

SPATIAL INFORMATION RESEARCH INSTITUTE

Leading Korea's Geospatial Information Research

As the only institute in Korea researching territorial and geospatial information, one of the country's new growth engines, the Spatial Information Research Institute (SIRI) serves as the hub of Korea's geospatial industry



Ahn Jong-ho, Director of the Spatial Information Research Institute

Ahn Jong-ho, Director of the Spatial Information Research Institute, noted that the export of spatial information technology is gaining momentum with its e-Government business entering the global market, adding that the technology is expected to emerge as another cash cow for exports. He said the institute will analyze the global spatial information market and prepare market penetration measures, such as the establishment of a consortium consisting of large and small businesses in the industry and more sophisticated endeavors in R&D in order to construct a more solid infrastructure. What follows are experts from an interview with him.

Firstly, please introduce your organization, the Spatial Information Research Institute, and its major goals and projects.

SIRI is an R&D arm of the Korea Cadastral Survey Cor-

poration. It was established in March this year and is the only lab in Korea dedicated to the research and development of spatial information technology, growth of the geospatial data industry, and innovation in cadastral survey systems.

Since day one, the institute has striven to maximize the sector's growth potential, systematize research on policy and technology and encouraged personnel in order to make the organization a global geospatial hub. At the same time, it has made efforts to go beyond research limited to cadastral surveys and instead cover a wide scope of policy, systems, technologies and international cooperation in the field of geographic and spatial information.

What is the difference between "Vworld," the 3D open platform developed by Korea, and global maps provided by other countries, and what is its influence upon the development of cadastral technology and administration?

First of all, the data offered by "Vworld" (Virtual World) are under systematic management since the development of the platform was led by the government. Also, it provides high-resolution aerial pictures and high-quality 3D (3 Dimensional) maps using underground facility information systems, as well as a variety of images and content regarding geographical features, topography, building information, cadastral data, etc. Vworld is renewed frequently and can thus provide users with up-to-date information and data.

At present, the cadastral industry is undergoing a transition from two-dimensional point-data based technology to three-dimensional location-based technology. The focus of survey equipment technology is shifting from ground to aerial and satellite survey and from 2D to 3D as well. In terms of cadastral administration, combination between the 3D maps and cadastral data can lead to fewer errors in work related to land and building ownership and fewer civil disputes, this improving efficiency and public confidence.

What do you think of the technological competitiveness of Korea's cadastral and geospatial information industry? What is your organization doing to raise its competitiveness?

Although Korea's geospatial platform cannot stand comparison with those of advanced nations such as the Google Earth as far as information services are concerned, I still believe that the country can rank with others when it comes to the collection, processing and management of information and data. SIRI, in order to enhance the competitiveness of the service segment, is working hard on the development of new and better geospatial information services.

Korea is also one of the top in the world in the field of cadastral survey techniques. However, numerous problems have been found in its cadastral maps, which are the basis of cadastral surveying, with some being as old as 100 years. It is in this vein that the government started its cadastral resurvey project this year. Once these problems are solved, Korea's competitiveness level in the sector will be at least 90% that of advanced nations'.

SIRI is also doing a lot of things to sharpen the competitive edge of the industry. Examples include the consideration of the utilization of small unmanned aerial vehicles (UAVs), the introduction of 3D cadastral models, application of cadastral survey techniques using GPS/GNSS and the establishment of basic plans for the resurvey project.

How is your organization cooperating and working with foreign counterparts?

SIRI has made great efforts to set up cooperation networks with leading research institutes in advanced countries through personnel and academic exchanges. It has signed MOUs with the Delft University of Technology, the University of Twente, and so forth in the Netherlands for 3D cadastral standardization and joint research.

More recently, it concluded another MOU with the Institute of Geodesy, Cartography and Remote Sensing under the Hungarian Ministry of Rural Development for similar purposes. These agreements will result in the joint development of next-generation 3D systems suitable for international land administration domain model (LADM) standards and greater information exchange and research collaboration.

In addition, SIRI is taking part in FIG or International Federation of Surveyors, as well as planning to sign an MOU with FIG next year so that some of its employees can work abroad and the FIG Standing Committee meeting and general assembly can be held in Korea. Furthermore, SIRI has established a firm cooperative relationship with its Chilean counterpart for more successful overseas business.

What is the organization doing and what is its reputation in regards to international standardization?

Not only is SIRI an institutional member of the Telecommunications Technology Association (TTA) and the Open Geospatial Consortiums (OGC), it is also in possession of two cadastral information standards -- TTAK.KO-10.0503 (cadastral information data model) and TTAK.KO-10.0504

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(cadastral information product specifications) -- and has participated in the ISO/TC211 meeting, while also striving to turn TTA's data model standards into international ones.

It has been engaged in domestic and international standardization projects covering the new address system, resurveying, cadastral systems and geospatial information in 2012. Next year, it will further diversify its activities both at home and abroad in regards to the establishment of global standards and more actively participate in international organizations such as the OGC.

What is the future vision of SIRI, and what will be its top priority projects next year?

As I said earlier, SIRI is an affiliated organization of the Korea Cadastral Survey Corporation, which is a total solution provider and value creator in the national geographic information industry. SIRI's vision is to become a world-class research institute, one leading Korea's research into geospatial information. To this end, it will make good use of this year's accomplishments and further advance R&D efforts so that it can become the leading R&D control tower in Korea's geospatial industry.

It recently selected 12 specific action plans in four key research fields -- policy research, future project research, key technology research and research on domestic and international cooperation. Specific tasks include joint research with the United Nations on climate change and green growth; development of GPS and visual apps; research into the cadastral data and spatial information of North Korea; improvement of cadastral surveying processes; study of marine cadastral systems; and the development of virtual reality systems and a national territorial information system.

Inside the organization, it has been reshaped into seven small teams for higher research efficiency and professional development and is currently recruited more engineers and researchers. At the same time, it will continue to function as the hub of the geospatial industry.

I hope that the general public will give some words of encouragement down the road as SIRI, the only institute in Korea researching territorial and geospatial information, contributes to the future development of the industry, one of the country's new growth drivers. 