

2015 KAIA



Business

- Research Demand, Design and Predict Infrastructure and Transportation R&D Projects
- Assess, Manage and Promote Use of Infrastructure and Transportation R&D Projects
- Evaluate and Manage New Technology in the Construction and Transportation Areas
- Conduct Projects Commissioned by Government Agencies

Mission and Vision

Mission To contribute to Improving the quality of life and National Competitiveness of Korea through Sustainable Technologies

Vision Creation of a Happy World by Developing Human-Centered Technologies

Core Value

Happiness
of
People

Creativity
and
Challenge

Trust and
Communica-
tion

Three Strategies

Human
-Centered
R&D

Future
Shaping
R&D

Happiness
Sharing
Management

[Changing the World Everyday!]

It is not magic.

With Infrastructure and transportation technologies, KAIA is creating a creative country where all people are happy.

Infrastructure and Transportation Technology

- First Class Technology Leading the World
- Korea's Own Core Technology for a Better Future
- Promising Technology Driving a Creative Economy
- Public Welfare Technology for Koreans
- Eco-friendly, Green Technology for a Sustainable Earth



21th Century Landmark
Skyscraper



Asia's Iron Silk Road
Next-Generation High-Speed Rail



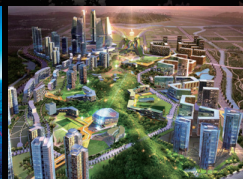
Sustainable City Development Model
City Rejuvenation



Intelligent Highway
Smart Highway



Next-Generation Aviation Technology
Aviation Certification Technology



Harmony between Technology and Nature
U-City



Korea Agency for Infrastructure Technology Advancement (KAIA) is a quasi-governmental institution under the Ministry of Land, Infrastructure and Transportation, involved in designing, conducting and analyzing infrastructure as well as transportation R&D projects. KAIA evaluates performance, promotes usage, and designates and manages new technologies in the construction and transportation areas.

14066 2-6F Songbaek Building, 286 Simindaero Dongan-gu, Anyang-si, Gyeonggi-do
Tel: 031-389-6313 Homepage: www.kaia.re.kr

Date of Issue: August, 2015



KAIA is Future

Korea Agency for
Infrastructure Technology
Advancement



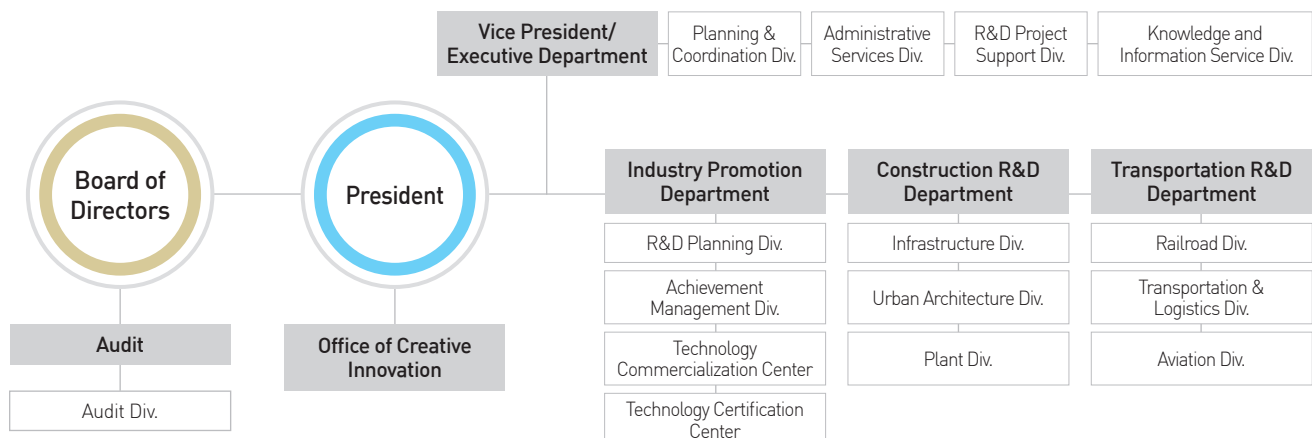
History

- 2002. 12 Established the Korea Institute of Construction and Transportation Technology Evaluation and Planning as Judicial Foundation
- 2003. 02 Designated as a Specialized National Institute for R&D in Construction Technology
- 2003. 05 Designated as a Specialized Evaluation Institute for New Construction Technology
- 2004. 01 Designated as a Specialized National Institute for R&D in Transportation Technology

- 2005. 10 Established the Korea Institute of Construction and Transportation Technology Evaluation and Planning as a legislated organization
*In Accordance with Article 16. 3 of Construction Technology Management Act
- 2006. 02 Designated as a Government Affiliated Organization (Basic Act on Government Affiliated Organizations)
- 2007. 04 Designated as a Quasi-Governmental Institution (Act on the Management of Public Institutions)
- 2013. 04 Renamed the Korea Agency for Infrastructure Technology Advancement

Organization

4 Departments, 13 Divisions, 2 Center, 1 T/F





Future of Infrastructure and Transportation R&D

We designate and promote next-generation brand technologies such as VC 2.0(Value Creator 2.0) which will create values and lead in the creative economy

Taking Lead in the Global Market



Top Mega Structure

To dominate the global market and enhance national competitiveness, KAIA develops all ranges of core technologies from designing mega structures such as long span bridges, tunnels, skyscrapers to maintaining them.



Global Top Plant Construction Technology

To diversify the plant construction market and promote added values, KAIA develops core technologies ranging from designing plants to maintenance technology.

Laying Foundations for the Convergence Industry



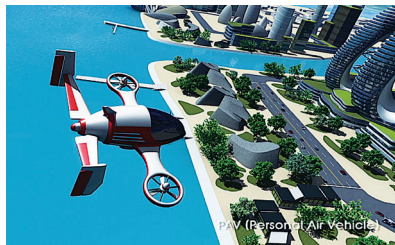
Korea's Own Satellite navigation

To build Korea's own Satellite navigation system, KAIA develops technologies of real-time location information correction systems including SBAS to build up an independent satellite navigation system.



Road of Autonomous Driving

To create a safe and fast-flowing traffic environment, KAIA develops next-generation transportation technologies converging transportation, cars and communications to realize autonomous driving vehicle platooning.



Next-Generation Air Traffic System

To guarantee aviation safety and nurture its industry, KAIA helps to build and certify civilian aircrafts, and develops its own core technologies related to aviation maintenance and airport operation.

More Convenient Life! More Prosperous Life!

KAIA will make a creative country where all people live a happy life.



Creating Safe and Comfortable Country



Artificially Intelligent Land

To promote the safety and convenience of people, KAIA develops technologies concerning constructing, managing and rejuvenating smart, eco-friendly cities and core technologies of land space information services.



Automated Intelligent Infrastructure Management

For a longer lifespan of SOC and its better management, KAIA automates SOC diagnosis, a maintenance and reinforcement equipment, and develops proactive accident prevention and management technologies.



Dispersed Water Management

To secure water resources in a stable manner and prevent water-related disasters, KAIA develops core technologies ranging from region-based water resources development to maintenance and management technology.

Improving well-being of People



Customer-Tailored House

KAIA develops technologies for building houses that maximize convenience, eco-friendliness and pleasantness with the best basic function and responds to various demands of customers.



Smart Railway System

KAIA develops technologies to make railways, an eco-friendly transportation system between and within cities which helps people travel with a precise time schedule. It is more safe, cost-effective and efficient.

2015 Infrastructure and Transportation R&D Project

Direction of 2015 Infrastructure and Transportation R&D



Project and Budget of 2015 Infrastructure and Transportation R&D

(Unit 100 million won)

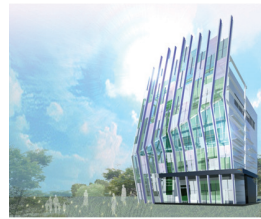
Category	Project Name	Content	'15 Budget
Cons- truction	Construction Tech Research	Enhancement of construction technology competitiveness through safety improvement, added value and high technology of SOC's	539
	Water Management Research	Response to national water management crisis and realization of equal water well-being of people	364
	Plant Research	Improvement of competitiveness of Korea in the international stage through core process, basic design and empirical research on plants	275
	Urban Architecture	Research on new architecture culture and city rejuvenation for increasing the public happiness and dynamism of cities	301
	Residential Environment Research	Realization of pleasant, durable and healthy residential spaces the public can actually feel	148
	Land Space Information Research	Production, processing, distribution, utilization of land space information and building of convergence systems	131
Trans- portation	Transportation Logistics Research	Guaranteeing of a safe and efficient travel and building of convenient transportation systems and services	415
	Railway Tech Research	Securing a high-tech future railway system and Korea's own core and original technology	976
	Aviation Safety Tech Research	Proactive response to future demands on air transportation and research on safety of airplanes, aviation and airports	436
Common Area	Infrastructure and Transportation Tech Facilitation Research	Research on creative, innovative basic and original technologies and enhancement of international research and research infrastructure	583
	Infrastructure and Transportation Tech Business Support	Technology transfer and commercialization for realizing technological value and Enhancement of SME capabilities	184
	Infrastructure and Transportation Region Specialized Tech	Building of regional bases for research on regional issues and specialized technologies	79
	Infrastructure and Transportation Research Design	Searching for and developing future core technologies to create new values and new growth engines	36
	Infrastructure and Transportation Research Achievement Utilization Support	Promotion of infrastructure and transportation technology transfer and commercialization and support of entry to markets	13
	Policy Research	Conducting research to come up with temporary and short-term policy solutions in response to changing environments	20

Achievement in Construction



Utilized 3MW (5cm diameter) offshore wind power monorail in enforcement design of Jeju Tamra Offshore Wind Farm. ('14. May)

Applied research to construct 30MW wind power farm (construction expenses: 140 billion won)



Constructed Horizontal Water Purification Facility ('14. Jan)

Chosen as "100 Great National Research Development Projects in 2014" Won "Project Innovation Awards" held by International Water Association



Designed Hanok Suited to Modern Life Style and Developed Its Construction Technology

Designed and Pushed forward building pilot Hanok village in Gangneung, Hanok Tech Exhibition in Suwon, Agriculture Technology Center in Naju, neo Hanok-style public building in Sunchang ('14. Oct)



Built Mock-up to Verify Technologies Applied to Modern Prefabricated House Complex ('14. Nov)

Tested 2 hour long fire resistance capacity of major structures, floor impact sound-proof capacity and sound insulation capacity of walls between houses. The tested technologies will be applied to the Suseo Complex (The construction will start in the second half of 2015)

Achievement in Transportation



Installed Nonstop, Multi-Lane Based Smart Tolling System on Public Streets

Fees charged through wireless communications (DSRC and WAVE) smartphones while cars pass without reducing speed
The first technology of its kind to be developed in the world: Multi-lanes + Active communications smart tolling



Designed and Commercialization of Mass-Produced Urban Maglev

Secured the world's top 2 technology while succeeding in running up to 93km/h Completed pilot routes (Yeongjong-do, Incheon in '12, Aug.) and finished comprehensive trial run ('14, Dec.)



Developed Light Aircraft with Four seats (Naraon), Completed Type Certification for First Time in Korea ('13. Mar.) And Production/ Airworthiness Certification ('13. Dec.)

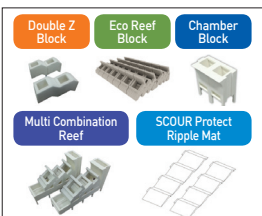
Chosen as the trainer aircraft of the Republic of Korea Air Force Academy (23 aircrafts will be delivered by '16 Dec.)



Developed Air Purifier Removing Ultra Fine Dust and CO₂

Applied the purifier to the Miasamgeori Station Tunnel in Seoul Metro Line 4 ('14. Mar.) and reduced fine dust by over 30%

Achievement of Common Area



Developed Ocean Multifunctional Artificial Reef Improving Wave Control Performance by 40% to Minimize Damage to Seashore due to High Waves and Reducing Construction Expenses by 20% ('15. Jun.)



Developed Crosswalk Lighting Standard and Mid-Range Lighting System, Signed 3 Technology License Agreements, Installed it in Mongolia and Jeju Island and Succeeded in Commercialization ('14, Aug.)



Developed Dredge Geotextile Tube Structure in Cooperation with University of Colorado('14, Apr.) & Geotextile Tube Structure Filling Soil Agitator ('14. Jun.) And Applied Them to Test-Bed in Saeman-geum ('14. Jun.)



Developed Functional Concrete Reflecting Climate Characteristics of Gangwon Province and Decided to Apply It to the Bobsleigh Track for the 2018 Pyeongchang Winter Olympics ('14, Jun.)

Succeeded in construction verification test of bobsleigh track ('14, Jun.) and Transferred the technology to the bobsleigh constructors of the Pyeongchang Winter Olympics ('14. Dec.)