kim Eun-jin

Samsung Electronics led the 5G smartphone market last year, accounting for 43 percent of global sales.

5G smartphones accounted for 1 percent of global smartphone sell-through sales in 2019, according to the latest Market Pulse report from global market researcher Counterpoint. Samsung Electronics ranked first with 43 percent, followed by Huawei with 34 percent.

“Samsung released the broadest portfolio of 5G products from mid-priced to premium models and including sub-6GHz and mmWave models,” a Counterpoint researcher noted. “Samsung also released its products in wider regions, including the Middle East and Africa, than other companies.”

This year will be important for Samsung as cheaper products will be released by Chinese producers and Apple is expected to launch 5G iPhones in the second half, the researcher said.

In particular, Huawei in China is rising fast. Most of second-ranked Huawei’s products were sold in the Chinese market. Among Huawei products, the only product sold outside of China was the Mate 20X. As users prefer 5G smartphones for future use rather than 4G ones, the 5G version of the Huawei Mate 30 series enjoyed strong sales across China. The 5G smartphone competition is expected to heat up as other Chinese players will enter the 5G smartphone market. Xiaomi, Oppo, Vivo and RealMe among others are expected to adopt Qualcomm’s Snapdragon 6 and 7 series and 5G chipsets from Samsung, MediaTek, UNISOC, and HiSilicon.

In addition, LG Electronics, which launched the V50 series in Korea, the United States, and the EU, ranked third with a 10 percent share. Vivo nabbed fourth place with a five percent market share thanks to its sales volume in China. In particular, last year, it launched a 5G smartphone priced for less than US$500, the lowest-priced 5G model.

Xiaomi ranked fifth with a 3 percent market share is sticking to a competitive pricing strategy. It launched a 5G smartphone priced under US$400. Oppo launched premium 5G smartphones in China, the EU and the Middle East and recorded a two percent share.

By Sweeping China Market

Huawei Beats Samsung Electronics in 5G Phone Sales

By Michael Herh

Huawei took the top spot in the global 5G smartphone market in 2019 by sweeping the Chinese market. Unlike Samsung Electronics which launched 5G phones worldwide, Huawei sold most of its 5G phone in China. Huawei shipped 6.9 million units of 5G phones in 2019, recording a 36.9 percent market share, said market research firm Strategy Analytics (SA) on Jan. 29. Samsung Electronics accounted for 35.8 percent (6.7 million units). The gap between the two companies is only 1.1 percentage points, which indicates that they are fiercely competing in the market.

Huawei’s popular 5G models are the Mate 20 and the Mate 30 Pro. They were mostly sold in China, a market which is not affected by U.S. sanctions, SA said. By contrast, Samsung Electronics launched 5G phones in various countries including Korea, the United States, and the United Kingdom.

Following Huawei and Samsung Electronics, Vivo and Xiaomi recorded 10.7 percent and 6.4 percent shares, respectively. LG Electronics came in fifth with a 4.8 percent share (900,000 units).
LG Electronics has decided to release its premium phones, the G and V series, separately in Korea and overseas. The company has been seeking to make a turnaround by changing the identities of the G and V series almost every half year. However, smartphone experts point out that the company’s strategy is confusing because the two series have changed so frequently.

LG Electronics has been preparing the V60 ThinQ as a premium phone for overseas markets and G9 ThinQ for the domestic market, with both to be released in the first half of this year. The new models were originally scheduled to debut at MWC 2020, the world’s largest mobile exhibition to be held in Barcelona, Spain on Feb. 24 (local time). But the spread of the Wuhan coronavirus forced the company to change the plan and launch them in each country depending on their situation.

“We will conduct aggressive marketing for premium products in North America and Europe as commercial 5G services have been launched there,” LG Electronics said in a conference call on Jan. 30. “We will scale up sales by releasing 5G models at reasonable prices.”

Both the V60 and G9 ThinQ will be loaded with dual displays, but the V60 ThinQ is expected to be powered by the Snapdragon 865, Qualcomm’s highest-end product, and G9 ThinQ by the Snapdragon 7 series which is one grade below the Snapdragon 865.

However, the strategy of releasing V-series overseas and G-series domestically is the opposite of LG Electronics’ smartphone release in October 2019, only four months ago. In the second half of 2019, LG Electronics released the V50S ThinQ (5G) in Korea only and the G8X ThinQ (LTE) in overseas markets.

This is not the first time that the identities of the G and V series have changed. At a press conference in May 2018, LG Electronics said that it would differentiate the G and V series by loading liquid crystal displays (LCDs) onto the G series and organic light emitting diodes (OLED) displays onto the V-series. Afterwards, in February 2019, the G Series changed to Long Term Evolution (LTE)-specialized smartphones and V series to 5G smartphones. Dual screens have been applied only to the V series but will now be used for the G series.

LG Electronics will release the V60 ThinQ in overseas markets and G9 ThinQ for the domestic market in the first half of this year.
China, Japan and the European Union are accelerating the development of 6G communications technology. In this regard, South Korean experts held an open forum in Seoul on Feb. 11 to discuss issues related to 6G preparations in South Korea.

6G communications can be characterized by extreme ubiquity realized in a terahertz frequency band. It is expected to converge with 5G for drone, infrastructure and satellite network interconnection and contribute greatly to the growth of the media industry. Currently, separated communications and industrial technologies will be combined with each other for a significant synergy of convergence.

Experts at the forum pointed out that South Korea needs to make more efforts to lead technological development and standardization in the emerging field. 6G requires integrated communications-computing terminals, battery capacity expansion, computing performance improvement, and so on based on technological compatibility with 5G. In addition, in the 6G era, cloud computing, mobile edge computing, switches and devices as various computing resources based on distributed mobile computing are expected to expand their scopes.

China, the European Union, South Korea, Japan, the United States and Finland are likely to lead the standardization competition in the near future. China and the European players already entered the race with Huawei and Nokia at the forefront, respectively.

The European Union is planning to move ahead with a follow-up project to the Horizon Europe program from 2021 to 2027 in order to interlink 6G and 5G+, which is a concept including smart factory, immersive media and intelligent security. China came up with a national 6G R&D plan in November last year. In Finland, the University of Oulu has held a series of related events, including the 6G Wireless Summit, since 2018.

In South Korea, mobile carriers and device manufacturers have signed memoranda of understanding for 6G R&D since May last year. The South Korean government is currently conducting preliminary feasibility studies for national 6G R&D and is going to prepare a national 6G roadmap by the first half of this year.
Although the Internet industry has discussed measures to ensure fair competition between domestic and international Internet companies and improve the environment for using communications network for a long time, it has failed to hammer out an agreement as opinions differed on key subjects.

The second Internet Win-Win Growth Council announced on Feb. 10 that it has submitted a report summing up seven-month discussions among its 42 members to the Korea Communications Commission (KCC). The members included officials from consumer and civic groups; telecommunications, media, legal and economic experts; officials from domestic and foreign companies; experts from research institutes; and government officials. The council was established in June 2019. It focused on how to ensure fair competition between domestic and overseas companies and draw up policy measures appropriate for the 5G era.

The report included the results of discussions on fair competition among domestic and overseas operators, improving the environment for Internet use, win-win cooperation in the internet ecosystem, and easing regulations on the internet and personal information sectors, and policy measures to rev up the 5G ecosystem.

"The main agendas on the improvement of related regulations among others were sharply divided," the council said. "The result report presents the pros and cons on the agendas rather than arriving at a single conclusion."

First of all, the council brought up the introduction of a domestic agent system, a temporary suspension order system, content providers (CPs)’s obligation to maintain the quality of their contents and prohibited acts in network use to CPs and the mandatory installation of domestic servers. In the field of Internet use environments, it discussed guidelines on an agreement on the fair use of internet networks announced in December 2019. Council members were sharply divided in the discussion.

They also talked about the improvement of the prior consent principle, the individual and selective consent principle, the scope of third party provision, rights for a request for the suspension of processing personal information, excessive criminal penalties among other. But they failed to iron out differences.
The Korea Institute of Science and Technology Information (KISTI) and the Data Science Lab of Myongji University have selected the 10 most promising technological fields by using big data and artificial intelligence. The fields expected to show a very rapid growth until the mid-2020s include autonomous driving, energy, machine vision, biotechnology and robotics. The prediction is based on their deep learning-based future prediction model with an accuracy of over 86 percent.

They used 16 million pieces of data published worldwide for the past 12 years in developing the prediction model. The data was classified into 4,500 subject categories and AI and deep learning techniques were employed for quantification by category of network structure data, research content and research fields.

The 10 fields include renewable energy storage and conversion for hydrogen energy utilization. This technique for using hydrogen in fuel cells by producing it from water electrolyzed by renewable energy is expected to contribute to renewable energy storage and greenhouse gas emissions reduction.

The other fields include the development of advanced and eco-friendly air conditioning and heating system materials. Examples of the materials expected to contribute to greenhouse gas emissions reduction include nano-adsorbents for use in adsorption air conditioners and heaters, which are predicted to replace electric air conditioners and heaters.

Carbon dioxide capture and utilization, in the meantime, is to capture carbon dioxide and turn it into resources for use in biofuels, chemical products, construction materials, and so on. It can result in added value creation in various forms as well as carbon reduction.

Vehicle control technology development for autonomous driving improvement is to better control vehicle behaviors and ensure safety by recognizing fast-changing traffic situations with more accuracy and precision. It is data processing performance enhancement and intellectualization that are key to the development.

AI-based machine vision can be defined as automated decision making based on image acquisition and processing. These days, the scope of application of this technology is expanding very rapidly with the development of deep learning-based image processing and classification techniques and Industry 4.0 technologies such as smart factory operation.

Ultra-high-performance concrete development is to improve the salt resistance and durability of concrete and better prevent its carbonation so that buildings and structures can be used for extended periods.

Biodiversity research is a field comprehensively covering species exploration, research on interactions between organisms in the same habitats, research on genetic variations related to genes and individual organisms, etc.

High-voltage direct current transmission is to convert produced AC power into DC power, transmit it at a high voltage, and then supply electric power after reconversion into AC power. It is an advanced power transmission technique ensuring stability and a decrease in power loss and the demand for it is soaring with regard to cross-border power grid construction, renewable energy system linkage, etc.

Humanoid robot development is to work on controllable humanoids, including two-legged robots, so that they can do various jobs in place of humans. In this field, intellectualization is in rapid progress as to incident recognition, determination and prediction, hazard avoidance, and so on.

Lastly, hyperspectral imaging is to allow an object or a substance to be distinguished or detected with greater ease by acquiring spectrum data on a fragmented band by image pixel. Nowadays, it is developing at a rapid pace in combination with ultraspectral imaging, machine learning-based big data analysis, micro image sensors, and the like.
Japan’s major TV producer Sharp is expected to join the group of OLED TV makers this year as it plans to release OLED TVs loaded with panels from LG Display.

Nikkei Asian Review Sharp reported on Jan. 26 that Sharp will add OLED TVs to its lineup in Japan to halt a drop in its market share. Prices of Sharp’s OLED TVs will start in the 300,000 yen range, on a par with the competition. The TVs are due out as early as spring, according to the report.

This marks a new start for Sharp since it has focused on LCD TVs, the report noted. Sharp’s struggle at the high-end LCD TV market led the company to make a foray into the OLED TV market.

The proportion of OLED TVs in the Japanese premium TV market (US$2,000 or higher) exceeded 75 percent, TV industry analysts say. In addition, demand for premium TVs is expected to surge due to the Tokyo Olympic Games this year. Sharp may have also been influenced by LG Electronics’ inroad into the Japanese TV market.

Sharp is the third company, following Vizio in the United States and Xiaomi in China, which will enter the OLED TV market this year. If these companies launch OLED TVs this year, there will be a total of 18 TV makers joining the OLED TV group including LG Electronics of Korea, Philips of Europe and Sony of Japan. The Japanese OLED TV market is expected to grow fast as Sharp held the largest market share in the Japanese TV market in the third quarter of 2019, according to IHS Markit.

The growth in the number of OLED TV producers brightens the prospects of LG Display, which exclusively supplies OLED TV panels. The Korean display giant plans to double its OLED panel sales this year compared to last year, while suspending LCD TV panel production in Korea.

Market research firm DSCC reported on Jan. 21 that the global flexible OLED market share of the top two Chinese display manufacturers is forecast to exceed that of the top two South Korean display manufacturers in 2025.

In 2016, Samsung Display and LG Display accounted for 87 percent and 13 percent of the market, respectively. However, Chinese display manufacturers have rapidly increased their market share since 2019. The size of the market is expected to grow from US$18.29 billion to US$32.7 billion from 2019 to 2023.

Last year, Samsung Display accounted for 60 percent of the market, followed by LG Display (16 percent), BOE (15 percent), Visionox (3 percent) and CSOT (2 percent). The market shares of BOE, LG Display and Samsung Display for this year are estimated at 23 percent, 15 percent and 48 percent, respectively.

In addition, those of BOE, Visionox and CSOT are estimated to reach 28 percent, 11 percent and 10 percent in 2022 with those of Tianma, Samsung Display and LG Display at 4 percent, 33 percent and 11 percent, respectively. BOE and CSOT are expected to account for 30 percent and 12 percent of the market in 2025 with those of Samsung Display and LG Display standing at 31 percent and 8 percent, respectively.

China is home to a number of leading smartphone manufacturers, such as Huawei and Xiaomi, and they tend to prefer displays manufactured by Chinese companies. If China overtakes South Korea in the flexible OLED as well as LCD market, South Korean display manufacturers’ additional investment may be significantly reduced to the point of losing competitiveness.

South Korean companies are working on various measures to stay ahead of their Chinese counterparts. For example, Samsung Display is planning to release quantum dot display products in the high-end large-screen display market and Samsung Electronics is increasing its investment in future display technologies such as micro LED. LG Display is aiming to increase its automotive display sales to at least two trillion won next year and make its large-screen OLED business more profitable by putting new facilities into operation in Guangzhou, China.
South Korea’s foreign direct investment (FDI) in the United States topped US$10 billion for the fourth consecutive year with an increasing number of South Korean companies running their manufacturing facilities in the United States. According to Reshoring Initiative, the United States’ manufacturing competitiveness index for this year is estimated to reach 100 to exceed that of China for the first time since 2016.

The index indicates each country’s manufacturing competitiveness on a 0 to 100 basis. The point of 100 means the highest manufacturing competitiveness in the world. In 2016, China scored 100 and the United States scored 99.5. This year, however, the score of China is estimated to fall to 93.5.

This implies that the United States’ competitiveness in terms of production has improved to the point of surpassing that of China, which has been the world’s largest manufacturer based on low labor costs. Meanwhile, South Korea’s competitiveness in the manufacturing sector is on the decline. The Korea Productivity Center recently announced that South Korea’s labor productivity index fell 0.7 percent year on year in the third quarter of last year and its manufacturing productivity edged up 1.5 percent in that quarter after a 9.8 percent increase in the third quarter of 2018.

Under the circumstances, more and more South Korean companies are increasing their investments in the United States. For example, SK Innovation, which began to build a factory in Commerce, Georgia last year, already invested 1.9 trillion won in the region and is planning to increase the investment by approximately one trillion won to better meet the increasing battery demand in the United States.

In December last year, LG Chem and GM agreed to establish a 50-50 joint venture in the United States. LG Chem is planning to invest one trillion won in the joint venture in the short term and the two companies’ total investment in the joint venture is estimated at 2.7 trillion won.

In May last year, Lotte Chemical built an ethylene and ethylene glycol production plant in Lake Charles, Louisiana. Hanwha Q Cells built a photovoltaic power generation module plant in Georgia in September last year and Hyundai Motor is going to invest 480 billion won to improve its facilities in Alabama. In addition, CJ Cheil Jedang built its 22nd plant in the United States in New Jersey last year Nongshim is planning to build its second plant in the United States in Corona, California.

As mentioned above, South Korea’s FDI in the United States recently topped US$10 billion for four years in a row. The FDI, which increased to US$13.6 billion in 2016, reached an all-time high of US$15.2 billion in 2017.

South Korean companies’ M&A-based investment in the United States is increasing as well. Specifically, the number of M&As of American companies by South Korean companies more than doubled from 15 to 36 from 2013 to 2018. For instance, Hanwha Aerospace acquired U.S. aircraft engine manufacturer EDAC Technologies and KCC acquired Momentive Performance Materials, the third-largest silicone manufacturer in the world, last year. In 2018, SK bought U.S.-based contract development and manufacturing organization (CDMO) AMPAC Fine Chemicals.

At present, the United States’ attractiveness as an investment destination is increasing based on its high economic growth rate and favorable business conditions such as a low corporate tax rate. In addition, the increasing uncertainties of the South Korean economy are adding to the attractiveness.
Speculation is growing that Samsung, SK, and LG Groups will partially reorganize their operations.

In the securities industry, there is a growing call for a division of Samsung Electronics as financial authorities are moving to apply the “30 percent cap rule” to the electronics giant.

SK Group is considering dividing SK Telecom and changing the names of some of its affiliates.

LG Group is also considering spinning off LG Chem’s battery business division.

Samsung Electronics is in the spotlight as rumors have been circulating since the end of 2019 that the company may spin off its foundry business department. Korea Exchange is considering applying the 30 percent cap rule early to Samsung Electronics as its market capitalization has approached 30 percent of the aggregate market value of the KOSPI 200 companies.

Foundry industry experts say that Samsung’s foundry clients may be reluctant to outsource chip production to Samsung Electronics as the company produces not only memory and system semiconductors but also smartphones and other devices. In view of this, Samsung Electronics separated its foundry division from the system LSI division, but the market reaction was not positive.

Considering various circumstances, the possibility of Samsung Electronics’ division is not high. The company reviewed a governance overhaul, including a transition to a holding company structure, in 2016, but gave it up in about six months. The company is still negative about changing its operations. In addition, vice chairman Lee Jae-yong is still on trial in connection with the Choi Soon-sil scandal.

However, market watchers do not rule out the possibility of Samsung Group promoting a governance reform involving financial affiliates.

SK Group is more likely to change the governance structure of its affiliates. Earlier this year, SK Telecom president Park Jung-ho mentioned the possibility of changing the company’s name and listing its subsidiaries. SK Innovation president Kim Jun also said that some affiliates of the group might change their names.

Market watchers say that the group may make SK Telecom an intermediate holding company because it needs to utilize SK Hynix, which has grown into a group's flagship company, by upgrading its status from a sub-subsidiary to a subsidiary. The group also needs to address its equity structure issue arising from a divorce lawsuit that was filed by group chairman Chey Tae-won’s wife Roh So-young at the end of last year.

LG Group is also likely to promote business reorganization. It is expected to spin off LG Chem’s electric vehicle battery business. As the battery business requires large-scale investments, separating the battery division and listing it is a good option as it will facilitate raising funds. Some measures are being discussed to merge the battery business department with other subsidiaries’ businesses including automotive electronics.

LG Electronics took over Austrian automotive lighting company ZKW while LG Chem acquired automotive adhesive company UNISIL. LG Uplus acquired CJ Hello and renamed it LG Hello Vision. The group has disposed of non-core businesses such as fuel cell and electronic payment businesses through liquidation or sell-off.
An increasing number of South Korean nuclear power plant component manufacturers are giving up on their Korea Electric Power Industry Code (KEPIC) certification with the South Korean government insisting on its nuclear phase-out policy.

In general, it takes about 100 million won every three years for a nuclear power plant component supplier to maintain its KEPIC certification. It is given only to companies comprehensively capable of component design, production, installation, construction, operation, repair and maintenance so that high facility quality can be ensured from the beginning. This means the nuclear power plant industry has a very high entry barrier and those companies are almost irreplaceable. However, the companies are giving up on their component supply business in order to survive and South Korea’s nuclear power industry is now on the verge of collapse.

Concerns have been expressed since October 2017, when the government announced the policy. The government has reiterated that there will be no nuclear power plant repair and maintenance problems because component suppliers are still there. What is actually occurring now is opposite to what it said. Once the ecosystem of the industry collapses, imported components are the only option, and then problems will arise with regard to cost, safety, delivery, repair and maintenance schedule.

Besides, such components will have to be imported from a very small number of countries, including the United States and France. Needless to say, nuclear power plant repair and maintenance based on imported components will cost much more than that based on domestically supplied ones.

“A collapsed ecosystem will lead to serious problems with little possibility of restoration,” said professor Sung Poong-hyun at the Department of Nuclear & Quantum Engineering of the Korea Advanced Institute of Science and Technology, adding, “The government needs to change its policy so that, for example, the construction of Shin-hanul Nuclear Power Plant Units 1 and 2 can be resumed and South Korean companies can continue with their business in overseas power plant construction markets.”
Korean semiconductor companies are on high alert as COVID-19 spreads. As a workplace shutdown due to employee infections can cause astronomical damage, they are extremely vigilant and stepping up quarantine activities.

Samsung Electronics and SK Hynix have drastically strengthened their preventive measures as the Korean government raised the threat alert to the highest level.

Korean semiconductor companies still do not have any workers infected with the COVID-19 virus in their production facilities, so no facilities have been locked down and no disruptions have occurred to their plant operations. However, company officials say that hundreds of employees are placed in self-quarantine as they are suspected of contracting the virus. Non-semiconductor worksites were locked down temporarily as some of their employees were confirmed to carry the virus.

Samsung Electronics has DRAM and NAND flash production and foundry facilities in Giheung, Hwaseong and Pyeongtaek, all located in Gyeonggi Province in Korea, and has worksites for post-processing operations such as product testing and packaging in Asan, South Chungcheong Province. The company’s DS Business Division, which is in charge of the semiconductor business, has more than 54,000 employees on its payroll.

SK Hynix has plants in Icheon, Gyeonggi Province, and Cheongju, North Chungcheong Province, which produce DRAMs, NAND flashes, and image sensors. The number of employees at these sites is about 28,000.

Due to the nature of the semiconductor production process, production facilities run 24/7. If a production line goes down for an unexpected reason, the chipmaker suffers huge losses. Some analysts say that if a semiconductor plant is shut down for one day only, its damage would run to about two trillion won.

However, industry officials say that semiconductor facilities generally operate production facilities in clean rooms inside fabs and employees are always wearing dust-proof clothing, so even if a virus was found among employees, there is little possibility of downtime taking place at the plant. “Most of the clean room facilities inside fabs are automated, and most of the employees work apart with one another, wearing dust proof clothing,” an industry official said. “So they have little possibility of contracting the virus.”

However, they did not rule out a possibility where production volume decreases due to a shortage of manpower or a disruption in supply of materials and equipment through partner companies as more employees are quarantined due to virus infection concerns.
Habitual Strikes at Automakers

Strikes Repeated in South Korean Automobile Industry

By Jung Min-hee

U
onized Kia Motors workers started a five-day partial strike on Jan. 13. The union staged a partial strike on Dec. 18, 19 and 24 last year after wage negotiations failed and started the strike after their talks failed again on Jan. 10. At present, the workers are demanding a salary higher than that of Hyundai Motor Company workers.

In Renault Samsung Motors, 26.8 percent of unionized workers are continuing with their strike. On Jan. 13, 1,752 out of 2,172 executives and staff members were working at its manufacturing facilities and the numbers were 1,264 out of 1,727 when it comes to union members. They are demanding a base pay increase of 120,000 won and the management is refusing to accept it with the company’s sales volume decreasing.

At GM Korea’s plant located in Changwon, temporary subcontractor workers whose contracts expired at the end of last year are demanding reinstatement. SsangYong Motors, which planned to reinstate 46 laid-off workers on Jan. 6, failed to do so due to adverse business conditions. They are currently on a paid instead of unpaid leave of absence, receiving 70 percent of their ordinary wage.

“Strikes have been habitual in South Korean automakers,” said an industry expert, adding, “Unionized workers are deteriorating their already dire conditions with their annual output about to fall below 4 million units and foreign automakers downsizing themselves to invest more in green cars and autonomous vehicles.”

Hyundai and Kia Post an Increase in Exports

Korean Automakers Suffer Drop in Domestic Sales in January

By Michael Herh

D
omestic car sales fell sharply in January due to the Lunar New Year holidays. However, Hyundai Motor Co. and Kia Motors Corp. made up for the decline in domestic sales by increasing exports.

Hyundai Motor sold 304,076 units in January -- 47,591 units at home and 256,485 units abroad. The figures represented a 21.3 percent drop in domestic sales and a 0.6 percent increase in overseas sales from a year ago. The drop in domestic sales was attributed to a reduction in the number of working days in January due to the Lunar New Year holidays.

Kia Motors sold 215,112 units in January -- 37,050 units in Korea and 178,062 units abroad. Its sales rose 2.5 percent from the same period last year. Compared to the same period last year, domestic sales contracted 2.5 percent, while overseas sales increased 3.6 percent. The best-selling Kia car in the Korean market was the K5 (8,048 units), the highest sales in 49 months since December 2015.

Renault Samsung Motors sold 6,233 units, down 54.5 percent from the same period last year. Its domestic sales were 4,303 units, down 16.8 percent from a year before, and its exports hit 1,930 units, down 77.3 percent.

GM Korea sold a total of 20,484 units in January -- 5,101 units at home and 15,383 units abroad. Its domestic sales rose 0.9 percent on year thanks to the successful launches of new cars that had been introduced since the second half of 2019.

In January, SsangYong Motor sold a total of 7,653 vehicles -- 5,557 units in Korea and 2,096 units in foreign countries. Its domestic sales shrank 36.8 percent on year due to a weak consumer sentiment following the end of a tax cut program for car buyers. Its exports also fell 20.4 percent on year.
Mercedes-Benz recorded the best sales performance in 2019 since its entry into the Korean market, beating Korea-based automaker GM Korea. This marked the first time that an imported car brand recorded annual sales exceeding those of an automaker producing cars in Korea.

Last year, Mercedes-Benz’s annual sales in Korea reached 79,133 units, ranking first in the imported car industry for the second year in a row and eclipsing even those of GM Korea (76,471 units), said the Korea Automobile Importers and Distributors Association on Jan. 6. As a result, last year, the sales rankings of the automakers in Korea were in the order of Hyundai, Kia, SsangYong, Renault Samsung, Mercedes-Benz and GM Korea.

It is the sedan E-Class that helped Mercedes-Benz outclass not only other imported car brands but GM Korea in the sales standings in Korea. Last year, the E-Class sold 37,717 units, accounting for about half of Mercedes-Benz’s total sales. In addition, sports utility vehicles (SUVs) such as the GLC, the GLC Coupe, and the GLE also sold a total of 14,415 vehicles, driving up Mercedes-Benz’s earnings.

BMW came in second with 44,191 units after Mercedes-Benz, and Lexus nabbed third place despite Koreans’ boycott of Japanese goods. Their followers that sold more than 10,000 units were Audi (11,930 units), Toyota (10,611 units), Volvo (10,570 units), Jeep (10,251 units), and Mini (10,222 units). Although BMW picked up second place, fire accidents ruined its brand reputations, pushing down its sales 12.5 percent on year, further widening its gap with Mercedes-Benz. Lexus put up a good fight but its sales fell 8.2 percent on year.

It is worth noting that Audi climbed to fourth place in the market after full-fledged sales of new cars from September last year. Audi recorded none in sales in the first half of last year due to a delay in the certification of their new models but displayed its power by launching new models such as the A3, the A4, the A5, and the A6 sedans and the Q7 in the second half of the year.

Despite Mercedes-Benz’s better-than-expected sales performances and some brands’ good fights, last year, the number of newly registered imported cars reached 244,080 units, down 6.1 percent from 2018. The drop is blamed on Korean consumers’ boycott of Japanese goods, a delay in certification due to the “Diesel-gate” and the overall contraction of automobile consumption. Imported cars’ Korean car market share also dropped to 14 percent, the 2016 level. In fact, sales of the three Japanese carmakers -- Toyota, Nissan and Honda -- totaled 36,661 units, down 19 percent from 2018. Nissan's and Toyota’s sales fell 39.7 percent and 36.7 percent, respectively, but Honda’s sales grew 10.1 percent. At the beginning of the boycott, Japanese car sales fell by half compared to the previous year but recovered sharply on the back of big year-end discounts.

“In 2019, the imported passenger car market in Korea contracted from 2018 due to a lack of quantities of some brands and a drop in imported car sales,” said an official of the Korea Automobile Importers and Distributors Association. “Among imported eco-friendly models, hybrids and electric vehicles accounted for 11.3 percent of hybrid and 1.0 percent, a smaller proportion compared to that of their Korean counterparts.”
Kia Motors will invest 29 trillion won (about US$25 billion) over the coming six years to transform into an innovative brand, the company’s CEO announced on Jan. 14.

Kia Motors CEO Park Han-woo hosted the company’s first investor day for this year to unveil “Plan S,” a medium- and long-term strategy aimed at a bold and swift shift to future businesses, including electric vehicles (EVs) and mobility.

The investor day event held at the Conrad Hotel in Yeouido, Seoul was attended by officials from institutional investors, credit rating firms and analysts.

Park said the “S” in Plan S stands for “shift,” saying that it represents the company’s push for a complete transformation. To this end, the company is planning to change its corporate identity (CI) and brand identity (BI).

The core of Plan S is to improve the profitability of the internal combustion engine business to secure investment resources, and invest a total of 29 trillion won by 2025 to switch from internal combustion engine vehicles to EVs and mobility systems.

Kia Motors’ strategy is focused on EVs. The automaker plans to build a full lineup of 11 EV models by 2025 after launching a purely electric model in 2021. The company plans to achieve a 6.6 percent market share in the global EV market and increase the share of eco-friendly cars including EVs to 25 percent of its sales through this strategy. In 2026, when the EV business is put on the right track, it will sell one million eco-friendly vehicles including 500,000 EVs throughout the world except China. In addition, the Korean automaker will release a pure EV model next year that can run more than 500 km on one single charge and can be fully charged within 20 minutes.

Kia Motors’ EV models will be loaded with EV-only platforms and adopt crossover designs that break down a barrier between passenger cars and sport utility vehicles (SUVs).

Its EVs will be divided into luxury and budget models. In advanced markets such as Korea, North America, and Europe, the proportion of its EV sales will increase to 20 percent by 2025. Kia Motors will launch EVs in emerging markets in consideration of EV diffusion.

Kia Motors also suggested mobility services as another future business. The gist is to provide mobility services based on EVs and autonomous driving in major global cities. For example, Kia Motors will build mobility hubs with EV charging stations, maintenance centers and convenience facilities in large global cities where people are very concerned about the environment and electric cars are gaining popularity. Kia Motors’ plan is to develop new businesses such as car sharing, maintenance, and robotic shuttles by using these hubs as bases for transfers from internal combustion engine vehicles, which are not allowed to enter downtown areas due to environmental regulations, to EVs.

Kia Motors said it will push for fundamental innovations in all areas. The carmaker will try to change its design identity (DI) and user experience (UX), as well as CI and BI, so that consumers can directly feel and understand Kia Motors’ changing business system. Kia Motors’ new brand system will include such concepts as a leader in the era of EVs, a brand loved by millennials and Generation Z, and a symbol of challenge and innovation.
Automakers Suffering Battery Shortages

Korean EV Battery Makers Busy Meeting Increased Orders from Automakers

By Michael Herh

Market expectations are going up for LG Chem, Samsung SDI, and SK Innovation, the trio that represents the Korean electric vehicle (EV) battery industry. Global automakers such as Jaguar and Mercedes-Benz are forced to suspend their car production because of a shortage of battery supply from Korean companies. Battery makers are stepping up their efforts to secure materials needed to ramp up battery production.

Jaguar reportedly plans to stop making the I-Pace electric SUV for a week because of a battery shortage at supplier LG Chem. The production halt will start Feb. 17 in Graz, Austria, where contract manufacturer Magna Steyr makes the I-Pace for Jaguar Land Rover.

"Jaguar Land Rover has adjusted production schedules of the Jaguar I-PACE in Graz due to temporary supplier scheduling issues," the company said in a statement.

"A battery shortage took place when Jaguar produced more electric vehicles than expected and used up batteries from LG Chem," said an industry insider. "As LG Chem produces batteries based on the orders it receives, it does not have much inventory and cannot deliver more batteries to its clients."

Apart from Jaguar, other automakers including Audi and Mercedes-Benz have experienced a shortage of battery supply from LG Chem. Mercedes-Benz had to lower its sales goal for the EQC, the company's first mass-market electric car, last month due to supply shortages at LG Chem. In April 2019, a supply shortage at LG Chem caused Audi to delay the deliveries of its first electric car, the E-Tron. The company subsequently cut its production targets for the year because of the delay.

An industry watcher said that battery supply could not keep up with demand as electric car sales swelled more than expected. The EV markets in the United States and Europe are on a steep growth path, and major automakers prefer Korean batteries.

The global EV battery market excluding China was valued at 50.6 GWh in 2019, an increase of 31.8 percent from a year before, according to market researcher SNE Research. LG Chem's battery production volume stood at 12.3 GWh in 2019, up 67.7 percent from a year ago. Its market share rose 5.2 percentage points to 24.3 percent in 2019 from 19.1 percent in 2018. LG Chem stood second to Panasonic, which took up a 48.4 percent share and exclusively supplies batteries to Tesla.

Following LG Chem, Samsung SDI took third place with 4.1 GWh (8.1 percent share), up 22.8 percent from 2018. SK Innovation came in sixth with 1.9 GWh (3.8 percent market share).

CATL, the world's No. 1 battery producer, barely picked up tenth place with a 0.3 percent market share when its sales in China were not counted. The three Korean battery makers accounted for 70.1 percent of the global market excluding China and Tesla. These three companies supply EV batteries to most of the world's major automakers, including Volkswagen, General Motors (GM), Hyundai Motor and Kia Motors, BMW and Daimler.

Under these circumstances, Korean companies are making various efforts to dial up production. Samsung SDI signed an agreement with Glencore of Switzerland on Feb. 10 to procure up to 21,000 tons of cobalt, one of the core materials for batteries, for five years. The company also entered into a contract with Ecopro BM, a Korean cathode material manufacturer, on the same day to set up a joint venture for the production of next-generation cathode materials. The two companies will invest 44.8 billion won and 72 billion won in the joint venture by 2021 for 40 percent and 60 percent stakes, respectively.

SK Innovation signed a contract to purchase 30,000 tons of cobalt from Glencore in 2019. LG Chem made a deal with Belgium's Yumicore in September 2019 to secure 125,000 tons of cathode materials. In 2018, it agreed with China's Huayu Cobalt to establish a joint venture to produce precursors and anode materials for batteries.
LG Chem has pulled off a victory in a lawsuit filed against SK Innovation regarding an infringement of its electric battery (EV) battery trade secrets. LG Chem and SK Innovation are expected to begin a settlement process in the near future.

On Feb. 14 (local time), the U.S. International Trade Commission (ITC) made a default judgment against SK Innovation in a lawsuit between LG Chem and SK Innovation over a breach of rechargeable battery trade secrets. Following the preliminary decision, the ITC will make a final decision on Oct. 5 without holding additional hearings that were scheduled for early March.

In April 2019, LG Chem filed a complaint against SK Innovation with the ITC and the Federal District Court of Delaware, the United States, claiming that the latter had taken out trade secrets about rechargeable batteries by hiring key personnel who worked at LG Chem. Later, in November of the same year, LG Chem requested a preliminary default judgment against SK Innovation, claiming that it had systematically and extensively destroyed relevant evidence in the litigation process and failed to implement forensic examinations ordered by the ITC. A final decision by the ITC will result in a U.S. ban on the import of SK Innovation's battery cells, modules, packs, and related parts and materials, which infringes on trade secrets about LG Chem's rechargeable batteries.

Accordingly, industry experts say that SK Innovation will seek out of court settlement with LG Chem before the final decision because in the worst-case scenario, it could give up its battery business in the United States. “LG Chem and SK Innovation are in competition in the battery business, but they are at the same time partners that should cooperate in the development of the industrial ecosystem,” SK Innovation said in a statement, leaving open the possibility of settling out of court.

“We will be active and sincere in the remaining litigation process, but the door for a dialogue is open,” LG Chem said. Industry watchers say LG Chem also finds it burdensome to continue the lawsuit filed with the Federal District Court for more than two years. LG Chem is facing a growing criticism that only Chinese companies will benefit from the legal battle between the two EV battery leaders. LG Chem says that it will leave open the door for a dialogue with SK Innovation.

Industry analysts believe that the SK Innovation may decide to purchase the relevant patents from LG Chem to settle the dispute. They say the settlement amount, which includes patent purchases, will reach hundreds of billions of won. Earlier, LG Chem set SK Innovation’s apology, promise to prevent recurrence of similar cases and appropriate compensation as the preconditions for negotiations.

SK Innovation has decided to enter an objection process in the United States. In particular, the company will submit to the ITC a petition asking it to consider the impact of this lawsuit on the public interest of the United States. This means that SK Innovation will ask the ITU to consider SK Innovation’s investment in a 1.9-trillion-won plant under construction in Georgia, the United States and a second plant of a similar scale to be built in the United States. “The Donald Trump administration, who wants to expand its battery plant in the United States, may want to see a generous conclusion for SK innovation,” the Wall Street Journal (WSJ) said in December 2019, adding that the case may go to the USTR, which can exercise a veto.

The ITC’s ruling, which will detail the grounds for the decision and instructions, will be released on Feb. 18. LG Chem asked the ITC to ban the import of SK Innovation’s battery cells, modules, packs, and related parts and materials to the United States, but it is unclear whether this will be accepted. However, experts believe that the ITC is likely to maintain its decision against SK Innovation in the final decision scheduled for Oct. 5. Since 1996, in all cases of trade secret infringement proceedings at the ITC, early default judgments have been maintained in the final decisions.
SK Innovation is considering making additional investment in electric vehicle (EV) battery production facilities in the United States. SK Innovation has been building an EV battery factory since March last year in Commerce City, Jackson County, Georgia of the United States.

The plant is capable of producing 9.8 GWh batteries annually and is scheduled to start volume production in early 2022.

SK Innovation announced on Jan. 16 that SK Group chairman Chey Tae-won’s plan to invest US$5 billion in the EV battery factory in Georgia is becoming a reality.

Currently, the plant is under construction on a site of approximately 1.1 million square meters in Commerce City. Construction is likely to be completed in the second half of 2021. This will complete SK Innovation’s global production system along with plants in China and Hungary, which will enter a commercial operation this year.

SK Innovation’s EV production capacity will jump from the current 19.7 GWh (for 400,000 pure EVs) to 60 GWh (for 1.2 million pure EVs). The company aims to become a global leader by boosting its production capacity to more than 100 GWh by 2025.

SK Innovation plans to produce batteries for “third-generation EVs” by incorporating cutting-edge battery technology into the Georgia plant. Third-generation EVs can run more than 500 kilometers on a single charge, providing a mileage equivalent to that of internal combustion engine-powered vehicles. The company plans to produce a prototype of third-generation EV batteries in mid-2021, and will begin mass production of the battery in 2022. In particular, SK Innovation is enhancing collaboration with SK IE Technology, an SK Group affiliate specializing in materials such as battery separators.

General Motors (GM) has purchased a site of 640,000 square meters in Ohio of the United States to set up an electric vehicle (EV) battery joint venture with LG Chem.

GM has recently signed a deal to buy 158 acres (630,900 square meters) of land in Rosetown, Ohio, foreign media outlets reported on Jan. 16.

The site is located near a GM assembly plant complex. GM plans to start factory construction within this spring after receiving approval. Previously, LG Chem and GM signed a contract to establish a 50-50 EV battery cell joint venture on Dec. 5 last year. The two companies will each invest 1 trillion won in the joint venture, which will have a production capacity of 30 GWh a year.

GM plans to set up the battery factory near its Rosetown assembly plant, which will be closed down, and hire some of its workforce for the battery project. LG Chem has been operating a plant in Holland of Michigan in the United States since 2012. Its steady facility expansion has pushed up the plant’s production capacity to about 5 GWh.

With the establishment of the Ohio joint venture, LG Chem will secure two production bases in the United States. It will have a total of seven production bases -- five of its own and two joint ventures -- in China, Europe, and the United States, the world’s three major EV markets.
The National Radio Research Agency of the Ministry of Science and ICT announced on Oct. 13 that South Korea’s big data-related standardization plan has been approved as an international standard by the Joint Technical Committee 1 (JTC 1) of the International Organization for Standardization (ISO) and the International Electrotechnical Commission (IEC).

The new standard is to define common functions and roles required for each stage of big data collection, storage and processing and propose data distribution standards required between data producers and service providers.

The standard is expected to be provided as a common technical standard required for solution development in various fields such as telecommunications, medical services, finance and manufacturing so that product development costs can be reduced and inter-product compatibility can be ensured.

Since 2014, the Ministry of Science and ICT has created a total of 17 international standards via standardization organizations such as the JTC 1 and the Telecommunication Standardization Sector of the International Telecommunication Union (ITU-T). The standards include those on big data reference architectures, big data terminology and intelligent question answering system frameworks.

In addition, the ministry is working on more than 20 standards related to surroundings recognition for autonomous driving, AI performance evaluation, and so on in cooperation with private organizations such as the Telecommunications Technology Association and the Intelligence Information Technology Forum.

Battery material suppliers and battery manufacturers are forming long-term partnerships one after another with the global electric vehicle battery (EVB) market expanding at a rapid pace.

LG Chem and SK Innovation, the two largest EVB manufacturers in South Korea, have signed long-term supply contracts with anode material suppliers since last year. For example, LG Chem signed a supply contract for 125,000 tons of anode materials with Umicore in September last year. The Belgian company is the largest player in the industry and the contract amount allows the manufacturing of batteries for use in more than one million high-performance EVs. More recently, LG Chem and POSCO Chemical concluded a three-year contract worth 1,853.3 billion won.

Likewise, SK Innovation recently signed a 2.7 trillion won contract with EcoPro BM. The latter is going to build a dedicated plant to meet the supply schedule. “Battery producers conclude long-term anode material supply contracts because the materials take up the largest portion, more than 40 percent to be exact, in the raw material cost of an EVB, and they require a very high level of technological expertise,” said an industry expert.

At present, a very small number of companies are capable of producing anode materials. They include POSCO Chemical, EcoPro BM and L&F in South Korea and Sumitomo and Nichia in Japan.

The global anode material production volume, which totaled somewhere between 400,000 tons and 500,00 tons last year, is forecast to increase to up to 3.5 million tons in 2025. In addition, the size of the global market is expected to grow from US$9.1 billion to US$29.6 billion from 2018 to 2025.
This Year's Shipbuilding Orders Estimated at 588 Vessels

South Korean Shipbuilders Anticipating Improved Performance This Year

By Jung Min-hee

Clarksons Research reported on Jan. 27 that a total of 588 merchant vessels are expected to be ordered this year, 92 more than last year’s estimate. The 588 vessels are expected to include 210 tankers, 220 bulk carriers, 60 container ships, 55 LNG carriers and 40 LPG carriers.

In the meantime, Hyundai Mipo Dockyard signed a 157.4 billion won contract with Pan Ocean on Jan. 21 to supply four 50,000-ton petrochemical product carriers and Hyundai Samho Heavy Industries signed a 109.2 billion won contract with a European shipowner on Jan. 21 to supply a 300,000-ton oil tanker. Hyundai Heavy Industries Group is aiming to conclude contracts worth US$15.9 billion this year, up 22 percent from a year ago.

Samsung Heavy Industries has recently completed the construction of the world’s first LNG dual-fuel propulsion shuttle tanker. The company announced on Jan. 20 that it has delivered the 130,000-ton tanker to Teekay Offshore from its Geoje Shipyard. The shuttle tanker is characterized by reducing sulfur oxide emissions by 98 percent, nitrogen oxide emissions by 98 percent and fine dust emissions by 98 percent as compared with existing vessels.

Daewoo Shipbuilding & Marine Engineering is planning to sign contracts worth US$7.21 billion this year. It is more than the size of the contracts it signed last year.

Last year, South Korean shipbuilders topped the global market by accounting for 9.43 million CGT out of 25.29 million CGT. In the first half, Chinese shipbuilders took up 4.68 million CGT to beat them by a margin of 1.1 million CGT. However, they succeeded in beating their Chinese rivals for the second consecutive year.

Volume of New Shipbuilding Orders Drops

Korea Loses First Place to China in Shipbuilding Order Receipts in January

By Michael Herh

The Korean shipbuilding industry lost its number one position to China in new order receipts in the first month of 2020.

In January, global shipbuilding orders totaled 750,000 CGTs (33 units), said Clarkson Research, a U.K. shipbuilding and shipping market analyst, on Feb. 10. China came in first with 510,000 CGTs (22 units) and Korea second with 40,000 CGTs (one unit). Japan did not win one single order.

Ship orders in January 2020 are about a quarter of those in 2019 (2.8 million CGTs). By ship type, small and medium-sized tankers and bulk carriers, mostly built by Chinese and European shipyards, accounted for most of the new orders. There were no large LNG carriers or container ship orders, a specialty of Korean shipyards. The four petrochemicals carriers (PCs) won by Hyundai Mipo Dockyard on Jan. 21 are scheduled to be built at Hyundai-Vietnam Shipbuilding, Hyundai Mipo Dockyard’s joint venture with Vietnam’s state-owned shipyard, so they were not counted.

As of end-January, the global order backlog stood at 75.6 million CGTs, down 3 percent from the previous month. By country, China ranked first with 26.32 million CGTs (35 percent), followed by Korea with 22.03 million CGTs (29 percent), and Japan with 11.32 million CGTs (15 percent). Compared with the same period last year, China and Japan recorded a decrease of 14 percent (-421.000 million CGTs) and 32 percent (-5.36 million CGTs), respectively, while Korea showed a slight increase of 100,000 CGTs.

The Clarkson Newbuilding Price Index in January was 130 points, unchanged from December 2019. All ship prices remained unchanged, with an LNG carrier costing US$186 million, an ultralarge container ship US$146 million, and a VLCC US$92 million.
The International Maritime Organization has implemented IMO 2020 since last month so that the maximum ship fuel sulfur content is limited to 0.5 percent instead of 3.5 percent. Shippers are responding to it by using low sulfur fuel oil (LSFO), refining high sulfur fuel oil (HSFO) with a scrubber, or employing an LNG-propelled vessel.

With the price of LSFO soaring this year, shippers using the second method are currently succeeding in reducing fuel costs to a large extent and those that adopted the first method are choosing to use scrubbers in a hurry. LNG-propelled vessels, in the meantime, are emerging as the most effective long-term measure against the environmental regulations.

As of Jan. 31, bunker C oil as HSFO was US$266 cheaper than LSFO per ton. The price gap amounted to US$440 on Jan. 6 and the price of the latter has been over 150 percent of the price of the former since the beginning of this year.

According to industry sources, the difference of 150 percent means that the scrubber-based refinement is more cost-effective. As of Jan. 24, scrubber-equipped very large crude carriers’ and cape size bulk carriers’ average daily fuel cost reductions exceeded those of their LSFO-based counterparts by US$15,600 and US$8,040, respectively. The average charterage-converted profit was US$76,760 for scrubber-equipped vessels and US$61,183 for scrubber-less vessels. In addition, the figures were US$9,400 versus US$1,360 in the case of bulk carriers. In short, scrubber-equipped vessels using HSFO were much more effective in terms of fuel cost than those using LSFO.

Hyundai Merchant Marine decided two years ago to apply scrubbers to 80 percent of its ships. Maersk, which adopted LSFO earlier, changed its strategy in the second half of 2019. MSC, the second-largest shipping company in the world, changed its strategy, too.

LNG-propelled ships’ long-term outlook is bright as mentioned above and this is because an increasing number of countries are prohibiting the entry of scrubber-equipped ships. For instance, the Port of Karachi in Pakistan and the Port of Bahrain recently banned the use of open-loop scrubbers as in the case of 16 countries such as the United States, China, India, Belgium, Germany and Norway. According to the Korea Trade-Investment Promotion Agency, LNG-propelled ships are expected to account for 60.3 percent of new shipbuilding orders in 2025.

Shippers who chose to use scrubbers to adapt to IMO 2020 reduces fuel costs to a larger extent than those who use other methods.
Korean Shipbuilders’ Strength

LNG Carrier Contracts Expected to be Signed

By Jung Suk-yee

French oil major Total recently signed letters of intent with Hyundai Heavy Industries and Samsung Heavy Industries with regard to eight 170,000-cubic-meter LNG carriers for the Anadarko LNG project in Mozambique. Orders are expected to be placed once Total completes shipowner selection in March. The total shipbuilding cost of the project is estimated at 3.4 trillion won.

In addition, Samsung Heavy Industries is expected to build icebreaking LNG carriers for the second phase of the Yamal LNG development project in Russia. The Russian government recently accepted the request of Novatech, a state-run energy company, so that it can place orders for the 10 icebreaking LNG carriers with a combined value of US$3 billion.

Samsung Heavy Industries has participated in the project in Russia since its design stage. Experts are predicting that Samsung Heavy Industries will win all of the orders in that Daewoo Shipbuilding & Marine Engineering won all the 15 icebreaking LNG carrier orders in the first phase in 2014.

According to Clarkson Research, Chinese shipbuilders obtained 22 new orders last month while South Korean shipbuilders obtained only one. The difference is because the demand for non-large vessels, built mainly by Chinese shipbuilders, was large unlike that for large vessels, which are main products of South Korean shipbuilders.

In the meantime, industry insiders point out that problems related to offshore plants, drillships, and the like need to be addressed for the shipbuilding industry of South Korea to show any recovery. In Samsung Heavy Industries and Daewoo Shipbuilding & Marine Engineering, canceled drillship contracts led to significant business losses last year. Hyundai Heavy Industries is currently building merchant vessels to meet the short-age of offshore plant contracts.

Vessels Based on Industry 4.0 Technologies

South Korean Shipbuilders Working on Smart Ships

By Jung Min-hee

Hyundai Heavy Industries, Daewoo Shipbuilding & Marine Engineering, and Samsung Heavy Industries are further enhancing the competitiveness of the shipbuilding industry of South Korea by developing smart ships incorporating Industry 4.0 technologies. The smart ships they are building already achieved fuel cost reduction, autonomous navigation and long-distance remote control.

Hyundai Heavy Industries recently developed a navigation optimization system based on artificial intelligence (AI) and its self-developed Hi-touch Marine & Stationary Engine (HiMSEN). The AI part in the system analyzes big data related to the engine and collected via intelligent ship equipment management solutions. The system reduces fuel costs by more than 10 percent in this way.

Daewoo Shipbuilding & Marine Engineering signed a smart ship development agreement with Hyundai LNG Shipping last month and is planning to put a smart LNG carrier into operation in the first half of this year. It is going to collect navigation data on the carrier in order to establish a real-time remote monitoring system. The collected and analyzed data is expected to contribute to fuel efficiency enhancement, safe navigation and equipment repair and maintenance. In addition, Daewoo Shipbuilding & Marine Engineering applied its smart solutions to seven 23,000 TEU container ships Hyundai Merchant Marine ordered in 2018. The ships will be delivered in the second quarter of this year and later.

Last month, Samsung Heavy Industries succeeded in autonomous ship navigation for the first time worldwide. Its autonomous ship reached a preset destination by searching for an optimum route and avoiding obstacles. The company achieved precise remote ship control and autonomous navigation by combining the ship with 5G communications and cloud-based IoT technologies.
South Korean steelmakers in China are restructuring their business to enhance profitability amid a global recession and a decline in product price.

For example, Hyundai Steel is planning to integrate its Beijing and Tianjin Steel Service Centers with each other for personnel reduction and apply the same measure to its offices in Shanghai and Suzhou. The company is currently running nine places of business in China and the number is scheduled to be reduced to seven in the interest of business efficiency.

Its sluggish business in China has to do with that of Hyundai Motor Group in the same market. Hyundai Motor’s wholesale volume in China fell 17.7 percent to 650,000 units in 2019 and Kia Motors’ fell 17.1 percent to 296,000 units during the same period.

Dongkuk Steel, which is posting a net loss in China, is going to sell some of the shares of its local corporation. The net loss totaled 7.5 billion won for the first three quarters of 2019 and the company is planning to carry out financial restructuring with a local steelmaker as an investor. Dongkuk Steel’s manufacturing facilities in China are located in Jiangyin and Wuxi and the ongoing color steel plate market stagnation that has continued for years has adversely affected its business.

POSCO, in the meantime, sold POSCO Guangdong Coated Steel last year. Established in 1997, the electroplated steel sheet factory posted a net loss of 7.9 billion won, 21 billion won, 2.4 billion won and 11 billion won in 2012 to 2015, respectively.

The sales and operating profits of SeAH Special Steel, which has factories in Nantong and Tianjin, are falling together with the Chinese automotive industry shrinking. The company has tried to deal with the situation by client diversification since 2014.
After March 2020, no vessel should be carrying high sulfur fuel oil (HSFO) as the International Maritime Organization (IMO) has adopted a carriage ban which states that no ships should carry fuel that contains over 0.5 percent sulfur in their fuel tanks as of 1 March. This carriage ban is expected to provide some relief to Korean oil refineries that are experiencing difficulties due to dwindling refining margins and the spread of COVID-19.

The carriage ban applies to vessels that are not equipped with scrubbers. If a vessel simply carries HSFO without burning it, the shipowner will be punished. The IMO has raised the bar for sulfur content in ship fuel from 3.5 percent to 0.5 percent.

Refining industry watchers anticipate that the low-sulfur fuel oil (LSFO) market will begin to grow rapidly from this March. To respond to IMO regulations, shippers must use LSFO or install scrubbers on their vessels or purchase LNG-powered vessels. Maritime oil experts predict that about 3,000 ships would install scrubbers by the end of this year, but this is less than half of industry expectations. Toughened IMO regulations are highly likely to lead to a spike in LSFO demand.

Korean refiners are expected to benefit from the shift in fuel demand as they have made preemptive investments in preparation for the strengthened IMO regulations. SK Innovation can supply 130,000 barrels of LSFO a day from April, 40,000 barrels from SK Energy’s vacuum residue desulfurization (VRDS) facilities that will go into operation in April, and 90,000 barrels from SK Trading International (SKTI)’s offshore blending business. In particular, LSFO blended by SKTI is highly profitable, as it is sold US$30 more per ton than light oil in Korea and US$10 more in Singapore.

Hyundai Oilbank has been selling very low sulphur fuel oils (VLSFOs) since late last year. It has developed a new production process to enhance the stability of mixed oils and applied it to its Daesan Plant in South Chungcheong Province. The plant produces up to 50,000 barrels of LSFO per day.

GS Caltex is responding to demand by providing the low-sulfur oil that it had previously sold to industrial plants. S-Oil has stopped selling HSFO and is selling LSFO after blending it. Industry watchers expect the refining margin, in particular, that of LSFO, to rise beginning the second quarter of this year. The refining margin, a key indicator of oil refinery earnings, fell to the US$1 range in November 2019 and has remained below US$1 until this month. The refining margin broke through the breakeven point of US$4 in the second week of February as international oil prices dropped and the utilization rate of Chinese refinery plants fell due to the influence of the COVID 19 virus.
Korean airliners are facing an unprecedented crisis. Following Jeju Airlines, four low-cost carriers (LCCs) are receiving applications for unpaid leave from employees, and Asiana Airlines has received applications for a unpaid leave of absence from cabin crew members.

Jeju Air’s sales increased last year, but it swung to an operating loss of 32.9 billion won and net loss of 34.1 billion won. T’way Airlines turned to a deficit, even though its sales increased by 10.7 percent to 910.4 billion from 731.8 billion won in the same period of 2019. Jin Air not only saw a decrease in sales last year, but posted an operating loss and net loss.

The most direct cause of these carriers’ poor performance is oversupply. As service routes overlap, airliners started a ticket price war, hurting themselves. To make matters worse, Korean tourists boycotted tours to Japan, and a new coronavirus broke out in Wuhan of China. If the coronavirus fiasco is prolonged, some carriers could lose their licenses due to capital impairment.

Refund requests by passengers are also negatively affecting LCCs’ earnings. As the corona-19 virus spreads around the world, passengers demand refunds of their tickets, including those to China which have no refund commissions. For some carriers, the amount of refunds has surpassed that of new ticket sales. In this way, LCCs are running out of operating funds. They are now asking the government to ease regulations for the time being and provide them with financial support to jointly purchase fuel and cover labor costs.

As LCCs’ earnings have deteriorated, it is expected that big changes will occur in the airline industry. Jeju Airlines has been in negotiations to acquire Eastar Airlines. It has found a large amount of contingent liabilities during a due diligence process on Eastar Airline, which has long been unable to solve its capital impairment. Eastar Airline is expected to receive an order to improve its financial structure from the minister of land, transport and infrastructure as early as next year due to a revision of the Airline Industry Act. If an airliner leaves over 50 percent capital impairment unaddressed for more than two years after receiving an order for improvement, the airliner will have its license revoked or its business suspended. Meanwhile, following Jeju Air, four LCCs are accepting applications for unpaid leaves of absence.

On the other hand, Asiana Airlines announced on Feb. 12 that it posted 5,953.9 billion won in sales and 368.3 billion won in operating loss last year. During the same period, its net loss arrived at 672.7 billion won, a sharp increase in the deficit. Airline industry watchers put the blame on the following facts for Asiana Airlines’ poor earnings. The profitability of its passenger business deteriorated due to a conflict between Korea and Japan in the second half of 2019 and a glut of the supply of LCC services. Its cargo transportation suffered poor sales due to a global economic slowdown and a cut in cargo volume. Stronger foreign currencies against the Korean won triggered an increase in foreign currency cost. Finally Asiana Airline expanded investment in the enhancement of on-time performance and safe flights.
Hyundai Merchant Marine (HMM) announced on Jan. 16 that it has jointly announced a service cooperation plan with other members of “THE Alliance,” a global shipping alliance that it will join as a regular member in coming April.

The Federal Maritime Commission (FMC) of the United States has recently approved HMM joining The Alliance. Accordingly, members of The Alliance, including Hapag-Lloyd (Germany), ONE (Japan), and Yangming (Taiwan), welcomed new member HMM and announced that they will start new services with HMM beginning April 1.

The shipping alliance plans to provide services on 33 routes by calling at 78 ports worldwide including those in Asia, Europe, the Mediterranean, North America, Central America, the Middle East, the Red Sea, and India.

It will put into operation a total of 280 high-efficiency container ships to cover the routes. HMM’s participation will boost the alliance’s service competitiveness.

The current Asia-Europe route FE5 and the trans-Pacific route PS7 will be operated in a pendulum manner. Eighteen 14,000-TEU container ships will be put into operation on these routes. The new pendulum service will increase the number of lines connecting the major ports of Southeast Asia and Southern California to three – PS7, FP1 and PS3.

The newly launched trans-Pacific PS8 route covers ports in Korea and China including Incheon, Busan, Gwangyang and Shanghai.

The newly restructured Asia-North Europe routes FE2 and FE4 will be covered by the latest over-20,000-TEU ultra-large vessels in order to achieve economies of scale and eco-friendly operations.

To Expand Service Network

HMM to Become Regular Member of ‘The Alliance’ This April

By Michael Herh
CGI criticized Hanjin Group chairman Cho Won-tae and he refuted the criticism. The former made an issue of Korean Air’s high debt ratio and hybrid securities issuance and the latter said that CGI knows nothing about the distinct characteristics of the aviation industry.

CGI held a press conference in Seoul on Feb. 20 and said, “Hanjin Group owners have been dogmatic and arbitrary, they have caused wrong investments such as the acquisition of Hanjin Shipping, and the CEO has to be responsible for the failed management.” According to CGI, Hanjin Group’s business conditions began to deteriorate with the acquisition, the group took over the company at that time by taking part in a capital increase of 800 billion won, and its huge borrowings led to a lower credit rating and financial difficulties.

“Hanjin KAL’s cumulative losses amount to 1,741.4 billion won since he took office in 2014 and the losses are snowballing along with Korean Air’s losses,” it mentioned, adding that Korean Air’s debts, debt ratio and annual interest costs respectively amounted to 23,291.7 billion won, 861.9 percent and 546.4 billion won in the third quarter of last year. “The debt ratio skyrockets to 1,618 percent when hybrid securities are regarded as debts,” it pointed out.

Hanjin Group retorted by claiming that Korean Air has continued to grow since the chairman took office in 2017, the company’s sales hit an all-time high in 2018, and its high debt ratio is related to the unique characteristics of the aviation industry.

“The high ratio of Korean Air is because of rising exchange rates and foreign currency translation losses, and we are currently increasing won borrowings and reducing foreign currency borrowings to lower the ratio,” Hanjin Group explained, continuing, “CGI, which made an issue of our current net profit, has no awareness of the industry in that the profit is no return evaluation criteria for airlines due to their aircraft-based business structures.

In the meantime, Great Holdings, which is an investment purpose company of CGI, announced on Feb. 20 that its shareholding in Hanjin KAL rose from 32.06 percent to 37.08 percent as a result of 200 share purchase by Great Holdings, 2.23 million share purchase by Daeho Development, and 0.74 million share purchase by Hanyeong Development.
Samsung Electronics appointed its outside director and former Strategy and Finance Minister Park Jae-wan as the chairman of the board on Feb. 21. Those in the business community have expressed mixed opinions on the issue. Some have welcomed the decision in that the independence of the board of directors can be enhanced while the others are expressing concerns over the decision’s impact on the company’s drive.

The chairman of the board of the company can do a lot of very important things. According to Article 393 of the Commercial Code, the board can make a decision on disposal and transfer of important assets, large-scale borrowing of properties, manager appointment and dismissal, branch establishment, relocation and closure, etc.

According to Samsung Electronics’ business reports, the board made 25 important decisions from January to September last year. The examples include 2019 business plan approval and incentive provision for selected partner companies. In addition, its articles of association stipulate that the board of directors is convened by the chairman and a director can convene the board only with the consent of the chairman. In short, the chairman can control the board.

It is pointed out that such a drastic change in the structure of the board of directors will affect the company’s global business strategy, pace of decision making and large-scale investments with the inside voice weakened after vice chairman Lee Jae-yong resigned as an inside director in October last year.
As Chung Mong-koo, chairman of the Hyundai Motor Group stepped down as chairman of the board of directors, senior vice chairman Chung Eui-sun is expected to further solidify his position. Therefore, stronger winds of changes and reforms are expected to blow at the Hyundai Motor Group. But it remains to be seen whether or not vice chairman Chung Eui-sun will take office as chairman or a professional manager will be appointed as chairman at the general shareholders’ meeting to be held in the middle of March.

Chung Mong-koo’s resignation from Hyundai Motor’s chairmanship means that Chung Eui-sun, the eldest son of Chung Mong-koo, will be able to beef up his management power at the Hyundai Motor Group, industry sources said on Feb. 19.

Chung Mong-koo’s resignation means that he will be excluded from all business decisions to be made by the automotive group, whether official or unofficial. Therefore, regardless of who will be the chairman of the board of directors, vice chairman Chung Eui-sun will take the lead in the board of directors and officially act as head of the Hyundai Motor Group, many experts say.

Chung Eui-sun has been the leader of the Hyundai Motor Group since being promoted to the senior vice chairman of the group in September 2018. Chung Eui-sun has attended major events both at home and abroad as a representative of the group and announced key policies that reflect the group’s vision. On behalf of Chung Mong-koo, Chung Eui-sun is virtually exercising all managerial rights to the group.

In particular, since hedge fund Elliott left Hyundai in two years since beginning to interfere with the management of the Hyundai Motor Group, the Hyundai Motor Group is expected to gain momentum in restructuring its governance structure. Moreover, under the leadership of Chung Eui-sun, the Hyundai Motor Group is expected to invest in and push forward with its future businesses more actively.

Chung Eui-sun’s managerial performance received good reviews in 2019. Although domestic and overseas automotive markets shrank, the automotive group yielded results exceeding market expectations. Hyundai Motor’s sales reached 105,790 billion won, up 9.3 percent year on year and its operating profit arrived 3,680 billion won, up 52.1 percent, driven by strong sales of popular models like the Palisades. Kia Motors posted 57,146.0 trillion won in sales, a year on year increase of 7.3 percent, and 29.97 billion won in operating profit, up 73.6 percent from a year before.

Hyundai Motor Group Chairman Stepped Down

Chung Eui-sun Expected to Solidify His Position, Bringing More Changes to Hyundai Motor Group

By Michael Herh
Kim Dong-kwan, vice president of Hanwha Solutions Corp. and the eldest son of Hanwha Group chairman Kim Seung-yun, has been appointed as a new executive director candidate.

Hanwha Solutions announced that Kim, who is in charge of the company’s Strategy Division, was appointed as a new internal director candidate at a board of directors meeting on Feb. 20. He was promoted to vice president late last year. He has also served as head of the Strategy Division of Hanwha Corp. since the beginning of this year.

Hanwha Solutions also announced the results of its business performance in 2019. It posted 9.5 trillion won in sales, up 5.1 percent from a year ago, 377.3 billion won in operating profit, an increase of 6.8 percent, and a net loss of 28.9 billion won due to the amortization of polysilicon facilities.

By business, the solar cell division posted 223.5 billion won in operating profit, recording profits for four consecutive quarters. This was the highest level on an annual basis since Hanwha entered the solar business in 2010. Its strategy was to increase the proportion of mono-crystalline solar cells with high power generation efficiency and focus on major developed markets such as the United States, Europe, Japan, and Australia, where solar cell sales prices are relatively high. It paid off handsomely.

The Chemical Division’s operating profit plunged 52.4 percent on year to 174.9 billion won due to a global economic slowdown. The blame was put on a sharp drop in prices of flagship products such as polyethylene and PVC.

Hanwha Solution decided to withdraw from the polysilicon business which had been in the red for several years. As a result, the remaining value of polysilicon production facilities was counted in last year's earnings.

On the same day, the board of directors also decided to purchase and cancel 1 percent of total issued shares, and pay a dividend of 200 won per common share (250 won for a preferred stock). Treasury stock cancellation and dividends amounted to 63.1 billion won based on the previous day's closing price.

“We recorded a net loss in 2019, but decided to cancel stocks and pay dividends in order to continue our shareholder-friendly policy,” Hanwha Solutions said.
Due to Nuclear Phase-out Policy
Doosan Heavy Begins Restructuring through Voluntary Retirements
By Jung Min-hee

Doosan Heavy Industries & Construction, which has suffered a big drop in its earnings due to the government’s “nuclear phase-out policy” will eventually enter a restructuring phase. Some nuclear industry experts say that the government will not avoid a criticism that the government which declared job creation as its number-one policy, failed to adjust the speed of the implementation of its nuclear phase-out policy, destroying not creating jobs.

Doosan Heavy Industries & Construction announced on Feb. 18 that it will receive applications for voluntary retirements from employees aged 45 and older from Feb. 20 to March 4. The number of employees aged 45 and older is 2,600 across all of the company’s business sectors.

Doosan Heavy Industries & Construction has made various efforts including business adjustments and paid leaves in order to overcome the deterioration of its sales that has continued for many years.

Its human resources restructuring was caused by the collapse of its nuclear power business which is a cash cow for the company. Doosan Heavy Industries & Construction was directly hit by the government’s nuclear phase-out policy. In fact, after a plan to build six new nuclear power plants including Shin Hanul Units 3 and 4, was scratched off by the government, Doosan Heavy Industries & Construction has lost its credibility in the global market and suffered difficulties in the export market.

Financial Costs Forecast to Snowball
Korean Air’s Credit Rating Likely to Be Lowered
By Choi Moon-hee

Korean Air’s financing costs are forecast to snowball this year as its business performance is likely to keep deteriorating due to adverse market conditions.

This year alone, the company must repay a total of 4,354.2 billion won. For example, samurai bonds worth 5.1 billion won are scheduled to mature on Feb. 27, followed by debentures and asset-backed securities worth 240 billion won in April and 40.2 billion won in June. In addition, a call option date is scheduled for late this year with regard to hybrid securities worth US$300 million.

As of the third quarter of 2019, Korean Air’s cashable assets totaled 1,045.6 billion won. In other words, financing from the outside is inevitable. Its credit rating, however, is likely to adversely affect the financing. Last year, the company’s net loss amounted to 621 billion won, more than 300 percent of its net loss for 2018. Likewise, its debt ratio jumped from 743 percent to 904 percent. Its capital dropped from 3,751.1 billion won to 2,626.7 billion won from 2017 to 2019.

Its business conditions and management disputes are getting worse and worse this year. Credit rating agencies’ consensus is that its annual sales are likely to fall approximately 4 percent in the wake of Covid-19 and its credit rating is likely to be lowered this year.

Under the circumstances, the company is issuing more and more hybrid securities in foreign currencies as this type of issuance is an easy way of financing based on the payment guarantee of Korea Development Bank or the Export-Import Bank of Korea and requiring no global credit rating. Korean Air prepared an additional foreign currency bond issuance after US$300 million Eurobond issuance in August 2019. The preparation failed due to the lack of payment guarantee, and then the company increased its long-term borrowings.

Due to Nuclear Phase-out Policy
Doosan Heavy Begins Restructuring through Voluntary Retirements
By Jung Min-hee

Doosan Heavy Industries & Construction, which has suffered a big drop in its earnings due to the government’s “nuclear phase-out policy” will eventually enter a restructuring phase. Some nuclear industry experts say that the government will not avoid a criticism that the government which declared job creation as its number-one policy, failed to adjust the speed of the implementation of its nuclear phase-out policy, destroying not creating jobs.

Doosan Heavy Industries & Construction announced on Feb. 18 that it will receive applications for voluntary retirements from employees aged 45 and older from Feb. 20.
The Ministry of SMEs and Startups announced on Jan. 29 that last year’s venture investment in South Korea hit an all-time high of 4,277.7 billion won, up 25 percent from a year earlier. The amount broke the four trillion won mark last year and almost doubled in two years. The South Korean government is planning to raise a fund of funds worth 1.9 trillion won by investing 900 billion won in order to further accelerate the investment.

In 2018, the angel investment in South Korea totaled 553.8 billion won and exceeded the previous high of 549.3 billion won recorded in 2000. Especially, the angel investment in companies related to Industry 4.0 technologies such as healthcare and artificial intelligence jumped 27 percent to 1,706 billion won.

As a result, South Korea’s venture investment-to-GDP ratio rose to 0.22 percent last year to come in fourth behind those of the United States (0.4 percent), Israel (0.38 percent) and China (0.27 percent). In addition, the number of invested venture firms increased 15 percent to 1,608 and the number of those that received an investment of at least 10 billion won rose 33 percent to 68. Biotech firm D&D Pharmatech received an investment of 80 billion won to become the first South Korean company that attracted a venture investment of 50 billion won or more for one year.

The investment from private funds accounted for 35 percent of the total venture investment last year and the ratio is continuing to increase. The investment from the funds of funds that the South Korean government raised in 2017 represented 21 percent of the total.

Meanwhile, the size of new venture funds decreased 14.7 percent to 4,110.5 billion won in 2019. This is because institutional investors’ participation in venture funds showed a year-on-year decline of 928.9 billion won.
The Wuhan coronavirus outbreak has put lodging sharing company Airbnb on red alert.

Compared to other lodging platforms that provide reservation services in cooperation with lodging companies such as hotels, Airbnb has more interpersonal transactions and more overseas travelers. While accommodation service providers such as large hotels can take preventive measures against communicable diseases according to their own policies, it is quite a big challenge for Airbnb to provide guidelines for individual Airbnb hosts.

According to foreign media outlets, Airbnb is allowing hosts in China’s Hubei Province to cancel reservations without fees. Wuhan, the epicenter of the coronavirus outbreak, belongs to the province.

According to Airbnb’s business policies, hosts in regions affected by endemic diseases are exempted from cancellation fees after reviews by a team in charge of this kind of issues.

As the new coronavirus outbreak spreads rapidly around the world, Airbnb is preparing a detailed policy to cope with the issue.

Hosts in Hubei Allowed to Cancel Reservations without Fees

Airbnb on Red Alert as Coronavirus Outbreak Spreads Rapidly

By Choi Moon-hee

A cryptocurrency wallet ‘Klip’ developed by Kakao Blockchain subsidiary GroundX will be released in conjunction with KakaoTalk in the second half this year for the first time.

“Klip,” a cryptocurrency wallet developed by Kakao Blockchain subsidiary GroundX, will be released for the first time in conjunction with KakaoTalk, the most popular mobile messenger service in Korea, in the first half of this year. Klip will accompany Kaikas, a cryptocurrency wallet for web browsers such as Google Chrome. In other words, anyone in PC and mobile environments can easily manage digital assets such as cryptocurrencies, while global users will be able to use “Global Klip” in the second half of this year.

“Klip is easy to use and will be easily accessed via KakaoTalk in the first half of this year,” said Han Jae-sun, president of Ground X, in a message titled “Staring Ground X’s Sail for the Next Internet” on Feb. 18. “As Klip also manages private keys required when using blockchain services, it is easy to use the services without knowledge of blockchains.”

People can manage virtual assets such as cryptocurrencies and digital assets through Klip as they exchange messages, photos, and videos via KakaoTalk, Han explained.

“Users can collect and consume various digital assets produced on the blockchain platform Klaytn created by Ground X through Klip,” Han added “Klip through which people can experience various Klaytn-based blockchain services will inject new vitality into the blockchain industry by expanding user contact points through the messenger.”

Meanwhile, Han also stressed the importance of user data sovereignty, including blockchain-based mobile decentralized identifiers (DIDs) “DIDs are just one example,” Han said. “Next Internet services that blockchain creates include candidates like ID/ authentication services that add a trust layer. You will be able to find trust-based services on the internet that extend beyond authentication to identities, credentials and more.”
Microrobot Developed for Stem Cell Delivery

KIMIRo Carries Out World’s First Microrobot-based Knee Cartilage Regeneration

By Choi Moon-hee

The Korea Institute of Medical Microrobotics (KIMIRo) announced on Feb. 16 that it has succeeded for the first time in the world in knee cartilage regeneration by means of a stem cell held by a microrobot. Details of the research were published in the Science Robotics journal on Jan. 22 after verification based on cell and animal experiments.

The institute produced the robot with a diameter of 350 micrometers by attaching magnetic particles with a diameter of 1.5 micrometers to the surface of a porous and biodegradable microstructure. The porous structure of the robot is capable of holding a large number of stem cells and facilitating nutrient supply. The biodegradable structure is gradually decomposed in the human body.

The magnetic microparticles on the surface are magnetic nanoparticles authorized by the U.S. FDA. The biodegradable polymer-based particles react to an external magnetic field to precisely transfer the robot to a damaged cartilage and stably fix it to the affected area.

The robot holds a human fat-derived stem cell. The stem cell precisely transferred and transplanted to the damaged cartilage undergoes cellular differentiation into cartilage cells and the effect of regeneration can be maximized.

These days, degenerative arthritis and the necessity of total knee replacement are being dealt with by means of autologous cell transplantation or injection into patients’ knee cartilages. These methods, however, have their own limitations in that the injected cells are incapable of moving on their own. As such, the effects of the existing cell injection techniques are limited in that a lot of cells are necessary and knee incision-based invasive surgeries are required.

The institute has worked on a stem cell navigator to overcome such limitations. The navigator is characterized by being capable of carrying an animal bone marrow-derived adult stem cell.

A New Catalyst for Chlorine Production

UNIST Develops More Efficient Chlorine Production Technique

By Choi Moon-hee

Profs. Joo Sang-hoon and Gwak Sang-kyu of the School of Energy and Chemical Engineering of the Ulsan National Institute of Science and Technology (UNIST) have developed a new catalyst for electrochemical chlorine production.

In the catalyst, one platinum atom is evenly dispersed on a carbon nanotube. Its precious metal content is about one-150th of that of the existing commercial catalyst of DSA, and yet it is higher in chlorine generation efficiency and facilitates reactions. Existing electrochemical catalysts for chlorine generation contain precious metals such as ruthenium and iridium in quantity and, as such, are expensive and not very efficient in terms of production.

The professors and their research team developed a non-metal oxide based on a conclusion that the drawbacks are rooted in the intrinsic characteristics of metal oxide-based catalysts. In the new catalyst, a platinum atom surrounded by four nitrogen atoms is dispersed on a carbon nanotube. The platinum atom is completely exposed on its surface, and thus a high level of efficiency is achieved even at a low content and it is higher in performance than commercial catalysts under various electrolytic conditions.

The professors studied the principle of electrochemical reactions and the structure of active sites by applying their experimental data to theoretical calculations. As a result, they found out that the improved structural integrity between the active sites and carbon nanotube supports led to smoother electron transfer and catalyst performance improvement.

Details of the research are available on the official website of the Nature Communications journal.
POSTECH announced on Jan. 9 that its researchers have developed the world’s first smart contact lens using light.

A POSTECH research team led by Prof. Hahn Sei-kwang, a co-founder of biopharmaceutical startup Phi Biomed, has developed a smart photonic contact lens and wearable medical devices using light that can diagnose diabetes and treat diabetic retinal diseases.

“We have developed the world’s first smart contact lens to diagnose diabetes and treat diabetic retinal disease with light,” Hahn said. “We are planning to pursue commercialization of smart contact lenses and smart wearable medical devices through joint research with the Stanford Medical School.”

Intek Plus decided in August 2019 to make an equity investment in Phi Biomed to jointly promote commercialization of smart medical devices using optical technology.
The Ministry of Science and ICT and the National Information Society Agency announced that the ratio of those excessively dependent to all South Korean smartphone users increased 0.9 percentage point to 20 percent in 2019. The ratio of the group rose 2.2 percentage points to 22.9 percent when it comes to those aged three to nine. The ratio is 30.2 percent for 10 to 19, 18.8 percent for 20 to 59, and 14.9 percent for those in their 60s.

According to their data, 36.9 percent and 67.5 percent of the three- to nine-year-old and 10- to 19-year-old children of those excessively dependent on smartphones show the same tendency, respectively. When it comes to double-income households’ children, the same tendency has been witnessed in 26.1 percent and 33.3 percent of those in the respective age groups. The respective figures are 20.8 percent and 26.7 percent as for single-income households’ children.

The utilization rate of social networking services (SNS) in Korea dropped for the first time in eight years in 2019, the Korea Information Society Development Institute (KISDI) said on Jan. 27.

In a survey conducted last year, 47.7 percent of the 10,864 respondents at 4,583 households in Korea said that they used SNS, KISDI said. The SNS utilization rate stood at 16.8 percent in the first survey carried out in 2011. It had risen steadily to reach 48.2 percent in 2018 before falling for the first time last year.

The most frequently used SNS was Facebook (29.6 percent), followed by Kakao Story (26.3 percent), Instagram (19.3 percent), Naver Band (10.6 percent) and Twitter (5.3 percent).

The survey, which was conducted in 17 cities and provinces from August to October, covers 28,592 persons of 10,000 households. The confidence level of the survey is 95 percent and its margin of error is plus or minus 0.58 percentage points.
The world is shaken by the spread of new coronavirus infections from the beginning of 2020. The new coronavirus, suspected of having come from wild animals, continuously mutates, unlike the coronavirus that causes a cold, and penetrates deep into the airway, causing a severe respiratory disease. The reason why the new coronavirus is scary is that there is no therapeutic agent or vaccine at the moment. It is a big challenge to develop a vaccine for the new coronavirus as it is a ribonucleic acid virus with various strains.

Under these circumstances, foods that help boost the immune system are gaining in popularity in Korea, and red ginseng is one of the most popular products. Red ginseng is a steamed and dried ginseng and has been the most popular health enhancement food in Korea. Many Koreans like to eat red ginseng as a numinous health food that helps strengthen the immune system.

The efficacy of red ginseng has been found in various scientific studies. The Ministry of Food and Drug Administration, a Korean government agency, has recognized the functional effects of red ginseng in improving immunity and removing fatigue.

Red ginseng has been shown to be particularly effective in preventing colds, including flu. In 2004, Dr. Hitoshi Kaneko of Nagoya University, Japan, and his team of researchers demonstrated the mysterious efficacy of red ginseng by conducting a study on about 12,000 patients. The results of his study showed that only 1.4 percent of those who ate red ginseng caught a cold, but 4.9 percent of those who did not eat red ginseng went down with a cold. Those who ate red ginseng recovered quickly even when they caught a cold.

Other studies found that red ginseng intake hinders the outbreak of acute respiratory diseases and makes an improvement in their symptoms. According to a paper published in 2012 by Prof. Lee Chang-seop of the Jeonbuk National University Medical School, a study of about 100 adults on the preventive effects of red ginseng on acute respiratory diseases showed that red ginseng reduced the outbreak of respiratory diseases about 50 percent and improved symptoms such as coughing and stuffy noses.

In addition, a 2012 study by Kang Sang-moo, a professor of immunology at Georgia State University in the United States, compared survival rates of those infected with the new flu virus. The results of the study showed that a mix of a vaccine and red ginseng resulted in a 100 percent survival rate, but using a vaccine alone showed a survival rate of 60 percent among humans and 40 percent among mice. Red ginseng has been proved to boost the immune system, especially against viruses.

“There are many people who are looking for red ginseng to help boost immunity in the absence of vaccines or treatments,” said an official of a dietary supplement company. “When choosing a red ginseng product, they are advised to purchase products from reliable brands with high ginseng content.”
Every time a new epidemic broke out, research and development (R&D) on masks increased significantly, patent data show.

The Korean Intellectual Property Office (KIPO) announced on Feb. 4 that the annual average number of bacterial and virus mask patent applications over the past five years (2014-2018) stood at 68, nearly double the annual average of 37 in the previous five years.

There have been big runs on masks against bacteria, viruses and dust during the outbreaks of epidemics at home and abroad. At the time of the Middle East respiratory syndrome (MERS) outbreak in 2015, 84 mask patents were filed. That was the highest number of mask patent applications over the last 10 years. In 2009, KIPO received 73 patent applications on masks when swine flu struck. The figure was the second highest after the 84 in 2015.

Unique mask technologies included products with embedded heat rays that radiate heat to suppress virus activation, and products that sequentially filter air through an outer layer, a filter layer, and an inner layer depending on the size of a pollutant.