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STATEGEOCADASTRE
DIGITALIZATION • DEREGULATION • DE-SHADOWIZATION

JICA

INFORMATION DIGEST
OF THE CAPACITY DEVELOPMENT PROJECT FOR UTILIZING THE NATIONAL GEOSPATIAL DATA INFRASTRUCTURE IN UKRAINE: SPECIAL ISSUE

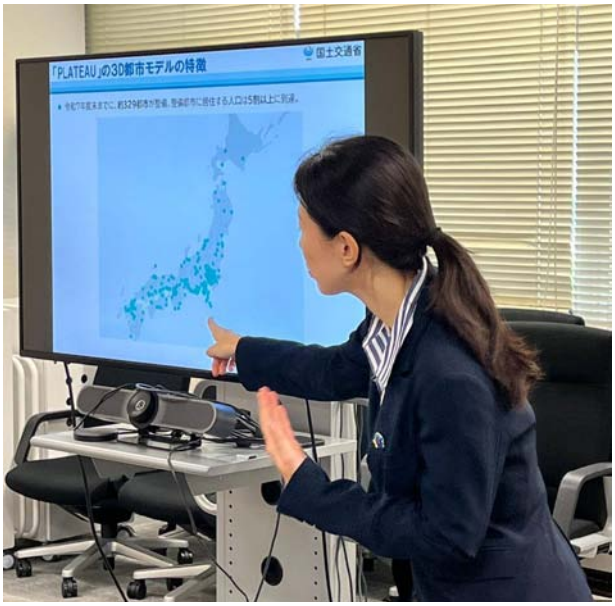
CONDUCTING STUDY TOUR IN JAPAN AND ENHANCEMENT OF THE C/P'S ABILITIES

Study Tour – the informal name of the D2 Element of the Capacity Development Project for Utilizing the National Geospatial Data Infrastructure in Ukraine, which is implemented with the support of the Japan International Cooperation Agency (JICA) and the Beneficiary of which is the StateGeoCadastre. The Element involves familiarizing Ukrainian specialists with external practices of using and developing of the NSDI at various innovative stages in the spheres of public administration and public life, as well as a series of meetings and consultations with Japanese specialists.

The Study tour took place in the first decade of June 2026. The Ukrainian delegation included scientists, practitioners and representatives of the Beneficiary's line departments who are directly involved in the NSDI development and the creation of appropriate digital tools.

The Japanese side involved high-ranking representatives of specialized scientific institutions, local governments, and educational institutions.

The educational program of the visit was focused on the implementation of the process of accumulation and organization of interpenetration of data arrays and blocks from different areas. Japanese achievements in this direction clearly demonstrate that, when processed and transformed into specific digital services, multi-component information can significantly increase the efficiency of decision-making and overall management processes at various levels of state bodies, local authorities, scientific institutions and the private sector. Ukraine is consistently and successfully building its own NSDI system – with an adjustment for military risks and the objective need to close part of the data for national security reasons and taking into account external experience, it will be able to move even further on this path.



Dmytro MAKARENKO, Chairman of the State Service of Ukraine for Geodesy, Cartography and Cadastre

The constant process of learning, deepening and expanding the acquired knowledge is an important component of the professional and personal development of specialists, contributing, in general, to the development of the sectors of the national economy and infrastructure to which they relate.

The educational element of the Capacity Development Project for Utilizing the National Geospatial Data Infrastructure in Ukraine, which is implemented in partnership with the Japan International Cooperation Agency (JICA), provided Ukrainian professionals – cartographers, engineers, and surveyors – with unique access to the arrays of experience and knowledge that the Japanese side acquired during the development of the NSDI.

Within the Study Tour, specialists from the StateGeoCadastre and related institutions clearly saw how modern geospatial data platforms function and are administered, how they are combined into a single ecosystem and implemented in private business, education, and public administration. These are specific tools and practices that can be transformed and integrated into the Ukrainian economic and social environment.

Data arrays are a strategic resource that must be transformed into digital products and used as effectively as possible for the benefit of the state.

No mathematical model, no auxiliary tools, including Artificial Intelligence, can fully work if they are not based on correct data, and this data does not complement each other.

Ukrainian specialists who are consistently developing a geospatial data system will be able to use the applied experience of Japanese colleagues in the accumulation, storage and use of NSDI, transforming it into innovative technologies that will contribute to the development of both individual territories and communities, and the state as a whole.

I would like to join my colleagues in sincerely thanking the organizers of the Study Tour, the donor management and, in general, everyone involved in its preparation for their efforts and professional approach.

Cooperation with JICA is invaluable both as an element of supporting the current capacity and development of geospatial data infrastructure in Ukraine, and in the context of post-war reconstruction.

Keiji YAMADA, Project Manager, Kokusai Kogyo o., Ltd

The collaboration between JICA and Ukraine on geospatial information began with the first phase, the «Project for Creation of a National Geospatial Data Infrastructure of Ukraine (2015–2018).» In this first phase, we demonstrated the development of a NSDI prototype targeting Vinnytsia, promoted the standardization of geospatial information, and carried out related technology transfer. I was deeply impressed by the high level of expertise and the proactive, self-reliant initiative demonstrated by our Ukrainian counterparts.

The current project, which marks the second phase, commenced in February 2022. Building upon the achievements of the first phase, this project aims to develop specifications for geospatial information, integrate and standardize geospatial data from various administrative agencies, and promote its utilization by raising awareness and publicizing the benefits of using the NSDI to the government, private sector, and general public. While the project is characterized by many initiatives that require outreach to numerous data holders and potential users, the Russian military invasion shortly after its launch has made face-to-face collaboration on the ground virtually impossible. Despite the constraints of this highly restricted remote working environment, we have already achieved significant results.

Now, more than four years after the start of the project, I was deeply moved to finally meet my Ukrainian colleagues face-to-face here in Japan and accompany them during their training. Needless to say, the training itself was highly beneficial, and its outcomes will undoubtedly be reflected in our future efforts; however, this experience made me realize more strongly than ever the paramount importance of human connection and fostering mutual trust. Although the project will continue to be implemented in a remote environment until 2027, this training has further strengthened my confidence that we can successfully complete it with outstanding achievements.

Kateryna MANTIUK, Head of the International Cooperation and European Integration Division of the StateGeoCadastre

The study tour to Japan as part of the JICA project was an extremely valuable and inspiring experience. It was particularly impressive Japan's systematic approach to NSDI developing, where effective interaction between government agencies, local authorities, scientific institutions and the private sector creates a single ecosystem for geospatial information management.

During the meetings, we had the opportunity to get acquainted not only with advanced technologies, but also with the philosophy of data openness, long-term planning and interagency cooperation. The experience of visiting Japanese government institutions, scientific centers, local authorities and private companies was extremely valuable. Each meeting demonstrated how important innovation, quality data and trust between all participants in the process are. The PLATEAU and Virtual Shizuoka projects were especially impressive, which clearly demonstrated how modern geospatial information technologies can help in decision-making, risk management and sustainable development of territories.

I would like to especially note the hospitality of my Japanese colleagues, their openness to knowledge exchange, and their sincere desire to support the NSDI development in Ukraine. I am convinced that the knowledge gained and the established professional contacts will become an important basis for further improvement of the national geospatial data infrastructure and will contribute to the reconstruction and modernization of Ukraine based on modern digital technologies.

This tour left not only professional impressions, but also a deep admiration for how innovation, strategic vision, and effective cooperation can change society and shape its future.

Natalia SYZONENKO, Deputy Director of the Department – Head of the Division of Methodical and Technological Support, Department of Methodical and Technological Support of the State Land Cadastre Administration, the State Enterprise "State Land Cadastre Center"

I would like to express my sincere gratitude to the Japan International Cooperation Agency (JICA) for the flawless organization and warm welcome in Tokyo.

This visit was an incredible opportunity to learn about Japan's cutting-edge geoinformation technologies, including modern methods of automated data processing from multiple sources. The knowledge I gained about regulatory frameworks, data interoperability, and advanced IT solutions will greatly strengthen our capacity to improve the State Land Cadastre, develop the NSDI, and ensure transparent digital development for Ukraine's successful post-war reconstruction.

I am deeply grateful to all the Japanese government agencies, research centers, and private companies for their openness and for such a valuable exchange of practical experience.

VADYM NESUK, Head of the Laboratory for the Development of Geoinformation Systems Software, the State Enterprise "Research Institute for Geodesy and Cartography"

The visit to Japan became a valuable experience in studying the interaction in the field of geospatial data between state institutions, business and society. For the development of the National Geoportal and the National Geoinformation Service in general, the Japanese approach to building a single point of view of information and ensuring its accessibility is particularly indicative. This is a clear example of how technological solutions become the basis for effective infrastructure management.

No less impressive is the connection of the NSDI with the field of education. A visit to a school where students practically master working with maps using digital tools showed: the future of the geospatial data infrastructure begins with the formation of spatial thinking and working with information from an early age.

Vladyslav HURIANOV, Cartographer of the State Scientific and Production Enterprise "Kartographiia"

The study visit to Japan allowed me to see how geospatial data is used as a basic digital infrastructure for territory management, security, planning and risk response. For me, the experience of combining high-quality basic data, open platforms, standards, digital twins and practical services was especially valuable.

Such an approach is important for the NSDI development, updating cartographic data, spatial planning and supporting post-war reconstruction.

Roman ZINENKO, Head of the Department of Geographic Information Systems and Technologies, the State Enterprise "Research Institute for Geodesy and Cartography"

The study tour to Japan gave me the opportunity to see how modern geospatial data platforms work in practice, combining information from various sources and ensuring its use by the state, business and citizens. The experience of creating digital twins of territories, developing APIs and using artificial intelligence for spatial data analysis was especially valuable for me.

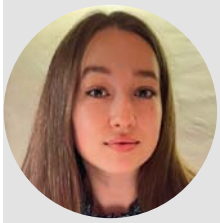
I am convinced that these approaches can be used in the further development of the NSDI of Ukraine and the NSDI National Geoportal of Ukraine.

Vitaliy MANUILOV, Head of the Department of Cartographic and Geodetic Fund and Digital Products, the State Scientific and Production Enterprise "Kartographiia"

This study visit was a good opportunity to systematize my own knowledge in the field of geospatial data, cartography and the functioning of the NSDI, as well as to compare Ukrainian approaches with the Japanese experience. Communication with specialized specialists involved in the creation, updating and administration of geospatial resources was especially valuable.

For me, as the Head of the Department of Cartographic and Geodetic Fund and Digital Products, the greatest interest was aroused by modern approaches to maintaining state cartographic resources, as well as the use of artificial intelligence for automatic updating of cartographic data and detection of changes in the terrain.

The knowledge and practical experience gained will be useful for the further development of digital cartographic products and geospatial services.



Maria KRUTSKO, Chief Desk Officer of the Division of Organization of Topographical, Geodetic and Cartographic Works, the National Spatial Data Infrastructure Development Department of the StateGeoCadastre

The study visit to Japan was a valuable opportunity to deepen knowledge in the field of the NSDI and to become familiar with Japanese experience in its development. It was particularly useful to learn about the practices of government agencies, research institutions, and private companies in the use of geospatial data, open data, digital twins of territories, and 3D city models.

The most impressive aspects were the approaches to promoting geospatial information among the public and integrating this knowledge into the education system. The experience gained and the practical case studies will be useful in my future work and will contribute to the development of the NSDI in Ukraine.

I look forward to the further development of professional engagement and future opportunities for cooperation with Japanese partners.

Yaroslava VIBLA, Cartographer of the State Enterprise "Ukrainian State Aero Geodetic Enterprise"

The study tour to Japan was an extremely valuable professional experience. What impressed me most was how comprehensively they approach the development of territories and infrastructure management there. Of particular interest was the concept of VIRTUAL SHIZUOKA, which demonstrates how modern geospatial technologies, three-dimensional mapping, point clouds, GIS and digital twins can be integrated into the daily activities of government agencies.

As a cartographer, I was particularly interested in seeing that geospatial data is considered not only as a cartographic product, but as a strategic resource for planning, infrastructure management, monitoring of territories and responding to emergencies. This approach shows how important it is today to combine cartography, geodesy, remote sensing and digital technologies for making effective management decisions.

The tour left a very positive impression. In addition to new knowledge, it became a source of inspiration, gave me the opportunity to get acquainted with best practices and rethink the role of cartography in a modern digital society. I am convinced that many of the presented approaches can be adapted and used in Ukraine for the development of geoinformation systems, digital infrastructure and territorial management.

Andrii CHERIN, Leading Researcher, the Department of Geographic Information Systems and Technologies, the State Enterprise "Research Institute for Geodesy and Cartography"

For me, this study visit was primarily an opportunity to systematize my own experience in the field of the NSDI and compare Ukrainian approaches with Japanese practices.

The greatest interest for me was in practical examples of using digital twins, open geospatial data, 3D city models, and spatial analytics to support management decision-making.

This study tour provided an opportunity to better understand current trends in the development of geospatial platforms and confirmed that the NSDI development should move from creating catalogs and data exchange services to building an integrated ecosystem of digital twins, spatial analytics, and AI solutions.

I also see prospects for the NSDI development. The next stage should be the transition from a geospatial data exchange platform to a national ecosystem of digital twins and spatial artificial intelligence, which will provide modeling, forecasting, and decision-making support at all levels of public administration.

Yanina STYKHALSKA, Engineer of the Department of Geographic Information Systems and Technologies, the State Enterprise "Research Institute for Geodesy and Cartography"

The JICA Study Tour provided a valuable opportunity to explore practical approaches to implementing geoinformation technologies and the role of NSDI in modern governance processes. A particularly memorable visit was to Shizuoka, where solutions for infrastructure management using 3D geospatial data and digital modeling tools were presented.

As a GIS engineer, I was especially interested in how complex geospatial data are integrated into user-friendly interfaces and services. The experience gained is valuable and will be applied in my further professional activities.