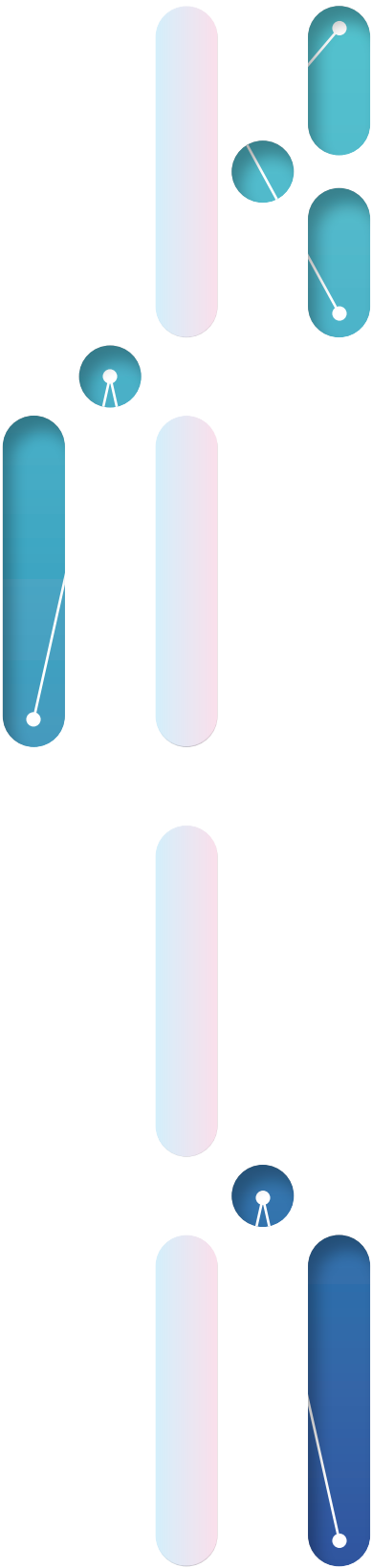
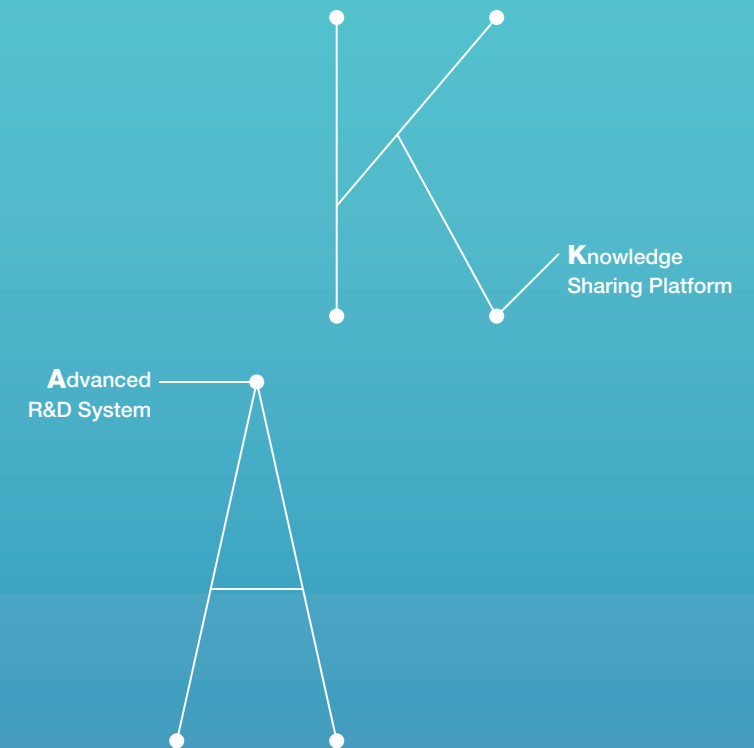
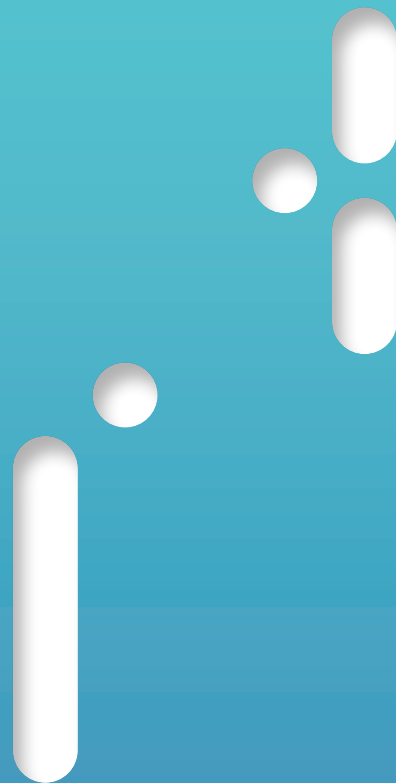


Human-Centered
Space
Future-Oriented
Innovation





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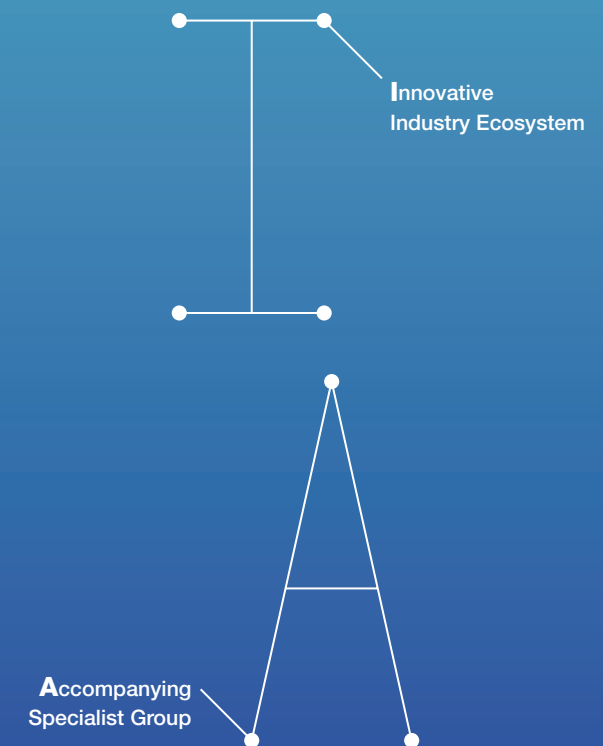
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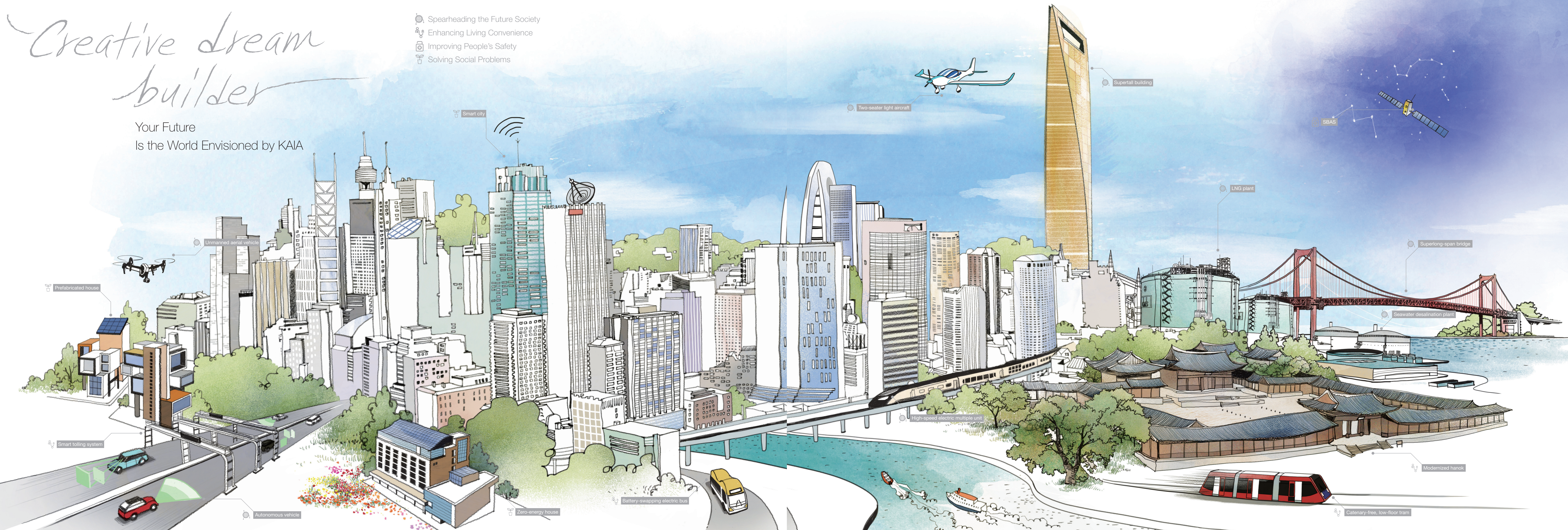
Land, Infrastructure,
and Transport R&D's
Only Unchanging Standard
Is You

A human-oriented technology hub
That fills all of your spaces
With new values
We will make it come true at
Land, Infrastructure, and Transport R&D

Creative Dream
builder

Your Future
Is the World Envisioned by KAIA

-  Spearheading the Future Society
-  Enhancing Living Convenience
-  Improving People's Safety
-  Solving Social Problems



Advanced technologies that
turn imagination into reality

Heading toward
a bright tomorrow



We lead the future of land,
infrastructure, and transport industries
with world-class technology

Automatic Immigration
Clearance System



- Developed the world's first automatic immigration clearance system
- 52 machines in operation at the Incheon International Airport

Tunnel-Boring Machine (TBM)
Cutterhead



- Developed the world's seventh TBM cutterhead

Urban Transit Maglev Train



- Commercialized the world's second urban transit maglev train
- Maximum speed of 110 km/hr; opened the Incheon International Airport Line (2016)

High-Speed Electric Multiple Unit



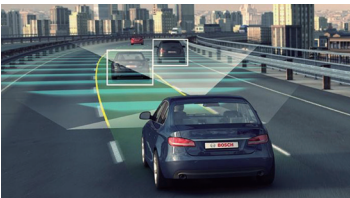
- Developed a commercialized technology for high-speed EMU, with a maximum speed of 421.4 km/hr (the fourth of its kind in the world)
- Received the Prime Minister's Award (the National Grand Prize in Technology) and was contracted to supply 130 models for commercial use

Seawater Desalination Plant



- Developed the world's biggest seawater desalination plant technology
- Exported plant equipment to Chile, etc. (2013) and will build pilot plants in UAE, Saudi Arabia (planned)

Autonomous Vehicle



- Began constructing K-city, a virtual city where autonomous vehicles will be tested (2017)

Two-Seater Light Aircraft



- Local production of two-seater light aircraft (KLA-100)
- Successful first flight (2017)

LNG Plant



- Developed technology for building the world's largest LNG storage tank (270 million liters)
- KOGAS applied the final design to build three plants at its Samcheok receiving terminal (2017)

Superlong-Span Bridge

(Suspension bridge cable construction equipment)



- Domestic production of construction equipment for suspension bridge cables
- Applied to the Yi Sun-sin Bridge, the Third Bosphorus Bridge, and planning to the world's longest suspension bridge in Turkey, the Çanakkale bridge

Supertall Building Design and
Construction Technologies



- Developed the world's first lift power rail system for high-rise buildings and BuilderHub (a specialized BIM tool for building structures)
- Applied to the Lotte World Tower (2016) and the Kingdom Tower in Saudi Arabia

Enhancing Living Convenience

12

Everyday technologies that
you can feel with your senses
Presenting you with more
convenient means of living



We enhance your quality of life through convenient transportation services, pleasant residential environments, and technologies you can experience firsthand

Battery-Swapping Electric Bus System



- Developed and commercialized the battery swapping electric bus system
- Operates 2 buses in Pohang ; introduced/ operates four lines and 23 buses in Jeju (2016)

Baggage Handling System



- Developed the Self Bag Drop System for airport baggage
- Applied to city airport terminals in Korea (2016)

Vertical-Type Water Treatment Plant



- A compact water treatment plant that adopts a vertical water treatment technique
- Completed the Cheongju Water Treatment Demo Plant (2014)

Medium-sized Low Floor Bus



- Developed a standard model for medium-sized low-floor buses designed for mobility-disadvantaged persons
- Pilot tested in five local autonomous entities (Buyeo, Daejeon, Geochang, Goyang, and Seoul) and test operated in Asan and Siheung

Catenary-free Low-Floor Tram



- Developed technology for the commercial use of catenary-free low-floor trams
- Exported to the cities of Izmir (2014) and Antalya (2015) in Turkey

Smart Tolling System



- Commercialized toll payment technology using a wireless communication and image recognition system
- Applied to tollgates in West Busan, South Incheon, West Yeongam, South Suncheon, and North Daegu

Online Electric Vehicle (OLEV) Bus



- Developed the world's first OLEV bus
- Operates in Gumi, Sejong, etc., and selected as one of the Top 10 Emerging Technologies for 2013 at the Davos Forum (2013)



Modernized Hanok

- Developed low-cost lightweight Korean earthen tile, high-performance walls, windows and doors, and other technologies for entry-level modernized hanok
- Built the hanok pilot village in Gangneung, the Hanok Technology Exhibition Hall in Suwon, and modernized hanok-style public buildings in Suncheon (2016)

13

KAIA
BROCHURE

Improving People's Safety
& Solving Social Problems

Reliable technologies that
you can trust and with which
you feel at ease

Being responsible
for people's safety



We are thorough in preventing
disasters, catastrophes, and
various unexpected accidents

Technology for Monitoring,
Evaluation and Prediction of
Water-Related Disasters

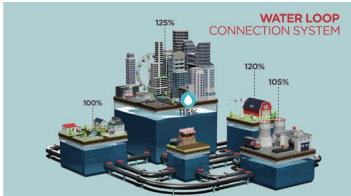


- Constructing a water-related disaster management system based on various observation sensors and providing convergent information portal service
- Built a prototype information platform for water-related disasters in metropolitan and regional areas (2017)



We set people free from social
problems like climate change

Smart Water Grid



- Developed a smart technology for securing water resources to be used in connection with new city water resources
- Built Advanced Metering Infrastructure System in Yeongjong island (2016)

Smart and Safety Security Service Using Spatial Information



- Developed Smart and Safety Security Service using precise positioning solutions and 3D object detecting technique based on stereo closed-circuit television (CCTV)
- Constructed an intelligent crime prevention zone based on spatial information in the Indeogwon District of Anyang (2016)

Vertical Platform Screen Door



- A platform screen door system that can be installed irrespective of train door positions
- Signed a pilot installation contract with the French National Railway Company (2017)

High-Performance Fiber Reinforced
Cement Composite Materials



- Acquired technology for manufacturing high-performance fiber-reinforced cement composite materials capable of improving the explosion—proof performance by 2.5 times and reducing structural thickness and weight by 50% compared to existing technology

Optimal Technique for Algal
Bloom Management in Rivers



- Made a prototype to test the optimal technique for algal bloom management in rivers (2016)
- Deployed at the southern end of the Seongsan Bridge in Seoul (2016)

Food Waste Zero System



- Developed technology that grinds food waste and composts it within residential complexes
- Applied the system to Suseo LH apartment complex in Gangnam, Seoul

Zero-Energy Housing



- Secured design and construction technology for zero-energy housing
- Constructed a multifamily housing in the Nowon District of Seoul and was certified by the International Passive House Association in Germany (2017)

Prefabricated Housing



- Developed a prefabricated housing technology with high economic feasibility and residential performance
- Built test sites in Gayang-dong, Seoul, and Dujeong-dong, Cheonan

R&D Fields

The Korea Agency for Infrastructure Technology Advancement (KAIA) is the sole institution in Korea that specializes in land, infrastructure, and transportation R&D. It conducts R&D planning, management, and assessment; certifies construction and transportation technologies; and assesses the value of relevant technologies. KAIA is always doing its best to improve the quality of people’s lives by interconnecting technologies, human beings, and the society, and to help strengthen Korea’s competitiveness as a nation.

Transportation Technologies

KAIA supports the establishment of ICT-convergent/ integrated road, railway, and logistical infrastructure and the strengthening of linkages between modes of transportation and transportation welfare technologies that expand the convenience and accessibility of transportation.



Transportation and Logistics Research Program

Reducing deaths caused by traffic accidents, improving traffic congestion, and reducing logistics costs as compared to developed countries, along with reducing emissions and providing convenient transportation services for a pleasant road environment

Railroad Technology Research Program

Fostering the railway industry as “an engine for high value-added creative new growth” by developing a fast, safe, and economical railway system and enhancing the technological competitiveness of small but strong businesses

Aviation Technology Research Program

Developing aviation safety technologies for efficient prevention of air accidents and management of air transportation demand, and contributing to the safe and comfortable use of air transportation.

New Programs

Unmanned Aerial Vehicle Safety Research Program

Developing a safe navigation and traffic management system to activate the new growth of the civilian unmanned vehicle industry, and operating an integrated pilot program

Light Civil Helicopter Certification Research Program

Establishing a national certification system to secure aircraft stability and for use in international aviation safety agreements, and conducting a pilot certification of light civil helicopters (LCHs)

Construction Technologies

KAIA supports the enhancement of safety in social infrastructure, buildings, rivers, etc., along with low-energy and high-efficiency space creation and management technologies and high value-added construction technologies.



Smart Civil Infrastructure Research Program

Developing core technologies to ensure safety, high-added value, modernization, and global leadership of Social Overhead Capital facilities at all stages (design, construction, maintenance, and dismantling)

Advanced Water Management Research Program

Developing water management technologies to overcome Korea’s water management crisis caused by climate change, reduce water-related disasters, secure stable water resources, and create safe river environments

Industrial Facilities and Infrastructure Research Program

Increasing domestic applications and competitiveness in winning foreign contracts for plant construction projects through the development of core processes, preliminary design, testing, and development of technologies required for building industrial facilities and infrastructure

Architecture and Urban Development Research Program

Creating new building cultures such as supertall buildings and developing relevant technologies to promote urban regeneration; establishing a safe living environment; reduces greenhouse gases, etc., to improve people’s well-being and urban vitality

Land Space Information Research Program

Providing efficient and systematic production and processing of land space information, and promoting people’s convenience and industry development through various utilization/convergent service technologies involving land space information

Residential Environment Research Program

Developing housing technologies to create residential spaces that people can experience as pleasant, durable, and safe

Infrastructure Building

KAIA supports the development of basic source technologies and technology commercialization to create the basis for future growth, and the cultivation of regionally specialized technologies to enable regionally balanced development.



Construction and Transportation Technology Advancement Research Program

Developing core source technologies and establishing a research infrastructure for the promotion of construction and transportation technologies

Tech Business Support Program

Cultivating small and medium businesses in the construction and transportation sectors as global enterprises, and creating jobs

Regional Development Research Program

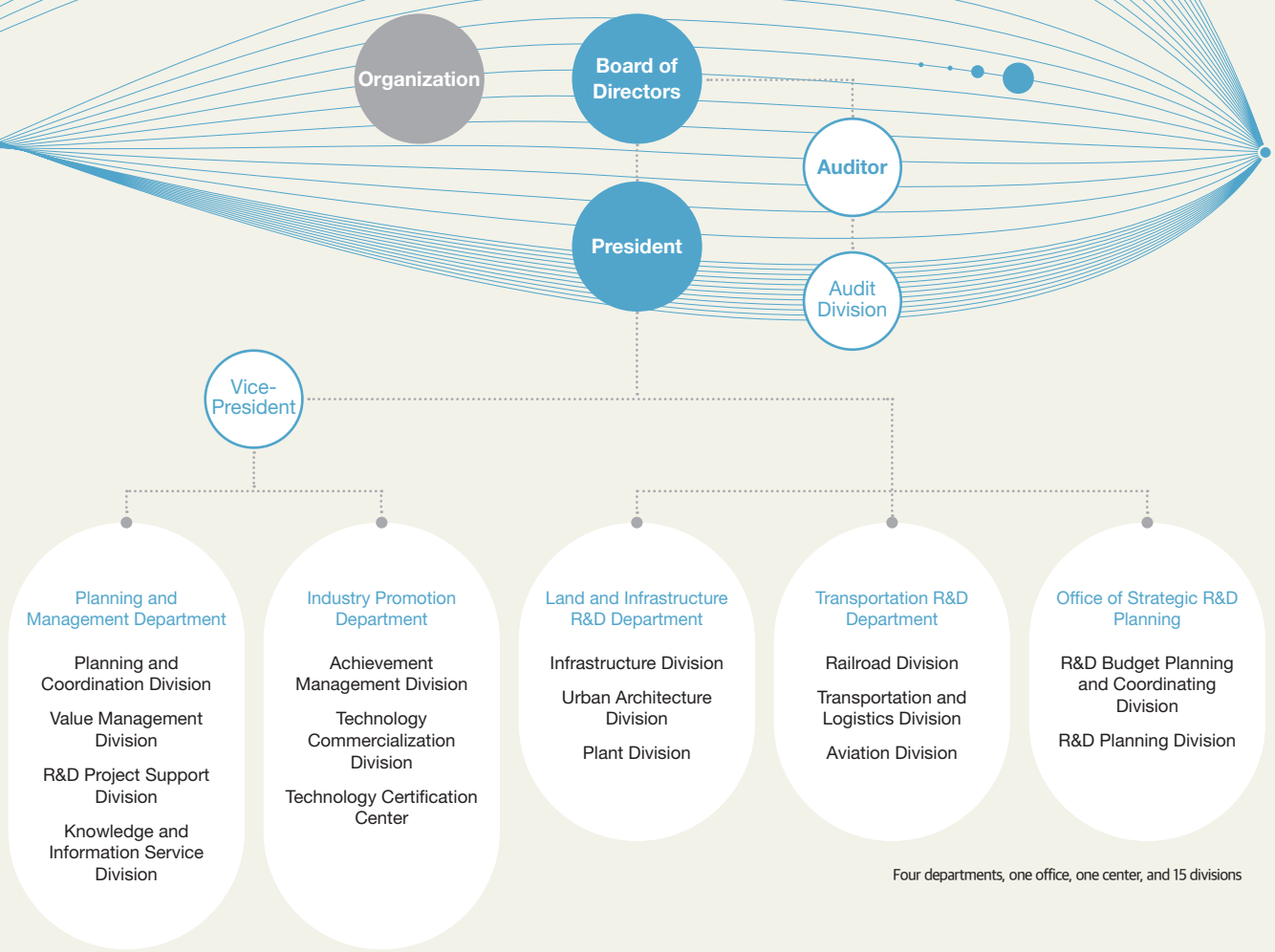
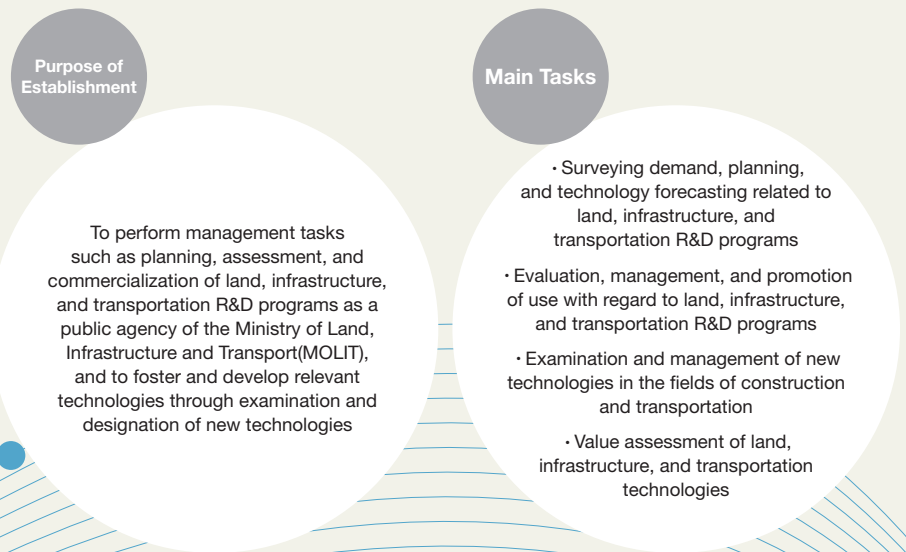
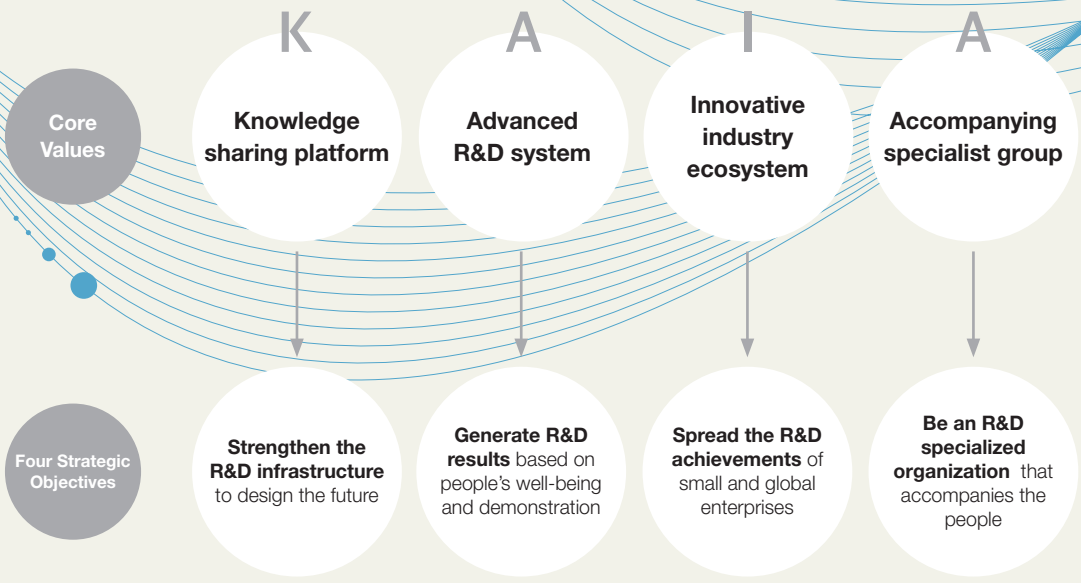
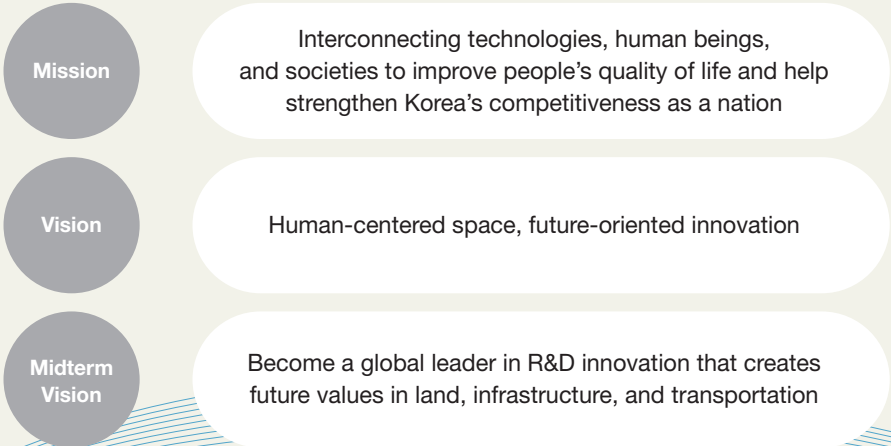
Establishing a sustainable construction and transportation R&D hub through regionally based R&D centers that cultivate local research personnel and develop regionally specialized technologies

Research Achievement Utilization Support Program

Inspecting the reliability of technologies to support the market entry of research achievements in construction and transportation, transferring public technologies, promoting connections between local and foreign clients, etc.

R&D Project Planning Program

Finding and planning future core technologies to foster growth that will pave the way for future construction and transportation technologies



Four departments, one office, one center, and 15 divisions

KAIA History



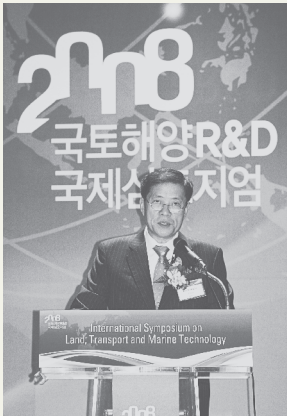
2000

- 2002. 12 • The Korea Institute of Construction and Transportation Technology Evaluation and Planning(KICTEP) was established as a foundation
- 2003. 02 • It was designated as a specialist institution for R&D programs in construction technology
- 05 • It was designated as a specialist institution that examines new construction technologies
- 2004. 01 • It was designated as a specialized institution for R&D programs in transportation technology



2005

- 2005. 10 • KICTEP was established as a legal entity
- 2006. 02 • It was designated as a government-affiliated institution
- 05 • It established a road map for R&D innovation in the construction and transportation industries
- 2007. 04 • It was designated as a quasi-governmental organization
- 2008. 11 • The International Symposium on Land, Transport and Marine Technology was held
- 2009. 02 • The first New Construction Technologies Workshop was held
- 03 • KICTEP achieved first place in customer satisfaction among quasi-governmental organizations according to a survey by the Ministry of Strategy and Finance



2010

- 2010. 04 • It was designated as a specialist institution that examines new transportation technologies
- It was designated as an assessment institution that certifies green technologies
- 06 • The first Land, Transport, and Marine Technology Fair was held
- 2012. 06 • The second Land, Transport, and Marine Technology Fair was held
- 12 • KICTEP was awarded the NTIS Data Quality Assessment Grand Prize
- 2013. 04 • KICTEP was renamed to become the Korea Agency for Infrastructure Technology Advancement(KAIA)
- 07 • The 2013 Land, Transport, and Marine Technology Fair was held
- 2014. 04 • The Global Desalination Research Center was launched
- 05 • The 2014 Land, Infrastructure, and Transport Technology Fair was held

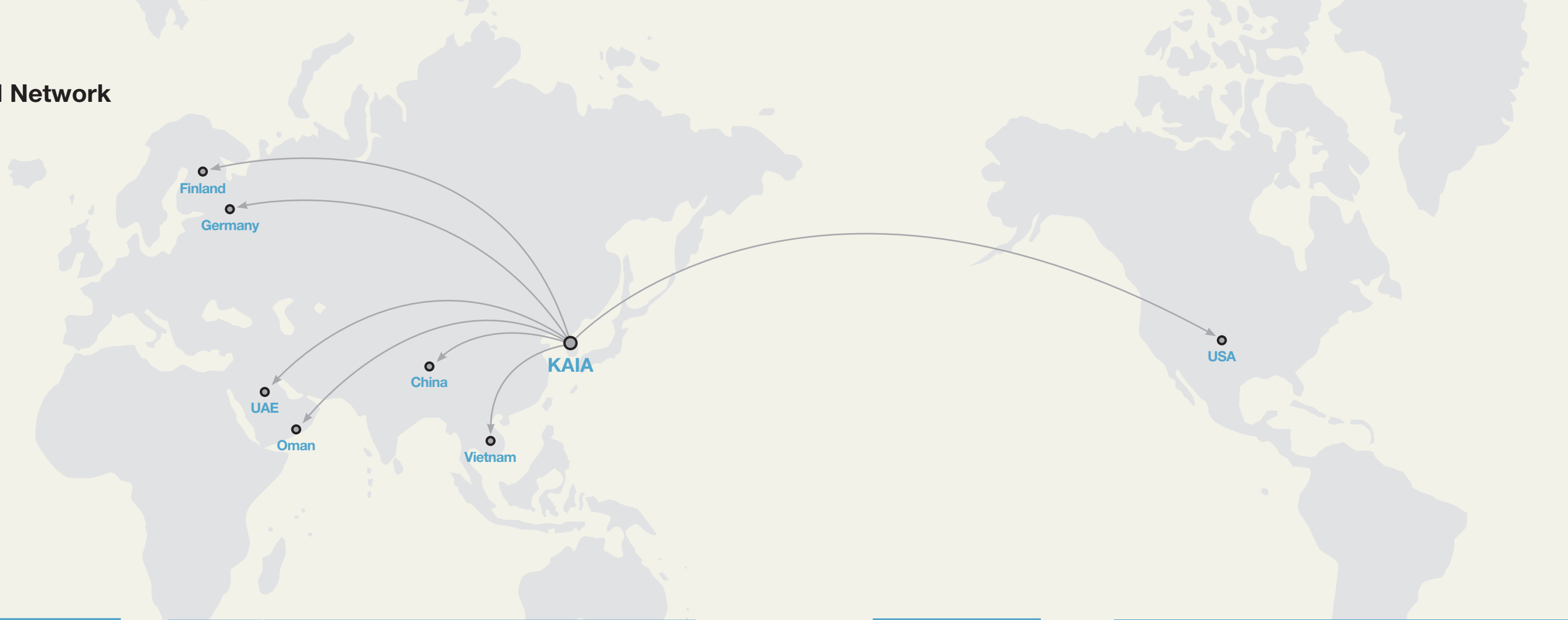


2015

- 2015. 06 • The 2015 Land, Infrastructure and Transport Technology Fair was held
- 09 • KAIA was selected as 2015's top-ranking institution in human resources development
- 12 • The first issue of KAIA Insight was published
- 2016. 05 • The 2016 Land, Infrastructure, and Transport Technology Fair was held
- 06 • The Land, Infrastructure, and Transport Science and Technology Development Act (which provides the legal basis for the agency) was enforced
- The first KAIA Academy was held
- 12 • KAIA was designated as an institution for assessing the value of technologies in the fields of construction and transportation
- It was designated as a family-friendly certification institution
- 2017. 05 • The Smart City Initiative was declared
- The 2017 Land, Infrastructure, and Transport Technology Fair was held
- 09 • The Smart City Business Fair was held



Global Network



Foreign Partners

Country	Institutions
USA	Stanford Research Institute (SRI) International
	The Transportation Research Board (TRB) of the National Academy of Sciences of the United States of America
	MITRE Corporation
	Korean–American Society of Civil and Environmental Engineers
	National Aeronautics and Space Administration (NASA)
	Texas A&M Transportation Institute (TTI)
	Innovation, Creativity and Capital Institute (IC ² Institute)
China	Tsinghua University
	Dongguan RITS Innovation Center
	Xianyang Municipal Government
Vietnam	National University of Civil Engineering of Vietnam (NUCE)
Cambodia	Ministry of Rural Development
UAE	Global Desalination Research Center (GDRC)
	Abu Dhabi Future Energy Company PJSC (Masdar)
	Masdar Institute of Science and Technology (MIST)
Oman	The Middle East Desalination Research Center (MEDRC)
Germany	Fraunhofer
Finland	VTT Technical Research Centre of Finland

Local Partners

Institutions		
Korea Development Bank	University of Seoul	Korea Transport Institute
The Construction Economic Daily	Smart City Association of Local Autonomous Entities	Korea Enterprise Data
Gyeonggi Urban Innovation Corporation	New Growth Policy and Finance Association	Korea Desalination Plant Association
Kyungpook National University	Commercializations Promotion Agency for R&D Outcomes	Korea Expressway Corporation
Goyang City	Yozma Group Korea	Korea IoT Association
Goyang Industry Promotion Agency	Incheon Free Economic Zone (IFEZ) Authority	Korea Institute for Advancement of Technology
Ministry of Employment and Labor, Goyang District Office	Incheon International Airport Corporation	K-water
Korea Transportation Safety Authority	National IT Industry Promotion Agency	Korea Smart City Association
National Library of Korea	Korean Government Legal Service	Korea Infrastructure Safety Corporation
Agency for Defense Development	LG Uplus Corp.	Korea Institute of Energy Technology Evaluation and Planning
Korea Research Institute for Human Settlements	Noroo Kiban Co., Ltd.	Korea Information Society Agency
Land, Infrastructure, and Transport Institute for Human Resources Development	KINTEX	Korea Intellectual Property Strategy Agency
National Assembly Library of Korea	Korea Housing & Urban Guarantee Corporation	Korail
Neo Trans Co., Ltd.	TIDE Institute	Korea Railroad Research Institute
Foundation of Agricultural Technology Commercialization and Transfer	Hana Bank	Korea Rail Network Authority
Daegu Metropolitan City	Korea Appraisal Board	Korea Rolling Stock Industries Association
Daegu Center for Creative Economy & Innovation	Korea Construction Engineers Association	Korea Land and Housing Corporation
Korea Trade–Investment Promotion Agency	Korea Conformity Laboratories	Korea Institute of Marine Science & Technology Promotion
Korea Land and Geospatial Informatix Corporation	Korea Airports Corporation	Korea Environmental Industry & Technology Institute
Busan Institute of Science and Technology Evaluation and Planning	Korea Institute of Science and Technology Evaluation and Planning	International Contractors Association of Korea
Busan Metropolitan City	Korea Institute of Science and Technology Information	Hyundai Rotem Co., Ltd.
Seoul Metro Corporation	Korea Tourism Organization	