

Summer 2023
Vol.2

GLOCALISM QUARTERLY

Magazine



GOVERNORS ASSOCIATION OF
THE REPUBLIC OF KOREA

Theme
The Aerospace & Hydrogen Industries and
Local Diplomacy

Korea's Metropolitan & Provincial Government Diplomacy | Daejeon, Ulsan, Jeollanam-do, Gyeongsangnam-do
Local Government Diplomacy in Other Countries | GAROK USA, GAROK France, GAROK UK
Partners in Local Diplomacy | Korea Aerospace Research Institute, Project 2049 Institute in USA, Israel Yozma Group
Local Diplomacy News | Local Diplomacy Forum 2023, Gwangju Vietnamese Day 2023

GOVERNORS ASSOCIATION OF
THE REPUBLIC OF KOREA

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Local Diplomacy of the Metropolitan City of Daejeon



Mayor Lee Jang-woo, who took office in July of last year, has announced “Daejeon, a first-class economic city leading the future of Korea” as the city’s vision and is endeavoring to lay a solid foundation for economic vitality through various policies and international exchanges.

• Daejeon successfully hosts UCLG World Congress

Daejeon successfully hosted the 2022 United Cities and Local Governments (UCLG) World Congress, an event that drew 145 countries, 576 cities, and 6,200 participants in total, demonstrating to the world Daejeon’s potential as a city leading global economic development.

To translate this potential into reality, Daejeon has selected four strategic industries for development: aerospace, nano semiconductors, biotech, and defense. The goal is for these industries to gain a world-class competitive edge that goes beyond regional limits.

More specifically, the metropolitan city has already achieved a variety of fruitful results. One example was winning the designation to construct a 5.28-million-square-meter industrial complex for aerospace and nano semiconductors—the largest of its kind in the nation. Daejeon has also attracted the Defense Acquisition Program Administration, built a biotech start-up center, and secured investments from the global pharmaceutical company Merck.

capable.

The world now is engaged in unbound competition to take the lead in space exploration. As we continue through the paradigm shift from the state-led Old Space to the private sector-led New Space, the United States is at the forefront of civilian space development, with such developments as SpaceX’s Falcon 9 launch vehicles and Starlink’s satellites. Countries such as Britain and France in Europe and Japan and China in Asian are also making strides to catch up.

Thanks to Daejeon’s industry–university–institute collaboration, the successful launch of the Nuri rocket and the Danuri orbiter was made possible. This not only prevented Korea from falling behind in the space race, but even resulted in its space program becoming one of the top seven in the world. President Yoon Suk Yeol’s vision for Mars exploration in 2045 and eagerness to chair the National Space Committee only further underscores the ongoing success of Korea’s space program.

Although endeavors on a national level are also critical to ensure that this effort can come to fruition, top priority must be placed on improving the region’s capabilities in the space sector and connecting them systematically.

Daejeon is home to Korea’s most advanced infrastructure cluster in the space industry. The cluster includes 14 research institutes, such as the Korea Aerospace Research Institute and the Korea Astronomy and Space Science Institute; three world-class training centers, such as KAIST; and 69 companies including Satrec Initiative—Korea’s only satellite export firm. The city serves as the starting point of space policy, being in close proximity to government agencies such as the Ministry of Science and ICT, the Ministry of Trade, Industry and Energy, the Ministry of the Interior and Safety, and the Ministry of Economy and Finance.

• Daejeon’s strength in the space age

The space industry is one place where Daejeon’s strength and potential truly shine. With newly focused national attention from the successful launch of the Nuri rocket and the Danuri orbiter last year, this is an industry where Daejeon can certainly be most

• Daejeon: Spearheading Korea’s space development

The latest topic of discussion for Daejeon, the centrally-located city that has been skillfully designed as a major central transportation hub for Korea, is the economy.

NASA Ames Research Center (Jan 11, 2023) ▶





▲ Space Industry Cluster Seminar (Jul 27, 2022)

In addition, there are a number of strategic institutions located near Daejeon, including the complex of military training facilities called "Jaundae", the Agency for Defense Development, and the Logistics Command. The headquarters of the Republic of Korea Armed Forces—Gyeryongdae— can also be found within the region. Daejeon has also been selected for the relocation of the Defense Acquisition Program Administration, which boasts 1,600 employees and a staggering 16.7 trillion won budget (as of 2022). All of this combined further solidifies Daejeon as a place perfectly equipped with infrastructure where defense and the space industry are fully intertwined.

• Daejeon's efforts to cultivate the space industry

To make the best use of these tangible and intangible resources, Daejeon established the "Daejeon New Space Development Council" in April last year with roughly 30 local industry, academia, and research experts participating. The city is aiming to develop a system to help local companies by pressing for

a space industry innovation project that includes support for patent and technology transfer, prototype production, and start-up training at a cost of 2 billion won.

Daejeon was also selected for the Ministry of Trade, Industry and Energy's 2023 specialized smart project intended to help companies use space equipment, such thermal vacuum chambers, with a project budget of 7.8 billion won (4.8 billion won from the government, 3 billion won from the city), laying the groundwork for further developing its space industry to the highest level.

Daejeon, recognized for its strengths, potential, and efforts, was recently included in the National Space Committee's triangular space industry cluster system, alongside Gyeongsangnam-do and Jeollanam-do. In light of this designation, Daejeon has been assigned as a specialized district for research and human resource development, playing a pivotal role in the advancement of the space industry.

It's none other than human resources that has enabled Korea to remain globally competitive in various fields despite adverse environmental and circumstantial factors, such as resource scarcity and

geographic limitations.

The importance of talented persons cannot be overemphasized in an area as complexly integrated as the space industry, but it's proving increasingly difficult to cultivate and hire specialists as the workforce faces a rapid decline due to the continued decrease in the school-aged population in all industries.

Daejeon is making every effort to solve this conflict by making the best use of its already well-established industry-academia-research infrastructures and through the collection of opinions from various experts, ultimately living up to its designated name as the specialized space industry cluster for research and human resource development.

More specifically, Daejeon plans to establish a training center for innovative space technology where anyone can receive mission-oriented experimental education that breaks from the existing theory-based education. This will help connect space research institutes, companies, and schools systematically and create a positive feedback loop in the ecosystem that ensures trained individuals can propagate across the country.

As the space industry cluster is not a one-time project but a key policy of the central government aimed at sharpening the competitiveness of Korea's space industry, Daejeon will do its utmost to grow into the true cradle of space research and human resource development through the discovery and promotion of various projects in the future.

At the same time, Daejeon will cooperate closely with Gyeongsangnam-do and Jeollanam-do—two other regions designated as space industry clusters—to strengthen the nation's space development capabilities over individual regional interests.

• Strengthening space competitiveness through global collaboration

The United States is truly a leading country in the

field of space. The space achievements made by NASA and other American entities act as a valuable benchmark for Korea to set its sights on.

Mayor Lee Jang-woo visited NASA's Ames Research Center in January to be briefed on the institution's current status and benchmark its system for innovative collaboration with universities and companies, as well as its plan to develop professional research personnel. He also discussed the developmental direction of Daejeon's space industry cluster and reviewed the latest technologies and trends in the advanced aviation field, including urban air mobility (UAM).

Located in Silicon Valley, the Ames Research Center aims to create an innovative research and educational environment to cultivate future talent. It is also conducting joint research with the Korea Aerospace Research Institute and KAIST in Daejeon.

Daejeon plans to address existing gaps by fostering diverse global partnerships, starting with a tailored collaboration with the Ames Research Center that aims to stimulate space research and development as well as workforce training.

• Daejeon: following our shared dream and heading for the stars

From the KITSAT-1 nicknamed "Our Star" that soared to the sky 30 years ago to the launch of both Nuri and Danuri after much trial and error, Daejeon is a city situated at the center of Korea's accumulated space history.

Based on its diverse policies and efforts, Daejeon will do whatever it can to establish itself as a global city that leads in the space industry by combining past experience with the dynamic present and the hopeful future, thus strengthening cooperation around the world.

Local Diplomacy of the Metropolitan City of Ulsan



▼ A ceremony in celebration of the 2023 Ulsan Hydrogen Industry Day



Ulsan is a city that holds a prominent position as a key representative of Korea's hydrogen industry. It is actively promoting hydrogen-related industries by building infrastructure such as pipelines and demonstration platforms, providing equipment, and helping companies.

Having successfully completed its hydrogen fuel cell vehicle monitoring project that began in 2006, Ulsan designated February 26 the "Ulsan Hydrogen Industry Day" in 2013 to commemorate the day mass production of the world's first hydrogen fuel cell vehicle—the Tucson—began. The city has been celebrating the day every year since.

This day is a time to look closely at the current status of the Ulsan hydrogen industry and give awards to deserving members of the community. It is also a festival for all hydrogen industry officials in



▲ Delegates from the California (U.S.A.) city of Riverside visited the Hydrogen Fuel Cell Demonstration Center.

Ulsan.

There are 2,842 hydrogen fuel cell vehicles in operation in Ulsan, which accounts for 9.6% of the 29,623 vehicles nationwide. Given that the population of Ulsan is only 2.16% of the nation, this figure is considerably high.

Of particular note is the Hydrogen Fuel Cell Demonstration Center, which was completed in October 2018. It stands out as the country's sole specialized hydrogen fuel cell demonstration facility that supplies hydrogen through pipes.

The caliber of Korea's hydrogen industry is apparent at a single glance here. As a testament to the significant interest garnered by foreign



▲ Hydrogen fuel cell forklift

▼ The Hydrogen Fuel Cell Demonstration Center





Hydrogen fuel cell passenger vehicle for car sharing

governments and companies, delegations from Changchun, China and Riverside, California (U.S.A.) visited the center this year. These visits were driven by a desire to evaluate Ulsan's hydrogen industry strategies and gain firsthand insights into the region's hydrogen production facilities, including those dedicated to green hydrogen.

Launched in January 2020, the Hydrogen Green Mobility Regulation Free Zone Project aims to lead the global hydrogen economy by establishing a hydrogen energy value chain.

The project mainly deals with discovering and solving problems related to the application of hydrogen fuel cells to indoor material transport equipment, like forklifts, and how to apply hydrogen fuel cells to small ships used for leisure and administrative work.

Ulsan, selected as a "hydrogen model city" by the Ministry of Land, Infrastructure and Transport in 2019, invested a total of 48.7 billion won (20 billion won from the government, 20 billion won from the city, and 8.7 billion won from the private sector)

in three sectors: housing, transportation, and infrastructure.

More specifically in the transportation sector, great efforts were made to enhance practical application through the operation of 12 hydrogen intra-city buses, one hydrogen city tour bus, and 10 hydrogen fuel cell passenger vehicles for car sharing.

Meanwhile, Ulsan is also actively promoting overseas cooperation in the field of new energy sources.

In March this year, a mission to the Middle East from Ulsan was headed by Mayor Kim Doo-gyeom where discussions were held with Abu Dhabi National Oil Company (ADNOC), the largest state oil corporation in the United Arab Emirates (UAE). These discussions centered on cooperation in carbon-neutral industries such as hydrogen and ammonia.

It is a cooperative project that envisions storing blue hydrogen produced by ADNOC in Ulsan's New Port facilities before supplying it to different sources of demand.

The delegation also discussed collaborative and

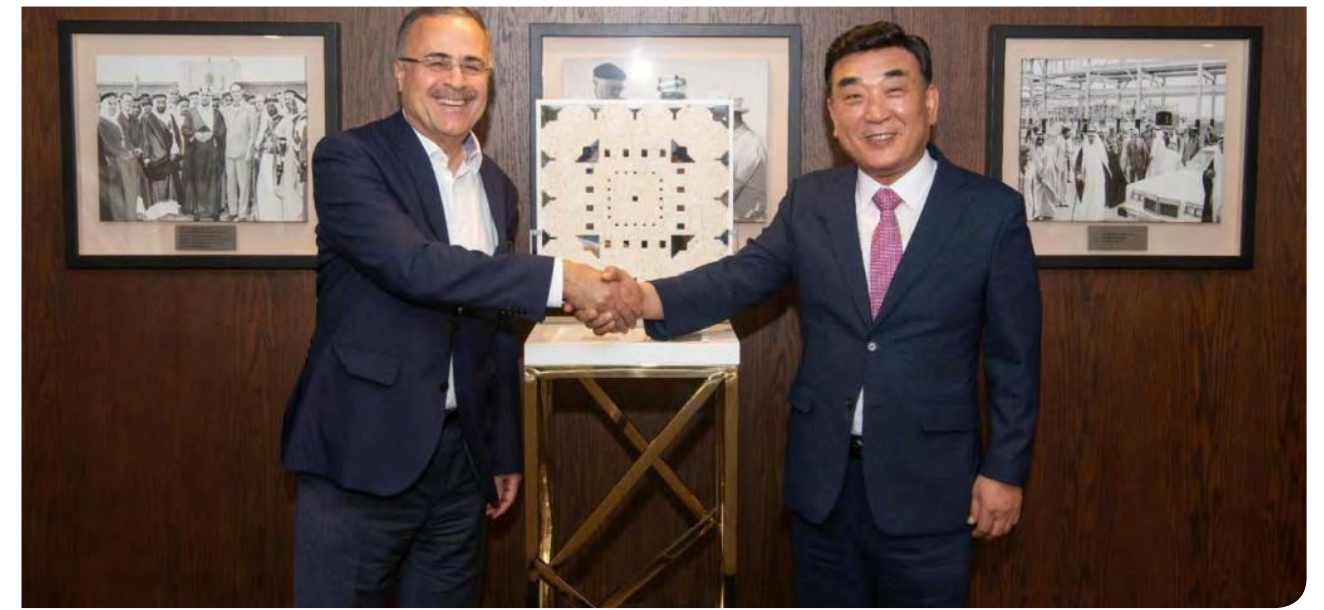
support projects aimed at building a long-term partnership. This included the Shaheen project, Saudi Arabian state company Aramco's biggest project, with investments totaling 9.258 trillion won in S-Oil, a Korean oil refinery.

The dispatch of the delegation is expected to help Ulsan emerge as a true global energy hub embracing carbon neutrality, energy supply and demand, and petrochemical industry advancement. Up to this point, Ulsan has been focusing on the storage, distribution, and utilization of byproduct hydrogen generated in the petrochemical process. The city is now, however, attempting to take on the role of a stable supplier in response to the tremendous demand that will begin with the power generation sector. Production and distribution of blue hydrogen, import and distribution of blue hydrogen, and import and cracking of blue ammonia are some of the primary drivers of such demand.

Ulsan will continue its efforts to lead Korea's hydrogen industry in the future, and through this will it solidify its position as the world's premier city for hydrogen.



▲ A conference with ADNOC officials



▲ Meeting with Aramco CEO Amin Nasser

Local Diplomacy of the Provincial Government of Jeollanam-do



• Local diplomacy pushed amid vow to lead New Space era

Jeollanam-do (Jeonnam) is continuing its international efforts to take a more prominent position on the global stage. The province has continued to interact with overseas local governments through online contact despite the economic downturn caused by the COVID-19 pandemic. With the recent declaration that COVID-19 has officially become endemic, Jeonnam has been strengthening cooperation with overseas local governments, focusing on its core projects.

One such case in point is the aerospace industry. Jeollanam-do is nurturing aerospace as its core industry along with semiconductors and data



◀ Visiting the Russian Space Museum



▲ Nuriho 3rd Launch (Goheung)

centers. To such end, officials visited Russia in 2019 to discuss possible exchange and collaboration in the aerospace industry. Next year, they plan to visit the United States, an aerospace powerhouse.

Jeonnam has emerged as the best place to foster the space launch vehicle industry. On June 21 last year, the Nuri rocket, which was produced using Korea's own technology, successfully lifted off from the Naro Space Center in Goheung on its second launch. The success of this launch had a resounding effect in raising public interest in the space launch vehicle industry.

Commenting on the successful launch of the Nuri rocket from the Naro Space Center, Jeollanam-do Governor Kim Yung-rok said, "As the launch heralded a new beginning toward becoming a space power, Jeonnam will lead the New Space era by creating a space launch vehicle industry cluster."

• Jeonnam designated as space launch vehicle industry cluster

Last year, the government adopted the "leap forward as a space power and the opening of the space age in Korea" as a national mission while also announcing plans to expand Korea's space

economic territory to Mars by 2045 to raise its global market share in the space industry from 1% to 10%.

An amendment to the Space Development Promotion Act also went into effect last December, paving the way for the designation of space industry clusters intended to support private companies. In an effort to boost the space industry further, the National Space Committee held a meeting led by the prime minister to designate Goheung, Jeollanam-do, as a space industry cluster for launch vehicles.

To create a triangular system for the space industry cluster, two other cities were also named as specialized districts: Gyeongsangnam-do (Gyeongnam) for satellites and Daejeon for research and human resource development. Plans were made to concentrate on providing a variety of support for each specialized district, a move aimed at developing deeper synergy.

With the goal of supporting the space industry more thoroughly, the government also plans to allocate a significant portion of the national budget to space infrastructure facilities that are challenging for private companies to construct. These include such things as space launch sites, combustion test sites, and assembly buildings. These were selected as eligible for a preliminary feasibility study in January and are under deliberation for possible reflection in the 2024 government budget.

• Jeonnam to dominate New Space era through launch vehicle cluster

In order to transition from a state-led approach to a privately-driven space development policy, it is essential to foster integration by attracting anchor companies to Goheung. This location is of



▲ Signing of an MOU for the establishment of a space launch vehicle industrial cluster and collaboration

particular importance due to its proximity to the Naro Space Center and private solid-propellant launch sites, which are vital components of the expanding projectile-related core infrastructure.

By outsourcing a plan to build the space launch vehicle industry cluster, Jeonnam has developed 24 core tasks in eight fields, including the creation of a national industrial complex specialized for launch vehicles and the establishment of core infrastructure. This also includes a plan to invest 1.6084 trillion won by 2031.

There are several projects that take the spotlight as part of the space launch vehicle industry cluster. These include creating a national industrial complex specialized for launch vehicles and core infrastructures for private space development and building a technology commercialization center for space launch vehicles, solid-propellant launch sites, and a science complex for launch vehicles;

these projects are essential to create the best infrastructure system under which private space companies can develop launch vehicles freely.

Jeonnam will also cooperate with Gyeongsang nam-do to push for the creation of an ultra-wide national space industry belt in the southern and central regions of the southern coast. The plan is designed to lead the nation in the development of the space industry by having Jeonnam cultivate the launch vehicle-centered cluster industry and Gyeongnam foster the satellite-centered cluster industry.

• Going all out to attract anchor companies

In May, Jeonnam announced that its proposal for the Goheung National Industrial Complex for Space Launch Vehicles, aimed at establishing a

hub for Korea's space launch vehicle industry, was selected as a candidate for development by the Ministry of Land, Infrastructure, and Transport.

The specialized industrial complex will be built over a tract of 1.73 million square meters near the Naro Space Center in Goheung at a cost of 380 billion won. The first phase of construction is dedicated to liquid projectile launcher-based production facilities and the second phase is for solid projectile launcher-based facilities, all by 2030.

In August last year, Jeonnam signed a business agreement with Hanwha Aerospace. Hanwha Aerospace was selected as the final choice to run the Korea space launch vehicle advancement program as a means of establishing comprehensive space launch vehicle infrastructure and collaborative efforts in projects for the development of launch vehicles. Jeonnam and Hanwha will continue to cooperate with the goal

of nurturing the space launch vehicle industry into the future.

Jeonnam also plans to build rental production buildings and a knowledge industry center to support start-ups and venture companies, and attract resort-style training facilities that can provide convenience to researchers and tourists with regard to the launch vehicle science complex. "We will dramatically strengthen the global competitiveness of our national space development industry, focusing on the Naro Space Center in Goheung", Jeollanam-do Governor Kim said, adding, "We will take the first step into the era of leap forward and happiness in Jeollanam-do by establishing our province as a mecca of Korea's space industry that can compete vigorously on the global stage."

Local Diplomacy of the Provincial Government of Gyeongsangnam-do



◀ Riding the T-50

The world is now entering the era of New Space. Unlike the past era of "Old Space" in which space technology was developed mainly by the government and the military, New Space is marked by the private sector's leading role in space technology development. As private companies actively take part in the space industry, a field that was originally treated as a competition for national pride and national security, space development has entered the realm of commercialization.

The Yoon Suk Yeol administration has taken on the task of establishing an aerospace agency in Sacheon, Gyeongsangnam-do, and the creation of a space industry cluster with the aim of spurring space development. The goal of such endeavors is to boost social and economic progress by securing core competitiveness in the future space sector



▲ Nurih0 Model in front of the Provincial Office of Gyeongsangnam-do

and promoting the private sector-centered space industry, all while creating one of the world's top seven space programs through the advancement of space infrastructure, policy, and institutional support.

• Establishment of the aerospace agency

Gyeongsangnam-do (Gyeongnam) is the nation's largest aerospace industry cluster, occupying 71.8% and 34.2% of production in the domestic aviation industry and the space industry, respectively. In this New Space era led by the private sector, it clearly stands out as the best place to nurture and develop the aerospace industry. This is without a doubt the reason why the Yoon administration has designated Sacheon as the location for the aerospace agency. Modeled after the National Aeronautics and Space Administration (NASA) of the United States, the aerospace agency will become an institution that will act as a control tower for Korea's aerospace industry by establishing the country's aerospace policies, cultivating the aerospace industry through the advancement of R&D and technological prowess, boosting diplomacy and international cooperation, and making Korea a space powerhouse.

The current 8th provincial government of Gyeongnam, elected by popular vote, has placed the establishment of the aerospace agency and the promotion of the aerospace industry as its top priorities. In line with this objective, Gyeongnam is planning the development of an administrative town with a new city concept. This plan involves creating expansive residential and commercial areas centered around the aerospace agency. The aim is to facilitate the smooth selection of a suitable site for the agency and ensure effective management of the aerospace agency. Gyeongnam also plans to support the successful opening of the aerospace agency and explore ways to develop the country's aerospace industry by opening a policy forum that encompasses a wide variety of fields such as space, aviation, and advanced air mobility (AAM).

• Formation of specialized satellite district in space industry cluster

On Dec. 21, 2022, the Ministry of Science and ICT designated three regions as space industry clusters that will lead Korea's space industry: Gyeongnam, Jeonnam, and Daejeon. Gyeongnam was named a specialized district for satellites, Jeonnam as one for launch vehicles, and Daejeon as one for research and human resource development.

Given that Gyeongnam accounts for 34.2% of the nation's space industry output and is home to 53 leading aerospace companies, including Korea Aerospace Industries and Hanwha Aerospace as well as 125 industrial complexes, Gyeongnam is the optimal location to maximize synergy between industries.

Initially, the Space Environment Test Facility and the Satellite Development Innovation Center will be established as core infrastructure for the creation of the specialized satellite district.

The Space Environment Test Facility is a installation that carries out on-the-ground simulations and tests of the impact on the satellite at each stage up to the completion of the mission and after entering the orbit on the launch vehicle. The facility is an essential piece of infrastructure that can meet the public and private demand for satellites, which is expected to increase rapidly in the future. It will contribute significantly to the revitalization of a self-sustaining space industry ecosystem led by the private sector by encouraging the local production of aerospace components, many of which are currently imported from abroad.

The Satellite Development Innovation Center is essentially a space hub that integrates various types of infrastructure that are essential for satellite development, production, and commercialization. It also promotes a positive feedback loop on an industrial level. It will consist of a clean room essential for satellite development, workshops armed with equipment for joint corporate use, and residential spaces for companies.

Using this infrastructure as a foundation, Gyeongnam plans to integrate and develop aerospace companies while eagerly carrying out support projects for companies, research and development, and workforce training projects.

• A vision for space economy

As part of the efforts to help Korea promote the space industry fully in the New Space era, Gyeongnam is preparing its space economy vision to explore additional mid- to long-term policy directions and missions as well as strategies and policy tasks as tools that will lead Korea's space economy. In March, a team for Gyeongnam's space economy vision was formed by industry and academia experts and held its first meeting.



▲ Speech at the Aerospace Policy Forum

The team plans to prepare Gyeongnam's space economy vision during the first half of this year by continually collecting on-site opinions and having discussions through a string of meetings with aerospace companies.

• Cultivating advanced air mobility

Gyeongnam is also prioritizing the promotion the advanced air mobility (AAM) industry, a sector ripe for new growth in the aviation industry. AAM has taken the global spotlight as a next-generation means of transportation that will improve accessibility to remote areas as well as provide solutions to traffic congestion, environmental problems, and noise pollution caused by urbanization. The \$7.4 billion market in 2020 is expected to grow at an annual rate of 30%, reaching \$1.474 trillion in 2040. As such, Gyeongnam plans to establish a basic plan for its future aerospace industry in order to draw up a systematic blueprint for the promotion of AAM and create an industrial ecosystem for it through the development of its own advanced air vehicle (AAV) prototypes. Gyeongnam will also utilize the exploration and demonstration of AAM routes and

the establishment of an AAV demonstration center to reach its goals.

• Strengthening cooperation with world-class aerospace clusters

In September 2022, the Korea-Japan Aerospace Industry Forum was held in Nagoya, Aichi Prefecture, Japan. Officials from aviation-related companies and organizations in Gyeongnam, the biggest cluster of domestic aerospace businesses, and Aichi, Japan's largest aerospace industry cluster all met to discuss the current status of the aerospace industry in both countries and their development plans. During the forum, Gyeongnam proposed signing an MOU for mutual cooperation in the aerospace industry between Gyeongnam and Aichi, and working-level consultations are now under way under an agreement to sign the MOU at Aeromart Nagoya in September of this year.

Gyeongnam plans to strengthen and expand exchange and cooperation with aerospace cluster cities around the world to expand the scope of its own aerospace industry.

Furthermore, President Yoon visited the NASA Goddard Space Flight Center in April during his state visit to the United States and discussed ways to strengthen Korea-U.S. space cooperation. Adding to that, the Ministry of Science and ICT and NASA signed a Joint Statement of Intent for Cooperation on Space Exploration and Science and agreed to explore and form joint tasks in such areas as moon exploration programs, satellite navigation systems, and space exploration under a plan to have the newly-established aerospace agency lead their bilateral space cooperation. A delegation from Gyeongnam also visited the NASA Headquarters and the Johnson Space Center in May to discuss matters of future partnerships in areas such as

education and joint research and development in the aerospace industry between Gyeongnam and NASA.

Moving forward, Gyeongsangnam-do Governor Park Wan-soo plans to visit France in June for further aerospace exchange and collaboration. He will be part of the Gyeongnam Pavilion in the Paris Air Show exhibition hall and will also attend MOU signing ceremonies between provincial aerospace companies and overseas buyers to encourage Korean businesses to strive for more international agreements and orders. In preparation for the establishment of the aerospace agency in Sacheon, Park will also visit major aerospace agencies in France to gain insight on France's aerospace economic vision and build a cooperative system in the aerospace industry.

Traditionally, Gyeongnam has been a city centered around manufacturing. Although its manufacturing industry faced a number crises as a result of a slump in the shipbuilding industry and the COVID-19 pandemic, the province is preparing for a new leap forward, boosted by a new strategic industry: aerospace. Gyeongnam is now taking great steps forward to secure a pivotal role in establishing Korea as a space power globally, reaching beyond the limits of simply being an aviation industry cluster.



▲ Gyeongnam enters the Space Age!

Global Trends and Implications of the Aerospace Industry

US Office of the Governors Association of the Republic of Korea

The aerospace industry is an industry with high potential for added value, and it can also boost a nation's defense capabilities, increase its influence in the international community, and advance its industrial structure. In short, this industry is incredibly promising for the future. Aerospace businesses in South Korea and other countries around the world are growing rapidly with many interrelated projects underway. The space industry is only expected to expand even more significantly in coming years as well. The global market for space technology is predicted to increase at an average annual rate of 11% until 2025 when the market will reach an estimated \$321.6 billion, up from \$180 billion in 2019.

• Trends and Prospects in the U.S. Aerospace Industry

The United States has the world's largest aerospace market and it is fast recovering from pandemic-induced stagnation. This is driven in part by a rebound in demand for travel and the replacement of aging airplanes with new ones. The rising demand for commercial aircrafts and further activity related to aircraft maintenance, repair, and overhaul (MRO) to meet decarbonization requirements has also played a part in this recovery. Currently, the U.S. is leading the global space tech industry with 52.1% (approx. 5,500 firms) of the world's space tech companies located in the

country as of 2021. The U.S. is also known for its aggressive investments in the space sector, having invested \$28 billion in 3,086 space businesses.

• U.S. Aerospace Industry Policy Trends

The U.S. government, the Federal Aviation Administration (FAA), and the National Aeronautics and Space Administration (NASA) are in charge of aerospace industry policies. The FAA, affiliated with the U.S. Department of Transportation (DOT), regulates civil aviation and aims to put the world's safest and most efficient aerospace systems in place. The U.S. government has been stepping up international cooperation for the utilization of space resources since it re-established the National Space Council in 2017. It has also been making efforts to strengthen the system for sharing the geopolitical information necessary for space activities with private organizations to expand civilian-led aerospace projects. To such ends, the U.S. administration has increased the budget and authority of the National Oceanic and Atmospheric Administration (NOAA) significantly.

NASA is presently conducting the Artemis moon exploration program to land humans on the moon by 2025, while also carrying out another project with the aim of sending humans to Mars by 2040. The White House requested a \$26 billion budget for NASA in 2023, which includes \$7.5 billion for the Artemis moon program.



• The Aerospace Industry by State



1. Washington State: "A global leader in advanced aerospace manufacturing"

Washington State, home to the leading global aerospace company Boeing, is the center of the global aerospace industry with a series of well-established supply chains and a highly skilled workforce. The aerospace industry accounts for 10.55% of Washington State's gross domestic product, the highest percentage of any state in the U.S. In addition, the state offers diverse tax credits to businesses to create a favorable environment for the aerospace industry to grow. In fact, the growth of the industry has been accelerating gradually. Washington State reported that the aerospace industry generated 13,000 jobs and \$4.6 billion in

economic value in 2021—more than a two-fold increase from 2018. In addition to Blue Origin and SpaceX, many aerospace startups such as Stoke Space, Starfish Space, LeoStella, and Wave Motion Launch are based in the state. These companies are actively engaged in research and development (R&D) on commercial space flights and such development is expected to continue to expand over the next 10 years.

2. Texas State: "The center of space exploration"

More than 1,400 aerospace companies with roughly 200,000 workers are located in Texas. As a matter of fact, Texas is the No. 1 state in terms of employment in the air transport sector in the U.S. Seventeen of the world's top 20 aerospace manufacturing companies including Boeing, Bell Textron, and Lockheed Martin conduct business in Texas, with their operations concentrating in big cities such as Dallas-Fort Worth, Waco, Amarillo, and San Antonio.

Texas has served as a major flight control center





for all U.S. manned space missions, such as Apollo and the Space Shuttle, and has played a key role as a center for space exploration since the establishment of NASA’s Manned Spacecraft Center (later renamed the Johnson Space Center) in Houston in 1961. Five spaceports, including launch facilities for SpaceX and Blue Origin, are located in Texas as well. Furthermore, universities in Texas spend over \$5 billion on aerospace R&D each year.

3. Florida State: “Fostering a cutting-edge aerospace industry”

Around 2,400 aerospace companies including

Boeing, Lockheed Martin, General Dynamics, Northrop Grumman, and GE Aviation operate in Florida with 110,000 workers on their payrolls. Nearly 11,000 people obtain aerospace-related technical certificates and academic degrees in the state every year. In particular, Embry-Riddle Aeronautical University offers one of the largest aerospace engineering programs in the U.S., cultivating outstanding talent and contributing to a highly skilled workforce. Space Florida, the aerospace industry development agency of the State of Florida, provides incentives for aerospace companies investing in Florida. It has attracted more than \$2 billion in investment since 2006, and aims to attract \$10 billion in investment by 2030.

4. Georgia State: “No. 1 state in aerospace-related exports”

Georgia’s exports of aerospace products were estimated to be \$9.19 billion in 2021, making it the largest among all of the state’s export items. More than 100 airports in the state now employ

over 450,000 people, generating an economic value worth \$73 billion. Georgia is also committed to promoting technology development to enhance competitiveness and innovation in the aerospace industry.

The Center of Innovation for Aerospace supports aerospace companies with high growth potential by providing them with research and industrial expertise. The Georgia Tech Research Institute (GTRI) also promotes technology development for higher performance and functionality in close cooperation with the aerospace industry. Around 25 aerospace-related universities are located in the state, and Georgia Tech is even known as the birthplace of aerospace engineers.

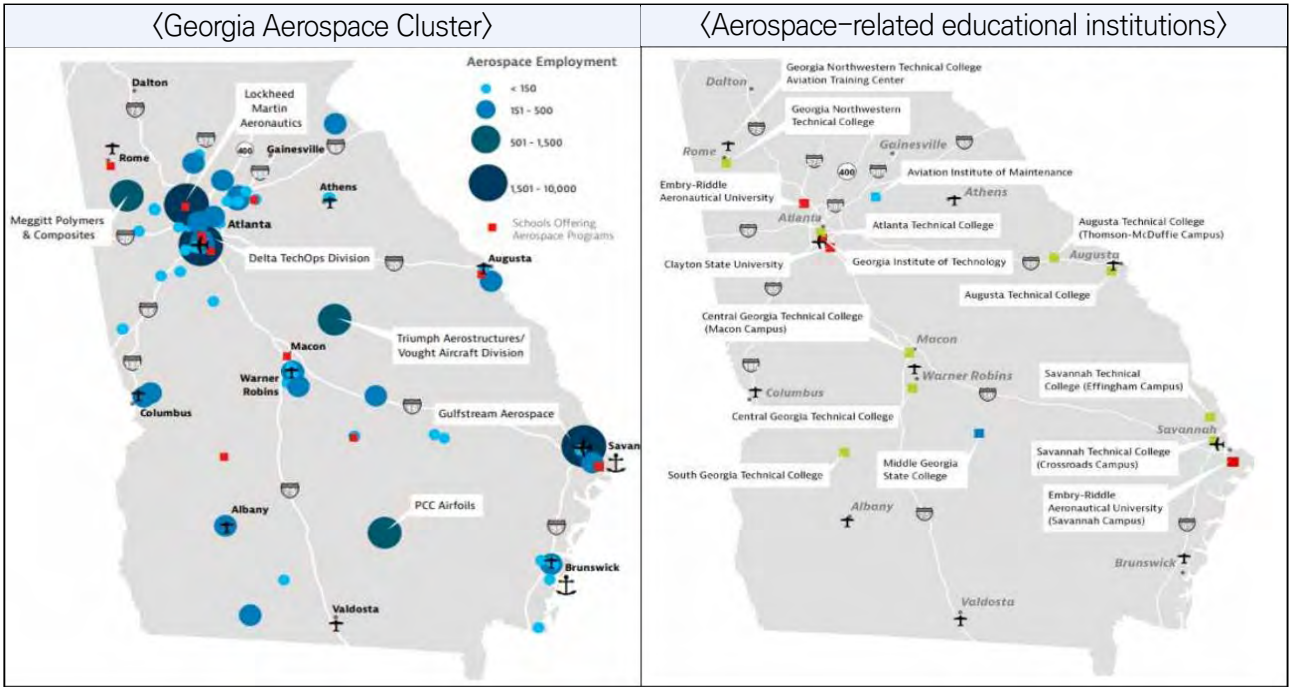
• Implications for South Korea

The aerospace industry is a fast-advancing industry with potential for added value that can create high quality jobs. As such, it is immensely important to secure a position as an aerospace powerhouse in order to find a future growth engine. In December, the South Korean central government announced a plan to foster their space industry in the private sector in earnest by designating South Jeolla Province (Jeollanamdo), South Gyeongsang Province (Gyeongsangnamdo), and Daejeon Metropolitan City as specialized zones for “Space Industry Clusters”. Developing the domestic aerospace industry and becoming globally competitive is possible only when the central government cooperates more closely with provincial and municipal administrations, academic institutions, and businesses to promote research and development, foster human resources, and build infrastructure. As mentioned above, state governments in the U.S. have their own aerospace-related institutions to



provide various incentives such as deregulation and financial support, and actively foster the aerospace industry as a major economic driving force. It is time for local administrations in South Korea to make efforts to set out a new strategy to develop an aerospace industry suitable for each region in line with the central government’s policy. It is important to ensure that the country does not lag behind its rivals in future competition within this industry.

※ For more information please see “U.S. Aerospace Industry Trends and Entry Strategy” published in KOTRA Global Market Report 22-016.
(Min Geung-gi and two others of the Dallas, Texas office of the Korea Trade-Investment Promotion Agency (KOTRA) wrote the article)



Source: Georgia State Government (2022)



Toulouse, the capital of the aerospace industry, could reach a turning point in industrial diversification by focusing on such future growth engines as mobility, biomedicine, and artificial intelligence.

JEAN-CLAUDE DARDELET Deputy Mayor of Toulouse,
Vice President of Toulouse Metropole



JEAN-CLAUDE DARDELET
Deputy Mayor of Toulouse, Vice President of Toulouse Metropole

• Uninterrupted economic and demographic dynamism

Toulouse, the fourth-largest city in France, is the European capital of aviation, space, and embedded systems. With more than four researchers for every 100 people, the metropolis forms a unique ecosystem of innovative enterprises, universities, and research centers that makes it Europe's major center for science and innovation. The companies established in the region mainly argue that Toulouse was chosen because there are exceptional engineers to recruit there. In fact, Toulouse retains the most students upon graduation out of any city

in the country.

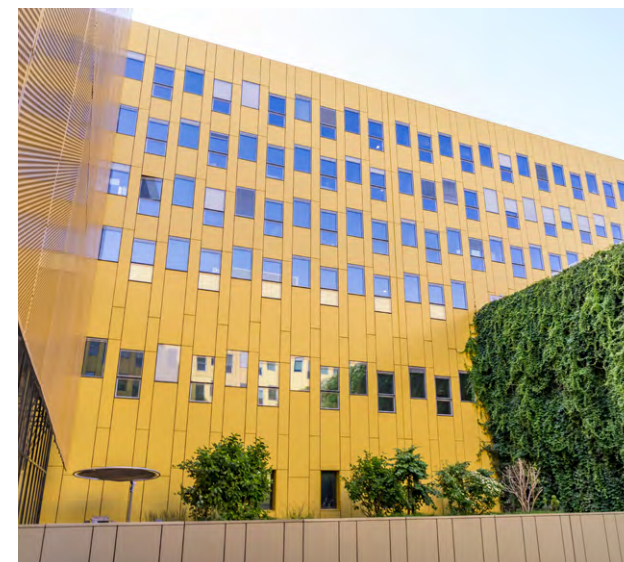
Toulouse attracts more than 9,000 residents every year according to INSEE, the French National Institute of Statistics. This is largely due to the massive amount of recruiting that companies conduct in the city: according to commercial real estate advisory firm Baromètre Arthur Loyd, Toulouse had the largest increase in job creation and the best rate of economic resilience in France in 2021. It's a dynamism reinforced by the quality of life that the city has managed to preserve, balanced between rich heritage and cultural effervescence, in the heart of a magnificent region renowned for its 203 days of sunshine per year.

• Epicenter of Europe's aerospace industry

Toulouse has been the historical cradle of aviation since 1910. The city brings together such leading aerospace manufacturers as Airbus, ATR, Thales Avionics, Collins Aerospace, Latécoère, Stelia, Daher, and Safran, and is home to two aeronautical headquarters and their final assembly lines: Airbus and ATR. The entire value chain is located within



Source : Centre Innovation B612 © Rémi Deligeon



Source : Centre Innovation B612 © Rémi Deligeon

the city and its suburbs, from avionics and on-board electronics to surface treatment, including cabin fittings and structural components. In total, more than 600 companies and 85,000 employees make Toulouse the flagship of the aviation industry in both Europe and in the world.

Within this ecosystem, Toulouse is positioned as one of the greatest European R&D sites dedicated to aviation, space, embedded systems, as well

as related sectors such as artificial intelligence. It houses B612, an innovation center that creates links between public and private laboratories, contractors, small- and medium-sized companies, and startups. B612 is also home to Aerospace Valley, Europe's first competitiveness cluster in the aerospace industry supporting aviation, space, and drones. Toulouse is the place where all these sectors can be found.

As far as the space industry is concerned, Toulouse represents a unique ecosystem in which 25% of the European workforce is concentrated.

CNES, the French space agency, was relocated to Toulouse in the 1960s and is at the center of this ecosystem for research and operations conducted both at national and ESA (European Space Agency) level.

In addition, the two major European aerospace manufacturers, Airbus Defense and Space and Thales Alenia Space, have their main sites in Toulouse dedicated to R&D, manufacturing, and the integration of satellites.

The ecosystem in Toulouse has been part of

all major space projects related to exploration, telecommunications, Earth observation (Copernicus), and space medicine (MEDES, for monitoring the medical health of astronauts). For some years, Toulouse has also taken the lead in New Space, calling for several companies to work together to develop smaller and cheaper satellites for non-institutional clients. Some examples include Loft Orbital, Exotrail, and Kineis.

News

Recently, the French government decided to create Space Command, and Toulouse was the natural choice for its location. In the same vein, the NATO European Center of Excellence on space technologies will also be headquartered in Toulouse starting this year.

• Exemplary cases that inspire health, green mobility, and digital technology

Building on European and global success, the Toulouse Aerospace Campus has inspired the creation of three campuses in other innovative sectors that make the city dynamic:

- The Health Campus of the Future, which brings together players from clinical, academic, and industrial research, already welcomes more than 6,300 people. Also located in the city is Oncopole,



Source : Toulouse © Rémi Deligeon

the largest cancer center in Europe. With the construction of the Evotec biomedicine factory, Toulouse is thus reaching a turning point in bioproduction.

- The Francal Campus focuses on mobility and transport for the future. Toulouse is one of the European leaders in research on intelligent transport system technologies. Nearly 38 hectares have been transformed into a center dedicated to innovative, sustainable, and green mobility. By 2025, the campus will house a laboratory center and a test village where future land and air mobility systems will be designed and tested. At the same time, a research center covering 10,000 square meters, a testing center, and an innovation center all dedicated to hydrogen and low-carbon energies will be opened.
- The Digital Campus “Grand Matabiau, quais d’Oc” will also soon call Toulouse home. Dedicated to digital technology, artificial intelligence, and cybersecurity, the campus’s objective is to develop a real estate complex offering such facilities as incubators, business hotels, and offices, as well as a range of services and leisure activities on 50,000 square meters of the planned offices and premises that will cover a total of 300,000 square meters.

News

The establishment of the Evotec plant through the investment of 200 million euros will create 250 new jobs in addition to the 700 Evotec employees already on site researching. Initially, the plant will be dedicated to the production of monoclonal antibodies for the treatment of severe forms of COVID-19 and then to the production of the biotherapies of tomorrow.

• Ambitions for 2030

In line with the France 2030 plan launched by President Emmanuel Macron in 2021 with a budget of 54 billion euros, the city's ambitions are not only focused on the aeronautics of the future, but also on all the other sectors that make up the strength of its ecosystem. These ambitions conform with those of the 2030 plan:

- Production of the first low-carbon aircraft will be carried out largely in Toulouse via various projects. This production will be realized not only by giants such as Airbus, but also innovative companies such as Universal Hydrogen, which has just established itself in Toulouse from its California birthplace. It will also involve the participation of half a dozen other companies located in the city: Aura Aero, Beyond Aero, and Ascendance Flight Technologies, to name a few. Nearly 4 billion euros will be invested in this transport of the future.
- The conquest of space will also find a place in the projects of various locally established agencies and companies, including CNES, Airbus Defense and Space, Thales Alenia Space, Loft Orbital, Exotrail, and Kineis.



Source : Toulouse © Rémi Deligeon

- Becoming leaders in green Hydrogen is already in the wheelhouse of many companies established in the city such as Hyport, McPhy, Transdev Occitanie, and other research laboratories, as well as larger groups such as Safran, Airbus, Liebherr and Vitesco Technologies.



Source : Oncopole © Rémi Deligeon



Source : Oncopole © Rémi Deligeon

Toulouse, capitale de l'aéronautique et du spatial, a su prendre le virage de la diversification en misant sur les relais de demain comme la mobilité, la biomédecine ou l'IA.

JEAN-CLAUDE DARDELET Adjoint au Maire de Toulouse et Vice-Président de Toulouse Métropole en charge de l'attractivité, du tourisme et de l'international dans le premier paragraphe en jaune



JEAN-CLAUDE DARDELET
Adjoint au Maire de Toulouse et Vice-Président de Toulouse Métropole en charge de l'attractivité, du tourisme et de l'international

• UN DYNAMISME ÉCONOMIQUE ET DÉMOGRAPHIQUE ININTERROMPU

Quatrième ville de France, Toulouse est la Capitale européenne de l'aéronautique, du spatial et des systèmes embarqués. La métropole concentre un écosystème unique d'entreprises innovantes, d'universités et de centres de recherche qui en fait un pôle scientifique et d'innovation majeur au niveau européen : pas moins de 4 chercheurs pour 100 habitants intra-muros ! Les entreprises implantées sur le territoire avancent majoritairement que Toulouse est choisie car on y trouve également de très bons ingénieurs à

recruter (c'est la ville française qui retient le plus d'étudiants à la fin de leurs études).

Avec des entreprises qui recrutent massivement (plus grande hausse en 2021 en France en création d'emplois et meilleur taux de résilience économique en France selon le Baromètre Arthur Loyd), la métropole attire chaque année plus de 9000 habitants selon l'INSEE. Un dynamisme renforcé par la qualité de vie que la ville a su préserver, entre patrimoine riche et effervescence culturelle, au cœur d'une région magnifique et réputée pour son ensoleillement (203 jours /an).

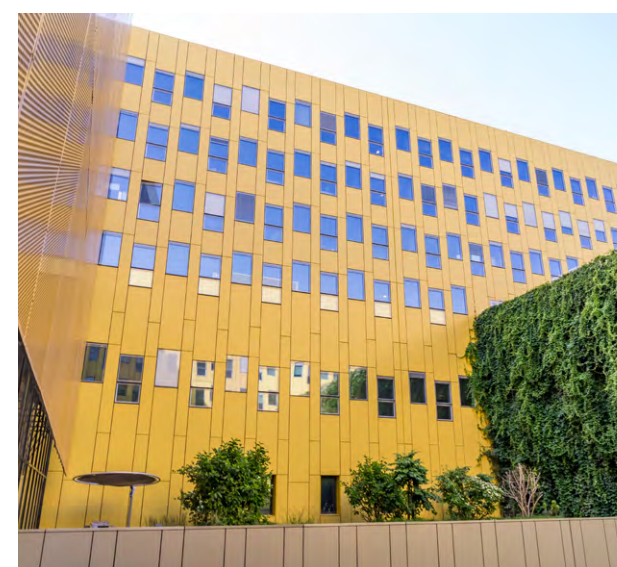
• L'ÉPICENTRE DU SECTEUR AÉRONAUTIQUE & SPATIAL EN EUROPE

Berceau historique de l'aviation depuis les années 1910. Toulouse regroupe les plus grands industriels aéronautiques (Airbus, ATR, Thalès Avionics, Collins Aerospace, Latécoère, Stelia, Daher, Safran, etc) et accueille 2 sièges aéronautiques et leurs lignes d'assemblage finales : Airbus et ATR. L'intégralité de la chaîne de valeur se trouve dans la ville et sa banlieue, depuis l'avionique et



Source : Centre Innovation B612 © Rémi Deligeon

électronique embarquée au traitement de surface, en passant par l'aménagement de la cabine et les



Source : Centre Innovation B612 © Rémi Deligeon

pièces structurales. Au total, ce sont plus de 600 entreprises et 85 000 salariés qui font de Toulouse le fleuron du secteur en Europe et dans le monde. Au sein de cet écosystème, Toulouse Aerospace se positionne comme l'un des plus grands sites européens de R&D dédiée à l'aéronautique, à l'espace, aux systèmes embarqués et aux filières associées comme l'Intelligence Artificielle. Il

abrite le B612, centre d'innovation qui crée des liens entre les laboratoires publics et privés, les donneurs d'ordre, les PME et les start-ups. C'est également au B612 que se trouve le siège d'Aerospace Valley, le premier pôle de compétitivité européen de la filière aérospatiale au service de trois filières (aéronautique, espace et drones). C'est à Toulouse que tout le secteur se retrouve.

En ce qui concerne l'industrie spatiale, l'écosystème actuel est unique, c'est à Toulouse que se concentre 25% de la main-d'œuvre européenne.

Le CNES (agence spatiale française) transférée à Toulouse dans les années 1960, est au cœur de cet écosystème à la fois pour la recherche et les opérations qu'il mène tant au niveau national qu'europpéen avec l'ESA.

De plus, les deux grands industriels européens du spatial Airbus Defence and Space, et Thales Alenia Space ont leurs sites principaux à Toulouse dédiés à la R&D, à la fabrication et à l'intégration de satellites.

L'écosystème toulousain a participé à tous les grands projets spatiaux liés à l'exploration, aux

télécommunications, à l’observation de la Terre (Copernicus), et à la médecine spatiale (MEDES pour le suivi de la santé médicale des astronautes). Depuis quelques années, Toulouse prend également la tête du NewSpace avec plusieurs entreprises travaillant ensemble pour développer des satellites plus petits et moins chers pour des clients non institutionnels. Quelques exemples : Loft Orbital, Exotrail, Kineis,...

ACTUALITE

Récemment l’Etat Français a décidé de créer le Commandement de l’Espace et c’est tout naturellement à Toulouse qu’il a été placé. Ainsi, dans le même esprit, le Centre d’Excellence Européen de l’OTAN sur les technologies du spatial sera également installé à Toulouse à partir de cette année !

• UNE EXCELLENCE QUI INSPIRE LA SANTÉ, LES MOBILITÉS VERTES ET LE NUMÉRIQUE

Fort d’un succès européen et mondial, le Campus Toulouse Aerospace a inspiré la création de 3 autres campus dans les autres secteurs innovants qui font le dynamisme de la ville :

- Le campus Santé du futur, qui rassemble des acteurs de la recherche clinique, académique



Source : Toulouse © Rémi Deligeon

et industrielle et accueille déjà plus de 6 300 personnes. L’Oncopole est le plus grand centre cancérologue d’Europe. Avec la construction de l’usine d’Evotec de biomédicaments, Toulouse prend ainsi le virage de la bioproduction.

- Le Campus Franczal se concentre lui sur les mobilités et transports du futur. Toulouse figure parmi les leaders européens de la recherche sur les technologies des systèmes de transport intelligents. Près de 38 hectares ont été transformés par Toulouse Métropole en un centre dédié aux mobilités innovantes, durables et vertes. D’ici 2025, le campus abritera un pôle laboratoire et un village test où seront conçus et expérimentés les futurs systèmes de mobilité terrestres et aériens. En parallèle s’ouvrira un centre de recherche (10 000m²), d’essai et d’innovation consacré à l’hydrogène et aux énergies décarbonées.
- A venir : le Campus du numérique Grand Matabiau, quais d’Oc. Dédié au numérique, à l’intelligence artificielle et à la cybersécurité, l’objectif de la métropole est d’y développer une offre immobilière (pépinières, hôtels d’entreprises, bureaux, ...) de 50 000 m² sur les 300 000 m² de bureaux et locaux d’activités tertiaires prévus, ainsi qu’une offre de services et de loisirs.

ACTUALITE

Implantation de l’usine EVOTEC 200M€ investissement, 250 nouveaux emplois prévus qui s’ajoutent aux 700 salariés Evotec déjà sur place dans la recherche. Dans un premier temps, l’usine sera dédiée à la production d’anticorps monoclonaux pour le traitement des formes graves du COVID19 et ensuite à la production des biothérapies de demain.

• DES AMBITIONS POUR 2030

Dans la droite lignée du plan France 2030, lancé par Emmanuel Macron en 2021 (54 milliards d’euros), les ambitions de la ville se portent non seulement sur l’aéronautique du futur, mais également sur tous les autres secteurs qui font la force de son écosystème et ses ambitions rejoignent celles du plan :

- Produire le premier avion bas-carbone sera réalisé en grande partie à Toulouse, via différents projets portés non seulement par des géants, comme Airbus, mais également des entreprises innovantes, comme Universal Hydrogen, qui vient de s’implanter à Toulouse depuis sa Californie natale, ou une demi-douzaine d’entreprises localisée dans la ville : Aura Aero, Beyond Aero, Ascendance Flight technologies entre autres. Près de 4 milliards d’euros seront investis au total pour ces transports du futur.
- La conquête spatiale, trouvera également écho dans les projets de différentes agences et entreprises implantées localement : le CNES, Airbus Defence and Space, Thales Alenia Space, Loft Orbital, Exotrail, Kineis...



Source : Oncopole © Rémi Deligeon



Source : Toulouse © Rémi Deligeon

- Devenir le leader de l’Hydrogène vert est déjà le terrain de jeux de nombres d’entreprises implantées dans la ville : Hyport, McPhy, Transdev Occitanie, des laboratoires de recherche mais aussi des grands groupes comme Safran, Airbus, Liebherr et Vitesco Technologies.



Source : Oncopole © Rémi Deligeon

Enhancement of the Korea-UK partnership in the space industry and in global innovative leadership

UK Office of the Governors Association of the Republic of Korea

The British government's expenditures for the space industry account for 5% of its Gross Domestic Product (GDP), the world's highest proportion after the United States and Russia. This figure is relatively high compared to other countries in Europe. UKRI (UK Research and Innovation) has announced the UKRI strategy 2022–2027 which is focused on the development of knowledge-intensive innovative industries and trying to make the British people more science-savvy while developing a concrete plan to encourage them to take a more active role in innovation. In February 2022, the UK government under former Prime Minister Boris Johnson published a white paper that included a commitment to “levelling up every part of the UK” to spread opportunity more equally across the country. This “Levelling Up White Paper” selected the space industry as a sector that needs to promote balanced development.

The largest regional space industrial cluster in South East England is located in Surrey, which includes ‘Koreatown’. The Surrey Space Centre (SSC) at the University of Surrey has contributed greatly to regional and national economic development together with the Surrey Science Park by establishing and operating an innovative industrial ecosystem. The SSC has also developed international cooperation through expertise and technology transfer to less developed countries.

• Space South Central (SSC*) and the Surrey Space Centre (SSC)

Space South Central (SSC*) is the UK's second-largest regional space cluster after London, boasting more than 40 years of history. Together with the University of Surrey, the University of Portsmouth, and the University of Southampton, it has played a pivotal role as an international partner in providing industrial technology and expertise as well as a regional cluster in public sectors. It consists of the Advisory Board, the Enterprise Network (SSCEN), the Surrey Space Centre (SSC), the Centre for Space Missions (CSM), and the Space at Southampton (SAS).



Joint project with SSC, KITSAT-1 (KITSAT-OSCAR-23) (Source: SSC)



The whole view of the SSTL (Author)

• KAIST satellite project with Surrey Space Center (SSC)

The Surrey Space Centre (SSC) at the University of Surrey has actively engaged in international cooperation with various countries such as South Korea, China and Nigeria, starting with the production of its first satellite, UoSAT-1, in 1981. The centre took part in the production of China's BEIJING-1 in 2005, NigeriaSat-1 in 2003 and NigeriaSat-2 in 2011 respectively. It also worked with the Korea Advanced Institute of Science and Technology (KAIST) and transferred related expertise and technology to Korean counterparts when two satellites, KITSAT-1 (KITSAT-OSCAR-23) and KITSAT-2, were produced in 1992 and 1993.

• UoSAT-1 and the largest regional space industrial cluster

The Surrey Space Centre (SSC) was formed in 1979. In 1975, Martin Sweeting, a doctoral student at the University of Surrey, began to take an interest in amateur radio with like-minded colleagues and tracked Russian weather satellites using wireless radios. The centre has now grown into what it is today, as he successfully produced its first satellite, UoSAT-1, and the Surrey Satellite Technology Ltd (SSTL), a spinoff company of the University of Surrey, was established. Undergraduate courses as well as master's and doctoral courses relating to space engineering at the university bolster the pool of experts available to innovative industrial companies and research institutes. It also explores a wide range of engineering issues, such as space robotics, through its own satellite mission control centre.

“Surrey County Council is proud of our businesses

and academic institutions whose knowledge and skills make the region such a powerful contributor to the UK Space Industry. When talking to our businesses, we are often reminded of the wide-reaching potential the industry has for applications across our key sectors,” Tim Oliver, Leader of Surrey County Council, said.

• The operational size of Space South Central

The innovative industry ecosystem of Space South Central (SSC*) is operated and supported by competent scientists, engineers, companies and innovators in the space field. On top of that, 125 multinational companies such as Airbus, BAE Systems, Lockheed Martin, Spur Electron, Earth-I, In-Space Missions, KISPE, ICEYE, ViaSat, and SSTL each maintain a presence at Space South Central and provide end-to-end services. In the year 2019/2020, Space South Central generated £3.03 billion in domestic income, £1.64 billion in export income, £64 million in FDI, and about 5,700 talented employees. It has also established 55 companies since 2010.

• Successful cases of international cooperation in the space industry at Surrey Research Park

There are various global projects conducted by companies based in the Surrey Research Park and these are broadly scattered in terms of business categories, magnitude and geography. (Source: The 2022 annual report of the Surrey Research Park)

• Alcis, one of the global top 100 geographic information service companies

Alcis provided immediate assistance in creating an online map portal for emergency rescue for residents



and victims when a 5.1-magnitude earthquake hit Afghanistan in June 2022. This was done by integrating the databases of all houses, other public data, and satellite images (See photo 1).

• **Clutch Space Systems, a ground station software provider for satellite communication.**

Clutch Space Systems were able to secure stable funding by jointly promoting a project to build a smart and efficient digital control antenna system for low earth orbit satellites with the University of Surrey. It recently signed a contract with Kleos Space in Luxembourg as well. Professor Tim Brown of the University of Surrey explained that the antenna system project is important as it is an engineering plan that will change the future of the world (See photo 2)

• **Advanced Material Development (AMD)**

AMD has signed a contract with the Jet Propulsion Laboratory (JPL) for NASA's Europa Clipper spacecraft electromagnetic compatibility test campaign and is working together to promote the project (See photo 3).

• **The UK space industry and its strategy**

According to “The UK Space Industry”, a briefing paper for the House of Commons written by C.H.E Rough, the UK space industry is a fast-growing

sector and its income is estimated to have tripled since 2000. The paper said that, annually, the industry generates an estimated income of £14.8 billion and creates around 42,000 jobs across all regions of the UK. It also said that the UK government supports a range of public services such as disaster relief, telecommunications and global positioning systems (GPS), particularly through satellite data and imagery. In December 2015, the British government set a goal of occupying a 10% share of the global space industry market by 2030 according to the national space policy. Its first objective is to ensure that space is of strategic importance to the UK. Second, the government will promote unrestricted space activities free from interference by hostile countries. This is to enhance the safety and security of the environment in which space operations are conducted. Third, it will focus on the growth of the commercial space sector, underpinned by exceptional academic research. Fourth, it will strengthen international cooperation based on alliances and legal frameworks that prioritize national interests. Queen Elizabeth announced in her speech in December 2019 that the UK set out a plan for the National Space Strategy and a new National Space Council. And in 2021, they implied that the defence and civil space policies would be integrated through the government’s integrated review of security, defence, development, and foreign policy sectors.

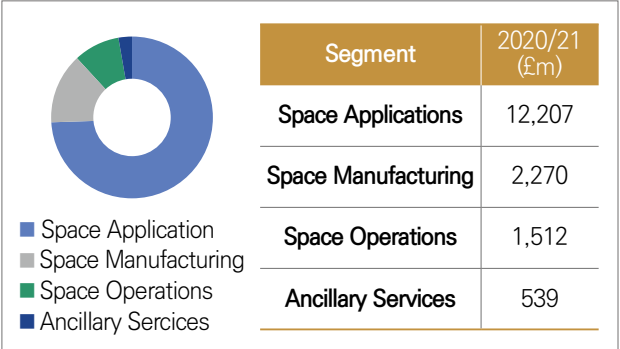
• **Post-Brexit UK space industry**

Although the UK space industry is not so deeply affected by the activities of the European Space Agency, after Brexit, the UK will cease the operation of the global navigation satellite system Galileo and the European Geostationary Navigation Overlay Service (EGNOS) project. It plans, however, to participate in the Copernicus earth observation program. The British government said it will continue to develop its space industry by becoming an international leader in the field of small satellite launches and suborbital aeroplanes. It will also support the development of the UK spaceport (Launch UK). Additionally, it will fund various programs to improve its resilience and capability for space missions (the UK Space Agency) and plans to invest in the satellite technology company OneWeb. On top of all that, the government will continue to develop the space industry by taking advantage of the UK–Australia “Space Bridge” partnership and the U.S.–UK Technology Safeguard agreement.

• **UK space industry analysis and future prospects**

According to the UK Space Agency’s “The Size & Health of the UK Space Industry 2021” briefing paper, export income accounted for about 32% of the £17 billion of total income in 2019/2020. The primary export destinations were Europe, North America, Asia and Oceania and the Middle East. Around 83% of UK space activities are for commercial purposes, roughly 17% for the public sector and 9% for the defence sector. In total, the space industry accounts for about 0.31% of the UK’s GDP. According to the OECD standard, space applications account for 74% of the UK’s space industry income, followed by space manufacturing (14%), space operations (9%) and ancillary services (3%)

UK space industry income by segment, 2020/21



Source: UK Space Agency

There is a heavy reliance on private investment. Venture capital, private equity funds and seed investment account for 82% of investment transactions in the space industry and they account for 66% of the total amount of investment.

The outlook for the space industry over the next three years is expected to improve in terms of income, employment, export, R&D and investment. However, future research and development are required for satellite data, imagery services, and removing space waste while keeping a focus on intensive private investment and a commercial space industry centred downstream (e.g. broadcasting).

• **Enhancement of Korea-UK partnership in innovative industries**

Korea is receiving a very positive evaluation from the UK for its rapid response to the COVID-19 crisis and is expected to play a role as an influential country in defence and other innovative industries contributing toward the Indo-Pacific strategy framework. Thus, strengthening partnerships for innovation between South Korea and Britain in the next-generation space industry is expected to become a crucial stepping stone in the era of space competition and further develop local diplomacy with overseas cities.

Kim Jong-bum
Ph.D., Principal Researcher
Korea Aerospace Research Institute



Aerospace to strengthen cooperation
in local diplomacy

The new administration held its first meeting of the National Space Committee in December where it reviewed and decided on plans for designating the nation's space industry clusters. The designations are intended to build the clusters as growth centers to begin nurturing the civilian-led space industry in earnest. Specifically, three locations were designated as such specialized districts: Jeollanam-do for launch vehicles, Gyeongsangnam-do for satellites, and Daejeon for research and human resource development. Support will be provided in a variety of ways to each district in order to create a synergistic effect.

Before the designation of the space industry clusters, the Space Development Promotion Act had previously been revised to help promote the space industry by making research institutes, companies, educational institutions, and space development infrastructure more interconnected. The institutions to be housed in those clusters will be able to enjoy a variety of benefits in using infrastructure and receiving educational funding. Private companies in the clusters will also be able to use the space development infrastructure owned by government-funded think tanks and state-run companies.

A classic example of space industry clusters abroad

can be found in the Aerospace Valley in Toulouse, France. France pushed for the promotion of the space industry as part of its regional development strategy to address the imbalance between the capital and non-capital areas. In doing so, Toulouse was designated as a hub for the aerospace industry and continues to receive support for it. At present, there are 71 government-approved clusters in France, of which the Aerospace Valley, ASTech, and PEDASE have been developed into aerospace clusters. Toulouse continues to attract companies, educational institutions, and research institutes in connection with various regional policies pushed by the government.

Luxembourg is striving to cultivate new industries, including the space industry, to create future foods. The European country is promoting the Luxembourg Space Cluster centered on SES Space Hub, a state-invested company specializing in the commercial satellite and telecommunication businesses headquartered in Betzdorf. Luxembourg is, at the same time, trying to attract promising start-ups as well.

Similarly, many state governments in the United States have their own space agencies to support space companies. Originating with Boeing, the history of the aviation industry has become the



▲ The Space Needle—an icon of Seattle

Overview of Surrey Research Park

Established	1985
Area	283,300 square meters (under consideration for additional expansion)
Tenants	Over 150 companies
Job Creation	3,500 employees (research and administrative positions)
Annual Revenue	£625 million (approximately 1.8 trillion Korean won)
Strengths	Incubation system 'SET Squard' for early-stage startups
	Customizable monthly contract system based on company needs
	Network opportunities among startups, large, and small to medium-sized enterprises

Source: Surrey research park

foundation of the space industry in Seattle, and its accumulated space technologies are interconnected with other technical fields such as the internet, artificial intelligence, and software. The Washington State Space Coalition was established along with the governor and private companies such as Blue Origin and SpaceX. In addition, the Mojave Space Valley in the United States has developed into the Mojave Air and Space Port as private companies such as Virgin Galactic have moved into military facilities one by one. It is recognized for having a

free experimental environment and a challenging investment environment that ensures support for ideas.

The Surrey Research Park industrial cluster in Guildford, Surrey, in the United Kingdom is an innovative research complex. Located at the University of Surrey, a local institution of higher learning, it was created by removing a ban on development in some greenbelt areas. The cluster is home to 70 start-ups, research and development units affiliated with large companies, and mid-sized businesses.

Aviation industry clusters in major industrialized countries perform diverse functions that are necessary for industrial development in certain areas and make up a very high proportion of sales, exports, and employment across the entire aviation industry. In the United States, both Seattle and Wichita have been developed into export-led clusters, and Quebec and Ontario account for more than 80 percent of Canada's total aviation industry sales.



▲ The Surrey Research Park in the United Kingdom



▲ Canada's aviation industry clusters by region

Jennifer Hong Whetsell

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Federal government's pursuit of space science and technology is a boon for state and local governments



▲ President Yoon Suk Yeol of the Republic of Korea and Vice President Kamala Harris of the United States of America during a tour of NASA's Goddard Space Flight Center, Tuesday, April 25, 2023, in Greenbelt, Md. Photo Credit: NASA/Aubrey Gemignani

Standing proud in front of the Korean and United States' national flags, staged inside the National Aeronautics and Space Administration's (NASA) Goddard Flight Center, President Yoon Suk Yeol and Vice President Kamala Harris reaffirmed their commitments to strengthen the U.S.-ROK space cooperation in the civil, commercial, and national security domains, and signed a joint statement of intent to further cooperation in space science and exploration.

This is just one of many space-related commitments President Yoon has made since taking the office of presidency in March 2022. He has committed \$1.2 billion by 2045 to support

Korea's space industries and announced plans for a moon landing by 2043, a Mars landing by 2045, and the establishment of nation's first-ever NASA-like civil space agency by 2023. With these investments and intentions, President Yoon wants to propel Korea to make up 10 percent of the global space industry by 2045. Korea's space science and technology (S&T) are experiencing the most robust and powerful political support in the country's recent history.

However, price tags associated with space S&T are usually astronomical, and its successes and investment gains are far out on the horizon. In addition to having the patience necessary to persevere in the extended timeline as one waits for the emotional and hard dollar return on investments, it may seem difficult to envision how the federal government's costly pursuit in space S&T can benefit state and local governments and regions.

The United States – with its decades of federal government space S&T investments – can be a good gauge to understand the impacts of federal government-driven space S&T promotion on state and local governments.

The three main ways in which the space S&T

ecosystem touches state and local governments in the United States are: presence of physical spaceports and sites, employment, and revenues generated through space S&T activities in the public and private sectors.

Spaceports and Launch/Re-entry Sites: On the civil space side, NASA operates field centers (R&D) and Federal Aviation Administration (FAA) licenses launch sites for vertical and horizontal launches. On the military side, the U.S. Department of Defense and military services operate Space Force bases. Many states in the United States have spaceports and sites, and those states benefit from increased tax revenue, tourism, and employment associated with these entities.

Employment: Space technology research and development capabilities have impacts across the nation – whether the state has centers, ports, and sites, or not. For example, space technology and exploration research and development leads to many jobs that require knowledge-intensive and highly technical skills. These jobs can be found across the country, supporting the space S&T ecosystem. NASA alone employs more than 19,000 federal government employees, and other space research and development entities have employed anywhere from 35 people (North Dakota) to 66,000 people (California), across all 50 states, totaling almost 340,000 people.

Economic output: The economic output achieved through valuable technologies, labor expenditures, and procurements is significant. NASA estimated economic outputs per state were anywhere from \$7 million per year (Wyoming) to \$15,244 million per year (California), totaling over \$71.2 billion in fiscal year 2021. Private industries are undeniably powerful players for each state, generating economic output through their research and development, application into technology, and

production of goods and services.

When a nation invests in space S&T, there are opportunities for state and local governments to be positively impacted by the space S&T ecosystem. As evidenced by the United States and its robust space S&T ecosystem – composed of NASA field centers, military bases, government- and commercially-operated spaceports and launch sites, academic institutions, and forward-leaning industries – state and local governments should see federal-level interest in space S&T as a boon for its region.

To prepare for this opportunity, regional governments should create an environment that is friendly for these space entities and their workforce – current and future – with policies and incentives that will draw them to or keep them in their region. Each regional government should also understand its unique assets, whether it be geography, weather, natural resources, or otherwise, that would be instrumental for the space S&T ecosystem, and promote its uniqueness to key stakeholders. Currently, there are space infrastructures that are already in place or in planning in Korea. President Yoon's unprecedented support for space S&T will only create more demand for enterprises to find friendly regional governments for their endeavors. The time is ripe for regional governments to put forth their uniqueness to prepare for this growing industry.

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Yozma Group Korea



"Startup Nation" Shares Goal of Achieving Balanced Regional Growth with Korea

Israel and Korea are similar with one another in more ways than one.

Korea is bigger than Israel, but it can't be denied that both are geographically small nations, and that neither have been blessed with very many natural resources. Historically, the people of both nations have faced much adversity, some due to their own accord but most on account of unfortunate, external factors.

Each country had its own way of overcoming their respective difficult pasts, with Korea focusing on advanced manufacturing and becoming a fast-follower of sorts, while Israel's strategy was to bring business models to life and catering to a global clientele. Hence, its nickname the "Startup Nation."

Not stopping at simply producing bankable startups, Israel is one of the world's top operators when it comes to exiting; on the US Nasdaq market, after North American and Chinese companies, Israeli companies are a proud third in terms of the number of listed entities. This is the result of proactively deciding not to dwell on its weaknesses, but rather choosing to enhance its strengths. Realizing its domestic market with a population of 9 million is hardly enough to keep the economy afloat, Israel chose to look outside, namely towards North America – the world's central market.

As of 2023, nearly 100 Israeli startups have been listed in the US, with names like Monday.com, Wix.com, Tower Semiconductor, Mobileye, Nanox, and Alpha Tau standing out in particular.

Domestically, however, Israel was not without its own handful of problems to solve. Similar to Korea, the Middle East country has long struggled with attaining a balance of power and strength between central and rural provinces. Balanced national growth was, therefore, a burning keyword for the Israeli government.

At the center of this daunting challenge was the Ministry of Industry, Trade and Labor, at which Yozma Group Chairman Yigal Erlich had been Chief Scientist. The ministry provided an abundance of support for top-notch research centers throughout Israel and created clusters where they invited world-renowned global companies to set up R&D research centers that ultimately fueled the growth of startups that developed profitable technologies. Currently in Israel, there are more than 400 R&D centers affiliated with well-known global enterprises such as Apple, Microsoft, Google, Amazon, Nvidia, Tata, and Samsung.

These R&D centers are not only responsible for pursuing R&D but serve yet another purpose: pursuing and facilitating M&As with Israeli startups. It's almost like having ready-made incubators that are fully prepared to take startups under their wing and turn them into the next unicorn. It's a double win for

the R&D centers as well; since the global companies owning them can have easy access to some of the globe's most qualified startups, they can then pump capital into them to achieve scale.

This model was recently replicated in Korea when Yozma successfully persuaded a world-renowned Israeli medical imaging startup to situate its manufacturing facilities in the Gyeonggi Province. SK Telecom, one of the major shareholders of Nanox, is its Korean partner. In May of this year, Nanox proved its worth and added value to shareholders and relevant markets by attaining FDA approval to market its multi-source ARC X-ray system.

Another strategy for pursuing balanced growth was the Technology Incubator Program more popular by its acronym TIPS in Korea that was created by Chairman Erlich and led to more than 2 dozen startup incubation centers all over Israel. This resulted in regional provinces gaining access to incubation programs and eventual commercialization of their ideas.

Led by Chairman Erlich, Yozma Group Korea took the initiative in playing a critical role in bridging the gaps with provinces, mainly via its global accelerator programs designed to incubate homegrown startups based outside of the Greater Seoul area. This strategy was intentional, as it was clear from the start that provinces were bustling with aspiring startups with potential, but without the means or knowhow to grow globally. Since 2018, Yozma has incubated more than 120 startups, with about 40% hailing from non-Seoul provinces. Most were accompanied by Yozma to meet with global investors and business partners.

When it comes to nationwide growth issues, Korea as a country has shown prominent progress over the years. However, there is now much talk across business and political sectors on more effectively promoting equal development across the country now that certain policies and ideas have already been explored and exhausted. The formation of new and

different markets is another reason behind this need.

As there are clusters in each part of the nation devoted to specific industries and technologies, Korea already has the infrastructure and human resources in place to take a page from Israel and create its own version of success.

The next step therefore may be joining hands with the right global companies to establish their R&D facilities in Korea's regional areas to promote active cross-border activities conducive to achieving quantum growth for the regions and providing new business opportunities for the co-founding global enterprises. As witnessed by the Israeli former prime minister's visit, Israel can be an eager partner in such endeavors. To sum it up, Naftali Bennett the former Prime Minister of Israel who was recently in Korea to meet with top dignitaries and discuss collaboration between the two countries and Yozma Group officials agree: Korea and Israel share similar pain points and goals for growth. Bennett, the only Israeli leader hailing from a startup, is widely considered in Israel to secure a second term as prime minister.

At the same time, the two nations also bear a fair share of differences, making them more than compatible when it comes to business.

While Israel and its business community is well-equipped to build something out of nothing, Korea a nation built on fast-following and advanced-manufacturing has the infrastructure and expertise to scale that technology to much larger magnitude.

Given the solid manufacturing base of Korean provincial companies who enjoy the steadfast guidance and support of provincial governments and high-profile platforms including the Korea Governors' Association, there is much room for collaboration between the Korean and Israeli corporate sectors on a plethora of issues of mutual concern and benefit.

'Local Diplomacy Forum 2023' held

Signing an MOU between the Governors Association of the Republic of Korea (GAROK) and the Council of Diplomatic Corps (CDC)

Carlos Victor BOUNGOU | Ambassador of Gabon
Dean of the Diplomatic Corps

I look forward to a dynamic partnership and fruitful cooperation between the Governors Association of the Republic of Korea (GAROK) and the Diplomatic Corps in Korea. Local governments have the capacity to implement economic and social policies that can impact national and global community growth. In line with the framework of the MOU signed on May 19, 2023, we expect to work closely with GAROK to develop international cooperation and exchange with the goal of achieving shared prosperity.



The Governors Association of the Republic of Korea (GAROK) co-hosted the 2023 Local Diplomacy Forum at 10 a.m. on May 19 at the Foreign Correspondents' Club of the Korea Press Center in cooperation with the Korean Association of Northeast Asia Studies and the Hankook Ilbo-Korea Times.

As part of the 2023 Local Diplomacy Forum, Gyeongsangbuk-do Governor Lee Cheol-woo—who is concurrently leading GAROK—signed a



Khaled Abdel Rahman | Ambassador of Egypt Secretary to the Council of Diplomatic Corps (CDC)

We will strive to enhance cooperation between the different provinces in the Republic of Korea and the diplomatic corps, with a particular focus on cultural and economic relations.

memorandum of understanding on cooperation with Carlos Victor BOUNGOU, ambassador of Gabon to Korea and head of the Council of Diplomatic Corps (CDC) in Korea.

The CDC consists of 115 diplomatic missions in Korea. The MOU on cooperation not only aims to develop close cooperation between the CDC and our local governments beyond its declaration, but also stipulates concrete measures that can expand and develop international exchanges and cooperation substantially between the relevant countries and our own local governments.

Alongside GAROK chairman Lee Cheol-woo, the 2023 Local Diplomacy Forum was attended by nearly 80 academics, journalists, and local government officials, including CEO and publisher of the Hankook Ilbo Lee Sung-chul, Seoul City Mayor Oh Se-hoon, Chairman of the National Balanced Development Committee Woo Tong-ki, Chairman of the National Association of Mayors Jo Jae-gu, and Head of the



Nemanja Grabic | Ambassador of the Republic of Serbia
Secretary to the Council of Diplomatic Corps (CDC)

As the Ambassador of Serbia and Secretary of the Council of the Diplomatic Corps, I want to express my deep belief that the recently signed MoU between the Council of the Diplomatic Corps and GAROK will greatly contribute to the strengthening of international cooperation, especially at the local level.

By creating a more formal method of cooperation between the diplomatic corps and local governments in Korea—as well as by promoting the creation of stronger ties between provinces, cities, and municipalities from our own countries and those in Korea—we are building new bridges of cooperation for generations to come. I am delighted to be a part of this magnificent journey.

CDC Carlos Victor BOUNGOU.

The theme selected for the first Local Diplomacy Forum was “Glocal Brand Strategy in the Era of Local Diplomacy” in order to publicize the importance of local diplomacy by academia, local governments, and the media. The forum focused on discussions about the role of local diplomacy as a national growth engine and key diplomatic strategies and countermeasures in the era of sustainable local governments.

This forum was significant in that it set the first practical stage for academia, media, and local governments to join forces to promote local diplomacy. All institutions and organizations that attended the forum agreed to continue to make efforts so that those measures discussed to promote

local diplomacy can be reflected in policies for local diplomacy.

Meanwhile, the Governors Association of the Republic of Korea plans to carry out various activities aimed at establishing a legal foundation related to local diplomacy and forming a consensus in order to strengthen local diplomacy.



Federico Alberto CUELLO CAMILO | Ambassador of the Dominican Republic
Treasurer of the Council of Diplomatic Corps (CDC)

Korea has many decades of experience in promoting balanced national development. It is an experience of great interest for my colleagues, many of whom are already collaborating with some of the leading provinces of Korea. What better partners for ambassadors than the governors and mayors, whose provinces and cities host tightly-knit clusters of industries and supporting services? What better way to strengthen the resilience of countries against shock than to ensure economic diversification across the national geography? What better means to ensure equitable development outcomes than promoting local solutions to the global problems affecting all nations? I have no doubt that the MOU between GAROK and the CDC will strengthen the bonds of collaboration between Korea's provinces and municipalities with the countries represented by my fellow ambassadors, making it more relevant to the challenges we all face, especially after suffering from the impacts of COVID-19 and the unfortunate war in Ukraine.

Gwangju Metropolitan City hosts 'Vietnamese Day 2023'

Gwangju Metropolitan City, led by Mayor Kang Gi-jung, hosted the 2023 Vietnam Day from 10 a.m to 5 p.m. on May 21 in and around Jungwoe Park, Gwangju.

The event was co-hosted by Gwangju Metropolitan City and the Governors Association of the Republic of Korea (GAROK), and was sponsored by the Overseas Vietnamese Association in Gwangju-Jeonnam.

A 25-member delegation from Vietnam's Nghe An Province with which Gwangju established sister-city ties last October was invited to showcase products made by famous companies in Nghe An Province. The products included wooden utensils, agricultural products, and bamboo handicrafts produced by companies currently exporting to Korea or seeking to establish new connections in Korea.

There were performances by a traditional group from Nghe An Province, a fashion show by the association



Kang Gi-jung | Mayor of the Metropolitan City of Gwangju

Interest in Vietnam is high in Korea these days. Vietnamese cities are enjoying the limelight as travel destinations, and Vietnamese food is also popular. On the occasion of today's 2030 Vietnam Day, I look forward to Korea's people-to-people and local-to-local diplomacy with Vietnam to gain traction further.

displaying Vietnam's traditional dress, and a show by Korean singer Han Sara, a performer who is active in Vietnam. Visitors also had the chance to experience traditional Vietnamese food, games, and clothing.

In addition to 2023 Vietnam Day, a variety of events—including the 58th Gwangju Citizens' Day, Gwangju Biennale, Together Day, and Gwangju International Students' Day—were held simultaneously in Jungwoe Park.

To promote local diplomacy and publicize the concept, GAROK has been pushing for a project to revitalize local diplomacy in metropolitan cities and provinces, and Gwangju was selected as the first location for this project.

You Min-bong | Secretary General of GAROK

Vietnam was the region where the internet was used to promote exchange most actively even when borders were closed and traffic was cut off due to COVID-19. When in-person interactions resumed as COVID-19 subsided, Vietnam was also the region where exchange returned the fastest.

GAROK will continue to do its best to encourage the local diplomacy of local governments from both countries.



Nguyen Vu Tung | Ambassador of Vietnam

I'd like to thank Gwangju Metropolitan City for its endeavors to support the Vietnamese community, including Korean-Vietnamese families and Vietnamese students. I'd also like to thank the Governors Association of the Republic of Korea for its interest and support in boosting friendly bilateral relations in cooperation with the embassies and local governments of both nations. The Vietnamese Embassy in Korea will cooperate with Gwangju City and the governor's association further advance exchange between the two countries and cooperation between the Nghe An Province and Gwangju

Nguyen Nam Dinh | Vice Chairman of Nghe An Provincial People's Council

Vietnam Day, which was held in unison with Gwangju Citizens' Day, is vivid proof of the cultural exchange and mutual cooperation happening between Vietnam and Korea, and the Nghe Province and Gwangju. I was especially happy to introduce the Gwangju citizens to the Nghe An Province's traditional culture, as well as Vi and Giam folk songs of Nghe Tinh, which have been designated as an intangible cultural heritage of humanity by UNESCO. We sincerely thank the Korean people and Gwangju citizens for inviting us to the event.



Nguyen Viet Phong | Chairman of the Overseas Vietnamese Association in Gwangju & Jeonnam

We were happy to introduce Vietnamese culture to our friends in Korea and other countries around the world through this event. We'll do our best to promote political and economic cooperation between Vietnam and Korea while developing and encouraging amicable cooperation between the Nghe An Province and Gwangju. I'd also like to express my deep gratitude to Gwangju and the Nghe An Province for today's successful event, and especially to the Governors Association of the Republic of Korea for financially sponsoring the Vietnam Day festival.

Editorial Review

GLOCALISM QUARTERLY magazine features the diplomatic activities of Korean local governments divided into four main sections.

The first section, “Korea’s Metropolitan & Provincial Government Diplomacy”, covers the local diplomatic activities conducted by metropolitan cities and provinces in Korea. It gives an overview of various activities in a number of fields, including economics, trade, and cultural exchange, according to different topics.

The second section, “Local Government Diplomacy in Other Countries”, introduces the kinds of local diplomacy activities that are being undertaken by local governments outside of Korea. In particular, the six overseas GAROK offices can use this section to share projects being developed by local governments in foreign countries in order to provide guidance that be used by Korean local governments.

The third section, “Partners in Local Diplomacy”, covers specialized institutions and expert opinions that address the specific topic of each issue. The second issue (Summer 2023) features contributions from domestic and international experts on the topic of “The Aerospace & Hydrogen Industries and Local Diplomacy”. Additionally, it provides an introduction to organizations that have recently established cooperative relationships with the Governors Association of the Republic of Korea (GAROK).

The fourth section, “Local Diplomacy News”, is a space where foreign embassies in Korea, relevant domestic and international institutions for international exchange, and local governments can promote their projects. In this issue, it highlights events organized by GAROK with foreign embassies, along with impressions and commitments from attending ambassadors.

Starting with the Spring 2023 issue, this magazine will regularly cover news on the diplomatic activities of Korean local governments as the seasons change. We hope that this magazine will effectively convey the meaning of “local diplomacy” and serve as a catalyst for emphasizing the importance of international exchange activities for local government.

GLOCALISM QUARTERLY Magazine

Summer 2023, Volume 2

Date of Publication	June 27, 2023
Publisher	Lee Cheol-woo, Chair of the Governors Association of the Republic of Korea
Editor	International Affairs Department of the Governors Association of the Republic of Korea
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