

ASEAN AUSTRALIA SMART CITIES TRUST FUND Asian Development Bank



Australian Government

**Department of Foreign Affairs and Trade** 

ADB







Huế City, Viet Nam's ancient capital, aspires to become the country's first smart city. In support of Huế's smart city aspirations, the Huế Smart Digital City Model (SDCM) Project is developing a 3D urban master planning tool that will help enhance the city's resilience and efficiency while bridging gaps in urban planning, therby empowering decision-making, and fostering sustainable growth while preserving the city's rich cultural heritage.

### **CONTEXT AND STRATEGIC ISSUES**

The city of Huế, in Thừa Thiên Huế province, boasts a rich cultural heritage as the ancient capital of the country. The city, with its strategic position within Viet Nam's Central Key Economic Zone, is considered an important gateway to the East-West Economic Corridor, which connects to the Indo-Pacific international maritime trade route. As Huế rapidly evolves into a modern metropolis, it faces various urban development challenges. Despite its potential, the absence of a comprehensive urban master plan, coupled with the city's growing needs, hinders its smart city ambitions. Traditional urban planning methods are ill-equipped to manage these challenges, highlighting the critical necessity of a digital platform for integrated urban planning and development.



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SCAN CODE FOR DIGITAL VERSION

### CONTRIBUTIONS TO THE SUSTAINABLE DEVELOPMENT GOALS



The Huế SCDM intends to support attracting investment and fostering sustainable growth as a result of better urban development planning.



The project promotes technological innovation and sustainable infrastructure development via the creation of a digital 3D city model.







The Huế SCDM is envisioned to support flood risk assessment for the city, thereby contributing to climate change adaptation and mitigation efforts.

### DELIVERING A 3D MODEL FOR DATA-DRIVEN URBAN MASTER PLANNING

Following the approval of the Thừa Thiên Huế Master Plan Scope of Works for 2021-2030 and vision to 2050, a provincial integrated master plan needs to be prepared and submitted to the Government. The ASEAN Australia Smart Cities Trust Fund (AASCTF) is collaborating with the Thừa Thiên Huế Provincial People's Committee (PPC) in developing a standardized digital parametric model of Huế City through the Huế Smart Digital City Model (SDCM) Project to help address the city's urban development challenges.

The project's use of satellite data in creating a 3D digital city model offers a cost-effective but precise method of capturing extensive urban areas, thereby providing a scalable and replicable solution for cities to enhance their own smart city development initiatives.

The project developed a object-based master planning model that uses satellite data to produce an accurate 3D digital model of the city, including its landforms, infrastructure, and built structures. Leveraging three-

**HUÉ SCDM PROJECT FRAMEWORK** 

dimensional spatial data of the city enables datainformed urban planning and decision-making, allowing local authorities to easily simulate various urban planning scenarios and assess potential risks before implementation. A capacity development component was also integrated into the project to train relevant city departments in using the 3D model-- an important aspect in ensuring the project's sustainability.

By enabling city officials to visualize and analyze future development scenarios, the Huế SDCM also seeks to improve not only the integration and efficiency of the city's planning systems and governance processes, but also help foster more meaningful collaboration between local government departments, stakeholders, and citizens, thereby bridging the gap between technical expertise and informed citizen engagement.

By combining digital technology with a commitment to preserving the city's rich heritage, the Huế SCDM seeks to transform the city's urban development landscape by promoting orderly urban development, attracting investment, and fostering inclusive, resilient, and sustainable growth.

# **3D Model** ArcGIS digital 3D model of exisitng features from satellite data **GIS Database** Collection of available ArcGIS data Architecture for a centralised and intergrated spatial database **Smart Digital City Model** 3D ArcGIS Urban master planning **Superuser Training** tool to visualize planned Capacity building of model owners to operate and maintain model development scenarios and support sustainable urban management Pilot Model Report Documentation of model specification and attributes of SDCM that support sustainability, Replicablility, Scalability

## ABOUT THE ASEAN AUSTRALIA SMART CITIES TRUST FUND

The ASEAN Australia Smart Cities Trust Fund (AASCTF) assists ASEAN cities in enhancing their planning systems, service delivery, and financial management by developing and testing appropriate digital urban solutions and systems. By working with cities, AASCTF facilitates their transformation to become more livable, resilient, and inclusive, while in the process identifying scalable best and next practices to be replicated across cities in Asia and the Pacific. The Trust Fund is supported by the Australian Government through the Department of Foreign Affairs and Trade, managed by the Asian Development Bank, and implemented by Ramboll.







