20th 3DGeoInfo 2025 Conference Report

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From 2–5 September 2025, the 20th International 3DGeoInfo Conference, co-located with the 9th International Smart Data and Smart Cities (SDSC) Conference, was held in Kashiwa, Japan. The event was organized by the lab of Professor Yoshihide Sekimoto at the Center for Spatial Information Science (CSIS), University of Tokyo, together with the PLATEAU team at the Ministry of Land, Infrastructure, Transport and Tourism (MLIT). It brought together researchers and professionals from academia, industry, and government to exchange knowledge and showcase the latest advances in 3D geoinformation science and technology. The event attracted significant international attention, bringing together more than 200 participants from around the world.

Campus view of the University of Tokyo

3D printed model of Kashiwa Campus

Thematically, the conference showcased a broad spectrum of cutting-edge research areas, including 3D/4D data management, visualization and analysis, 3D building and city modeling with semantic enrichment, point cloud analysis and algorithms, BIM–GIS integration and artificial intelligence implementations. In total, 58 papers were presented at the 3DGeoInfo Conference, selected through a double-blind review process conducted by an international program committee.

Conference site: https://www.csis.u-tokyo.ac.jp/3d_geoinfo_sdsc_2025/overview.html

The conference proceedings have been published by ISPRS and are freely accessible:

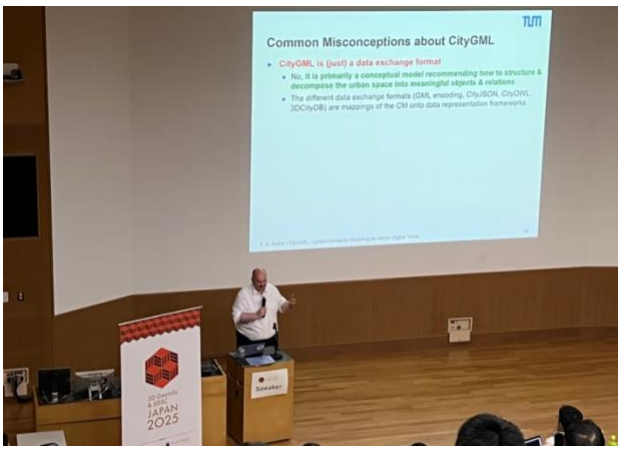
3D GeoInfo: https://isprs-annals.copernicus.org/articles/X-4-W6-2025/
https://isprs-archives.copernicus.org/articles/XLVIII-4-W15-2025/

SDSC: https://isprs-annals.copernicus.org/articles/X-4-W7-2025/
https://isprs-archives.copernicus.org/articles/XLVIII-4-W16-2025/

Over the course of the four-day event, the authors of the accepted papers presented their latest work, covering the diverse themes of the 3DGeoInfo Conference. These contributions introduced numerous novel methods, algorithms, and approaches to address some of the most pressing research challenges in the field. Each day also featured inspiring keynote lectures, offering valuable insights into the development of urban digital twins. The keynote topics ranged from human participation in 3D GIS data and standards development to support digital twins in cities, to the exploration of new technologies shaping the future of cities. In addition, dedicated sessions involved the Government of Japan, local government representatives, sponsors and the Open Geospatial Consortium (OGC).

In total, eight keynote lectures were delivered during the conference. These inspiring talks highlighted cutting-edge perspectives and opened new avenues for research and application. For example, Dr. Clara García-Sánchez presented on how to automatically reconstruct 3D city models for urban flow simulations, covering aspects such as seamless integration with terrain, terrain smoothing and adaptive remeshing, and region-of-interest handling. From the perspective of standards, Michael John Mulquin introduced the development of international standards to support digital twins in cities, emphasizing their importance in providing structure, guidance, and ultimately positive impact for ongoing advancements. In the final keynote, Prof. Dessislava Petrova-Antonova provided further insights into the future of cities, focusing on how digital twins and artificial intelligence are reshaping city sustainability and resilience. All the keynote lectures sparked lively discussions among participants and encouraged the exchange of innovative ideas throughout the conference.

In the common session, the Government of Japan together with local authorities presented their latest technological advancements and national strategies. They introduced GovTechTokyo, a new collaborative platform designed to drive digital transformation across Tokyo, positioning the city as an evolving smart city. In addition, the conference sponsors Re:Earth and FORUM8 Co., Ltd. shared their strategic developments and contributions to the field. Prof. Thomas H. Kolbe participated in the OGC session as an OGC expert, where he emphasized the importance of interoperability for digital twins enabled by standardization. In his presentation, he gave a comprehensive introduction to CityGML 3.0, highlighting its role as the central standard for 3D city models. He also clarified common misunderstandings surrounding CityGML 3.0 and provided clear answers to frequently asked questions from users. Following his talk, he joined the discussion on geospatial standards, where he actively engaged with the audience and responded to questions on standardization.



Prof. Thomas H. Kolbe on OGC session

At the conference, three papers from the Chair of Geoinformatics, Technical University of Munich (TUM) were accepted as oral presentations. Zihan Deng presented “CityGML 3.0 as a Hub: Integrating BIM, GIS, and Point Cloud Data for 3D Streetspace Modeling Comprising Roads, Bridges, and Tunnels”, which demonstrated how multiple different models can be integrated around complex streetspace environments. In addition, he presented “Automatic Transformation of Semantic 2D Lane Models into 3D CityGML Representations”, a workflow designed to automatically generate CityGML 3.0 lane models. Khaoula Kanna presented “Enrichment of Semantic 3D City Models using Large Language Models”, showcasing the use of advanced AI technologies to enhance the semantic richness of 3D city models.

Presentation by Khaoula Kanna (TUM)

Presentation by Zihan Deng (TUM)

On the final day, several awards were presented to recognize outstanding contributions. Khaoula Kanna received the sponsor award from Re:Earth (Eukarya) for her work “Enrichment of Semantic 3D City Models using Large Language Models.” Zihan Deng was honored with the FORUM8 sponsor award for his presentation “Automatic Transformation of Semantic 2D Lane Models into 3D CityGML Representations.” The award for Best Oral Presentation went to Chen Wang from Anhui University for “KCityChatBot: A Knowledge Graph-Based Chatbot System for Large-Scale CityGML Datasets.” Finally, the Best Paper Award was given to “CM2LoD3: Reconstructing LoD3 Building Models Using Semantic Conflict Maps” authored by Antonia Bieringer and Franz Hanke from Technical University of Munich.

From left to right: Prof. Thomas H. Kolbe, Khaoula Kanna, Zihan Deng, and Dr. Ihab Hijazi.

The next instance of the conference will take place in Sofia, Bulgaria, from 28 September to 2 October 2026. It will be co-located with the Smart Data & Smart Cities (SDSC) conference as well as the Land Administration Domain Model (LADM) & 3D Land Administration conferences. The event will be hosted by the GATE Institute and organized under the leadership of Prof. Dessislava Petrova-Antonova. The conference homepage can be accessed from https://conference.gate-ai.eu/GeoSofia2026/ and the paper submission deadline is March 25, 2026.

Participants of the 20th 3DGeoInfo & Smart Data Smart Cities Conference
Source: Center for Spatial Information Science (CSIS)