

# Geospatial Information Hub of Korea

V a l u e   C r e a t o r

National Geographic Information Institute



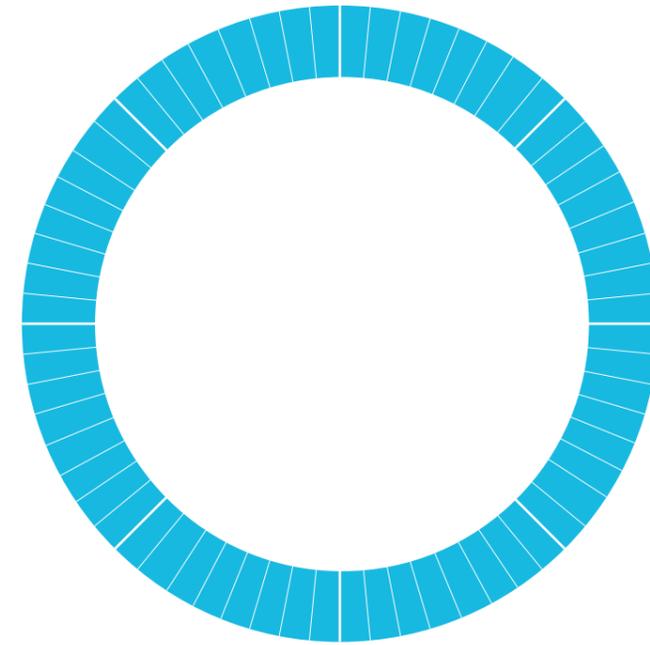
NATIONAL  
GEOGRAPHIC  
INFORMATION  
INSTITUTE

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## Ngii

National Geographic Information Institute



A mountain, soaring to the sky, is like a father to us.

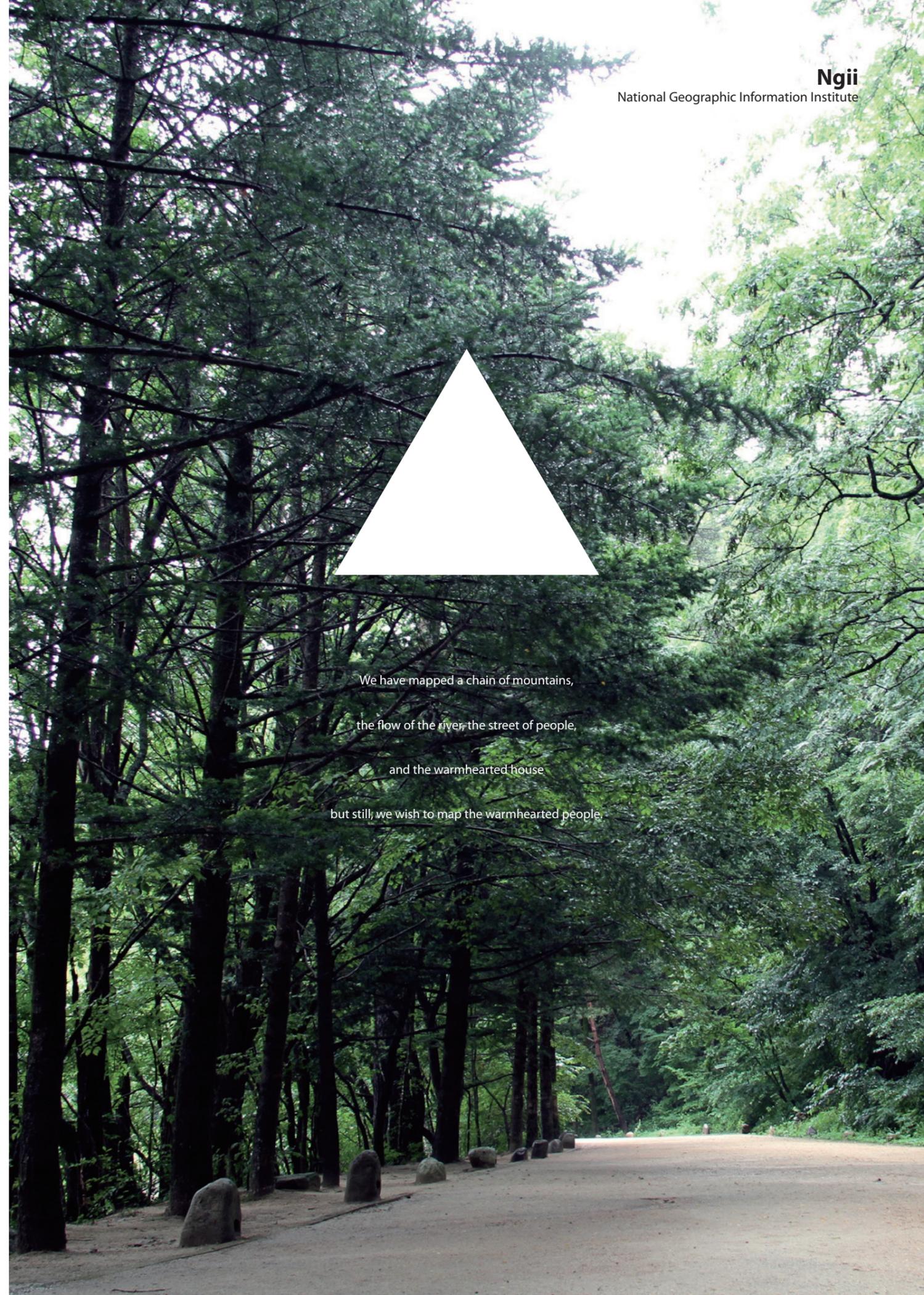
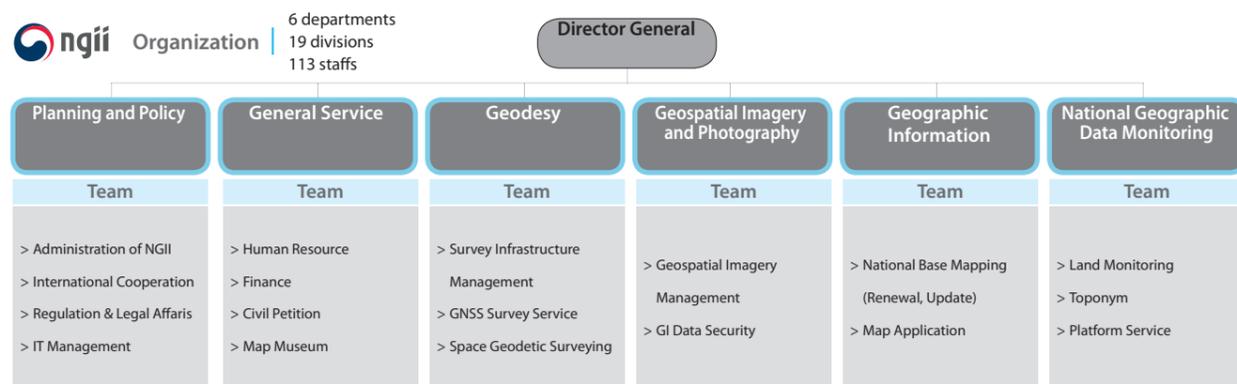
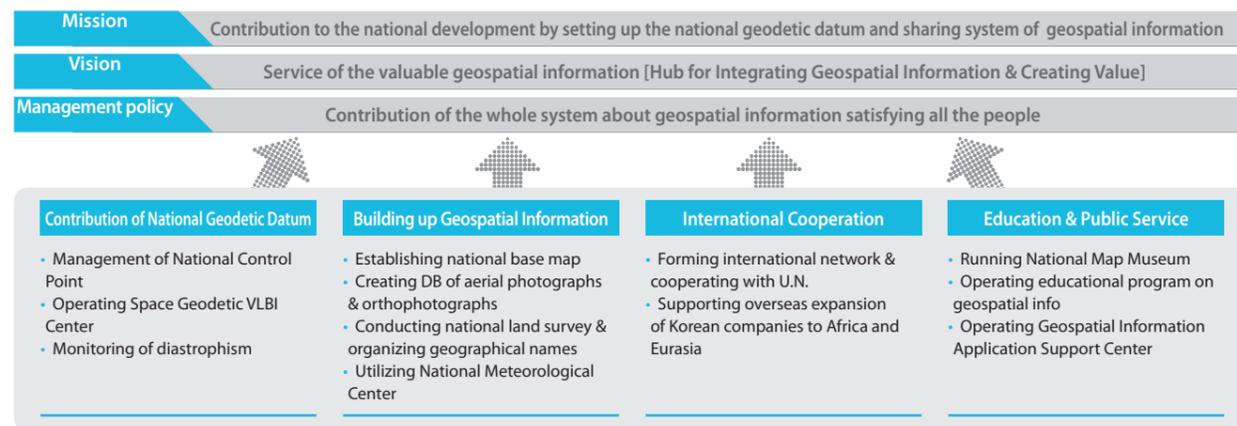
A river, running across the endless plain, is like a mother to us.

A street, leading us to our destination, is like a friend to us.

Land, allowing us to stand on our own two feet, is like a child to us.

A home, presenting warmth and relaxation, is like a spouse to us.

• •  
 NGII serves the most valuable geospatial information  
 as the name of the Korean geospatial information hub  
 • •



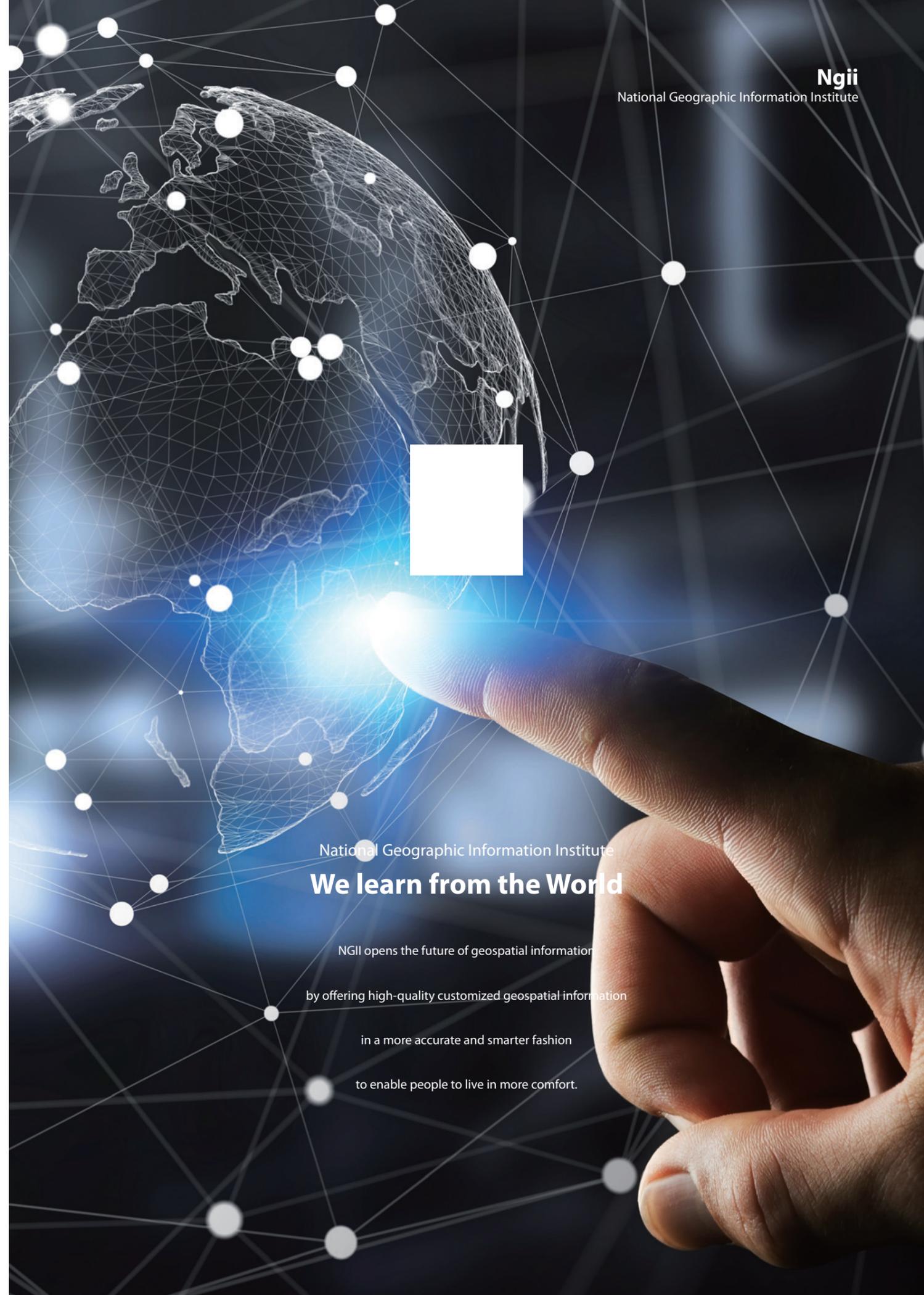
We have mapped a chain of mountains,  
 the flow of the river, the street of people,  
 and the warmhearted house  
 but still, we wish to map the warmhearted people.

Where there is the history of NGII,  
there is the bright future of Korean geospatial information



Established as the National Geographic Institute under the Ministry of Construction in 1974, the institute has shown its commitment to geodesy and mapping while striving to develop the geospatial information industry. It is the main government source for building a DB on geospatial information infrastructure to provide useful geospatial information to the public and strengthen national competitiveness in the Fourth Industrial Revolution age.

- 2016**
  - Serving of Geospatial Information for free
  - Mapping the precision road for the Automatic vehicle
  - African Minerals Geoscience Initiative (AMGI) project
- 2010**
  - Beginning of making the seamless digital maps
  - Hosting UN Forum on GGIM (1st High Level Forum on U.N.GGIM)
  - Operating of Space Geodetic VLBI Observation Center
- 2000**
  - Mapping the Antarctic area in 1/1,000, 1/25,000 scale
  - Hosting 13th PCGIAP Conference
  - Inauguration of National Map Museum
- 1990**
  - Started production of digital topographic maps on scale of 1:1,000, 1:5,000 & 1:25,000
  - Elected executive board member of Permanent Committee on GIS Infrastructure for Asia and Pacific (PCGIAP)
  - Started offering digital topographic maps to private sector
- 1980**
  - Beginning of Mapping Dokdo
  - Joined International Society for Photogrammetry and Remote Sensing (ISPRS) & International Cartographic Association (ICA)
  - Established Korean geodetic horizontal origin point (National Geographic Institute Notification No. 57)
- 1970**
  - Started production of topographic maps on scale of 1:5,000, 1:25,000 & 1:50,000
  - Signed agreement on exchanging maps with U.S. and established Korea-Japan conference on cooperation in geodesy and cartography
  - Joined U.N. Group of Experts on Geographical Names (UNGEGN)
- 1960**
  - Joined International Association of Geodesy (IAG) and International Union of Geodesy & Geophysics (IUGG)
  - Legislated Land Survey Act (Law No. 938)
  - Established Korean geodetic vertical origin point



National Geographic Information Institute  
**We learn from the World**

NGII opens the future of geospatial information  
by offering high-quality customized geospatial information  
in a more accurate and smarter fashion  
to enable people to live in more comfort.

[Message]

• •  
For the Fourth Industrial Revolution, National Geographic Information Institute (NGII) will make its national geospatial information highly competitive in the world  
• •

*Until everyone is satisfied with our geospatial information!*

National Geographic Information Institute is doing its best around the clock.

We collect valuable geospatial information as a proactive response to rapidly changing technologies such as IoT, artificial intelligence and self-driving vehicles.

We contribute to economic recovery and job creation by providing valuable geospatial information.

We strive going forward to strengthen our global competitiveness and take a leap forward as a global think tank that produces world-class geospatial information

Executives and staff of National Geographic Information Institute



**NGII provides valuable geospatial information to people.**



The National Geographic Information Institute is a government-run organization with a vision to produce valuable geospatial information by establishing geographical maps and relevant standards. The institute has built trust in various spheres from forming the national geodetic datum and geospatial imagery information to mapping, administration of geographical names, international cooperation and public service.





Hallasan Mountain,  
1,947 meters high  
NGII staff surveyed  
the height of this mountain and  
drew it on the map.  
And NGII staff know that  
a father's love for his family  
transcends the peak of Hallasan Mountain.

## We learn from the Mountains



National Geographic Information Institute hopes to become a hub of geospatial information of Korea through the establishment and operation of a national geodetic datum

"How convenient and reliable to know where our country, hometown and house are located through advanced geospatial information based on exact national reference coordinates."



## In determining national coordinate reference system, NGII provides high quality information on geodetic surveys

All geospatial information is based on accurate position data. National Geographic Information Institute sets the national coordinate reference system through state-of-the-art technologies in the field of space geodesy and offers location based services to various fields such as civil engineering, precision agricultural applications and cadastral surveying.

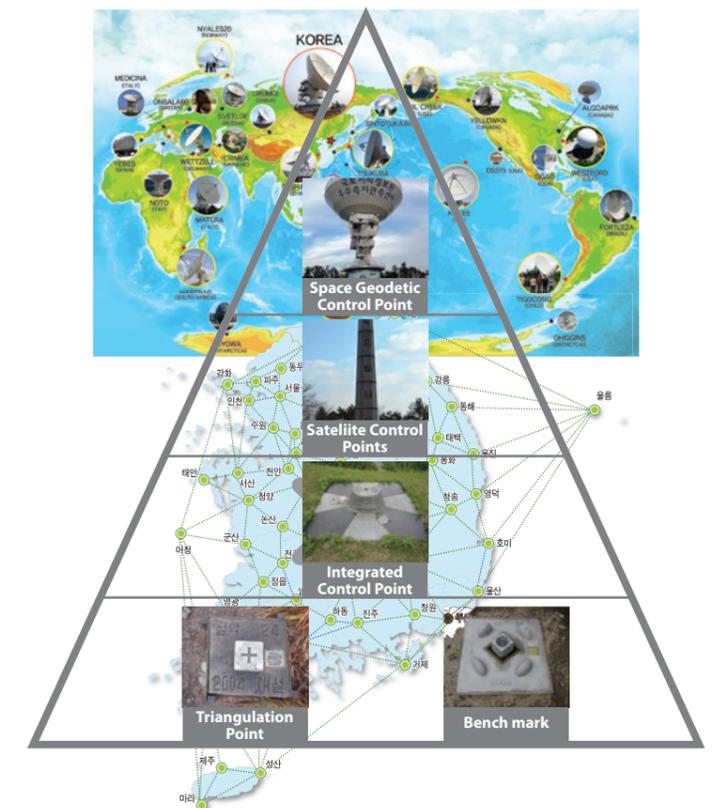
### Korean Geodetic Datum

- Horizontal Datum: Establishing the national geodetic horizontal origin point in accordance with the World Geodetic Reference System (ITRF2000 & GRS80) and installing space geodetic control points, satellite station, integrated control points and triangulation points
- Vertical Datum: Determining the height of the national vertical origin point (Inha Technical College) as 26.6871 meters based on the mean sea level of Incheon Bay and installing integrated control points and bench marks

### National Geodetic Reference Framework

- Establishing and maintaining national control points nationwide (horizontal and vertical position) by using the state of art geodetic technologies
- National control points are mainly used for civil engineering (measurement for construction) and, also applied to the earth diastrophism and real-time location based service

Hierarchy of National Control Point



### Space Geodetic Control Point (geodetic VLBI: joint VLBI observation of globe)

- Calculating positions by interpreting the time difference between the radio waves from quasars billions of light years away to radio telescopes (antennas) on Earth
- Equipment:
  - Antennas: 22meters in diameter
  - Receivers: 2, 8, 22, 43 GHz
  - Backend: Hydrogen clock, operation control, data processor and more
- Activities: Performing IVS routine observation after becoming official member of IVS Council at its seventh meeting (March 2012) and performing joint observation with Japan, as well as with Korean astronomy research institute KVN

#### Space Geodetic Observation Center



#### Exhibition Hall

- Opening hours: 10:00 - 17:00 (Mon. - Fri.), Closed 12:00~13:00
- Admission: Free
- Please present ID when entering the center.
- ※ Access to the center can be restricted over an observation or inspection period. Please check the center's schedule in advance before visiting.
- Tel: +82-44-860-4006 (fax: +82-44-860-4030)

### Satellite Control Points (GNSS observational stations: provision of satellite geodetic service)

#### Operation of 60 Satellite Control Points

- Receiving and providing GNSS satellite signals 24/7 to provide autonomous geospatial positioning
- 60 GNSS control points established nationwide since 1995
- Providing one-stop national GNSS data service by integrating GNSS CORS separately operated and controlled by eight government departments



Satellite Station (located in NGII)

#### Real-time kinematic (RTK) Positioning Services

- Available after obtaining Network RTK membership at Geospatial Information Service Platform



#### Post-Processed GNSS Data (RINEX)

- Download available from Geospatial Information Service Platform (map.ngii.go.kr)

#### Integrated Control Point

- No. of control points: 4,282
- Information provided: Geodetic and geocentric coordinates, height and gravity value



#### Gravity Point

- Korean geodetic gravity origin: 979,918.775±0.0001 mgal (located in NGII)
- No. of absolute gravity points: 20
- Use: Datum development, national monitoring, etc.



#### Triangulation Point

- No. of triangulation points: 16,412
- Information provided: Geodetic and geocentric coordinates
- Type of triangulation point: 1st, 2nd, 3rd or 4th grade



#### Geomagnetic Point

- No. of geomagnetic points: 30
- Information provided: deflection angle, magnetic dip and horizontal component
- Use: Studying horizontal distribution and secular variation of geomagnetism and regional magnetic anomaly



#### Bench mark

- No. of bench marks: 7,300 (1st grade: 1,141 and 2nd grade: 6,155)
- Type of bench mark: 1st or 2nd grade
- Accuracy: 1st grade = ±2.5mm/√S (roundabout) and 2nd grade = ±5.0mm/√S (roundabout)





The Han River  
the source of drinking water  
for most Koreans  
NGII staff measured  
the river's length and drew it on the map.  
And NGII staff know that  
a mother's love for her child  
is clearer and more transparent than the Han River.

## We learn from the Rivers



National Geographic Information Institute hopes to become a hub of Korean geospatial information through building up national geospatial imagery information.

"Taking pictures all around the Korea from high up in the blue sky!  
Building up the realistic imagery information system leads to higher quality maps."



## NGII produces a variety of national geospatial imagery through high-resolution aerial photography technology

The national geospatial imagery information system is essential for mapping. National Geographic Information Institute is recording the changes of national landscape through photography, while implementing aerial photography, production of orthophotos and use of the digital elevation model, all of which will be utilized in the production of a national base map.

### Aerial Photography

- NGII carries out the aerial survey to build up the whole aerial photography DB of 25cm resolution every 2 year

Degree of photo overlapping	horizontal overlapping over 60% vertical overlapping over 30%	
Altitude	2,000 ~ 3,000meters	
No. of images possessed	1940-60s: 78,091 1970-90s: 107,763 2000-present: 709,018	

Detecting the change of urban area and geographical features

- NGII builds up the time series aerial photography DB and orthogonal imagery DB to detect the change of urban area and geographical features.
- The aerial photography has been applied to the various systems such as internet portal maps, especially for use in civil affair documents.



## Orthogonal Imagery DB

- NGII builds up the orthogonal imagery DB through the annual aerial photography done through the ortho and radiometric correction

**The nationwide digital aerial photography (since 2004)**



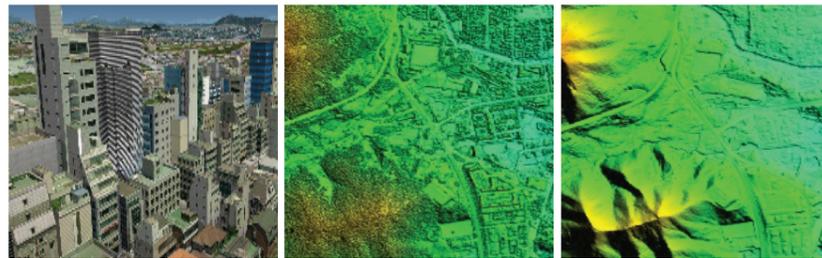
**The nationwide orthogonal imagery (since 2010)**



- Services:
  - Open API: Available after issuing authentication key by registering as authentication user at Geospatial Information Service Platform (map.ngii.go.kr)
  - Web Service: Available from Geospatial Information Service Platform (map.ngii.go.kr)

## Digital Elevation Model

- NGII establishes the relief displacement of geography into a digital elevation model on a 1m x 1m, 5m x 5m or 10m x 10m grid by using aerial images, LiDAR and digital topographic map

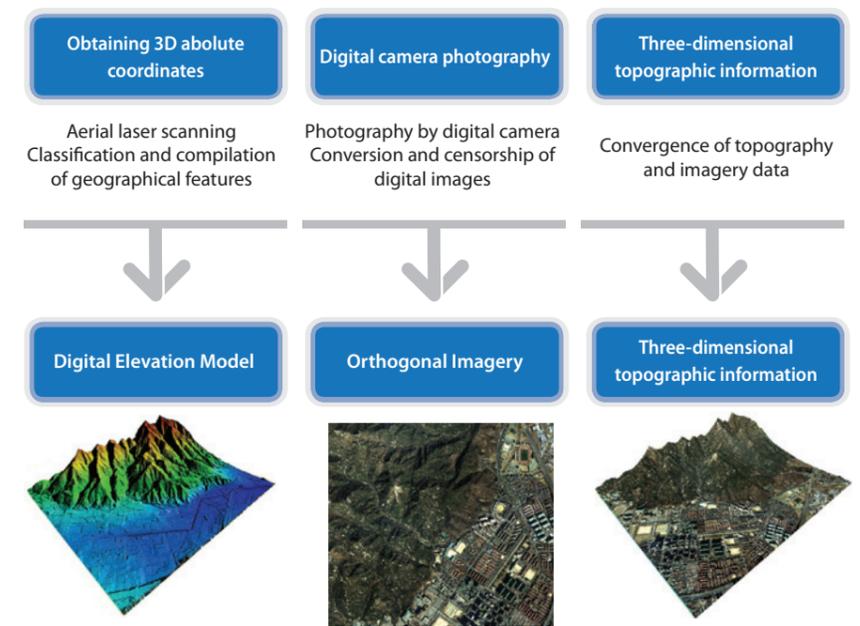


<3-D Geospatial Information>      <DSM>      <DEM>

- The DEM is utilized in fields such as earth The DEM has been applied to volume calculation, topographic analysis and selection of appropriate land

1x1m	5x5m	10x10m	90x90m
Seoul, Gyeonggi Province and parts of six metropolitan areas (not open to public)	Entire country (not open to public)	Entire country (not open to public)	Entire country (open to public)

## Convergence of Digital Elevation Model and Orthogonal Imagery Map



## Utilization of Drones

- NGII shares the principle of aerial photography to middle, high school and university students and its relevance to geospatial information through demonstrations of drone flight
- NGII operates unmanned aerial vehicle (UAV) to quickly obtain images in case of disaster and provides the data to relevant organization for damage restoration



### Fixed wing UAV

- Dimensions: 1.2meters (width) x 42cm (length) / 1.2kg
- Flying altitude / speed: 100~1,200meters / 50km/h
- More stable to operate than rotarywing drones yet requiring sufficient landing space



### Rotary wing UAV

- Dimensions: 1meter x 1meter x 45cm / 3.5kg
- Flying altitude / speed: max. 1,000meters / 40km/h
- Fewer limitations on takeoff and landing yet substantially affected by weather

## Imagery Correction for Security

- NGII resolves security problems by deleting, adjusting the resolution of or blurring national security-related facilities in aerial and satellite images captured by a public institution or private entity

Gyeongbu Expressway,  
the longest expressway in Korea  
NGII staff measured  
the length of this expressway and  
shared this geospatial information with the world.  
And NGII staff know  
the importance of having good friends to  
walk together on the journey of life.

## We learn from the Streets



National Geographic Information Institute hopes to become a hub of Korean geospatial information through mapping.

“Traveling around the nation and adding more geospatial information for making the Daedongyeojido of the 21st century!  
The future competitiveness of Korea will get stronger.”



## NGII lays the foundation for convergence of various industrial fields through the production of customized maps to serve the diverse needs of people

A map is a fundamental infrastructure for the decision making of national territorial policy. National Geographic Information Institute produces a range of maps from paper maps to 3-D geospatial information and a new concept of national Internet maps and POI (Point of Interest), converging with other information.

### Large-scale Digital Topographic Map (1:1,000)

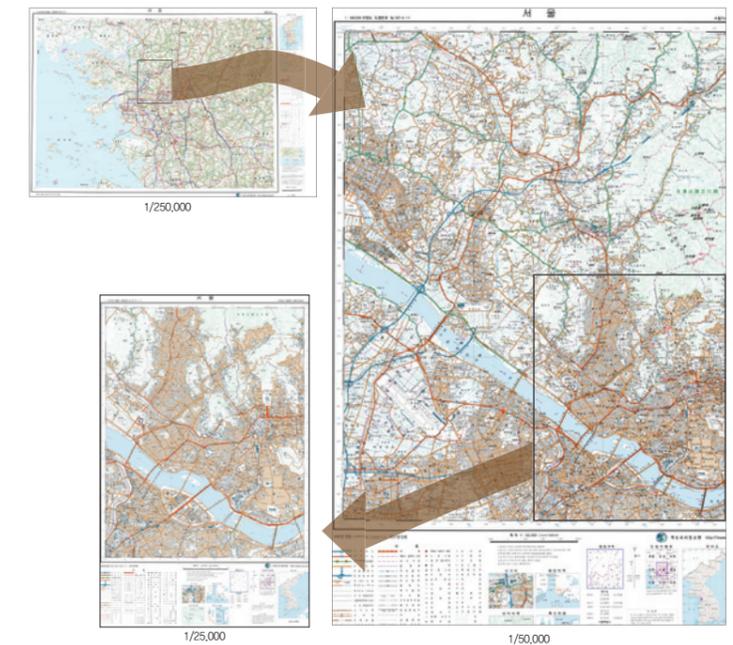
- Producing digital topographic maps through matching funds (50:50) with local governments for urban areas
- Produced maps for 82 cities spanning approx. 9,000km<sup>2</sup> and suburb areas spanning 50 km<sup>2</sup>

### National Base Map (Digital Topographic Map on Scale of 1:5,000)

- Revising all information on national base map every two years and important data such as large buildings and roads every two weeks
- No. of map: 18,074 sheets

### Paper Topographic Map

1:25,000	1:50,000	1:250,000	Complete Map of Korea
812 sheets	241 sheets	26 sheets	1:1 million 1:1.2 million 1:2 million



Complete Map of Korea



Map of Korea and Vicinity

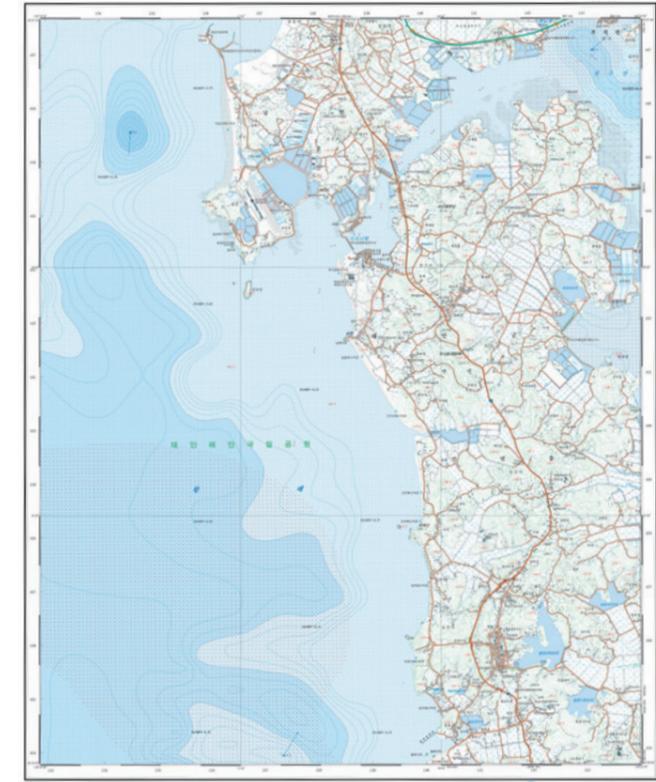


### OnMap

- Concept maps easy to use by all ages
- Providing 1:5,000, 1:25,000, 1:50,000, 1:250,000 scale maps in geo PDF format
- Download from Geospatial Information Service Platform (map.ngii.go.kr)

### Basic Map of Sea

- Producing 1:25,000 scale topographic maps including coastal areas with information on water depth and sediments displayed



### World Map

- Projection: Producing world maps in Korean using Mercator's, Robinson, Eckert's, Winkel Tripel and Goode homolosine projections
- Multiple languages: Producing world maps in English, French, Spanish, Portuguese and Arabic using Robinson projection

Robinson Projection



## Mapping of North Korea

<Production Status (late 2016)>

- NGII digitally maps North Korea using satellite image in 1:25,000 scale and major areas of North Korea in 1:5,000 scale

1/5,000	1/25,000	1/50,000
254 sheets	2,525 sheets	557 sheets

(Pyongyang)



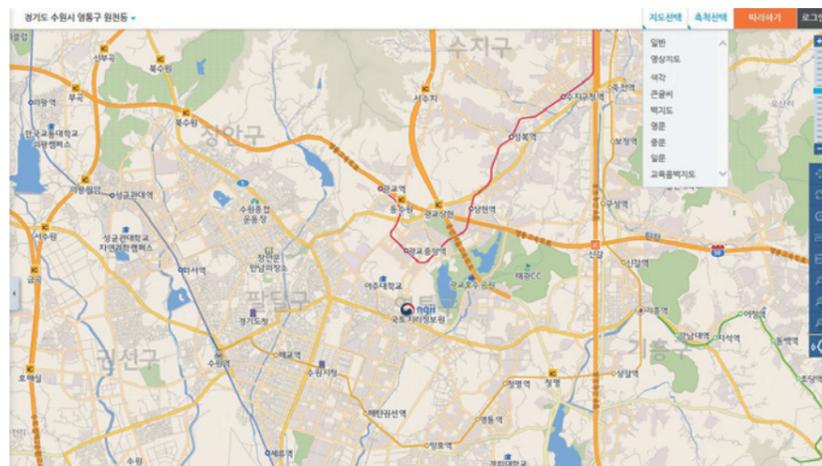
<Orthogonal Imagery Map>



<1:25,000-scale Topographic Map>

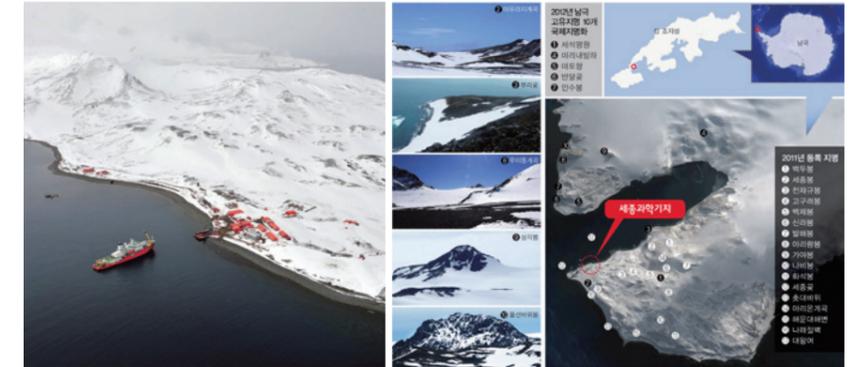
## National Internet Map and Points of Interest (POI)

- Producing internet maps and POI information from national base map to serve background maps for websites of public and private sectors
- No. of POI: 10 million
- How to use:
  - Open API: Available after receiving authentication key by registering as authentication user at Geospatial Information Service Platform
  - Free data: Fill out application form → Receive data
  - Data request process: Submit application form (email or public document) → examine → offering data

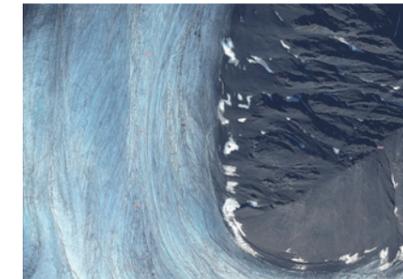


## Geospatial Information of North & South Poles

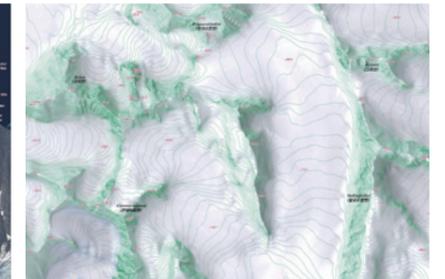
- NGII had built the control point around scientific station in Antarctica in 2009, and mapped the whole of antarctic area in 1:1,000, 1:5,000 and 1:25,000 scale and also officially registered Korean original place names in 2011 and 2012



- NGII had mapped the arctic area in 1:5,000 and 1:25,000, built up the orthogonal imagery and digital elevation models since 2014 for supporting the exploration of Arctic resources



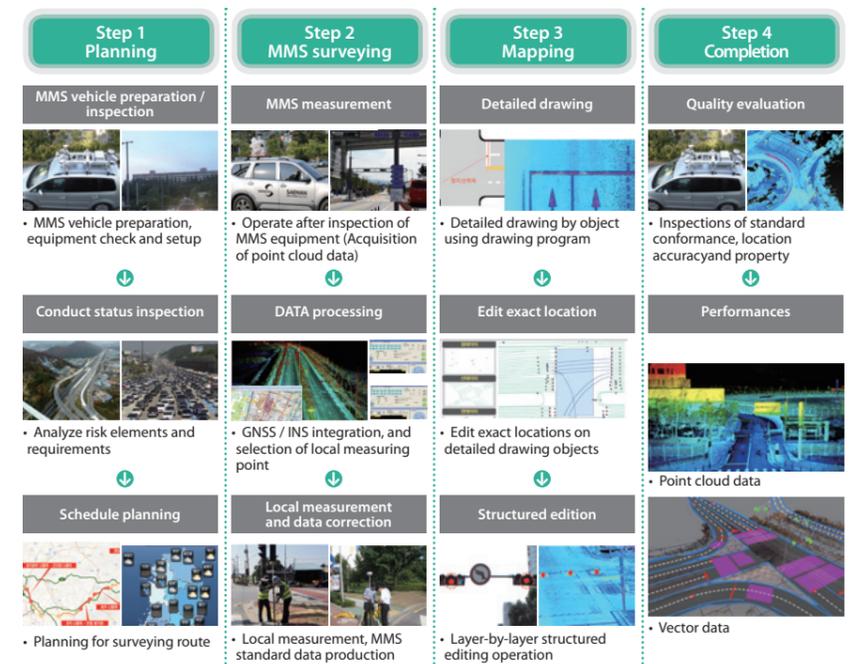
<Svalbard islands orthogonal image on scale of 1:5,000>



<Svalbard islands digital topographic map on scale of 1:25,000>

## High Definition Road Map

- Producing High Definition Road Map for commercialization of autonomous vehicle in 2020
  - From 2015, Producing High Definition Road Map that accurately describe roads and surrounding facilities



Honam Plain,  
the largest plain in Korea  
NGII measured  
the size of the plain and added  
its geospatial information to map.  
NGII also believe that  
our land will become the land of milk and honey,  
so that it will produce the bread of life for our children and  
provide strong energy.

## We learn from the Land



National Geographic Information Institute hopes to become  
a hub of Korean geospatial information through land surveying  
and administration of geographical names.

"The Republic of Korea has a world power in national geographic information that can find  
how many rice paddies and mountains are in your hometown with just a few clicks."



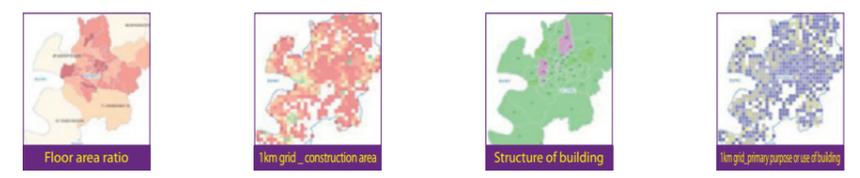
## Monitoring national territorial indicator and management of geographical names

Accurate measurement and statistics are the cornerstone of future competitiveness. National Geographic Information Institute is also researching population, economy, society, culture and land use to support the formulation of policy toward national territory while modifying geographical names nationwide.

### Land Surveying

Provision of Statistic Information  
from Land Surveys

Studying 180 national territorial indicators including population, building and land, managing these indicators to be utilized as data for policymaking and providing analysis of statistics of the indicators through certain grid charts.

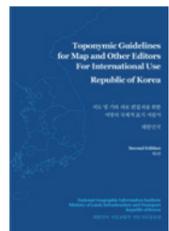


## Management of Geographical Names

- Legislating new geographical names continuously through Committee of Geographical Names and modifying geographical names in North Korean and Japanese styles
- No. of notified geographical names: Approx. 150,000
- Notifying geographical names from National Geographic Information Institute through deliberation of Regional Committee of Geographical Names after final decision made by National Committee of Geographical Names
- Issuing and distributing Origins and History of Geographical Names to improve cultural and economic values as well as arrange historical process of changing geographical names
- Managing notification of geographical names by the operation of Geographic Names Management system and supporting work convenience of person in charge of geographical names at local government office by sharing materials of geographical name standardization and modification

## International Activity for the correct use of Korea's geographical names

- Joining U.N. Conference on the Standardization of Geographical Names (UNCSSGN) and U.N. Group of Experts on Geographical Names (UNGEGN)
  - Participating in conferences of experts worldwide on international geographical names to collect information and seek cooperation with international organizations for further management of and policy research on Korea's geographical names
  - Raising global awareness of Korea's geographical names by publicizing accomplishments and achievements of NGII activities on popularization and standardization of geographical names



Distribution of Toponymic Guidelines for Map and Other Editors for International Use

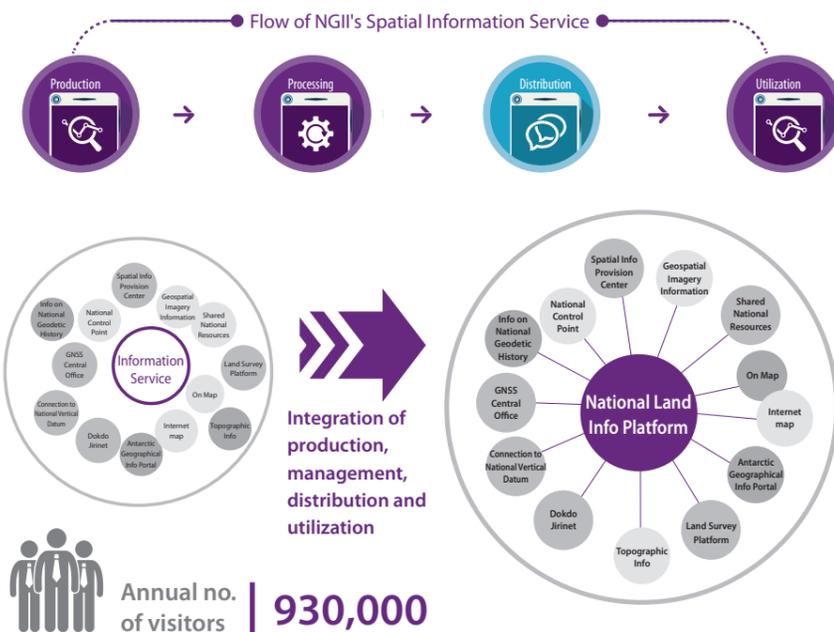


View of UNGEGN conference

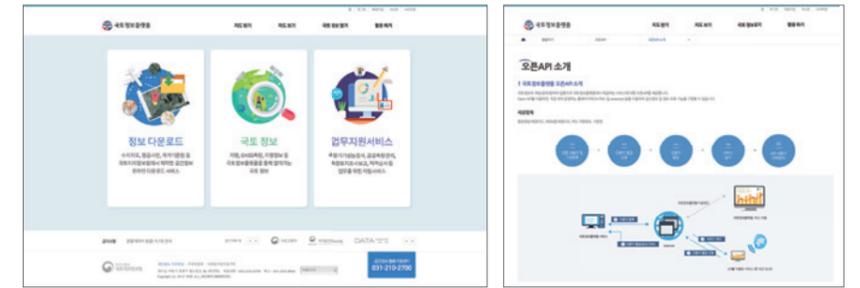


Distribution of publications introducing Korea's geographical names

- Summary: Web service that provides 57 kinds of geospatial information produced or possessed by NGII



## Geospatial Information Platform (map.ngii.go.kr)



- Platform service contents
  - Download Service: Every geospatial information produced by NGII such as digital maps, aerial photos and national control points
  - National geospatial information: data on geographical names, GNSS surveying, topographical features provided through Geospatial Information Service Platform
  - Business support: Supporting service for business such as surveying instrument performance testing, public surveying management, study and reports on surveying marker points and qualification examination

- A list of downloadable Geospatial Information for free

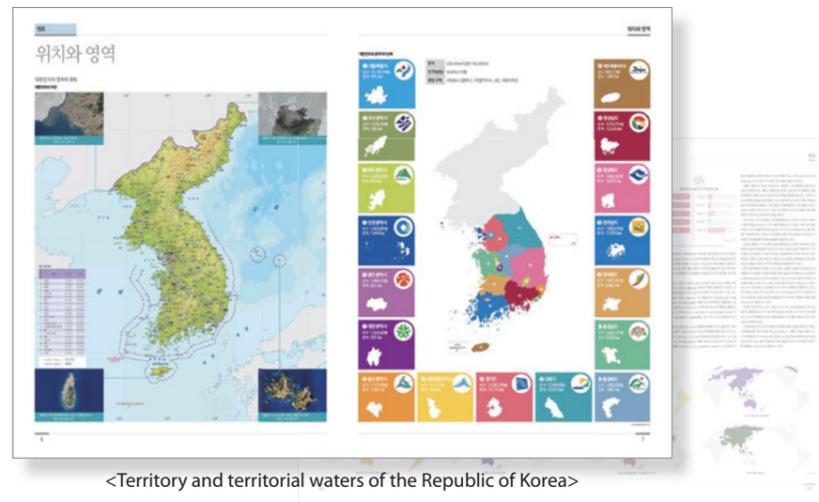
Classification	Type
Digital Map	Digital Topographic Maps V1.0 (1:1,000, 1:2,500, 1:5,000, 1:25,000, 1:250,000 scales)
	Digital Topographic Map V2.0 (1:1,000, 1:2,500, 1:5,000 scales)
	The Nationwide Seamless Digital Maps (1:5,000 scale)
	Map of Land Characteristics (1:1,000, 1:5,000 scales)
	Land Use Map (1:25,000 scale)
	Base maps for coastal waters (1:25,000 scale)
	Basic Geospatial Information (1:5,000 scale)
	Digital Map of North Korea (1:25,000 scale)
OnMap	Precision Road Map (1:500 scale)
	1:5,000, 1:25,000, 1:50,000 and 1:250,000 scale World Map, Korea's Complete Map and Map of Korea and Vicinity
Control Point	Triangulation Point
	Bench mark
	Integrated Control Point
	GNSS Observational Station (RINEX Data)
National Geospatial Imagery	Aerial Photograph
	Orthophotograph
	Open DEM
Old Map	Old Topographic Map
	Topographic Map before Independence Day
Others	Old Western Map, Modern & Contemporary Map, Old Japanese Map, Old Korean Map
	Dokdo Geography, Korea Geography
	Toponymic Guidelines for Map and Other Editors: For International Use, Origins and History of Geographical Names
	Korean History of Cartology Development
	National Atlas
	World Map, Map of Korea and Vicinity
Open API	Complete Map of Korea
	Internet Map (Background Map), POI (Search API), Imagery Map (Background Map), Control Point (Location Information), Geographical Names (Location + Property), Statistical Map (Map)

## Publication of National Atlas of Korea

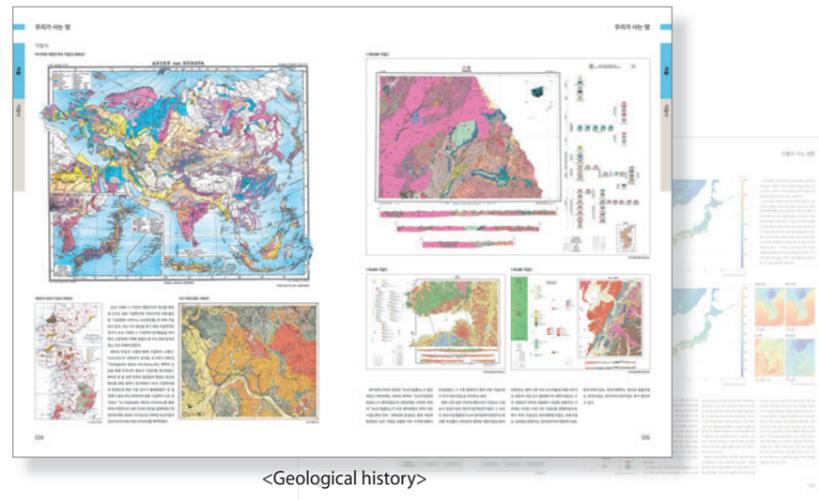
Vol. 1 (Territory & History)



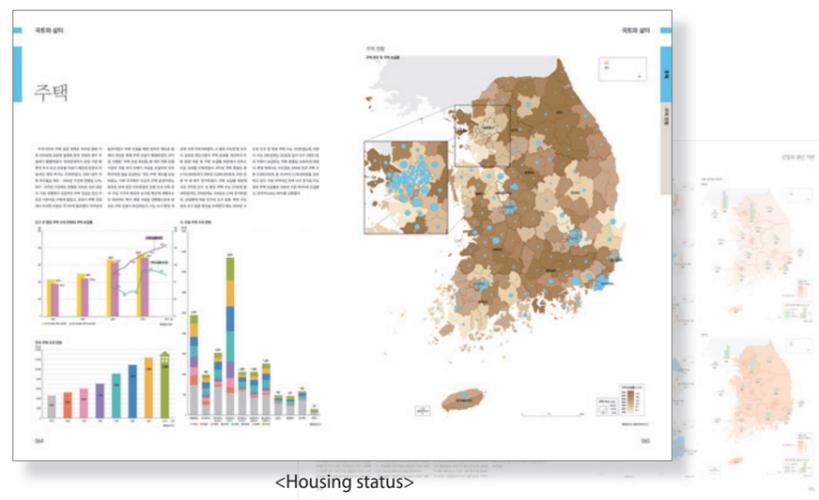
- Publishing National Atlas of Korea by combining maps with statistical information on territory and natural and human environment and distributing it to major organizations, universities and libraries around the world to boost Korea's global exposure and standing
- Available for download at "nationalatlas.ngii.go.kr"



Vol. 2 (Land & Natural Environment)



Vol. 3 (Land & Human Environment)



## Card News



**“The greatest map throughout history,”**

A great man who realized his dream of sharing the exact roads with all, devoting his 60-year life for the people 150 years ago!

**Daedongyeojido, Kim Jung-ho (pen name Gosanja)**

The map of Korea resembles the **60-year** life of **Kim Jung-ho, aka Gosanja**

National Geographic Information Institute, going the same way with the history of the map of Korea since 1958, is going toward the era of the Fourth Industrial Revolution from analog to digital. Resemblance to the self-innovation achieved by Kim Jung-ho, aka Gosanja, in his lifetime

**Technology to hold the world in your hands**

National Geographic Information Institute, after receiving technical assistance from the Netherlands, completed a 1:25,000-scale map of Korea after nine years. Currently, anyone can see the world with geospatial information accurate to mm.

Average no. of cases in providing geospatial information per annum: approx. **8.3 million**

- No. of digital topographic maps: approx. 7.7 million
- No. of aerial photographs: approx. 60,000
- No. of orthophotographs: approx. 200,000
- No. of national control points: approx. 100,000
- No. of OnMap, paper maps, precision road maps and old topographic maps: approx. 240,000

Average no. of visitors to National Map Museum per annum: approx. **30,000**

**Future Gosanja**

National Geographic Information Institute, based in Suwon, Gyeonggi Province, as an affiliate of the Ministry of Land, Infrastructure and Transportation, is continuing the passion of Kim Jung-ho Kim aka Gosanja.

The future Gosanja who opens the path of the earth and sea, the sky and universe, begins here.

Detached homes and apartments,  
the most common housing types in Korea  
NGII staff organized  
the sizes of these houses as well as  
geospatial information on various buildings.  
And NGII staff know that  
the reliability of information on these homes and  
buildings is important like a spouse or life companion.

## We learn from the Houses



*National Geographic Information Institute hopes to become a reliable house of Korean geospatial information through international cooperation and public service.*

*"NGII seeks to resolve global issues in geospatial information together with the 7.5 billion people across the globe, while seeking a brighter future for Korea's geospatial information through National Map Museum and On Map Contest."*



## NGII is striving to propagate knowledge and experience on the establishment of geospatial information to less developed countries

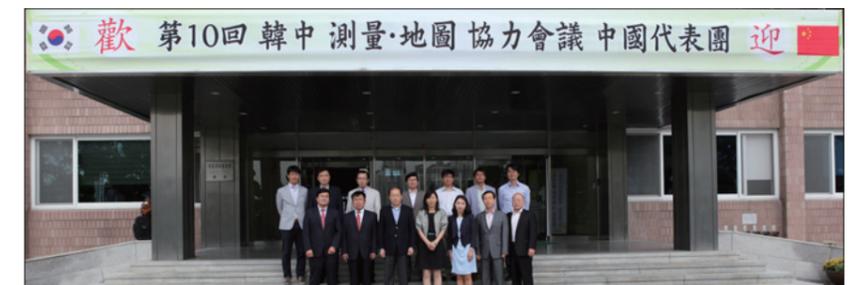
Korea started producing maps in 1966 through support from the Netherlands. Thanks to its continuous technological development, Korea can now pass on its knowhow to the world, while helping domestic companies expand overseas. Moreover, National Geographic Information Institute is providing a public service by running the National Map Museum, education programs on geospatial information and the Public Support Center.

### International Cooperation

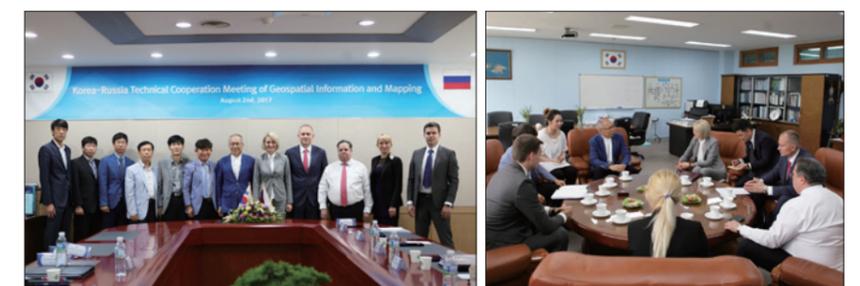
- Bilateral Meetings:**
  - Korea-Japan:** In accordance with the decision reached at science and technology ministers' meeting between Korea and Japan, an annual cooperative meeting has been held for technical and information exchange on geodesic measurement and mapping.



- Korea-China:** The conclusion of the 2005 memorandum of understanding on measurement as well as mapping and science and technology between Korea and China was meant to promote annual cooperative meetings for diverse technical exchanges on measurement as well as mapping.



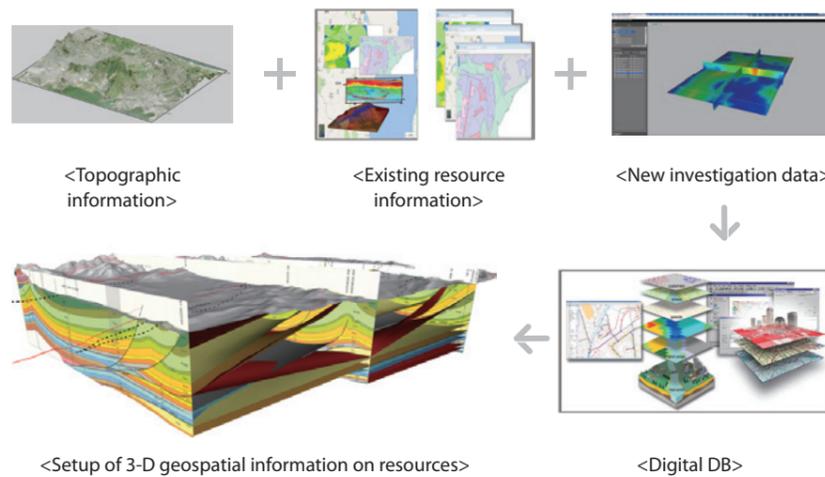
- Korea-Russia:** Through the integration of Russia's geospatial information-related organizations in 2009, a new MOU was signed between Korea and Russia in September 2016 and both nations held a cooperative meeting in August 2017 at the Eastern Economic Forum attended by the leaders of the two countries.



- Participating in UN Conference on Global Geospatial Information Management (UN-GGIM)
  - Seeking cooperation among countries, international organizations and the private sector to manage global issues such as earthquakes, tsunamis and climate change through the utilization of geospatial information



- Participating in the African Minerals Geoscience Initiative (AMGI) Project
  - Participating in official development assistance (ODA) initiated by the UN and World Bank to support Korean companies in geospatial information and resource development expand to Africa

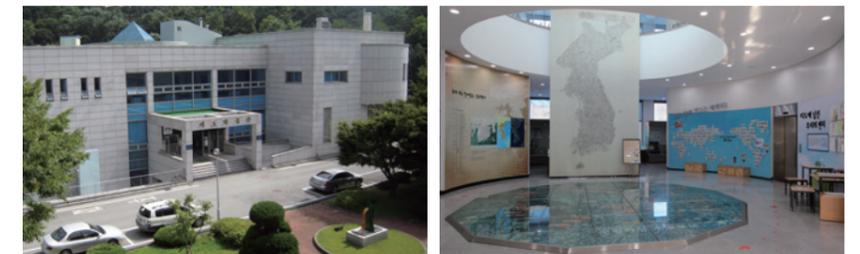


- Operating Eurasian SDI (Geospatial Data Infrastructure) Initiative
  - Signed MOU on building geospatial information infrastructure in Eurasia and sought diverse cooperative plans
  - Supporting Korean companies in entering Eurasian geospatial information market through introduction of knowhow in setting up Korean geospatial information infrastructure



### National Map Museum

- Consists of Center Hall, History Hall, Modern Hall and Open-air Exhibition Hall and displaying variety of antique maps and surveying equipment for better understanding of surveying and mapping and raising awareness of national territory
- National Map Museum :
  - Opening hours: 10:00 - 17:00 (closed 12:00~13:00)
  - ※ Closed New Year's Day (Jan.1) and Lunar New Year and Chuseok holidays
  - Admission: Free
  - ※ For individuals or families, no reservation is needed for a visit during the opening hours mentioned above.



### Educational Service

- Education for creative talent: Three days of classes for public officials and teachers on basic theory and practices of geospatial information
- Visiting Service: Introducing mapping process and map utilization methods to students by visiting elementary, middle and high schools
  - Application: Conducting survey on demand of elementary, middle and high schools nationwide in first half of each year → Selecting schools through reception of applications

### Public Support Center

- Management of surveying business registration: running registration services such as new and modified registration for surveying businesses managed by NGII (geodetic surveying, coastal investigation and surveying, aerial photography, geospatial imagery drawing, image processing, digital mapping, cartography and underground facility surveying)
- Issuance of aerial photographs: Providing prints of aerial photographs requested by visitors (KRW 2,000 per print)
- Issuance of old topographical maps: Providing prints of topographic maps issued between 1957 and Independence Day (KRW 1,000 per print)
- Issuance of final results table of national control points: Providing printouts of final results table of integrated control and control points and triangulation
- Location: First floor of National Geographic Information Institute HQ

## Geospatial Information Application Support Center

- Providing consulting with outside professionals on inconveniences and questions on utilization of geospatial information
- Tel: +82-31-210-2700

## Contests

Gold prize winner of 17th Global Children's Map Drawing Contest

- Children's Map Drawing Contest: held every year
  - Map drawing contest for elementary school students with grand and school excellence prizes, gold, silver and bronze medals, and special awards
- Global Children's Map Drawing Contest



- OnMap contest: Hosting annual competition for all Koreans and awarding prizes to those showing exemplary cases on On Map utilization



OnMap contest

## Operation of Public Surveying System

- Management of surveying standards, procedures and methods to guarantee accuracy of survey results for public safety and effective management of public facilities



## Responsible Administrative Agency

NGII is the only one mapping and surveying agency, which is run by responsible administrative agency since 2001

### What is a responsible administrative agency?

A responsible administrative agency is an administrative organization that is required to **"secure operational performance"** due to its specialty with **"autonomy in budgeting and personnel affairs"** granted to its head to take **"responsibility for the results of its own operations."**

### Evaluation

- Assessing degree of user satisfaction with services of geodetic control points, aerial photographs and digital maps
- Assessing results of NGII's key performance indicators yearly
- Evaluating responsible administrative agency's managerial competencies such as leadership and organizational efficiency

### Planning

- Setup of mid-term management plans for responsible administrative agency
- Setup of annual plans for responsible administrative agency based on the mid-term management plans
- Setup of key performance indicators of responsible administrative agency every year

### Implementation

- Carrying out projects and tasks of individual departments to achieve prescribed performance indicators
- Conducting continuous management through quarterly inspections of task results



Ten years later

Twenty years later

Thirty years later

People who will provide location framework in an innovative way  
 People who provide geospatial information with mass customization  
 Are the people of National Geographic Information Institute.  
 Even in a cutting-edge tomorrow  
 Make people warm,  
 People who know how to make it first,  
 Space information that makes human life abundant,  
 Are the people of National Geographic Information Institute.

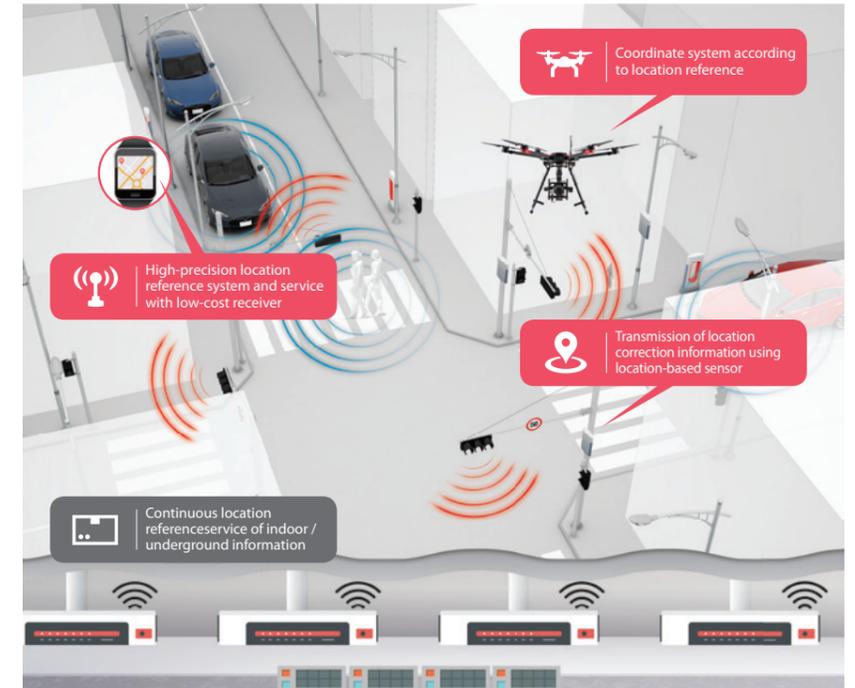
## We learn from the Future

**National Geographic Information Institute,**  
 through providing high-tech geospatial information,  
 seeks a brighter future for Korea's geospatial information.

*"We prepare a super connected location reference network coping with the future and provide customized services tailored to the future demands of geospatial information"*

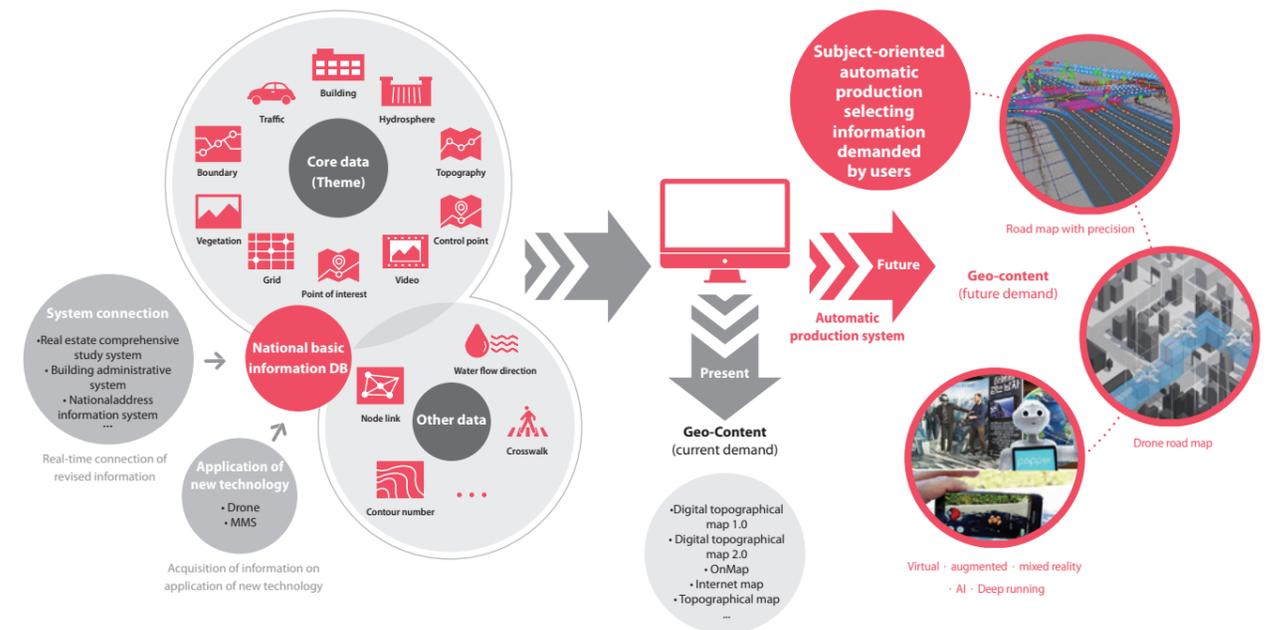
### Super connected location reference framework

- Possible to use all location reference information via one click by 2022
  - Resolving disconnection of GNSS signal / bad segment
  - Utilizing things other than measuring devices such as smartphones, drones and autonomous vehicles
  - Seamless location reference service for underground / indoor geospatial information



### Mass customization of geospatial information

- [Information construction] We will set up geospatial information achieving people's can be satisfied with
- [Information management] We will update and provide daily
- [Information derivation] We will streamline production system and prepare for future
- [Providing information] We will provide customized geospatial information to people
- [Improvement of business process] We will change method of work



**National Geographic Information Institute will  
upgrade the future of Korea through valuable  
geospatial information.**

As the country's leading producer of geospatial information,  
NGII is gathering the strength and wisdom to provide customized  
convergence service of geospatial information

**There is the NGII at the center of geospatial information**



**NATIONAL  
GEOGRAPHIC  
INFORMATION  
INSTITUTE**

# NATIONAL GEOGRAPHIC INFORMATION INSTITUTE

National Geographic Information Institute will stay by your side at all times.



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