DGCC(Digital Government Cooperation Center) is a platform created by Korea and partner countries to promote digital government together. This is the newsletter from 2023 DGCC
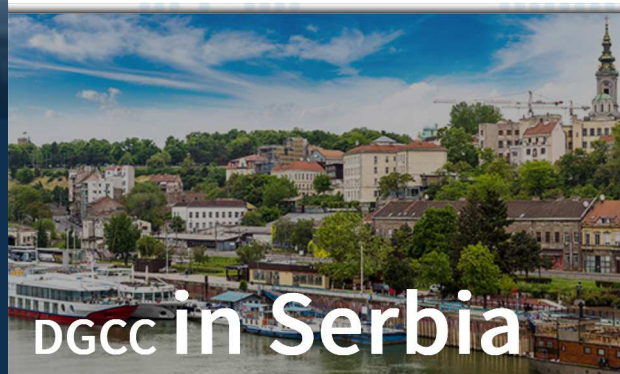
DGCC in Serbia

Joint Cooperation Project

Activities of DGCC in Serbia

Digital Government Trends of Serbia

DGCC in Tunisia

Joint Cooperation Project

Activities of DGCC in Tunisia

Digital Government Trends of Tunisia

DGCC in Uzbekistan

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Digital Government Trends of Uzbekistan

DGCC in Indonesia

Joint Cooperation Project

Activities of DGCC in Indonesia

Digital Government Trends of Indonesia

DGCC in Cambodia

Joint Cooperation Project

Digital Government Trends of Cambodia

DGCC in Peru

Joint Cooperation Project

Activities of DGCC in Peru

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DGCC in Paraguay

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Digital Government Trends of Paraguay

Digital Government in Korea

AI Base Public Services in Korea

Ministry of the Interior and Safety

NIA NATIONAL INFORMATION SOCIETY AGENCY

DGCC Newsletter #06

DGCC in Serbia

Joint Cooperation Project

The Serbian Digital Government Cooperation Center has developed a comprehensive national action plan for Artificial Intelligence and a collaborative initiative to engage cloud-based data center users in a joint effort for 2022.

In 2021, Serbia unveiled its national development strategy for Artificial Intelligence and sought assistance from the Korea-Serbia Digital Government Cooperation Center in devising a targeted action plan to support its implementation. While approximately 30 countries worldwide have announced strategies and policies to promote Artificial Intelligence, Western European nations are notably at the forefront of advancements in this field. However, no Eastern European country has yet introduced a national development strategy for Artificial Intelligence, and Serbia aspires to emerge as a leading nation in this domain within Eastern Europe.
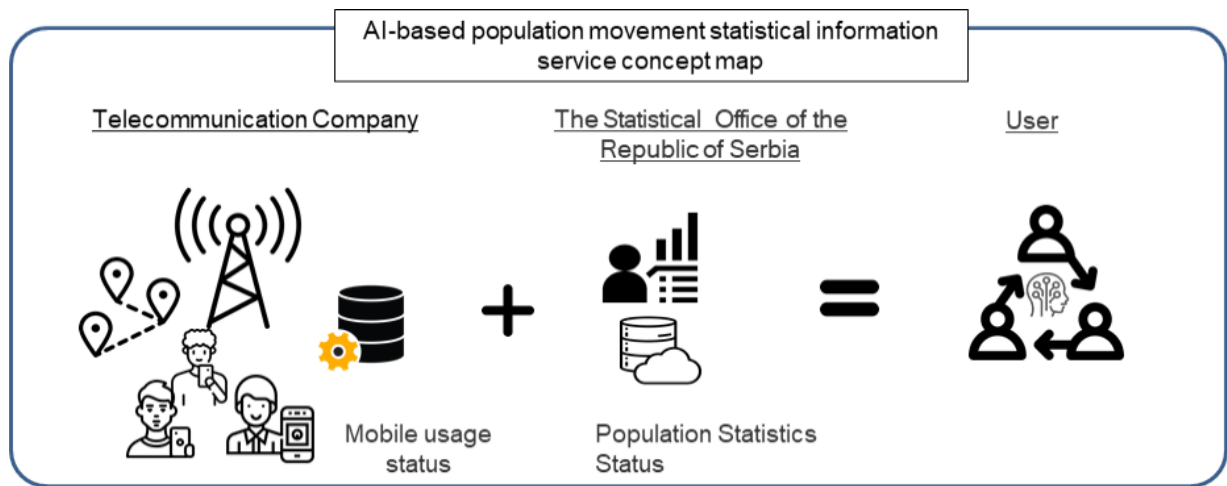
In response, the Serbian government requested the Serbian Digital Government Cooperation Center to establish an action plan for implementing artificial intelligence in public services. The Digital Government Cooperation Center of Serbia subsequently developed plans for using artificial intelligence in various fields, including energy, demographics, education, tax, and combatting spam mail.

< Artificial intelligence-based public service >

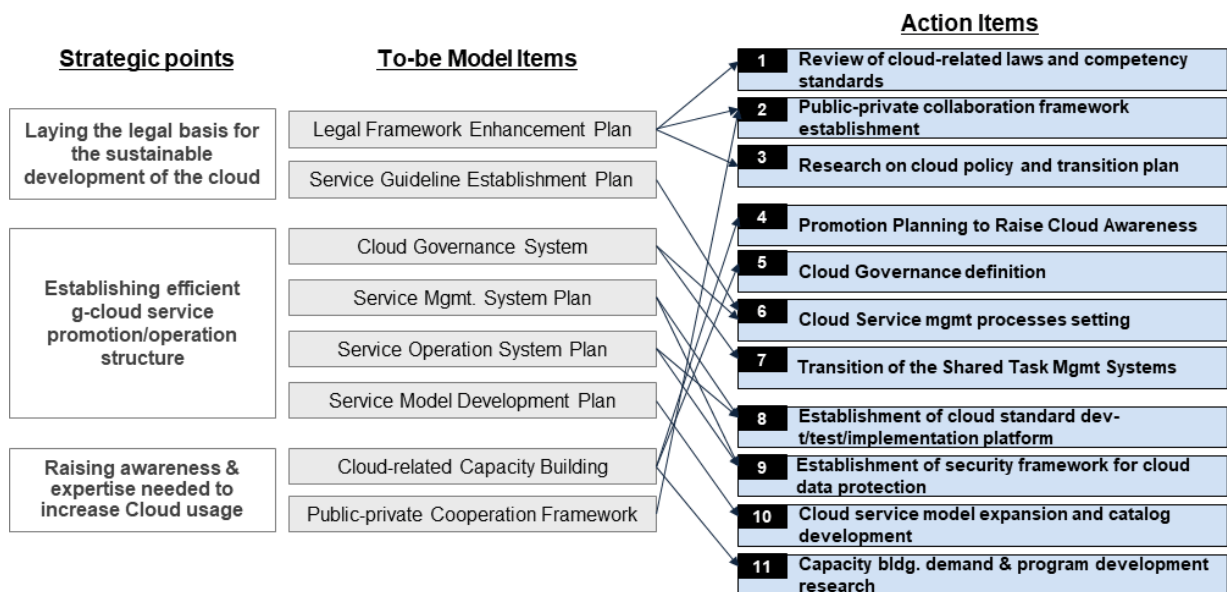|	Service Model
Energy	For buildings owned by the Serbian Postal Service, analyze current energy consumption patterns, predict energy consumption, and propose energy consumption patterns for saving
Education	For the English education of the Serbian National Academy, artificial intelligence-based personalized curriculum was designed, and after completion of the course, artificial intelligence-based evaluation was conducted to determine whether or not to take advanced courses (using chatbot function).
De-Population	Instead of the existing survey, based on the mobile big data of the mobile communication base station, the population inflow and outflow status of the city is identified, and relevant data is developed to establish a population reduction policy in Serbia.
Spam Mail	Establishment of an algorithm framework and early malicious email detection system that can detect malicious emails early by applying natural language processing
Tax	Development of a service that selects income tax as a priority service as an abnormal tax report detection service using artificial intelligence and detects abnormal situations through a machine learning process through data such as income tax report details and user profile information

A significant national priority in Serbia is population reduction, and addressing this issue involves developing and validating a big data-driven statistical model for population movement. To accomplish this, the collaborative effort between Korea and Serbia to undertake this task has been planned for 2023, underscoring its importance and urgency.

Alongside the development of an action plan for implementing artificial intelligence in public services, Serbia has also made efforts to engage cloud-based data center users. By establishing and operating a national data center by the end of 2021, Serbia aims to consolidate the independently operated information resource systems of central ministries and public institutions into a unified cloud-based data center, facilitating streamlined access and utilization of information resources.

AI-based population movement statistical information service concept map

Telecommunication Company — Mobile usage status
The Statistical Office of the Republic of Serbia — Population Statistics Status
User

In Serbia, significant efforts have been directed towards formulating an action plan for implementing artificial intelligence in public services and activating cloud-based data center users. The establishment and operation of a national data center by the end of 2021 mark important milestones in Serbia's endeavors. Furthermore, the country is actively working towards consolidating the independently operated information resource systems of central ministries and public institutions, aiming to unify them within a cloud-based data center.

To facilitate this process, the Korea-Serbia Digital Government Cooperation Center (DGCC) has developed a comprehensive promotion strategy, target model, and 11 implementation tasks aimed at advancing the engagement of cloud-based data center users. These proposals have been submitted to the Serbian government for consideration.

Strategic points

- Laying the legal basis for the sustainable development of the cloud
- Establishing efficient g-cloud service promotion/operation structure
- Raising awareness & expertise needed to increase Cloud usage

To-be Model Items

- Legal Framework Enhancement Plan
- Service Guideline Establishment Plan
- Cloud Governance System
- Service Mgmt. System Plan
- Service Operation System Plan
- Service Model Development Plan
- Cloud-related Capacity Building
- Public-private Cooperation Framework

Action Items

1. Review of cloud-related laws and competency standards
2. Public-private collaboration framework establishment
3. Research on cloud policy and transition plan
4. Promotion Planning to Raise Cloud Awareness
5. Cloud Governance definition
6. Cloud Service mgmt processes setting
7. Transition of the Shared Task Mgmt Systems
8. Establishment of cloud standard dev-t/test/implementation platform
9. Establishment of security framework for cloud data protection
10. Cloud service model expansion and catalog development
11. Capacity bldg. demand & program development research

Activities of DGCC in Serbia

Across the Balkans, countries are actively engaged in smart city initiatives, with ongoing projects including the construction of traffic control systems in Bosnia and Montenegro, as well as the modernization of public transportation in Belgrade, Serbia. In support of these endeavors, the Korea-Serbia Digital Cooperation Center organized the Korea-Serbia Smart City Forum on March 23, 2023. During the forum, domestic Korean ICT companies presented their smart city solutions, while Serbian companies were introduced, fostering opportunities for business meetings and collaboration within the Balkan Peninsula Smart City project.

During the Korea-Serbia Smart City Forum, the Korea Research Institute for Human Settlements shared valuable insights into Korea's smart city policies and best practices, while the Seoul Housing and Communities Corporation showcased successful smart city initiatives from Seoul. Notably, Korean smart city companies such as LG CNS, Tracom, and ESE presented their company profiles and innovative solutions. Similarly, Serbian companies Dunav NET, Asseco, and Digital Ware introduced their respective organizations and presented their own smart city solutions.

Ministry of the Interior and Safety   NIA NATIONAL INFORMATION SOCIETY AGENCY

DGCC in Serbia

Digital Government Trends of Serbia

Ambassador Lee Jae-woong from the Embassy of the Republic of Korea in Serbia paid a visit to the newly appointed Minister of Information and Communication, Mihajlo Jovanovic, to engage in discussions regarding ICT and digital government cooperation between Korea and Serbia. Minister Jovanovic expressed his desire for continued collaboration between the two countries in the realm of ICT and digital government, acknowledging the successful execution of projects such as the Digital Government Cooperation Center and the KSP project.

Ambassador Lee Jae-woong recognized the fruitful meeting between Serbian President Vucic, Korean President Yoon Seok-yeol, and Korean business delegates during the Davos Forum Korea Night. The Ambassador conveyed his commitment to expanding cooperation with Korea across all government departments in Serbia, expressing his satisfaction in showcasing the positive developments achieved.

In February, Ambassador Lee Jae-woong held a meeting with Milan Latinovic, the newly appointed head of The Office of IT & e-government, responsible for overseeing the operations of the Korea-Serbia Digital Government Cooperation Center.

Director Latinovic expressed gratitude for the increasingly robust cooperation with Korea in recent years and conveyed a desire for the two countries to cultivate mutually advantageous ties in the domain of digital government. Ambassador Lee Jae-woong highlighted the establishment of an information access center in Nis, Serbia's second-largest city, as an ICT sector collaboration project between the two nations. The Ambassador expressed his hope that this initiative would enhance the information capabilities of the people in the southern region of Serbia.

Ambassador Lee Jae-woong acknowledged that while the Balkan region may not be as familiar to Korea as other European countries, it is gradually garnering attention as a promising area for economic cooperation. He emphasized that Serbia will serve as the starting point for this collaborative endeavor.

Interview of the head of IT & E
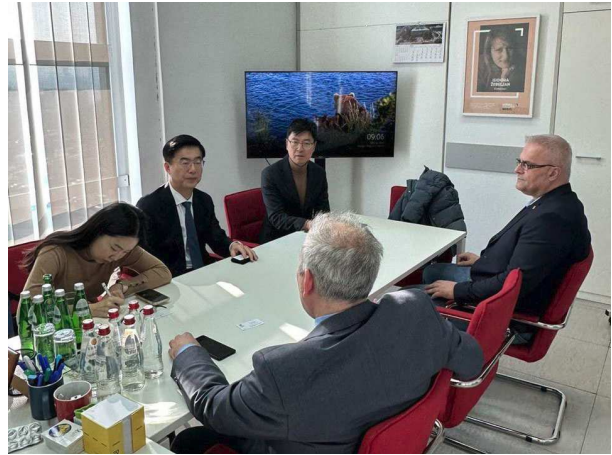
Interview of the head of IT&E

Interview of the Minister of ITC

Interview of the Minister of ITC

Ministry of the Interior and Safety

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DGCC in Tunisia

Joint Cooperation Project 2023

Tunisia's DGCC Continues Digital Transformation Efforts with Exciting New Projects

In 2022, the DGCC (Digital Government Cooperation Center) and the e-Government Unit of Tunisia successfully implemented three different projects:

1. Designing an Audit Monitoring System
2. Feasibility Studies on the Intelligent Transportation System of Tunisia
3. Evaluating Online Public Services

Now, building upon those achievements, the DGCC will continue its efforts this year by embarking on two key projects: developing a pilot system for audit monitoring and enhancing the public transportation system.

The first project is the launch of a pilot project for the audit monitoring system, aimed at promoting transparency and accountability within the pubic administration. Annual audit reports containing recommendations for ministries, government agencies, and public entities are released by the High Committee for Administrative and Financial Control(HCCAF) and submitted to the President of Tunisia. To facilitate effective data sharing and follow-up on these recommendations, the DGCC collaborated with the HCCAF, other audit bodies, the e-Government Unit, and a Korean consulting company with expert consultants. Following extensive discussions, the DGCC is primed to implement the pilot project and develop the necessary system functionality.
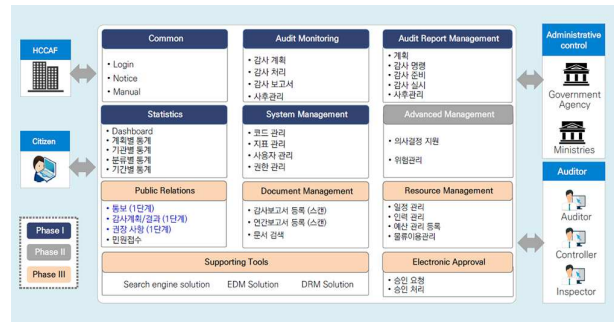
The second project is centered around enhancing Tunisia's public transportation. While Tunisia has various modes of transportation, such as buses, trams, inter-city buses, collective mini-buses (known as Louage), and taxis, these modes of transportation lack interconnectedness and efficient information systems, impeding their optimal functioning. Furthermore, the majority of passengers still rely on paper tickets or coins for fare payment, which has led to delays and compromised passenger safety. To address these challenges, the DGCC conducted a feasibility study in the previous year, identifying the electronic fare payment system as a top priority. Consequently, the DGCC is poised to initiate a pilot project to develop a fare payment system, enabling passengers to conveniently utilize public transportation. Following the development and testing of the pilot system, the DGCC envisions collaborating with various stakeholders to expand its implementation on a larger scale.

Different modes of transportation in Tunisia

The DGCC has been actively involved in translating consulting projects into tangible pilot systems, demonstrating their commitment to bolstering Tunisia's e-Government system. iThese endeavors aim to ensure that citizens benefit from improved government services of the highest quality.

Activities of DGCC in Tunisia

DGCC Strengthens Collaboration between Korea and Tunisia to Enhance Open Data Practices in Tunisia

Introducing Korean Government's Open Data Policies and Best Practices

The Tunisian government has been dedicated to fostering open government practices and promoting the utilization of public data among its citizens. One of its key initiatives includes the establishment of a national portal for open data, enabling government entities, including ministries and agencies, to share their data for public use. This national portal, launched in March through collaboration with the World Bank, provides a platform for accessing and sharing valuable government data.

At the forefront of building Tunisia's open data ecosystem, the DGCC has played a significant role, particularly developing the Open Data Inventory Management System in 2021. This system serves as a platform for the Tunisian government to disclose and manage metadata effectively, thereby facilitating the use of public data. Semalessly integrated with the national open data portal, this system encourages public entities to make their data readily available for public use.

In pursuit of these objectives, the e-Government Unit of Tunisia recently organized an Open Data hackathon in partnership with the World Bank. The hackathon provided a platform for participants to generate ideas and business models that leverage government open data. Through this collaborative event, several ministries identified their specific challenges, while participants collectively brainstormed solutions.

During the event, the DGCC showcased the open data policies and best practices implemented by the Korean government. Korea has developed comprehensive plans and policies to leverage open data for economic benefits and enhance transparency in governance. As a result of these efforts, the private sector has developed services utilizing government open data, ranging from real estate transaction platforms to public parking information and nearby clinic locators.

< Examples of services utilizing public open data >

Parking Finder

Apartment information apps

The DGCC also highlighted a noteworthy example of utilizing government open data during the initial stage of the COVID-19 pandemic. The Korean government, in collaboration with the National Information Society Agency (NIA) and civic hackers, developed a "Mask App" that informed citizens about the availability of masks at nearby pharmacies. This innovative solution contributed to alleviating the challenges associated with mask distribution among the population.

The Korean government operates "Public Data Portal," where citizens can easily download open data. It is crucial not only to consider the types of data uploaded on this portal but also the data quality to ensure its effective utilization. In this regard e, the Korean government, particularly the Ministry of the Interior and Safety, has made significant efforts to ensure data quality.
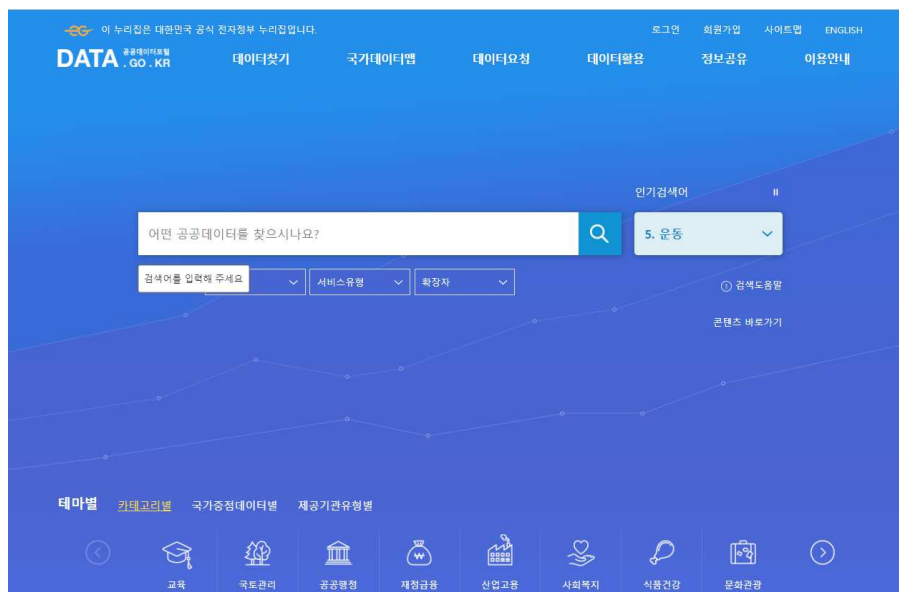
Korean National Public Data Portal (Data.go.kr)

The participants at the event expressed immense interest in the Korean case, poising thought-provoking questions on data standardization, the operation open data mediation committees, and the development of profitable applications utilizing public open data. These questions were of great significance, as they stemmed from the participants' own experiences and challenges.

During the program, the participants had the opportunity to meet and engage in conversations with esteemed guests including Mr. Ravi Kumar, Data Utilization Team Leader at the World Bank headquarters in Washington, D.C., and Mr. Bacem Mejdoub, Public IT Consultant from Ernst & Young, a leading private sector company. These meetings provided valuable insights not only into data utilization in Tunisia but also in other African countries. The DGCC plans to continue the discussions with them in the future to explore strategies for leveraging public digitalization support in Tunisia and the wider African region.

Moving forward, the DGCC remains dedicated to strengthening cooperation in the realm of government open data and unlock new opportunities for collaboration in the domain of digital government.

Digital Government Trends of Tunisia

Digital Government Collaboration Flourishes between Korea and Tunisia

Business Meetings between Korean and Tunisian Digital Government Enterprises

In early May of this year, the Korean Embassy in Tunisia organized a landmark event, the Korea-Tunisia-Africa Business Forum. This event aimed to foster business cooperation opportunities between companies from Korea, Tunisia, and other African countries. In line with this objective, the DGCC, with the support of the Korean Embassy, extended an invitation to a prominent Korean company named "Daily Soft.". Specializing in bond management systems for the Korean government, Daily Soft aimed to explore business opportunities in African markets. Having successfully implemented a criminal record system in Rwanda, the CEO of Daily Soft expressed a desire to expand their operations into Africa.

During the event, the DGCC facilitated a meeting between Daily Soft and a local Tunisian company called "Wevioo," renowned for its expertise in the financial sector. Both companies share similar areas of specialization, fostering a favorable atmosphere during the meeting. They reached an agreement to explore potential cooperation in the event that the Tunisian government initiates a project related to national debt management systems.

Wevioo kindly invited Daily Soft and the DGCC to visit their premises on the same day, providing valuable insights into Wevioo's'business scope through presentations by the CEO and a firsthand glimpse of the working environment of Tunisian developers.

In addition to Wevioo, the DGCC held meetings with several other Tunisian companies. Notably, an inspiring entrepreneur who had received ICT training at the Information Access Center (IAC), established by the National Information Society Agency (NIA) shared his success story. The entrepreneur attributed his current success as an entrepreneur to the knowledge and skills gained during his time at the IAC.

The following day, the DGCC visited Momentum Technologies, a company with significant engagement with the Canadian government. As the company plan to expand their operations to various African countries, the DGCC agreed to collaborate by pooling engineering resources.

Looking ahead, the DGCC will maintain ongoing communication and follow-up on these meetings, exploring further opportunities for cooperation through discussions with the Tunisian government. The DGCC remain committed to facilitating connections between companies to achieve mutually beneficial outcomes.

Ministry of the Interior and Safety

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DGCC in Uzbekistan

Joint Cooperation Project

Korea and Uzbekistan Collaborate to Boost Digital Education and Government Initiatives

The Korea-Uzbekistan Digital Government Cooperation Center spearheaded the following four joint cooperation projects in 2002.

1. IT Center Educational Administrative Information System
2. AI Online Education for Public Officials in Uzbekistan
3. Digital Government Invitation Training
4. Korea-Uzbekistan Digital Government and Digital Economy Forum

Uzbekistan has set up 205 IT Centers nationwide to cultivate digital skills and improve digital literacy. However, the lack of an information system to manage these centers compelled the use of Google Docs for student registration and courses management. To address this challenge, an education administration pilot system was devised to improve the efficiency of digital education at the IT Centers. The system prioritizes education processes and management for better outcomes.

The following major functions were extensively discussed in consultations with IT Center staff. 1. Providing services in standard video format through video encoding functions for online course operation 2. Linking local SMS services and Payment

Gateway linkage 3. Provide functions to streamline work currently operated in offline course 4. Improving the dashboard's communication functions with learners by utilizing features such as chatting.
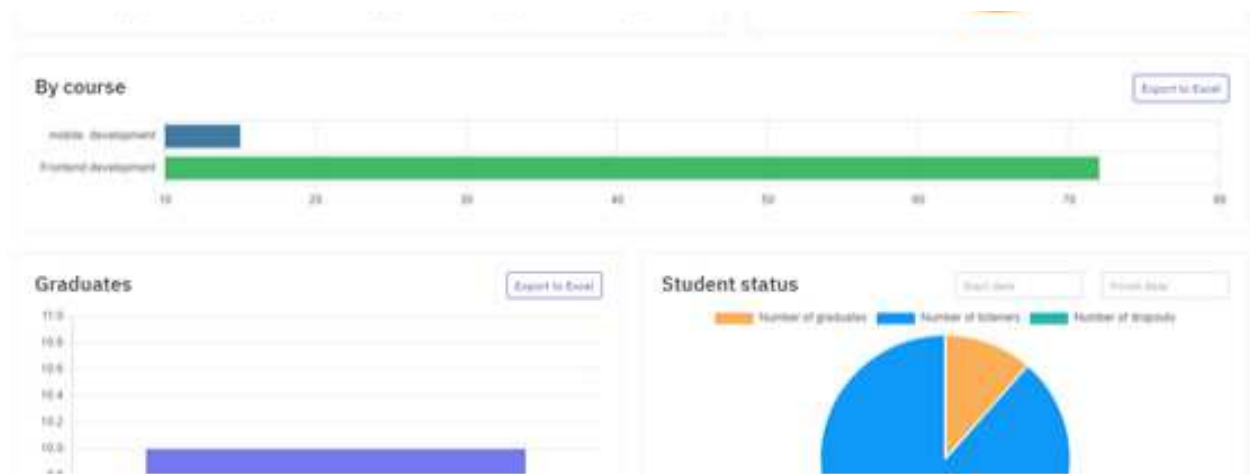
Moreover, the system was developed to provide information on IT Center locations, education programs, course registration, and various course information aligned with the IT Park's website.

In detail, it provides functions related to curriculum, staff, and user management, as well as tuition payment. The menu was designed with the extensibility of managing educational courses in mind.
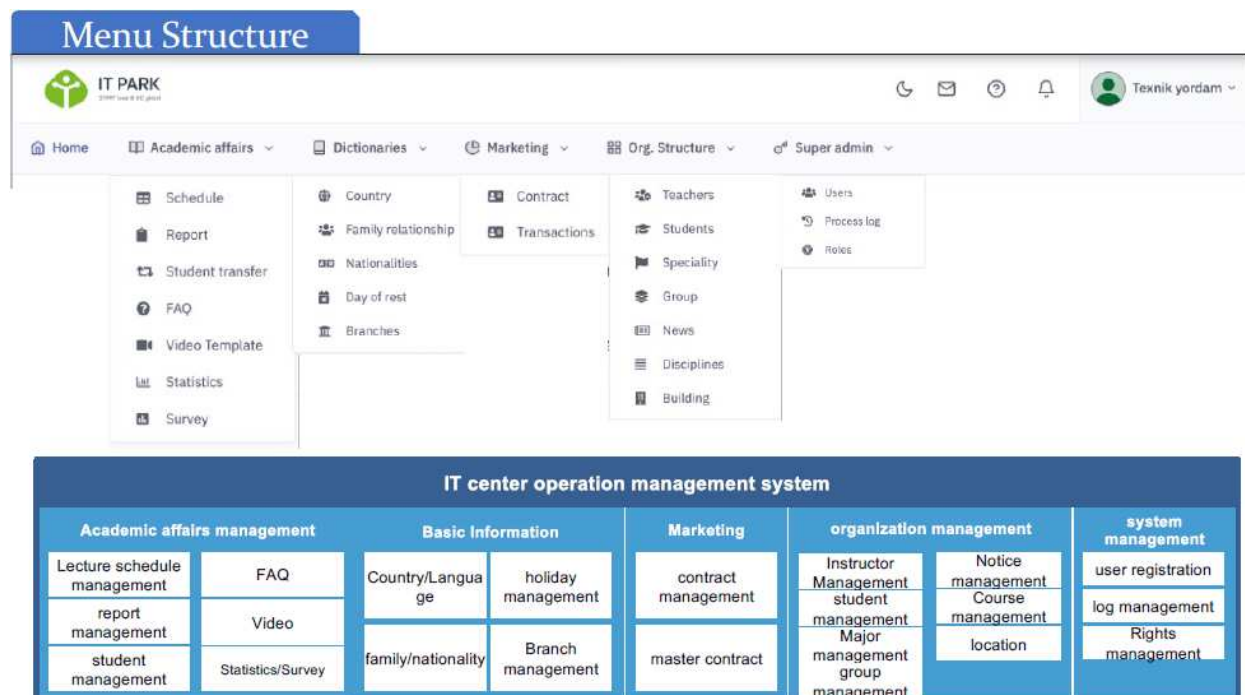
In the system, administrators can manage the curriculum, tuition, and overall center, while instructors can manage course information and student records. The Academic Management menu allows for detailed statistics of both students and teachers, as well as the ability for the IT Center to manage student tuition payment information and the organization of the IT Center. Additionally, the FAQ menu provides a function for users to make various inquiries and suggestions related to the IT Center, while the Notice menu provides a function for notifying users about events and lecture notifications.

By course

Export to Excel

mobile development

frontend development

10 20 30 40 50 60 70 80

Graduates

Export to Excel

11.0
10.8
10.6
10.4
10.2
10.0

Student status

Number of graduates Number of listeners Number of dropouts

Operated in a cloud environment, the educational administration management pilot system is primed for continuous expansion as the user base grows. The introduction of this system is expected to improve the work efficiency of IT education in the future, and enable real-time monitoring and transparent decision-making based on data.

The second project, AI education, was conducted for 8 days with about 40 participants, including Uzbekistan government officials, university employees, and corporate employees, AI technology, etc.

The program garnered an impressive satisfaction rating of 85.7 points, indicative of the participants' overall contentment. Notably, their enthusiasm was particularly piqued by AI services, actual startups success stories and future utilization of AI.
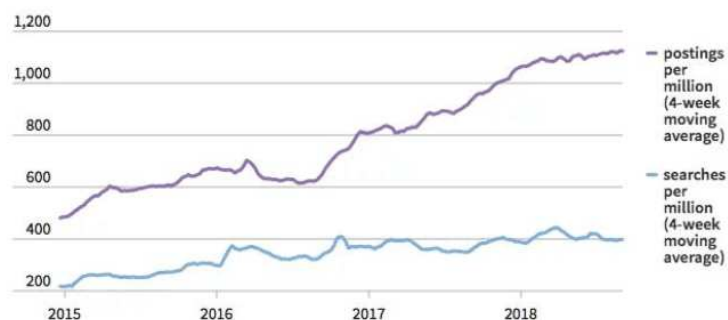
Lecture 6: AI Education

Nurturing World's Best AI Talent and Educating People

- Current Situation and Issues

  - Shortage of AI talents

Wanted: Artificial intelligence experts

In artificial intelligence, job openings are rising faster than job seekers.

1,200
1,000
800
600
400
200

— postings per million (4-week moving average)

— searches per million (4-week moving average)

2015 2016 2017 2018

AI-related jobs include machine learning engineer, predictive modeler, cmt analytics manager, data scientist, computer vision engineer, computational linguist, and information strategy manager.
Source: Indeed.com
Ann Saphir | REUTERS GRAPHICS

The third project, titled "Digital Government Invitation Training," was conducted in Korea by a group of 12 people, headed by Oleg Pekos, the First Vice Minister of Digital Technology of Uzbekistan. Through lectures under this project, participants acquired insights into Korea's digital government policies, legal systems, and emerging ICT. The training program extended beyond classroom sessions, offering experiential learning opportunities such as visits to the digital government exhibition hall, test drive of self-driving cars, and tour of the National Information Resource Service. They also had the opportunity to experience Seoul's smart city services and observe the automobile production process, which incorporates future mobility technology. The program received a satisfaction rating of 99.18 out of 100, indicating a very high level of satisfaction among participants.

As the last project, the Korea-Uzbekistan Digital Government and Digital Economy Forum was held. The event was attended by about 120 Uzbekistan government officials, including Jamshid Egamberdiyev, Deputy Minister of Digital Technology, and Kim Hee-sang, the Korean Ambassador to Uzbekistan. During the forum, the results of the 2022 Korea-Uzbekistan Digital Government joinc cooperation Projects were announced, and Korean companies Korea Cloud and Ubion shared their plans to enter Uzbekistan. A lecture was also prepared to showcase the use cases of Big Data in the Korean public sector.

DGCC in Uzbekistan

Activities of DGCC in Uzbekistan

Uzbekistan remarkable ascent in The United Nations E-Government Survey 2022, rising from 87th to 69th, demonstrates the Uzbekistan government's efforts to improve e-government services and the increase in the public utilization of e-government services. In 2021, as a joint cooperation project, the Korea-Uzbekistan DGCC conducted consulting to improve rankings in The United Nations E-Government Survey and the collaborative efforts of Uzbekistan and DGCC bore good fruits in the 2022 Survey. On October 4, 2022, the Minister of Digital Technology expressed gratitude for elevating Uzbekistan's e-government rankings to the head of the DGCC Center, Koh Taek-jin, and sent a letter of deep gratitude to Korea for their experience sharing and contribution to e-government rankings. Additionally, Minister of Digital Technology Shermatov suggested making a roadmap for e-Government development jointly with Korea.

In January 2023, Korean Ambassador to Uzbekistan Kim Hee-sang had a meeting with Uzbekistan Minister of Digital Technology Shermatov, and DGCC Center Director Koh Taek-jin also attended the meeting.

During this high-level meeting, the Uzbek government unveiled its initiative to actively promote the introduction of digital technology in business processes to enhance administrative efficiency and transparency. Both parties agreed to continue sharing experiences and cases of digital development between Korea and Uzbekistan. In addition, with the support of the President of Uzbekistan, tax benefits and IT visa system are being implemented for companies residing in IT PARK. Korean companies expressed keen interest in relocating to IT PARK.

Since digital-related projects are being carried out with the Uzbekistan government through DGCC and KOICA projects, it is decided to continue to cooperate with the Ministry of Digital Technology, which is the overseeing ministry, as well as related ministries.

In addition, this meeting provided a platform to reinforce cooperation to support Uzbekistans transformation " into an e-government leader in Central Asia through the DGCC joint cooperation project being promoted this year. In parallel, discussions centered around IT PARK publicity.

Digital Government Trends of Uzbekistan

First Deputy Minister of Digital Technologies Oleg Pekos, Head of the Strategic Development Department Jakhangir Shukurov, Head of the Telecommunications Infrastructure Development Department Murodjon Yoldoshev, as well as employees of the ministry took part in the conference.

By 2021, the volume of information and communication services (communication and information and computer services) reached 17.8 trillion soums. In 2022, this amount increased sharply and reach 22.9 trillion soums.

The volume of services per capita was 198 thousand soums in 2016; in 2020 it was 404.7 thousand soums; in 2021 it was 508.5 thousand soums; and in 2022 it was 642.9 thousand soums.

Uzbekistan has also attracted significant investments, amounting to 396.1 million US dollars in 2022.

In 2022, a total of 4.6 million households was able to connect to the Internet. The total number of Internet users in 2020 was 22.5 million. The number of mobile internet users was 21.4 million. In 2021, the total number of Internet users was 27.9 million, and the number of mobile Internet users was 26.4 million. In 2022, the total number of Internet users reached 31.1 million, of which the number of mobile Internet users reached 29.5 million.

In 2022, 99% of population centers was covered by 2G, 87% by 3G, and 75% by 4G. In 2022, 170,000 km of optical fiber communication lines was laid and 80% of the population was covered.

The following indicators are noted in the international ratings:
Mobile internet price (per 1 GB) in 2020 $1.34 (55th place), $0.37 in 2022 (15th place);
Wired internet price: $16 in 2020 (25th place), $14.38 in 2022 (19th place);
Mobile internet speed: 10.07 Mbit/s in 2020 (133rd place), 13.95 Mbit/s in 2022 (122nd place);
Wired internet speed: 29.92 Mbps in 2020 (95th place), 45.03 Mbps in 2022 (89th place).

In 2021, 300 (via 100 mobile applications) public services were provided through the single interactive public services portal, and in 2022, this indicator reached 370 (+70, 165 via mobile applications). It is planned to increase their number by 200 to 570 in 2023 (265 through mobile applications). As a result, the population saved 36 billion soums, and over 70 requests for documents were eliminated.

The share of electronic services in 2020 was 32 % (3.1 million), 54 % (8.4 million) in 2021, and 66 % (12 million) in 2022. In 2023, this indicator is planned to reach 70% (21 million). During this period, traditional services make up 68, 46, 34, 30 %, respectively.

The number of users of the single portal was 77,000 in 2019, and 372,000 in 2020 , 1 million in 2021, and 4 million in 2022. Compared to 2019, the number of users has increased by 52 times. This surge in usage has resulted in substantial savings of approximately 135 billion soums in fare and paper costs.

In Uzbekistan, a number of programs are being carried out to establish a digital education ecosystem, to attract the population and young people to this field, and to support their interests.

Today, over 29,000 highly educated professionals are being trained in more than 35 specialties by IT higher education institutions , the Tashkent University of Information Technologies named after Muhammad al-Khorazmi (TUIT) and its 6 branches, Inha and Amity universities in Tashkent.

In 2022, the digital university "IT-Park University" was launched in collaboration with the international IT company "EPAM Systems", which prepares highly educated personnel in the field of ICT in a fully remote manner based on international standards, in order to develop digital education.

In order to improve the digital skills of the population, about 400 new jobs have been created in 205 digital technology training centers benefitting over 128,000 trainees, including 33,000 state employees.

As a result of the conditions and opportunities created for representatives of the private sector in the field of IT, the number of private educational centers residing in the IT-Park reached 191 in 2022, a significant rise compared to 2020 and 2021. (an increase of 67 compared to 2021 and 180 compared to 2020).

In order to ensure the implementation of the decision the Cabinet of Ministers of the Republic of Uzbekistan by No. 310 dated May 9, 2021 'On measures to support young professionals with international IT certificates' and to increase the potential of young people in the field of IT, as well as to obtain international IT certificates, Uzbekistan has introduced a system that reimburses up to 50% of costs for obtaining international IT certificates.

In order to improve their knowledge and skills, over 800 young people applied for an international IT certificate in 2022, with 500 of them receiving fianancial support.

In 2019 to 2022, the number of people who received education within the framework of the "One million Uzbek programmers" project exceeded 2.5 million. Among them, more than 1.7 million people acquired basic knowledge of digitization and obtained certificates through the project.

More than 15,000 young people who are currently enrolled in IT courses or have successfully completed these courses were allocated consumer loans for the purchase of computers, with the loan amount limited to no more than 25 times the basic calculation.

The number of IT Park resident companies has been remarkably growing from 147 companies in 2017 to 523 in 2021. This number skyrocketed to 1122 in 2022. The number of companies with the participation of foreign capital was only 4 in 2017, in 2021 were 23, and in 2022 it increased by seven times to 165.

In 2021, 90,300 people were employed in the field of ICT, and this figure rose to 116,900 in 2022. In 2017, ICT enterprises exported 135.5 million US dollars, in 2021 this value

reached 206.4 million US dollars, and in 2022, it was 323 million US dollars. In 2023, this indicator is expected to reach 375.1 million US dollars.

In 2021 to–2022, the volume of services and exports provided by IT Park residents increased sharply. In 2021, IT Park residents exported services in the amount of 46 million US dollars, and in 2022, this figure experienced a substantial increase in 2022, reaching 140 million US dollars.

In 2021 to 2022, the number of employed and self-employed by IT Park residents has also increased.

As of January 1, 2023, a total of 28,562 people were employed in the country, of which 18,712 were self-employed. In this regard, the city of Tashkent (15,597) was on the first place, while Navoi (785) and Jizzakh (538) occupied the next places.

DGCC Newsletter #06

DGCC in Indonesia

Joint Cooperation Project

Korea-Indonesia Cooperation Paves the Way for Digital Government Advancements

The Korea-Indonesia Digital Government Cooperation Center held the 2022 Digital Government Joint Cooperation Project from July 2022 to November 2022. The cooperation has siginificantly contributed to the realization of clean, effective, transparent, responsible government, and excellent and reliable public services. By offering support for various initiatives, including the piloting of integrated public service portal, developing guidelines for information systems, developing national EA education contents, and strengthening digital government capabilities, this collaboration has paved the way for a new era of digital governance in Indonesia.

① Support the pilot project of integrated public service portal

As a part of this joint efforts, the DGCC has supported the design of the pilot project in accordance to Indonesia's e-Government Presidential Regulation and under the public service portal construction strategy formulated during the DGCC joint cooperation project in 2021.

First, drawing insights from Indonesia's existing landscape and studying exemplary

cases from the Republic of Korea, the project has put forward a strategy to establish an online certificate issuance service platform for the Indonesian public.

1	Establish a standardized framework for an integrated perspective	2	Establishment of measures that comply with Indonesian policies
3	Improve public convenience through integration	4	Establishment of a flexible linkage system between ministries and agencies
5	One-stop service from application to issuance	6	Establish an efficient integrated service portal
7	Securing certificate reliability by establishing a verification plan for authenticity	8	Prioritize building issuance of birth certificate, marriage certificate and re-issuance of passports

Afterward, the detailed design was carried out for the pilot projects of public service portal such as birth and marriage certificates, service structure for re-issuance of passports, business processes, data, application systems, IT infrastructure, security, and management systems.
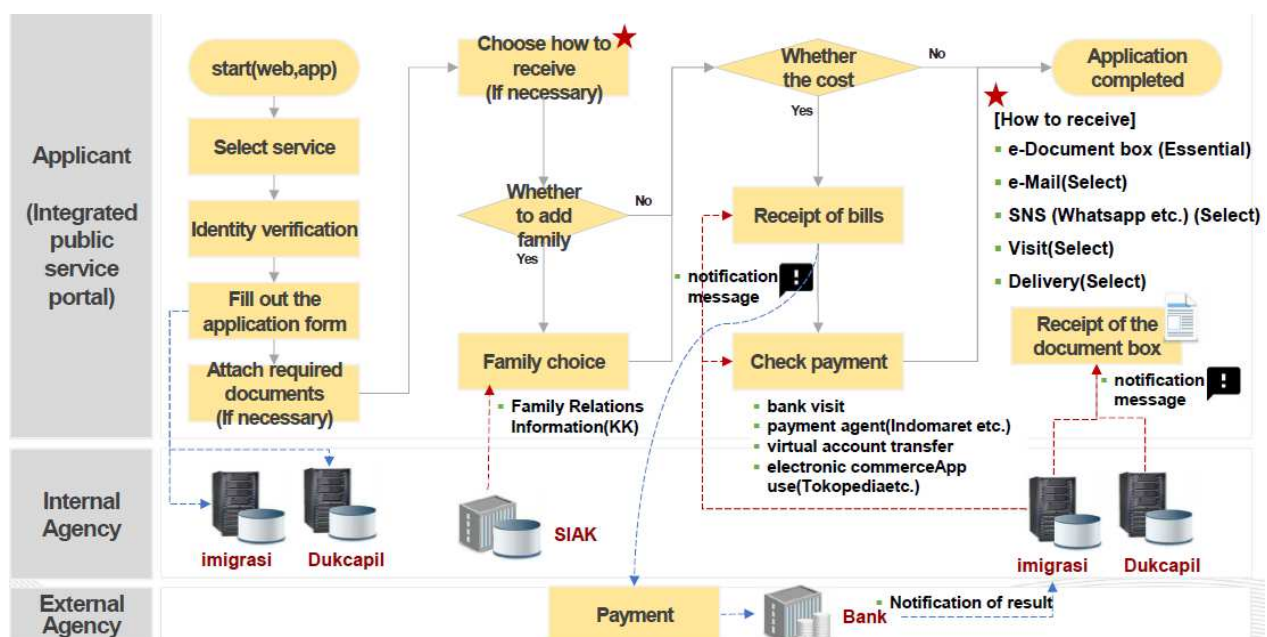
< Figure 1. General Service Standard Process >

In addition to basic services such as birth and marriage certificates, the collaboration proposed future development models such as qualification information service,

customized service, and trigger service, and the direction of future development of the national service portal in Indonesia. By supporting the preparation of the proposal request for the service platform construction pilot project, the collaboration has set the stage for the Indonesian government's ambitious plans for the future.

From 2023, based on the accomplishments of the joint cooperation project, the Indonesian government is promoting the establishment of an actual service platform by investing its own budget and integrating major digital government services that are currently managed independently.

② Development of Guidelines for the Establishment and Operation of Information Systems

In line with Indonesia's e-Government Presidential Regulation and the Digital Government Roadmap formulated under the DGCC's 2021 joint cooperation project, the provision of guidelines for efficient business management was required when promoting IT projects.

To ensure the success of IT projects, the DGCC presented the informatization strategy guidelines, which aligned with the digital government roadmap guidelines of the Ministry of Administrative and Bureaucratic Reform of Indonesia. Additionally, the information system project management guidelines were developed to manage the entire IT project life cycle to be applied by central and local governments. IT audit guidelines were introduced to integrate and standardize current guidelines operated individually by institutions (National Research Innovation Agency, Cyber Encryption Agency, Ministry of Communications and Information, etc.).

This project has contributed to laying the groundwork for the development of Indonesia's digital government by providing a systematic life-cycle guideline leading to "Plan-Do-See" to build and operate information systems. From 2023, the pilot project is set to be implemented in the Ministry of Administrative and Bureaucratic Reform, which will serve as a precursor to further implementation and expansion.

③ Development of national EA educational contents

The development of national Enterprise Architecture (EA) educational content developed under the 2021 DGCC project has contributed to strengthening the capacity building of Indonesian public officials.

A thorough survey was conducted, targeting 250 Indonesian public officials who work in

the EA field., Their feedback highlighted the need for educational content covering areas such as EA policies and strategies, architecture establishment, and EA system utilization. After identifying the level of demand, the educational content was divided into three levels: basic, working-level, and advanced, taking into account factors like the educational target and difficulty level

Category	Process		
	Basic	Working-level	Advanced
Goal	Understanding the fundamentals of EA's concepts, needs, and expected	Learn how to acquire core EA skills and use the basic utilization skills	Learn detailed utilization procedures and methods on EA
Target	Central/Regional Gov Public officials working in digital gov field	Central/Regional Gov Digital government professionals	EA person in charge from Indonesia Digital Gov. Coordination team (7 Ministries&Agencies)
Modules	4	6	6
Course Hours	8	12	12

In addition, scenario-based training sessions were conducted, involving 26 public officials in charge of EA in the central and local governments in Indonesia. These sessions provided a hands-on experience, allowing participants to intuitively understand the process of building and utilizing EA.

④ Digital Government Capacity Building for Indonesian Public Officials

11 Indonesian public officials responsible for digital government initiatives were cordially invited to Korea for a comprehensive 7-day training program, spanning from November 20 to 26, 2022. The training program was organized to support the capacity building of Indonesian public officials, taking into account the specific educational needs of the Indonesian officials, as determined through surveys conducted prior to their arrival. The program primarily focused on providing lectures on exemplary digital government cases and included field visits to relevant institutions and facilities in Korea.

Date	Contents	Place
Sun, Nov. 20	Arrival in Korea	Incheon Airport
Mon, Nov. 21	Welcoming ceremony	Seoul
	(Seminar 1) Korean government human resources management system (e-saram)	
	(Seminar 2) Korean Government Service Integration Portal (Gov24)	
	(Site 1) SK T.um Future Technology Experience Center	
Tue, Nov. 22	(Seminar 3) Korean Government Workflow Management System (Onnara)	Seoul
	(Seminar 4) Public cloud policy and utilization cases	
	(Site 2) Digital Learning Center (Seoul City Hall)	
Wed, Nov. 23	(Site 3) National Information Resources Service	Daejeon
	(Site 4) Digital Government Exhibition and Experience Center	Sejong
Thu, Nov. 24	(Seminar 5) Korea's Digital Inclusion Policy	Seoul
	(Seminar 6) Korea's public data policies and utilization cases	
	(Site 5) IFEZ Promotion Center and Smart City Operation Center	Songdo
Fri, Nov. 25	(Culture 1) Blue House	Seoul
	(Culture 2) Islamic Mosque	
	(Site 6) Global Knowledge Cooperation Complex	

Date	Contents	Place
	Farewell Ceremony and Curriculum Evaluation	
Sat, Nov. 26	Departure from Korea	Incheon Airport

Welcoming Ceremony

Visit to the National Information Resources Service

DGCC in Indonesia

Activities of DGCC in Indonesia

The Indonesian government is establishing National Data Centers in preparation for the capital relocation to the eastern Kalimantan region, which is scheduled to take place from 2024. While collaboration with the Korean government for a data center in Batam, and with the French government in Bekasi is underway, the Indonesian government currently faces challenges in governance and information protection systems, as well as the capacity of operating personnel required for the successful operation of the data centers.

To address these concerns, the Indonesian Ministry of Communication and Informatics sought prompt support from the Korean government for data center operation governance, information protection system, and human resources enhancement. In response, the Korea-Indonesia Digital Government Cooperation Center proposed the project.

Moreover, the project was carefully tailored to the local situation in Indonesia through the efforts of a preliminary survey team consisting of the Ministry of the Interior and Safety, National Information Resources Service, National Information Society Agency, and private experts . After undergoing review by the Ministry of Foreign Affairs and KOICA, the project was decided to be carried out for 5 years from 2024, with a budget of approximately 5.5 million dollars.

This project is composed of four areas.

1. Supporting the establishment of integrated operation governance of the national data center through regulation consulting and establishment of the national data center master plan.
2. Providing a more strengthened national data center information protection system by establishing information protection management guidelines and related capacity building program.
3. Enhancing the expertise of national data center operators in each field by giving support in acquiring international licenses for center operation, on-site training by data center operation field and invitational training programs, etc.
4. Rasing awareness of digital government among Indonesian government officials through capacity-building programs, sharing session on digital government best practices.

In 2023, based on the results of the preliminary survey conducted last year, a planning survey will be conducted to make a detailed plan and the main project will begin in 2024.

The DGCC emphasizes the importance of securing operational capabilities, highlighting that successful data center operation is more critical than just building the physical infrastructure. By sharing the know-how of the Korean government, which has successfully built and operated the first national data center in the world, the Korean government aims to significantly contribute to the establishment of a fast and stable integrated operating system and the improvement of the professional capabilities of the center's operating personnel.

Ministry of the Interior and Safety

NIA NATIONAL INFORMATION SOCIETY AGENCY

Digital Government Trends of Indonesia

On Monday, March 20, 2023, the Ministry of Administrative and Bureaucratic Reform, which hosts the Korea-Indonesia Digital Government Cooperation Center, and is responsible for promoting digital government in Indonesia, held a "Digital Government Summit 2023" event at Kempinski Hotel, Jakarta. The event was attended by ministers of digital-government related ministries, and local government representatives including governors and mayors.

This large-scale offline event was attended by a total of 800 participants, including Ministers from Coordinating Ministry for Maritime and Investment Affairs, the Ministry of Administrative and Bureaucratic Reform, the Ministry of Cooperatives and SMEs, the Ministry of Tourism and Creative Economy, the Governor of Eastern Java, and high-level officials of central and local governments, etc. The event was held to celebrate the remarkable achievements in digital government and unveil the future plans through keynote speeches, sharing best practices of public digital services, and Digital Government awards ceremony.

The Minister of Administrative and Bureaucratic Reform, Abdullah Azwar Anas, mentioned in his keynote speech that the implementation of digital government is the most important among the four goals of bureaucratic reform (poverty alleviation, investment, digitalizing the government, and focus on presidential priorities). This represents the Indonesian government's strong determinaton to integrate digital government business processes, data, infrastructure, applications, and security to improve the quality of public services. It also highlighted the need to establish an integrated platform by integrating, simplifying, and streamlining 27,000 existing service applications developed by central and local governments.

One of the notable aspects of the event was the Digital Government Awards ceremony. Since 2018, the Digital Government Awards has been bestowed upon central and local governments in Indonesia through a thorough evaluation and monitoring of their digital government performance.. This year, a total of 38 central and local governments were awarded.

Meanwhile, the Korea-Indonesia Digital Government Cooperation Center, as a joint cooperation task in 2017, consulted on the performance indicator and evaluation

system through "Digital Government Index Research," which proved instrumental in the enactment of the "Presidential Regulation on National Digital Government Architecture" in Indonesia by sharing the experience of the Korean government's implementation of EA (Enterprise Architecture).

In addition, as the Minister of Administrative and Bureaucratic Reform mentioned, an establishment strategy on digital IDs is scheduled and will be included in the joint cooperation task of the Korea-Indonesia Digital Government Cooperation Center this year. In order to support poverty alleviation, as it is one of the four goals of bureaucratic reform emphasized by President Joko Widodo, the Center also plans to formulate an informatization strategy plan for Indonesian Government to eradicate poverty.

DGCC Newsletter #06

DGCC in Cambodia

Joint Cooperation Project 2022

Cambodia Accelerates Digital Government Transformation through Joint Cooperation Project

Based on the MOU for Digital Government Cooperation in 2019 and for the Establishment of the Digital Government Cooperation Center in 2021 between two countries, the cooperation projects in 2022 highlighted the three areas necessary for the success of digital government: service, infrastructure, and policy.

- Service: The project management guide was recommended in order to improve government services through effective and efficient management of digital government projects in Cambodia

- Infrastructure: Open source-based cloud technology training was conducted required for building a cloud-based data center in the future.

- Policy: A survey of the current status of information resources for all the government ministries was conducted and future cloud transformation plans for the public sector in Cambodia were established.

These projects will lay the foundation for the success of digital government in Cambodia. By improving government services, building a cloud-based data center, and transforming the public sector to the cloud, Cambodia can make its public administration and services more digitalized and efficient.

Project	Description
1) Digital Government Project Management Guide	- Analyze the current digital government Status - Establish the digital government project management method - Provide training on how to manage the Digital Government Project
2) Open Cloud Platform (PaaS_Ta)	- Provide training on the open cloud platform in Cambodia - Provide support for cloud migration and pilot application development based on PaaS-Ta - Provide training on the e-government standard development framework
3) Cloud Transformation Plan	- Analyze infrastructure and systems available for e-government. - Launch and operate a pilot open cloud platform. - Establish an open cloud platform plan and analyze the effects.
4) Capacity Building for the Cambodian Public Officials	- Provide Cloud platform technology training for civil servants in preparation for the cloud-based datacenter

Here are some additional details about each project:

① Digital Government Project Management Guide

In a bid to revolutionize digital governance, the digital government project management guide was unveiled. Developed by analyzing the current government project management in Cambodia, the guide draws inspiration from ICT & digital government project management methodologies employed in Korea. At the same time, trainings for the public servants were also conducted in order to identify requirements and build project management capability.

To address diverse project scenarios, two versions of the recommended project management manual were offered to reflect the current status of the Cambodian government. The first version delegates the project procurement, contracting, planning, budgeting, and project management to external resource, which include experts and private companies. The other version is to focus on the project execution and management by the Cambodian government's in-house personnel. This covers most of the project management tasks within the government, including project planning, budgeting, and management, while excluding procurement and contract. It might be necessary to estimate the infrastructure purchase cost if necessary.

② Open Cloud Platform (PaaS_Ta)

In line with the cloud-based data center building policy in Cambodia, the open cloud platform project was conducted to secure the capability of open cloud platform related technology. Through intensive hands-on trainings, including online meetings, Q&A sessions and practical exercises, the project aimed to equip Cambodian officials with the necessary expertise. , At the same time, technical support for migration and pilot operation of the cloud platform was extended in order to apply the application migration on the open source-based cloud platform.

Through PaaS-TA pre-training, PaaS-TA practice training in Cambodia, PaaS-TA invitation training in Korea and pilot migration, Cambodian trainees have gained the ability to understand PaaS-TA and migrate to PaaS-TA by analyzing and designing the Cambodian system.

③ Cloud Transformation Plan

The Cloud Transformation Plan is to transfer each department's information system to a cloud-based data center. The entity managing the data center should provide their service in accordance with the standards of CPU, memory, and disk required by individual ministries. In addition, the latest version of OS/DBMS/WAS/WEB software should be provided according to the IT system installed by individual ministries, and individual ministries should use this to modify and install applications in the cloud data center for transformation. Individual ministries and data center management entities need to consult and convert appropriately to the three types of services: IaaS, PaaS, and SaaS. The cloud transformation plan establishes the required hardware specifications, system software requirements, and application transformation methods for individual ministries to migrate to cloud data centers.

To develop the cloud transformation plan for the Cambodian Government, the current status survey on IT systems and infrastructure was conducted online for the targeted public institutions in Cambodia. As the second step, the goal, strategy, and direction for the plan were made. Lastly, the roadmap for the cloud transformation was developed through priority evaluation.

④ Capacity Building for the Cambodian Public Officials

The Invitational training programs was conducted for 8 Cambodian officials over 6 days from November 13 to 18, 2022 in Seoul. This training was centered on PaaS-TA, pilot application practice, and Korea's e-government standard framework training.

Ministry of
the Interior and Safety

NIA NATIONAL INFORMATION
SOCIETY AGENCY

DGCC in Cambodia

Joint Cooperation Project 2023

Based on the 2022-2035 digital government policy direction in Cambodia, and after internal discussion, more than 7 DGCC cooperation projects related to digital government service, infrastructure, and policy were completed. These projects cover BPR/ISP, project management, cloud transformation plan, and open cloud platform. In 2023, the DGCC selected projects to receive more focus and to have a good impact on the development of digital government in Cambodia. As a result, the project for open cloud technology transfer was selected. By doing so, the MPTC can build an open source-based small-scale cloud environment, such as IaaS and PaaS. This project will focus on pilot operation and application development using the full functions of open-source software. The project also included invitation training programs.

Project	Description
1) Open Cloud Technology Transfer	- Provide training on open cloud technology - Provide support for building and operating the small-scale cloud infrastructure (IaaS), & Platform (PaaS) based on open-source software - Jointly develop the pilot application on the cloud environment
2) Capacity Building for the Cambodian Public Officials	- Provide open cloud technology training for civil servants in preparation for the cloud-based datacenter

The new Korean ambassador's visit to the MPTC and the DGCC in Cambodia

TThe newly appointed Korean ambassador, H.E. Park Jung Wook, paid a visit to the Ministry of Post and Telecommunications (MPTC) and the digital government cooperation center (DGCC) in Cambodia on April 23,2023. He expressed his strong will to strengthen cooperation between the two countries through the Embassy of the Republic of Korea in Cambodia within the framework of future cooperation, especially in the field of Information and communications technology (ICT). He also highlighted the good cooperation between the two countries such as the digital government

cooperation center and Information access Center this year.

During his visit, Ambassador Park met with the Minister of Post and Telecommunications, H.E. Chea Vandeth, and the Co-Head of the DGCC. He discussed the progress of the DGCC and the Information Access Center, and the potential for future cooperation between the two countries in the field of ICT. Ambassador Park also expressed his support for the DGCC's efforts to transform the Cambodian government into a more digitalized and efficient entity.

Photo : https://ams.com.kh/central/detail/965355
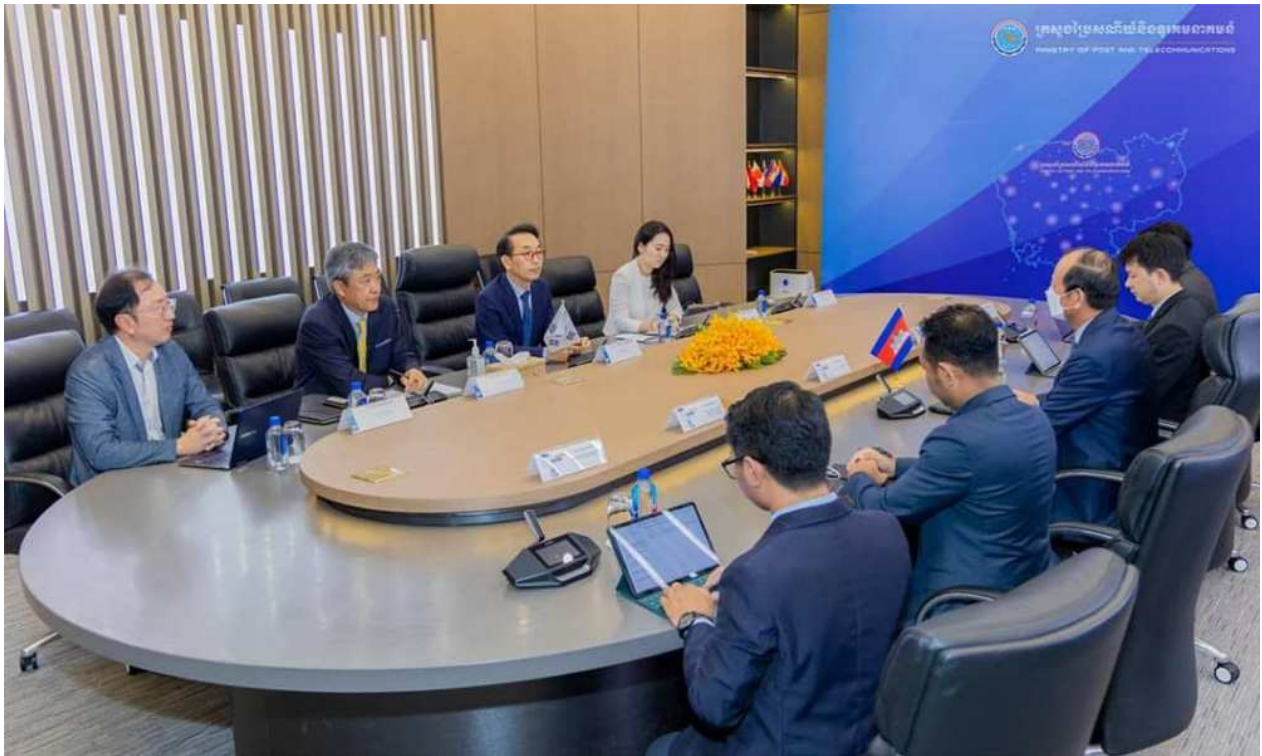
Digital Government Trends of Cambodia

1. Overview of the Document Verification System

Through Sub-Decree No. 52 dated 3 March 2023, the Royal Government of Cambodia adopted the VERIFY.GOV.KH platform as the RGC's official document verification platform. The platform serves as the official document verification system for both the public and private sectors in Cambodia. Developed by the Ministry of Post and Telecommunications, the platform is based on a block-chain technology, embodying the principles of Integrity, Authenticity, and Validity. Its first use case was to issue approximately 91,000 Temporary High School Certificates for the 2022 high school graduates countrywide.

2. How it works

The VERIFY platform uses blockchain technology to ensure that it is secure by design, making it one of the most cutting-edge systems in the region. The platform's architecture relies on a standard QR Code, familiar to ordinary users, which offers cryptographic linkages to the distributed ledgers. Essential data of and other data attributable to the target document, including the official issuer, is encrypted and then fragmented into a number of cryptographically linked parts. These parts are then distributed, following a carefully designed process, between distributed ledgers and the unique QR Code that will be affixed to the target document. No one single place contains the entirety of the essential data, and the QR Code is not stored beyond document production phase.

How verify.gov.kh work

70%	10%	20%
Encrypted Storage	QR Code	Blockchain File
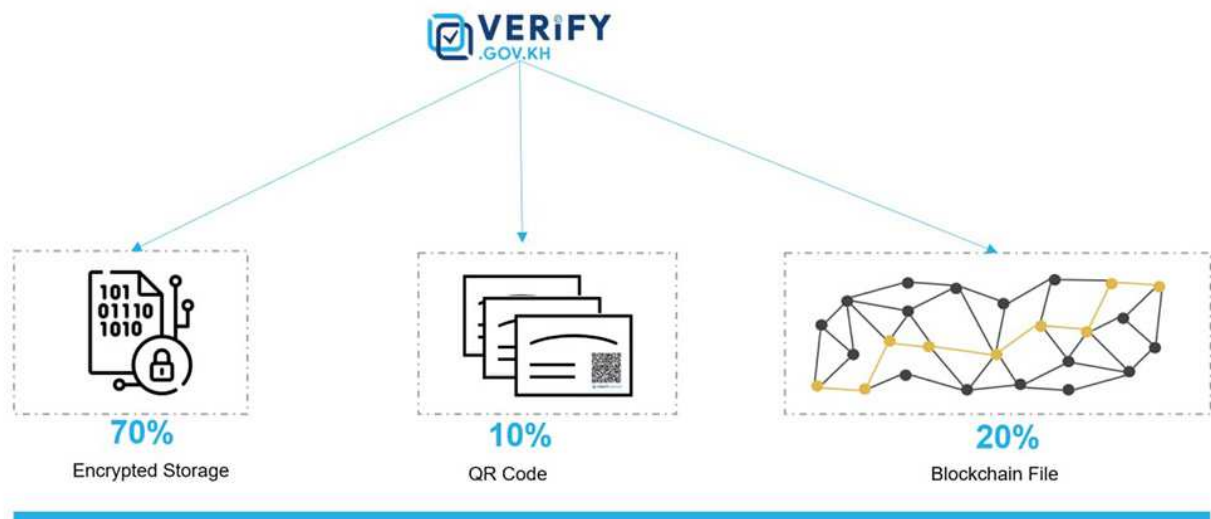
Distributed Data Anonymisation

To verify documents, users only need to scan the QR Code. Generally speaking, the process in the production stage will be reversed and relevant data will be reconstituted and decrypted to be displayed on the VERIFY.GOV.KH web portal, allowing users to cross-check the information on the document with the information display in the platform.

This platform helps organizations build a trusted channel to exchange documents with international partners because its blockchain-based mechanisms resist tempering. Public blockchains with a huge number of nodes are used, ensuring a high level of

tempering-resistance. For users, especially recipients of public services, this platform saves both time and costs, and is easy to use. Document-sharing for official purposes also becomes more straightforward as the QR-Code-affixed version of their document can be shared directly without further processing, such as notarization.

3. Output/Outcome

Within the three months of its adoption as RGC's official platform, 21 public and private universities and other higher education institutions have signed agreements with the Ministry of Post and Telecommunications to have their degree certificates become verifiable on VERIFY.GOV.KH. Two ministries have also signed memoranda of understanding with MPTC, and work has begun in earnest to study which documents should be on-boarded in order of priorities. It is estimated that by the time the 21 institutions' certificates are fully on-boarded, approximately 15,000 post-secondary degrees will be issued that are verifiable on the platform, in addition to the annual Temporary High School Certificates and an increasing number of public documents issued by government ministries.

4. Future Plan

Key ministries and other education institutions plan to expand the reach of VERIFY.GOV.KH. Future iterations of the platform are also being planned out to improve its functionalities. Expansion plans to share this technology with other countries in the region are also being discussed with regional and international partners.

DGCC Newsletter #06

DGCC in Peru

Peru wraps Up Joint Project Promoting Digitalization of Public Services

Peru concluded a joint cooperation project with DGCC at the end of last year, bringing the digitalization of public services to the forefront in its national agenda. The project aimed to leverage digital technologies for public services within the framework of Peru's overarching digital transformation strategy to enhance citizens' lives. One of the key tasks was to establish Business Process Reengineering/Information Systems Planning (BPR/ISP) for public administrative services, aligning with Peru's national digital transformation strategy. Another task of this project emphasized the urgent and impactful transition of administrative services to the cloud, in line with the Peruvian government's digital transformation strategy for the period of 2021 to 2025. As part of this project, a series of workshops on BPR/ISP involving Peruvian government officials were held.

Task 1: Establish BPR/ISP of Public Administrative Service

In accordance with the Peruvian government's digital transformation strategy (2021~2025), three tasks were selected to undergo BPS/ISP to enhance public services. These tasks were identified as having a large ripple effect and requiring urgent cloud conversion among public administration services. Workshops were conducted with the participation of Peruvian officials to carry out the BPR/ISP process.

Task 2: Consulting on the Introduction and Establishment of Open Cloud Infrastructure

To support the next-generation inter-ministerial document management system, an open cloud platform was installed on PNGD/PIDE, the digital infrastructure of the Peruvian government to link to the integrated document management system. This project is supported by the Korea International Cooperation Agency from 2023 to 2027, with a budget of US$8.4 million

Task 3: Reinforcement of Public Officials' Capabilities

To strengthen the capabilities of Peruvian public officials engaged in digital government, a visiting program to Korea was conducted with the participation of 5 Peruvian civil servants. During eight-day program, the Peruvian officials received lectures on digital government and visited various governmental agencies and private data centers, Samsung/LG/SK PR halls, and Songdo smart city.

Workshop for Cloud transition (2022)

Public Entities Interview and meeting (2022)

Visiting the Data Center in Korea (Nov. 2022)

Graduation ceremony (Nov. 2022)

Ministry of the Interior and Safety

NIA NATIONAL INFORMATION SOCIETY AGENCY

Korea and Peru Unite For Digital Government in 2023

The Office of the Prime Minister (PCM) of Peru and the Ministry of Interior and Security (MoIS) of Korea have embarked on the Digital Government Cooperation Center Project for a period of three years from 2021 to 2023, adhering to the respective laws and regulations of both countries. At the heart of this joint effort is the Digital Government Cooperation Center (DGCC) as specified in the Memorandum of Understanding, particularly Clauses 3 and 5.The Center serves as a hub for cooperation, fostering the digital transformation of public services for citizens and revitalizing the national economy.. Private companies participate in the project within the proposed framework.

Accordingly, the year 2023 will witness the implementation of three sub-projects under this landmark joint cooperation, based on the mutual agreement of both governments as follows:

- Feasibility study of digital identity introduction in Peru
- Establishment of guidelines for cloud integration to Peruvian national digital infrastructure platform
- Invitational program to Korea for public officials in the field of Digital Government

The Peruvian government, with the goal of building a digital government, has already established national digital infrastructure platforms such as the National Digital Infrastructure Platform (PNGD), National Interoperability Platform (PIDE, Plataforma Nacional de Interoperabilidad), and the national integrated interactive portal (gob.pe), along with data centers and digital authentication systems.

This year, the project began with an inaugural meeting in May and is set to conclude by the end of November 2023, with the assistance of the Secretariat of Government Digital Transformation (SGTD) of the PCM and various ministries of Peru over a span of approximately six months.

Upon completion, various public administrative services, including the integration of document management services among government departments and the sharing of information, will be implemented. Capitalizing on established infrastructure, including IaaS and PaaS-based cloud systems, Peru's digital government framework will showcase a harmonious operation that enables to deliver superior public services of the digital government.

Ministry of the Interior and Safety   NIA NATIONAL INFORMATION SOCIETY AGENCY

DGCC in Peru

Activities of the DGCC in Peru

The Digital Government Cooperation Center (DGCC) has been actively driving various initiatives to promote digital transformation and strengthen cooperation between Korea and Peru. The DGCC, in collaboration with Korean experts and government officials, has organized a series of webinars, seminars, consultations, and advisory sessions.

A. Webinar on Korean cyber safety laws, systems and governance

The Peruvian government is currently reinforcing and developing cybersecurity measures in the wake of increasing cyber threats. To strengthen the cooperation in the realm of cybersecurity, DGCC invited Ms. Lee Hye-jin, the Director of the Korea Internet & Security Agency (KISA), to host a webinar in January for officials from the Peruvian Prime Minister's Office and IT ministries. The webinar focused on Korean cyber security laws, regulations, and governance.

Ms. Lee Hye-jin, currently serving as a director at the KISA Latin America Cyber Security Support Center in Costa Rica, plans to initiate a project to establish the Peruvian National Cyber Security Center and organize a cyber security forum in Lima this year in order to facilitate ongoing cooperation with the Peruvian Prime Minister's Office.
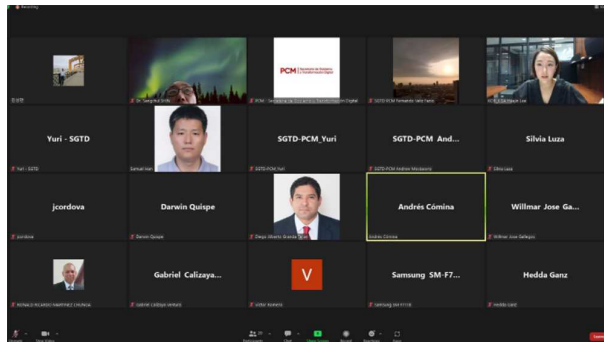
Webinar on Cyber Security (Jan. 2023)

Seminar on records management system(Mar. 2023)

B. Seminar on the National Archives Management System for the National Archives of Peru

On Friday, March 24th, 2023, the Korea-Peru DGCC and the Korean Embassy organized a lecture at the National Archives of Peru (AGN), featuring an IT expert, Dae Jung Kim from

Korea. He introduced the construction and current operation of Korea's national records management system, as well as the process of digital transformation of national records, to AGN Director Ricardo Moreau and AGNstaff.

The main topics of the Seminar covered:

- the case of the Annals (Veritable Records) of the Joseon Dynasty (1392-1865), registered as a UNESCO World Documentary Heritage,

- the history and implications of Korea's records management

- the process of establishing a legal and institutional foundation for modernizing national records management

- the national records management systems of the executive, legislative, and judicial branches,

- the process of constructing a national records management system and promoting record digitization, major challenges and overcoming examples, and

- the management system based on the classification and retention period of electronic documents, including functions and purposes.

The lecture was also followed by a Q&A session.

In conclusion, the expert emphasized that the digitalization of national records should be pursued not only to facilitate storage and management but also to enhance accessibility for the public and promote the utilization of information.

To further enhance cooperation and support between AGN and the Korean National Archives(KNA), an agreement for strengthening records management capabilities will be signed earlier than scheduled.

C. Supporting digital capacity building for Peru's Public Ministry (prosecutor's office)

On 29-31 March 2023, in collaboration with the Korea Internet & Security Agency (KISA), the Office of the Prime Minister of Peru (PCM), and the Embassy of the Republic of Korea in Peru the DGCC organized a seminar to raise awareness about the urgency and importance of digital transformation and information security among the prosecutors in Peru.

The seminar featured various programs showcasing Korea's digital transformation and digital platform government, cybersecurity trends, security governance in Korea, and shared insights into the progress of digital transformation initiatives in the Peruvian government, and digital signature policies. Experts from Korea and the Secretariat of Government Digital Transformation (SGTD) in PCM, shared their expertise and delivered insightful presentations.

The seminar was attended by over 100 prosecutors and relevant officials from key

government agencies that have a high demand for digital transformation, such as the digitalization of legal documents.

In particular, the upcoming project, "Digital Transformation of the Inter-ministry Document Management System in Peru (2023-2027)," will highlight the active participation and collaboration of each administrative agency, which will be a driving force of project future projects.
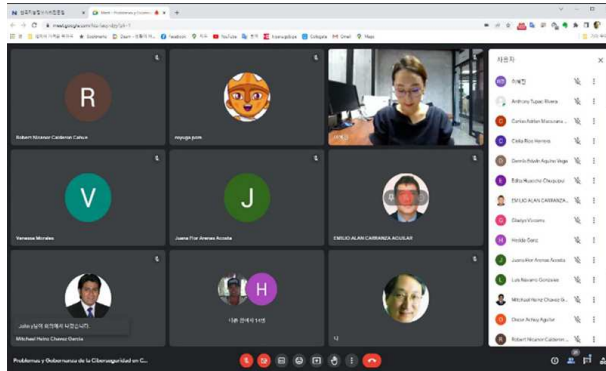
Seminar for the prosecutors in Peru (29. Mar)

Lecture and consulting on smart city in ICA (20. Apr)

Consulting and Lecture on Smart City

On April 20th, 2023, in collaboration with the Korean Embassy in Peru, the Korea-Peru DGCC organized a consultation and cooperation meeting on Peru's smart city initiatives for relevant government officials in Ica. The embassy staff, along with digital and smart city experts of the KOTRA, DGCC and relevant companies, formed a team and visited Ica city-hall to introduce Korean smart city solutions and present case studies in areas of major interest such as citizen safety, transportation, and environment. They emphasized the importance of developing smart city policies tailored to local cotexts and ensuring continuous policy implementation. Additionally, they proposed conducting a pilot project, such as the "Streetlight Improvement Project," which can be implemented with a small budget and yield significant results.

Korean Ambassador in Peru, Jo Yong-jun presented the Peru/Lima Smart City Masterplan report (in Spanish), which was researched last year, directly to the mayor. Based on this report, he encouraged Ica government officials to take ownership and lead the development of a smart city masterplan while seeking consultation and input from Korean experts.

The meeting successfully bolstered the determination of Ica government officials to pursue smart city initiatives. Mayor Reyes, in particular, expressed a strong commitment to implementing smart city solutions as a means to address urban issues in Ica city. There is an expectation that an official request for consulting on the proposed pilot project will be made and the establishment of Ica city's task force team for the Smart

City Masterplan will lead to significant accomplishments. The task force will be chaired by Mr. Datute, former Peruvian ambassador to Korea.

Regarding the areas of interest highlighted by the Ica city administration, including enhancing safety, improving road traffic, and waste management, Korean policy implementation cases and achievements were presented, such as the example of crime rates decreasing by 75% from 2008 to 2020 in Anyang city through the adoption of smart solutions. The establishment and operation of an integrated management center were emphasized as key aspects of a smart city, and it was suggested that Ica city develop a long-term plan and continue to pursue these goals to greatly enhance the quality of life for its citizens.

They emphasized that smart city solutions already exist and that optimizing and adapting them to the city's conditions is crucial. By considering its financial situation and taking a step-by-step approach to ensure citizen safety, Ica city can become a model case for other local governments. As an initial project, the proposal of enhancing citizen safety through the expansion of surveillance camera installations was put forward.

Digital Government Trends of Peru

Peru took over the chairmanship of the Central and South American e-Government Network (Red Gealc) in 2023

The Peruvian government assumed the Chairmanship of Central and South American Electronic Government Network (Red GEALC) from the Ecuadorian government at the Presidential Palace on March 23, 2023. This decision was confirmed at the 7th Central and South American IT Ministerial Conference in 2022. The event was attended by Peruvian President Dina Boluarte, Prime Minister Alberto Otalora, ministers from relevant ministries, and Latin American representatives of the Organization of American States (OAS) and the Inter-American Development Bank (IDB).

The President said that the Peruvian Government had accepted the presidency as a result of member states' trust in Peru's willingness and ability to lead the digital transformation in Latin America.

Recognizing the challenges posed by the advancement of ICT technology and the digital revolution, she acknowledged the difficulties faced by residents in remote areas, including low-income communities, rural areas, border regions, selvas, and highland areas where access to IT and Internet is limited. The president also stressed the need to address barriers and challenges in activities such as attending classes, handling administrative tasks, and seeking employment.

While Peru has made notable progress in its digital transformation, there are still substantial digital divides. According to the 2022 report of the National Institute of Statistics of Peru (INEI), 84% of Lima's population uses the Internet while rural areas show a mere 46.8% internet usage rate, underscoring the urgency of bridging the digital divide. In collaboration with public, private and international organization, the Peruvian governments is actively pursuing digital transformation to provide advanced technology, interconnection and digital services.

Key areas of focus include urgent implementation of digital policies, strengthening digital connectivity through collaboration, promoting digital payments among small and medium-sized enterprises, accelerating digital public services, enhancing digital services for disabled individuals, immigration, taxation, and healthcare, preventing corruption through digital mechanisms, and adopting digital technologies for natural disaster prevention.

According to the Peruvian Prime Minister's Office (PCM), the Peruvian government intends to implement the resolutions made at the annual meeting along with the executive committee composed of eight member countries, including Brazil and Guatemala, OAS and IDB. In addition, the government has prioritized women's participation in the technology sector, protection of children and young people online, and delivery of citizen-centric digital services

Briefing session on the results of planning research for a project to build a cloud-based electronic document integrated management system for the Peruvian government

A planning investigation team from the KOICA (Korea International Cooperation Agency) concluded a two-week visit to Lima, Peru, from March 13th to 24th. The purpose of their visit was to conduct an in-depth planning investigation to formulate a detailed action plan for the e-document project.

The team identifies several key issues during their research.
Currently, 18 central ministries and the Prime Minister's Office in Peru use different e-document management systems for each institution, resulting in low compatibility between systems and high operational and maintenance costs due to individual management of equipment such as servers and network devices.
To address these issues, the team proposed the establishment of an e-document management system capable of producing, approving, signing, storing, and distributing electronic documents for central government agencies including PCM, along with capacity building initiative for more than 200 government officials.
This project is supported by KOICA from Korea, and a total of $8.5 million will be invested over a period of five years from 2023 to 2027. The key components of the project include BPR/ISP consulting, development of a cloud-based integrated central government electronic document system (including equipment), capacity building for stakeholders.
First, in the BPR/ISP consulting area, the task consists of analysis of the legal and

regulatory environment related to electronic documents, analysis of the current status of electronic document management, development of a target model for a government-wide integrated electronic document management system, identification of pilot implementation departments and establishment of a phased expansion plan, basic design of the electronic document management system.

Second, for the construction of the cloud-based electronic document management system, the tasks encompass system analysis and design, development of the electronic document management system, data migration and operational support for system stabilization, provision of related equipment (PCs, multi-functional devices) to the Prime Minister's Office, procurement of commercial software.

Third, capacity building is also important aspect of this project. It entails programs such as invitation training to Korea (6 managers of the Prime Minister's Office and 40 working-level staff from 19 government departments), joint workshop at the system establishment stage (twice), training to understand the system (76 people in total from 19 government departments), capacity building in Peru (for a total of 95 people from 19 government departments), sharing project outcomes and experiences with public officials of neighboring countries (Bolivia, Ecuador, etc.), etc.

This project is expected to significantly improve administrative efficiency and transparency in the Peruvian public sector by integrating the fragmented document exchange system among Peru's central ministries in stages by leveraging the expertise of Korean government in electronic document management.

The PCM, the organization in charge of this project, is spearheading the adoption of electronic documents across all ministries through the Secretariat of Government Digital Transformation (SGTD). The PCM is actively working to expand the shared budget of the recipient country and expediting the necessary legal amendments.

Workshop for Digital Transformation (2022)

Final Briefing (Mar. 2023)
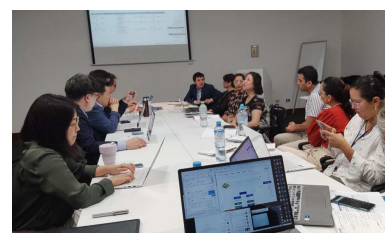
Public Entities Interview (2022)

DGCC in Paraguay

Joint Cooperation Project

IOT-based smart parking control system PoC establishment

The IoT-based smart parking control system PoC implements vehicle parking detection using IoT sensors, license plate recognition through video analysis of license plate, parking condition monitoring using CCTV cameras.

Equipment manufacturing and system development took place in Korea, and then this innovative solution was shipped to Paraguay where it was integrated and deployed in the parking lot of Asunción University.

The university's advance parking management system offers several key benefits and features.

At Asuncion University, an independent infrastructure and parking control system were built on the server. Subsequently, this system was integrated with license plate recognition equipment, vehicle access control equipment, warning lights, and CCTV for parking monitoring installed in the parking lot, enabling automatic recognition of license plate numbers for incoming and outgoing vehicles. Additionally, this system allows for controlling vehicle access.

through the vehicle registration system and operation management, automatic vehicle registration for incoming and outgoing vehicles. Parking lot operation management has been improved by supporting information and log management of incoming and outgoing vehicles, full occupancy management, and registration of vehicles of the disabled.

< Figure 1. Smart parking system construction process >

The main functions of the parking control system are vehicle number recognition using OCR, vehicle access control using IoT sensors and vehicle number recognition, vehicle monitoring using CCTV video, warning light alarm and vehicle registration upon departure, and full vehicle management.
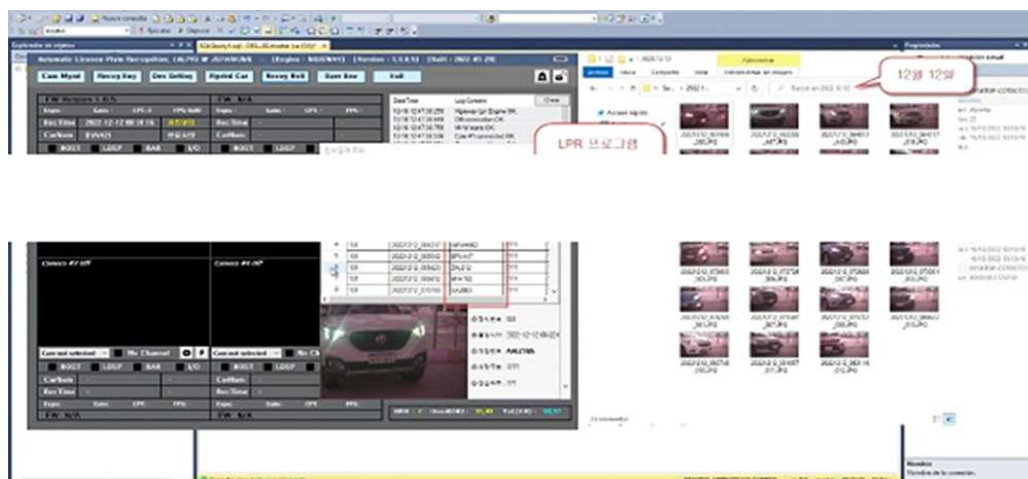
< Figure 2. Smart Parking Control System Architecture 1 >
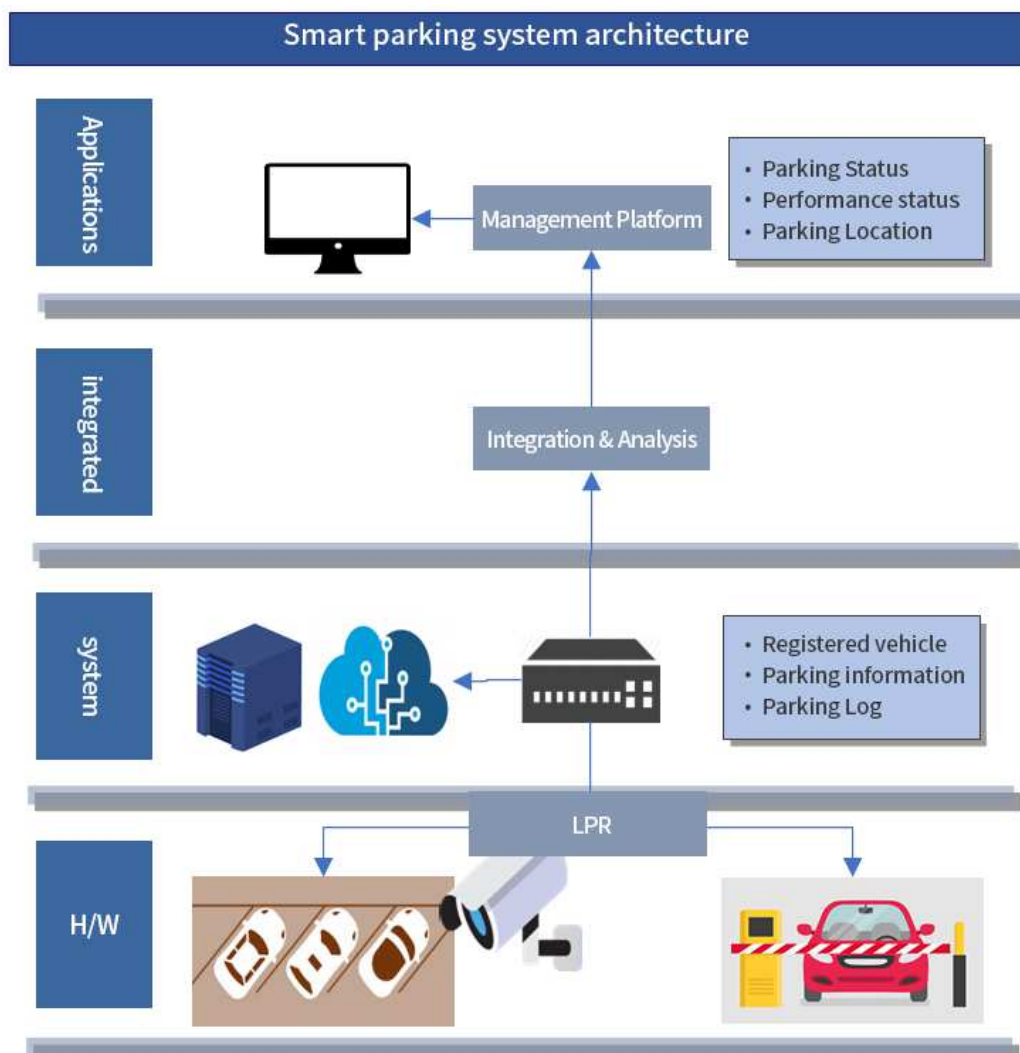
The architecture of the parking control system is composed of infrastructure, data, and application systems. Infrastructure includes server, network, IoT, license plate recognition camera, CCTV, etc. Data consists of vehicle information, parking information, and operation information, while application includes access control, parking lot management and operation system.

< Figure 3. Smart Parking Control System Architecture 2 >
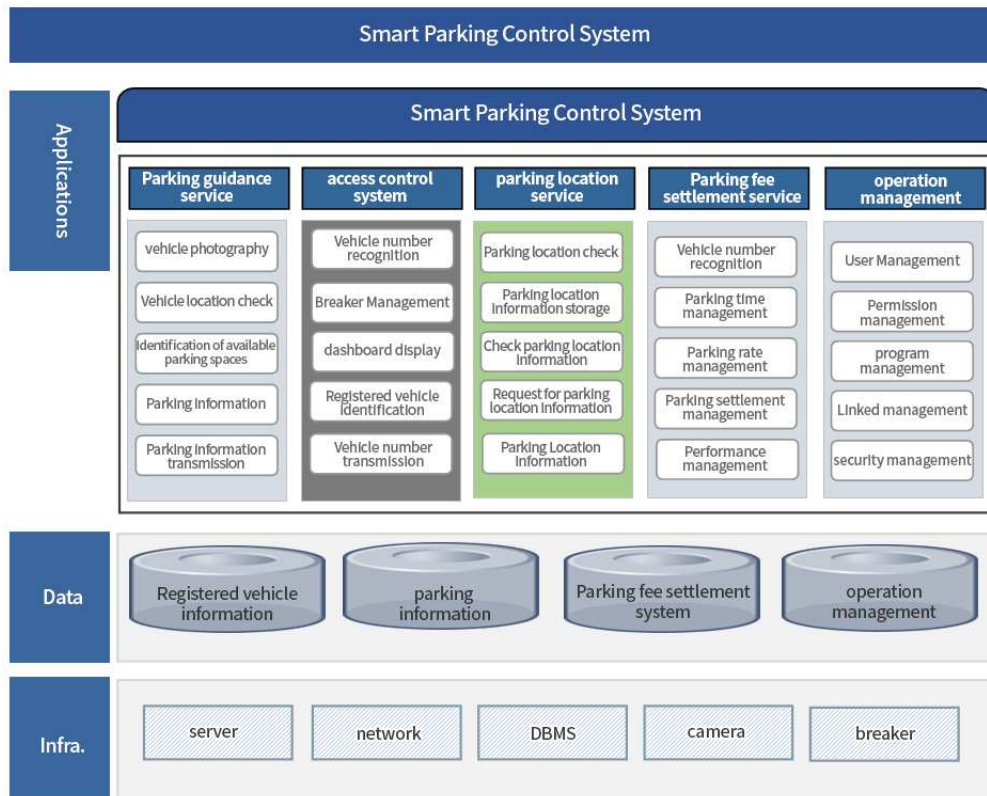
The smart parking control system built in the parking lot of the Internet Access Center in Asunción National University is currently in operation, and the IoT system that detects vehicle entry and exit has been verified to detect 100%. Currently, the recognition rate is over 90%, but there are cases where recognition rate errors are shown due to circumstances such as weather, shade, license plate condition, etc.

< Figure 4. Smart Parking control system program 1 >

< Figure 5. Smart Parking control system program 2 >

Through the establishment of a smart parking control system, Asunción National University can automatically control entry and exit of unmanaged parking lots for registered vehicles, monitor disabled parking lots, and provide alarms alert pedestrians.

The introduction of a smart parking control system in Paraguay has brought economic benefits to paring management infrastructure. the. This models incorporates cutting-edge technologies such as vehicle number recognition and parking status monitoring through IoT and camera image analysis.

Seven parking lots are slated for development in conjunction with the construction of the new Paraguay government buildings. As a part of this project, there is a dedicated plan to implement a smart parking lot in collaboration with the government building project group.

< Figure 6. Government Complex-Establishment of smart parking control system >
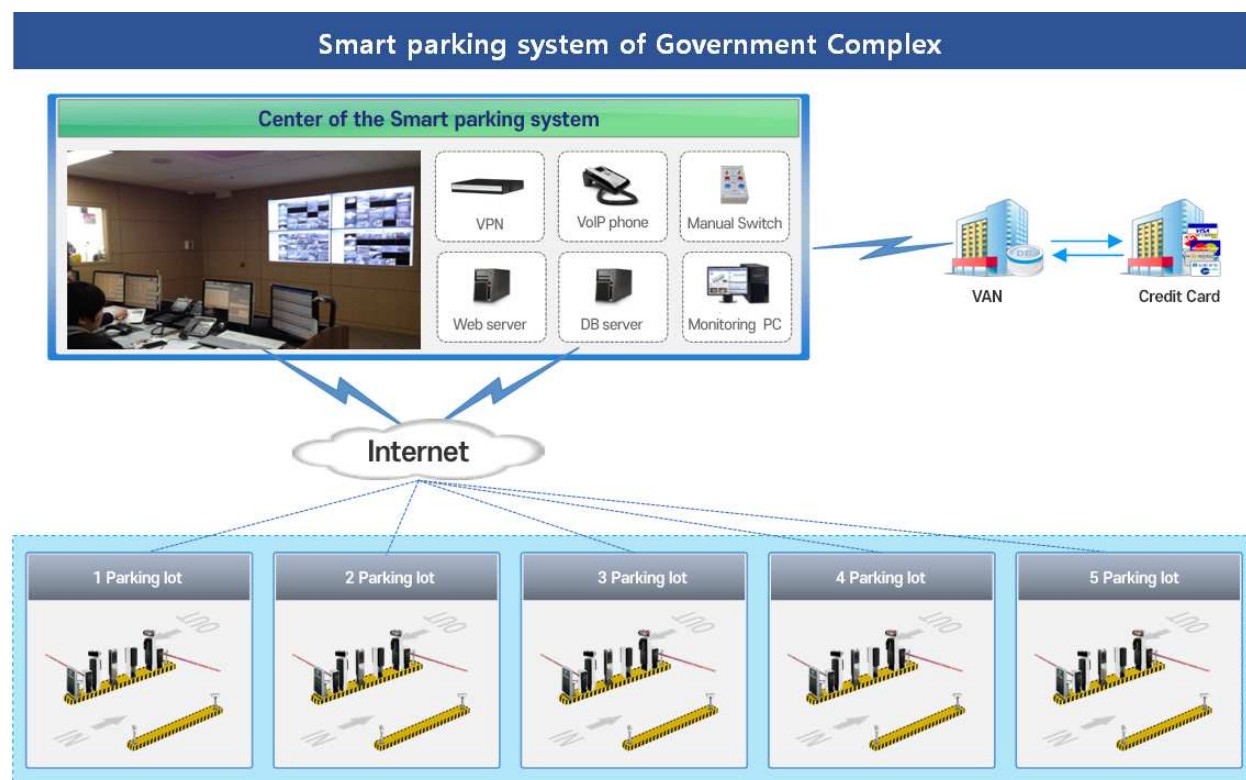
Dashboard system PoC construction

The dashboard system implements an integrated dashboard platform capable of collecting , managing and visualizing data from PUG, SII, and GDL data sources.


< Figure 7. Dashboard source data >
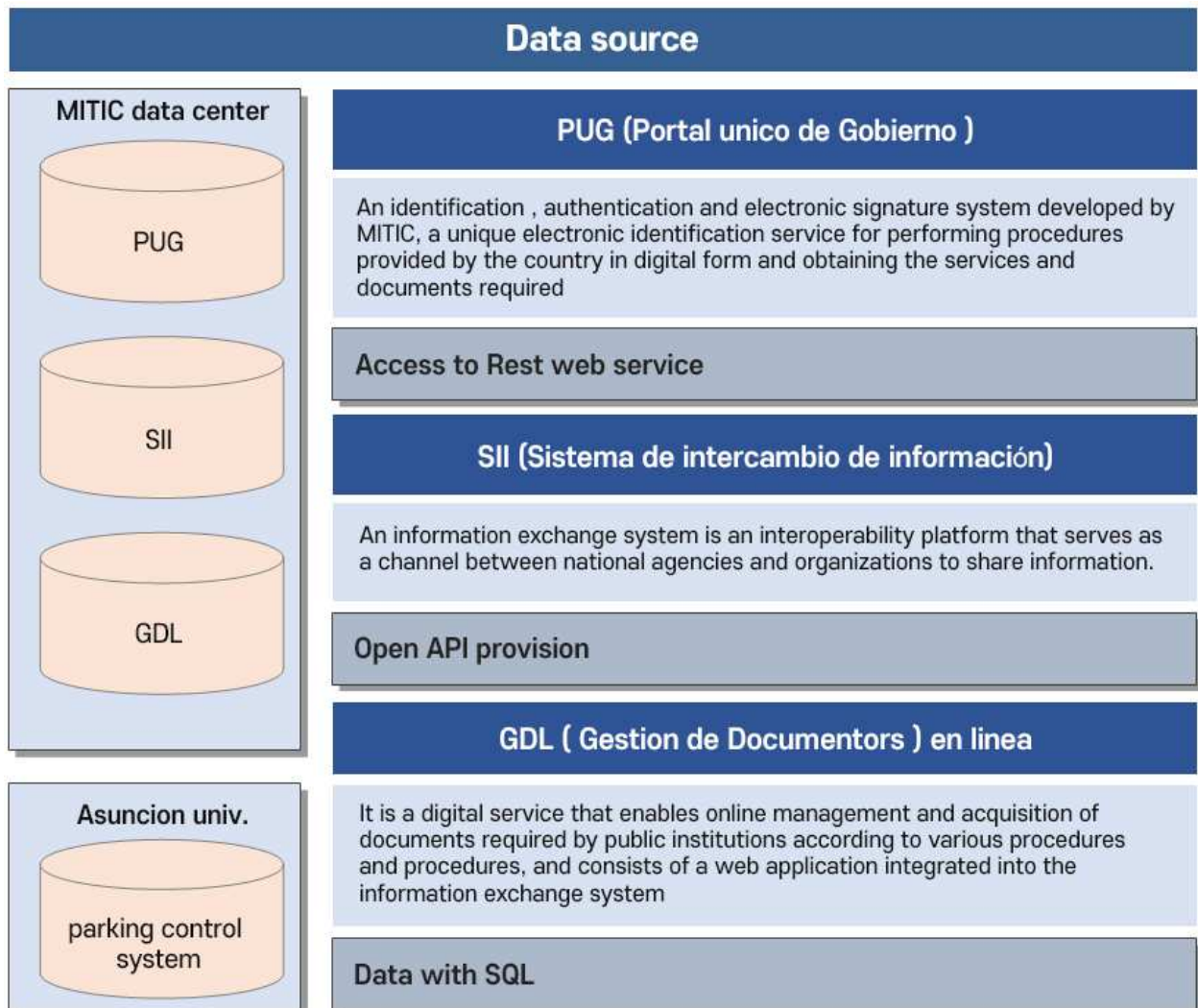
The system architecture consists of a database that stores three types of data: RAW data, analysis data, and operation data. It also includes application systems for data collection, data management, data visualization, data sharing, and operation management. All of these components are hosted on MTIC's infrastructure.

It has been built as a dashboard platform that can provide dashboards for PUG, SII, and GDL required by MITIC as well as additional data in the future.

< Figure 8. Dashboardmonitor >
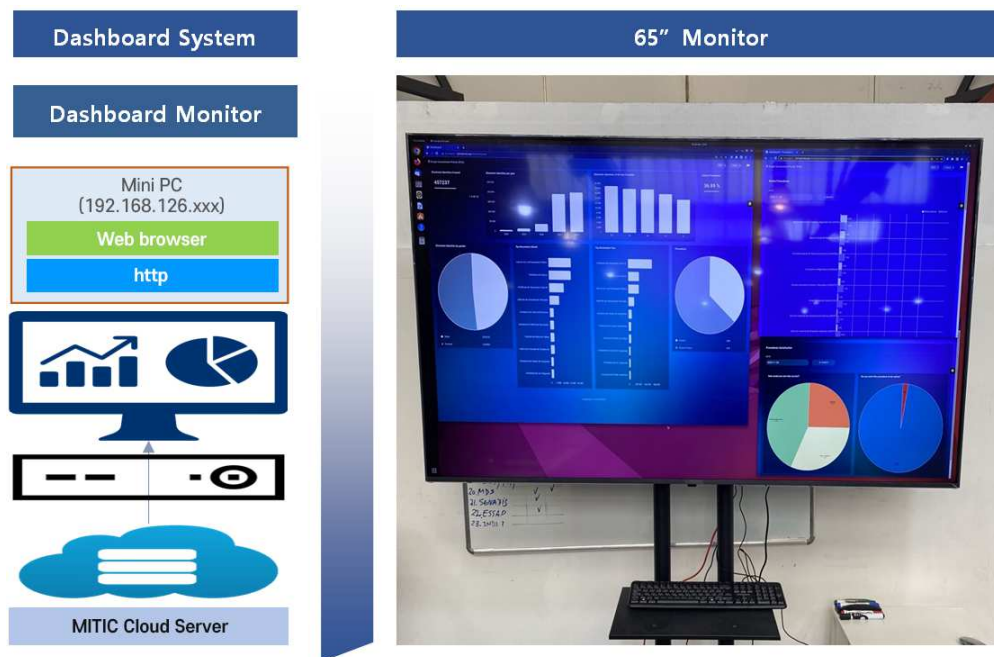
The dashboard system analyzes and visualizes the data extracted from PUB, SII and GDL of the Ministry of Information and Communication. The results are displayed on a 65" smart monitor provided by the business unit.

The PUG service brings various online service statistics data from MITIC in real-time through API linkage and presents them in various formats.

The SII service retrieves necessary statistical information every hour through DB linkage, stores it in the local system, and displays it on the dashboard.

GDL, on the other hand, connects to the data of the online document management system in batch units through Open API. It provides statistics and analysis information of the data processed by the document management system.

< Figure 9. DashboardUI/UX >
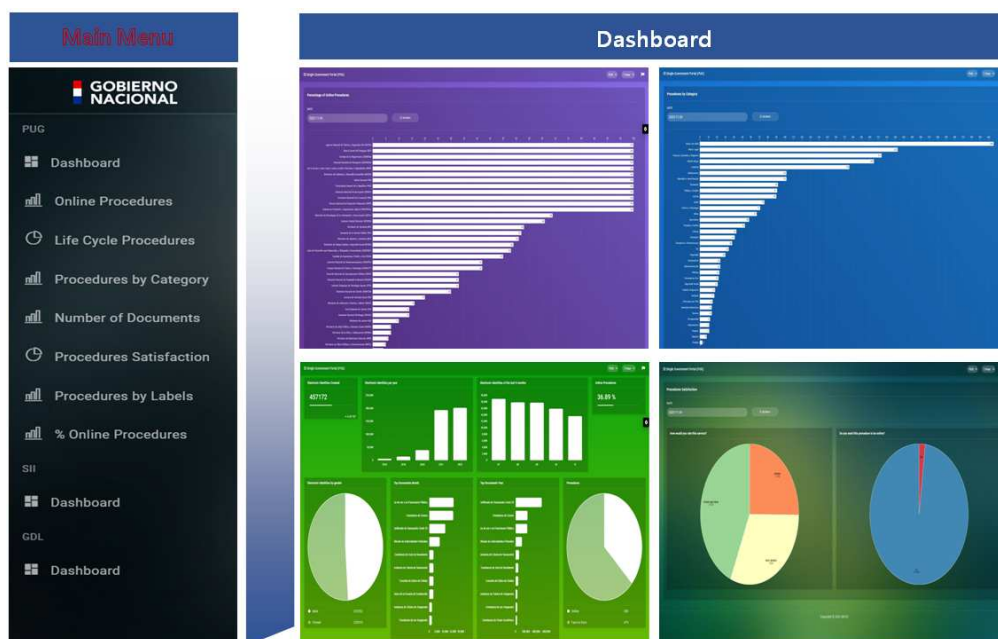
The introduction of the dashboard system is expected to have various qualitative effects for each user group of the MITIC dashboard system.

Executives can make quick informed decisions through the dashboard, and employees can use dashboards to quickly generate reports.
Administrators can monitor related tasks in real time through the dashboard, enabling prompt response, and engineers will acquire valuable skills and expertise in dashboard system development and management. As a limited project for internal users, the future plan is to expand the dashboard system to cater to the general public. Based on administrative data held by the government, an Open Data Mart is formed to build a public dashboard system. Open Data Mart is based on open architecture and built as a portal that provides standard information management, metadata management and information disclosure management. In order to build Open Data Mart, business process improvement, open data mart construction, and open data portal construction are required

< Figure 10. Dashboard system Advancement >
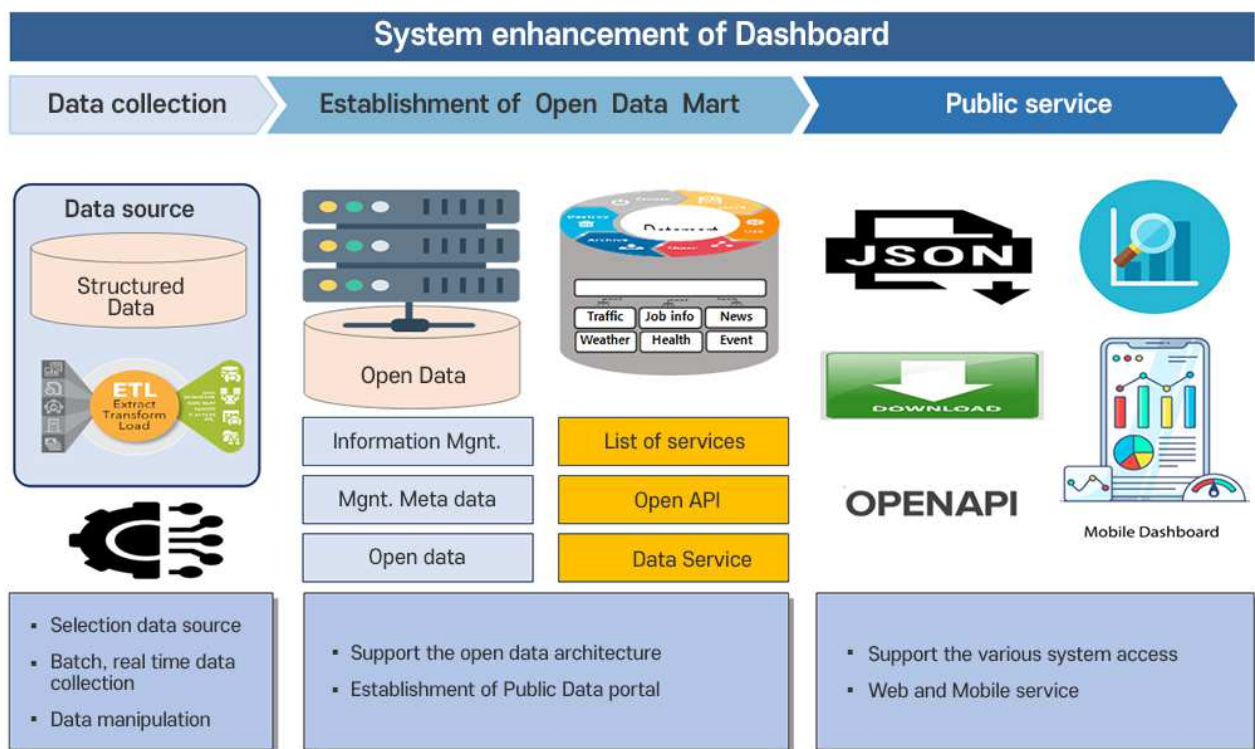
DGCC in Paraguay

Digital Government Trends of Paraguay

Construction and Operation Plan of the Digital District of Paraguay

The Paraguayan Government has been promoting Digital Agenda through the Ministry of ICT which consists of three main axes:
(1) improving the Internet speed,
(2) digitizing the processes of State entities and
(3) employing new technologies to boost the digital economy.

In 2018, the Ministry of ICT of Paraguay signed a loan contract with the Inter-American Development Bank to finance the "Support the Digital Agenda" Program, which began on May 7, 2019. The program's components include:
(i) digitalization of processes and improvement of service delivery by the public sector;
(ii) improving investment in ICT by supporting young people, entrepreneurs and companies;
(iii) the increase in use of Broadband and improvement of its quality and price;
(iv) strengthening the institutional framework and government capacity for the development of the Digital Agenda.

In that context, the Digital Agenda aims to build and implement a space called Technological Pole or Digital District, considering the high impact of ICT as transversal axes for the innovation of any economic activity.

The main objective of the Digital District is to promote the development of an innovation ecosystem in a predefined territory, creating synergies for the use of technological infrastructures and 4.0 Industry capabilities. This will add value to production chains, develop new products and services, and create new business opportunities both locally and internationally. Issues concerning conformation and knowledge cannot exist in isolation from other national strategies. Their transdisciplinary nature connects technical disciplines with economics and social sciences, making them interconnected with others sectors, i.e. e-government, e-health, education, security, and telecommunications infrastructures. This integration involves a wide array of stakeholders, including governments, industry, academia, government, non-governmental organizations (NGOs) and social actors. Consequently, they also form the basis of the transformations of the social and economic organization of the countries in which they are registered.In response to the challenges set out in the National Development Plan Paraguay 2030, the country is leveraging the National ICT Plan (Digital Agenda) to promote the use of ICTs as a key to improving the quality of lives of

people and the competitiveness of companies.The creation of a Digital District does not address an architectural project, the simple creation of infrastructure, or the strengthening of a state agency, but seeks to strengthen a regional innovation system and particularly the strengthening of links between academia, the industry and government to create innovation and improve competitiveness.

General Objectives are as follow:

1.1. Creating synergies for the use of technological infrastructures, and industry 4.0 capabilities, to add value to production chains, develop new products and services, and create new business opportunities at the local and international level to promote the development of an innovation ecosystem in a predefined territory

< Architecture >
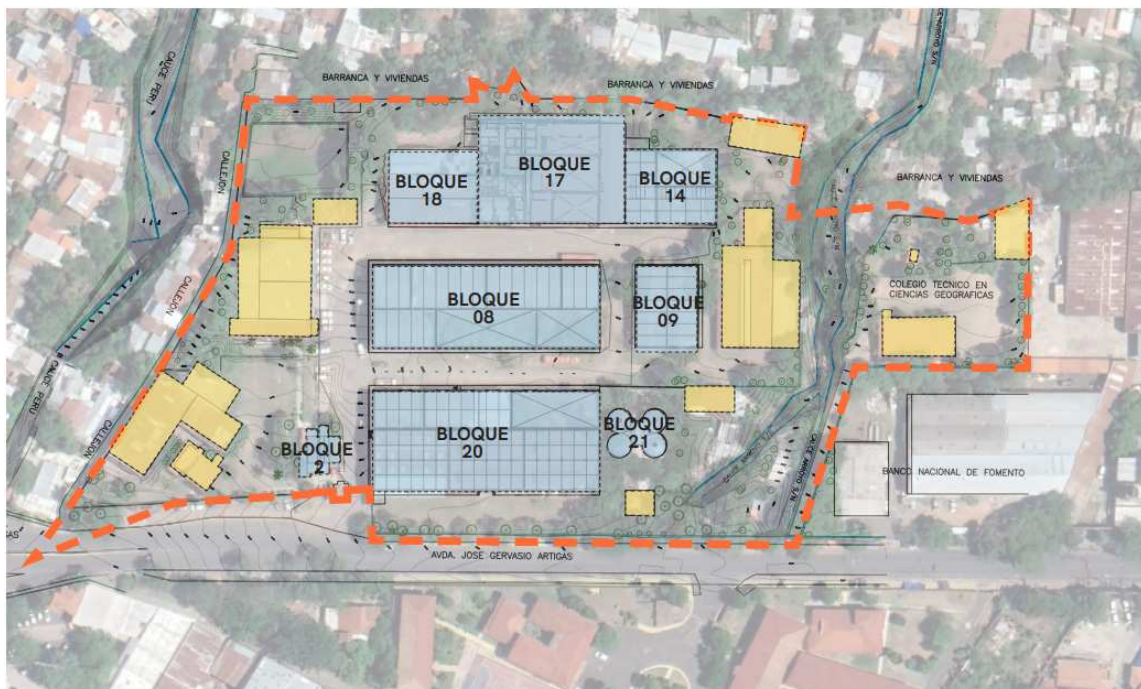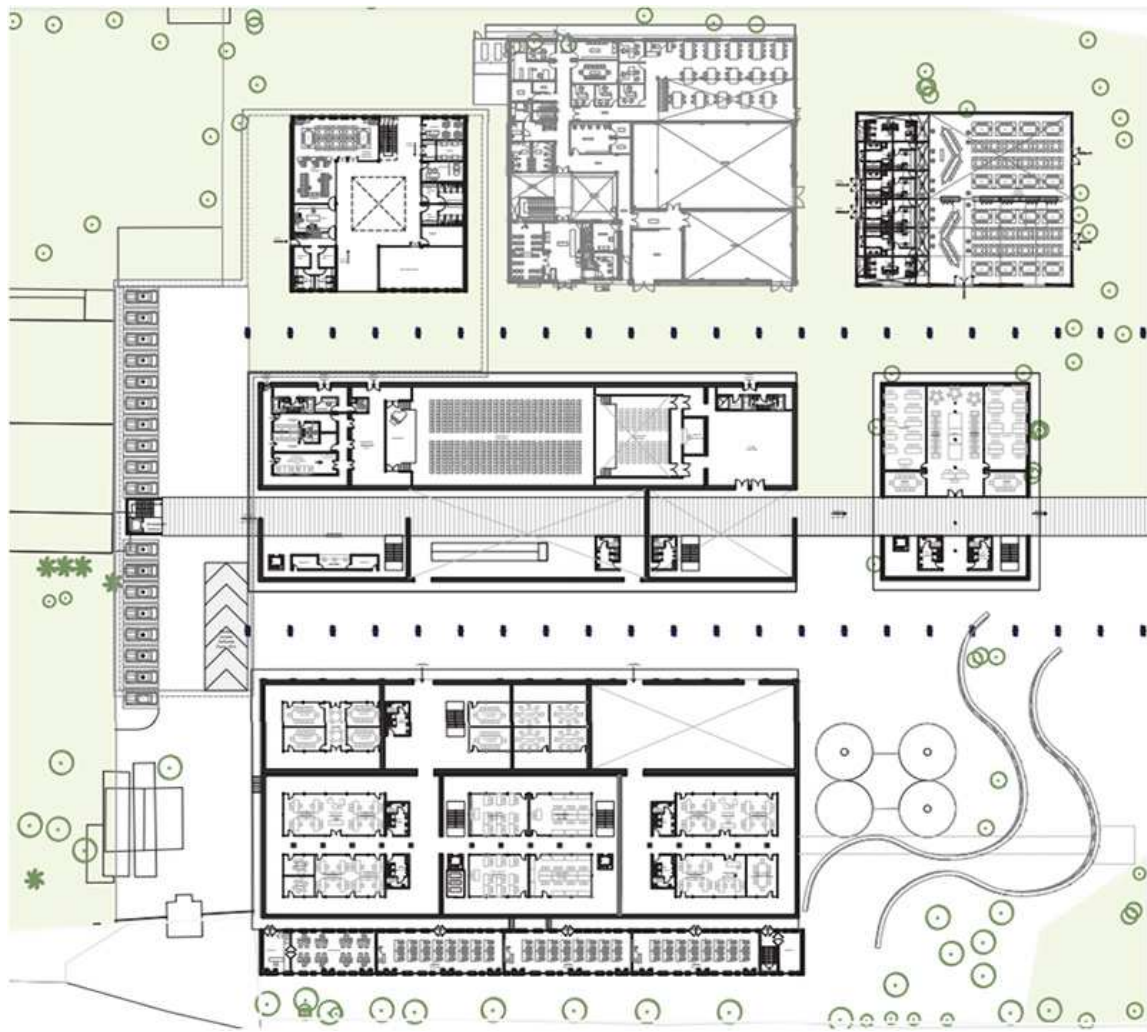
The main contents of the master plan are as follows:

- **Heritage revitalization:** Protect, rehabilitate, conserve and valorize patrimonial assets, within the "Cambio Grande" property, providing them with new functionalities.

- **Education:** Propose the relocation of the Gaudioso Núñez Geographic Sciences Technical School to Digital District. New infrastructure will be provided to cater to the educational function with independent access to the Ciudad Innova property.

- **Services:** Generate a dedicated space for the exclusive use of Ministry of ICT officials, as well as National Service for Plant and Seed Quality and Health, with support, parking and expansion areas.

- **Ministry of ICT Tower:** Designate a corporate area for the exclusive use of officials from Ministry of ICT, Viceministry of IT, Viceministry of Communications, Project Executing Unit, with parking and independent access within the Ciudad Innova property.

- **Tuyucua Stream:** Propose recommendations for the partial treatment of the riverbed within the Ciudad Innova property, applicable in the long term throughout its entire length, in addition to protection against soil erosion and various containment methods.

- **Interactive gardens and museums:** Rehabilitate the interior and exterior sector around the former barns, with programs focused on the exhibition of physical and virtual samples, which enhance the cultural function within the Ciudad Innova property.

The Digital Technological Science Park in Asunción is an institution that should function within the premises of the Digital District, to meet the requirements of the industry in an executive, efficient, transparent and flexible manner, while complying with high quality standards.

The construction of the Park presents 3 stages for its implementation:

- In the first stage, it is necessary to review the incentive system, ensure that the management of the system is carried out from the private law sphere in order to respond to the codes and rhythms of the business sector, and maintain an agile, flexible, transparent, efficient and assessable operating structure. In the first 3 to 5 years, the Structuring and organizational model of the Park is consolidated. The building infrastructure and the accesses to the facilities are built, the Park's Strategic Plan, the Communications and Marketing Plan must be developed, the commercial offer closed and the necessary financial flows ensured.

- In the second stage, the expansion of the model is expected, it goes between 5 and 7 years, and it is expected that at the end of it all the external infrastructure is completed, specialized services have been installed for the Technological Platforms of the ecosystem and for the companies.

- In the final stage, a stage of consolidation or maturity is reached between 10 and 12 years after the start of the project. International experience shows that even in this final stage, science and technology parks require approximately 30% public subsidy, considering reaching a third of private investment, a third of financing by competitive funds and a third of public investment.

<Sources>

- Project Constitution Act - Component II Product 15 (MITIC)
- Expression of Interest No. 02/2022 – Consultancy for the "Auditing of the Design and Construction of the Digital District (MITIC)
- Consultancy for Advanced Preliminary Project Innova City (MITIC)
- MITIC News blog (https://www.mitic.gov.py/noticias/impulso-la-creatividad)
- Public Information Portal (https://www.ip.gov.py/ip/impulso-a-la-economia-digital-una-de-las-prioridades-del-gobierno-nacional/)
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DGCC Newsletter #06

Digital Government in Korea

AI Base Public Services in Korea

The Korean government has taken significant strides in introducing and utilizing artificial intelligence in various administrative services. The application of AI technologies is being expanded from telephone consultation and civil service filing to traffic management, care service, document writing and traffic light control. The areas of AI utilization has been gradually expanding. In this issue, we will introduce AI-based CCTV, smart traffic lights, smart care, and AI-based administrative documents.

AI-based CCTV

South Korea has developed a data analysis model that harnesses artificial intelligence (AI) to automatically identify vehicle types and traffic volume by analyzing CCTV footage installed on nationwide roads. The Integrated Data Analysis Center of the Ministry of the Interior and Safety has successfully completed the development of the "AI-based CCTV Video Recognition Traffic Analysis Model" that has been in progress since October 2022. Starting from April 2023, the model is being implemented and distributed across the government bodies, local authorities, and public institutions.

This model is equipped to automatically classify CCTV footage collected from roads into 12 predefined categories, which are the standards for road traffic surveys. It accurately identifies vehicle positions within lanes, enabling the aggregation of traffic volume based on both lane and vehicle type. This automated process enhances operational efficiency, and it is expected to contribute to the alleviation of traffic congestion and

improvement of safety measures. The Integrated Data Analysis Center of the Ministry of the Interior and Safety plans to implement this model in the field, aiming to enhance the efficiency of road traffic management and operations.

< Vehicle Detection by CCTV Video Analysis Based on Lane and Vehicle Type (Example) >
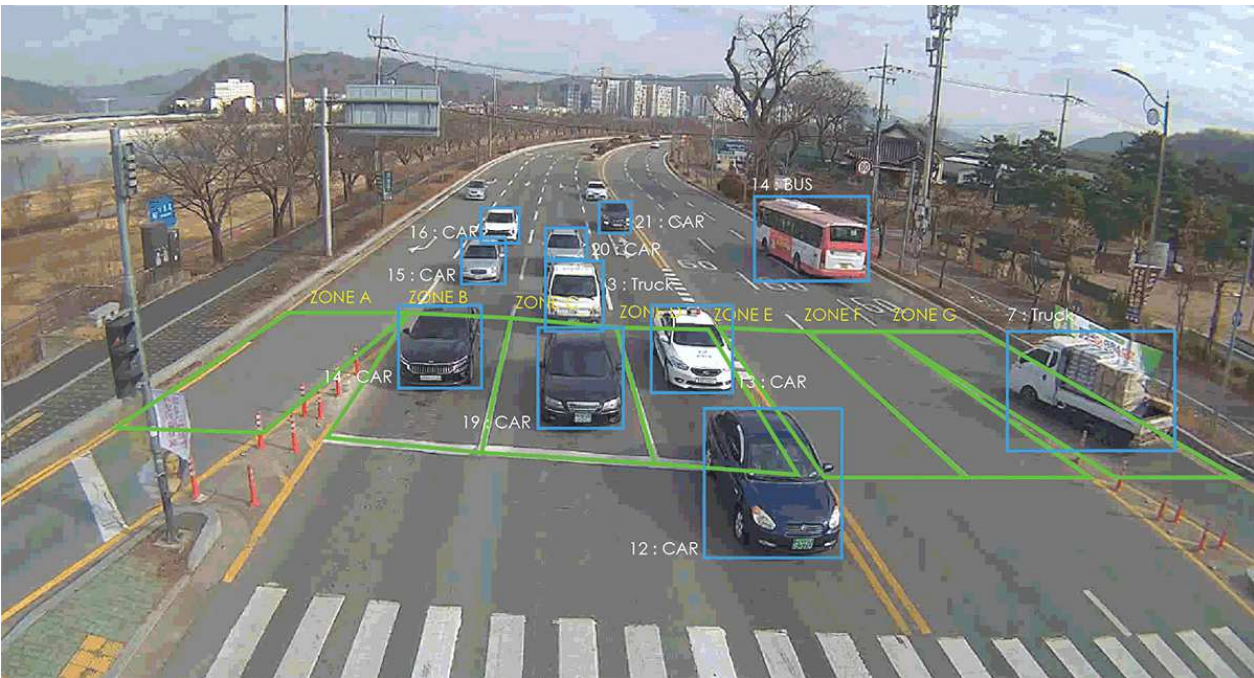
In the process of model development, the government utilized a massive amount of video data collected from 51 CCTV cameras installed in Seoul's Dongjak-gu and Gyeongbuk's Andong City, resulting in 20 terabytes (TB) of data. This is equivalent to approximately 4,200 DVDs in size. The accuracy of vehicle type recognition reached an impressive level of 94%. By extracting vehicle images from the CCTV footage, we created a dataset of 170,000 vehicles and trained the artificial intelligence (AI) through iterative learning to classify vehicle types.

< Lane-specific Vehicle Type Classification and Traffic Volume Measurement Using CCTV Video Footage >
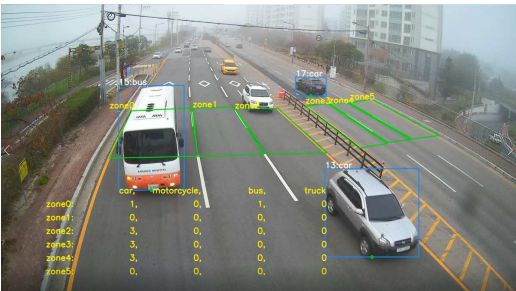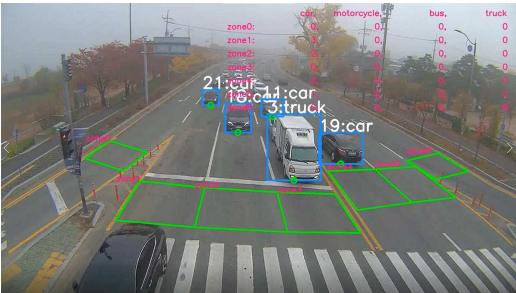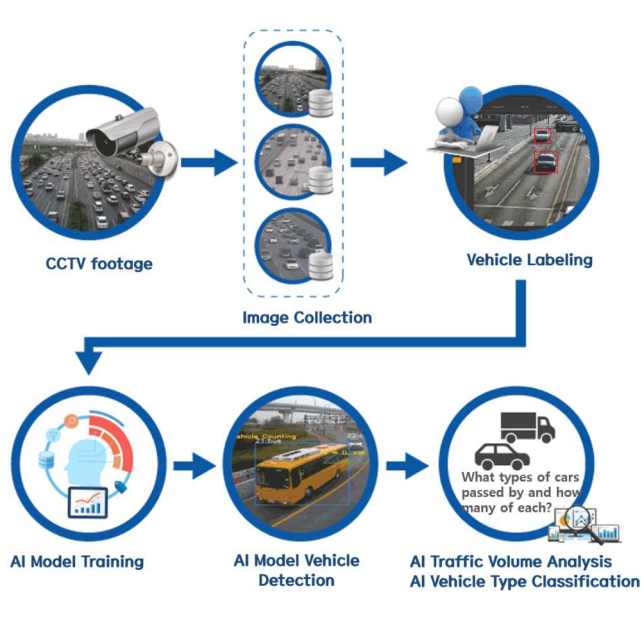
The Integrated Data Analysis Center expects the 'AI-based CCTV Traffic Volume Analysis Model' to be utilized in various aspects such as resolving traffic congestion, improving air quality, ensuring road safety, and conducting traffic surveys. For instance, by analyzing CCTV footage, it is possible to identify congested intersections during peak commuting hours andpinpoint areas of congestion and strategically expand or adjust straight and left-turn lanes, leading to congestion relief and reduced roundabout effects.

In areas with high volumes of large vehicles, there is a higher risk of road damage and fine dust generation. However, with the AI-based CCTV model, pre-road inspections can be conducted more efficiently, and sprinkler truck operations can be better optimized to prevent accident and reduce fine dust. Moreover, the automation of traffic surveys, which were previously conducted manually, is expected to enhance administrative efficiency and accuracy.

The Integrated Data Analysis Center plans to standardize this model for easy utilization across various institutions and provide online services to enable users to apply it to their work without the need for separate analytical skills. The "Government-wide Data Analysis System," which was launched in March of last year, is equipped with online automatic analysis capabilities. Users can upload videos extracted from CCTV, and the system automatically analyzes traffic volume, allowing them to verify the results easily.

[Smart Traffic Signals]

Local governments in Korea are introducing smart traffic signals to address the issue of insufficient living infrastructure in their regions.

The smart traffic signal operation system is designed to optimize signal control in real-time, taking into account traffic volume to smoothly regulate vehicle flow. This minimizes traffic congestion and establishes an intelligent signal operation system that integrates digital technology into the transportation system by granting priority signals to emergency vehicles.

Key features of the smart signal operation system include:

- Responsive Signals: The system prioritizes granting signals for through traffic on main roads under normal circumstances. However, it adopts a method of providing signals only when detecting left-turning vehicles from side roads. This reduces unnecessary signal waiting time, leading to improved traffic flow and decreased signal violations.

- Priority Signals for Emergency Vehicles: By pre-sharing the destination of emergency vehicles and temporarily controlling intersection signals along their route, customized signals are provided to allow them priority passage. This is effective in reducing accident response time and ensuring the golden time for emergency care.

- Smart Intersection: By extracting information based on direction and vehicle type at intersections and utilizing generated big data, this system calculates optimal signals

and applies them in real-time, resulting in improved traffic flow on major roads during both high and low traffic volume periods.

The Ministry of Land, Infrastructure and Transport has implemented and analyzed the results of various systems, including 509 Responsive Signal Systems (2015), 44 Emergency Vehicle Priority Signal Systems (2018), and 746 Smart Intersections (2018) until 2020. Visible effects of these implementations have been promising, with confirmed improvements in traffic flow and reduced signal violations. In the Responsive Signal System, there was an average increase of 22% in green signal time, a 41% decrease in delay time, and a 36% decrease in signal violations. In the Emergency Vehicle Priority Signal System, the travel time for emergency vehicles was reduced by 20-60%. Meanwhile, the Smart Intersection sector saw significant improvements in traffic flow on major roads during peak and non-peak hours.

[Smart Care]

Local governments with insufficient medical institutions are promoting the distribution of AI-based caregiving services to address the resulting issues.

The AI companion doll service has shown effectiveness in providing companionship to the elderly and assisting in the treatment of dementia and depression. As a result, the distribution of smart caregiving dolls for elderly people living alone is being expanded.

In particular, AI companion doll services have proven to be effective in providing companionship and support to the elderly population and assisting in the treatment of dementia and depression. As a result, the distribution of smart caregiving dolls for elderly people living alone is being expanded.

Smart caregiving dolls leverage AI-based big data to engage in natural conversations with the elderly. They are also integrated with IC devices to provide information to caregivers or relevant institutions in emergency situations. Additionally, they assist in the treatment of dementia and depression through behavior-based cognitive cards. Furthermore, the dolls offer personalized companion services that stimulate brain activity, such as interactive quizzes and playing favorite music.

Local governments in Korea are operating pilot programs for AI caregiving dolls, serving as companions for elderly individuals who experience high levels of loneliness due to social isolation. These dolls contribute to alleviating feelings of loneliness and providing health support through features like check-ins on their well-being, meal reminders, and medication alerts. Moreover, they offer personalized services using AI technology to prevent elderly individuals from experiencing social isolation, maintain their health, and promote safety.

Other local governments are providing support for dementia patients in the region through features such as medication reminders, companion functions, meal alerts,

playing songs and audio books, 24-hour motion detection with caregiver notification service, and voice messaging with caregivers. These services aim to support efficient health management, emotional well-being, and safety management, contributing to the prevention of dementia progression and depression.

[AI based administrative document]

The Ministry of the Interior and Safety is taking significant steps towards achieving a digital platform government that harnesses the potential of artificial intelligence and data. In order to do so, they seek to revolutionize administrative work processes. They plan to produce administrative documents in a format that can be read by both humans and artificial intelligence (AI), and optimize the utilization of citizens' data through an open approach.

The Ministry of the Interior and Safety prepared a revision proposal for the "Regulations on Administrative Efficiency and Collaboration" and conducted legislative notice until May of 2023.

In the context where emerging technologies such as AI and data are reshaping the economy and societal order, it is essential to establish data linkage and collaboration between the government, citizens, and businesses to address complex social issues and meet the diverse expectations of the citizens.

Therefore, the Ministry of the Interior and Safety has initiated the revision of relevant laws to combine accumulated data in official documents with innovative digital technologies from the private sector. The goal is to provide better services to the citizens through efficient improvements in work practices.

Key revision contents include :

Writing documents in a manner linked with AI and data utilization:
New provisions will be introduced to define the concept of open document formats that can be read by AI. Basic principles will be established for administrative agencies to write documents in open document formats. Additionally, the plan is to include descriptive data such as keywords and summaries in administrative documents to facilitate systematic management, easy search, and utilization of data.

Enhancing accessibility to administrative documents for digital democracy:
Efforts will be made to allow citizens to access administrative documents through various devices such as mobile devices and self-service terminals (kiosks). The relevant regulations will be improved to enable administrative agencies to provide documents in various formats and methods, such as online messengers.

Streamlining unnecessary regulations regarding administrative documents and formats:
The use of A4 paper size (216mm × 297mm) based on international standard

specifications (ISO) will be standardized. Plans include removing paper size specifications and geological labeling principles within document formats to reflect changes in online administration and electronic documentation. Additionally, the intention is to eliminate geological standards based on usage categories.

Defining the basis for promoting administrative work innovation:
Previously, efforts to improve working methods were pursued independently, including administrative collaboration, workflow improvements, organizational culture enhancements, space innovation, and knowledge management activation. By comprehensively and systematically integrating administrative work innovation, the aim is to promote the improvement of working methods more effectively and reduce unnecessary work burdens.

During the legislative announcement period, the Ministry of the Interior and Safety plans to incorporate various opinions from the public, related organizations, and stakeholders in the revised draft.

Ministry of
the Interior and Safety

NIA NATIONAL INFORMATION
SOCIETY AGENCY