

2nd Citiverse Assembly

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Citiverse-related Activities and Initiatives in Korea

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Contents

Korea's smart city evolution: K-AI City

Anyang City: Citiverse-ready Use Case

ETRI's Citiverse initiatives and activities

Global Survey on Citiverse: KR & EU

Conclusion

01 Korea's smart city evolution: K-AI City

Government-driven national programme to embed AI across all city domains

Key Aspects

AI-driven Proactive Management

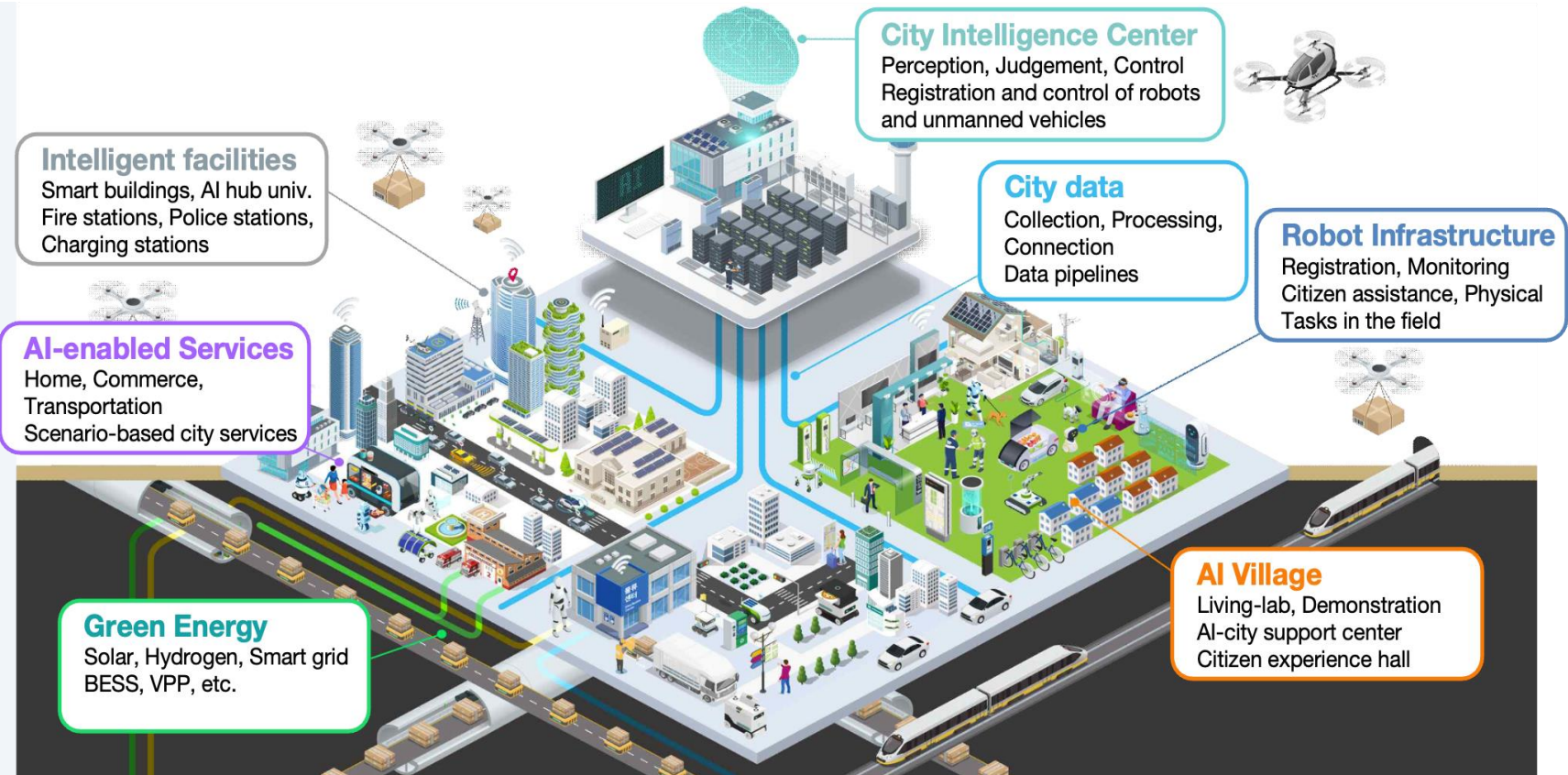
Predicts and resolves city issues before they occur

Cross-domain AI Integration

Connecting traffic, energy, safety, environment and urban operations under integrated layer

Personalised Citizen Services

Tailored public services to individual residents at city scale



Pilot city rollout across four regions underway in 2026

02 Anyang City: Citiverse-ready Use Case

U4SSC-certified city with Smart City Integrated Center



Smart City Integrated Center (Dec 2023)

AI Surveillance: Comprehensive real-time monitoring of traffic, crime, and disaster response.

Emergency Efficiency: Ambulance dispatch time significantly cut from 12 to 6 minutes via signal priority system.



U4SSC KPI Certification (ITU, 2024)

Pioneering Status: 1st Korean local government to obtain the ITU smart city international standard.

Comprehensive Assessment: UN-backed KPIs evaluating ICT and digital impact across 91 indicators (safety, mobility, energy & governance).



Unified 5,000+ AI and IoT nodes across all city domains into a single 24/7 operational command hub

02 Anyang City: Citiverse-ready Use Case

Predictive Simulation based on **Digital Twin and AI**



From reactive monitoring to predictive governance — what AI-enabled urban management looks like

03 ETRI's Civerse initiatives and activities

Collaboration framework for **global standardization on Civerse**



Domestic Collaboration

Establish **coordination group with local governments** and city operators

"Civerse Standardization Forum" will be launched to discuss civerse standardization

Promote civerse and collect survey on civerse requirements and use-case for real uses

Regional Collaboration

Proposing to develop **"APT Report on civerse for Asia-Pacific region"**

Including survey for gathering requirements and use cases from APT member countries

Global Collaboration

Joint workshops or events for sharing experiences on civerse

Collecting use cases and requirements for standardization

Collaborations **to development ITU-T Recommendation** with OASC members involving in ITU-T SG20



ASIA-PACIFIC TELECOMMUNITY



OPEN & AGILE SMART CITIES & COMMUNITIES

03 ETRI's Citiverse initiatives and activities

Standardization work in [ITU-T SG20](#)

ITU-T Y.citiverse-reqts

Requirements of citiverse platform for smart sustainable cities

Focus: Defining requirements for a citiverse platform that enables integrated, intelligent and human-centered urban services through interoperability across heterogeneous city systems and domains

Definition of Citiverse (draft)

an integrated environment that enables urban experience innovation, ensures human-centric urban operation, and supports intelligent and efficient urban management through virtual worlds that represent, and are synchronized with a smart sustainable city

ITU-T Y.citiverse-ai-reqts

Requirements of AI-enabled interoperability in citiverse

Focus: Utilising AI for supporting interoperability across various systems within citiverse

How AI supports integration and large-scale urban planning through intelligent interoperability across independent systems

04 Global Survey on Citiverse: KR & EU

Efforts to develop standard with **global common understandings**

Conducted jointly by ETRI and OASC to analyze international citiverse recognition and current status, capturing stakeholder insights across regions

Questionnaire for citiverse – Concept and use-cases

Greetings,

The Electronics and Telecommunications Research Institute (ETRI) and Open & Agile Smart Cities and Communities (OASC) are jointly working for the standardisation of the citiverse and to support its related development activities.

The citiverse is considered an emerging concept and an advanced evolution of the smart city. It aims to realise a virtual city by linking the physical and digital worlds through the use of emerging Information and Communication Technologies such as digital twins and the metaverse. In doing so, it seeks to enable advanced, immersive, and citizen-centric urban services—such as virtual access to public services, real-time digital twin-based urban navigation, personalized cultural and tourism experiences, and participatory urban planning platforms. These services aim to enrich citizens' urban experiences, foster more active and inclusive public participation, and support intelligent, data-driven urban management.

This survey is intended to collect insights on the definition and enabling technologies of the citiverse, and to explore awareness, expectations, and requirements regarding related services across three key areas: **immersive urban experience, enhanced urban management, and citizen engagement.**

시티버스(citiverse) 개념/유스케이스 설문조사

안녕하십니까?

한국전자통신연구원(ETRI)는 한국전자기술연구원(KETI), 스마트도시협회의 함께 citiverse(시티버스)에 대한 국제표준 개발 과정을 수행하고 있습니다.

citiverse는 기존의 스마트 시티의 진화된 형태로, 디지털 트윈 및 메타버스 기술을 통해 물리 도시와 연결되는 가상 세계를 구현하고 시간 장벽을 초월함으로써, 이를 기반으로 혁신적인 도시 경험 및 상호작용이 빈번한 도시 운영과 효율적인 도시 관리를 지원할 수 있는 지속가능한 통합 도시 모델로서 정의되고 있습니다.

본 설문은 citiverse의 정의 및 요소기술, 그리고 '도시 경험 혁신', '도시 관리 효율성 향상', '시민 참여'의 주요 분항에 따른 유스케이스 및 이에 기반한 다양한 서비스에 대한 인식, 기대, 요구사항을 수집하기 위한 것입니다.

여러분의 응답은 향후 citiverse 요구사항 및 원조 구조 등을 위한 표준 개발에 활용될 예정이며, 개발된 표준을 기반으로 다양한 이해관계자들에게 표준 기반의 가이드라인을 제공함으로써 스마트도시의 고도화를 위한 참고자료로 활용될 예정입니다.

응답 내용은 통계 처리되어 개인 식별 없이 익명으로 활용됩니다.

Korea

n=315

Jun–Jul 2025

Europe

n=19

Aug–Sep 2025

Core Survey Scope

- 🎯 Citiverse definition validation
- 📦 Core technology prioritisation
- 📋 Use case significance & requirements

📌 Same methodology and questionnaire administered in Korean and English.

04 Global Survey on Citiverse: KR & EU

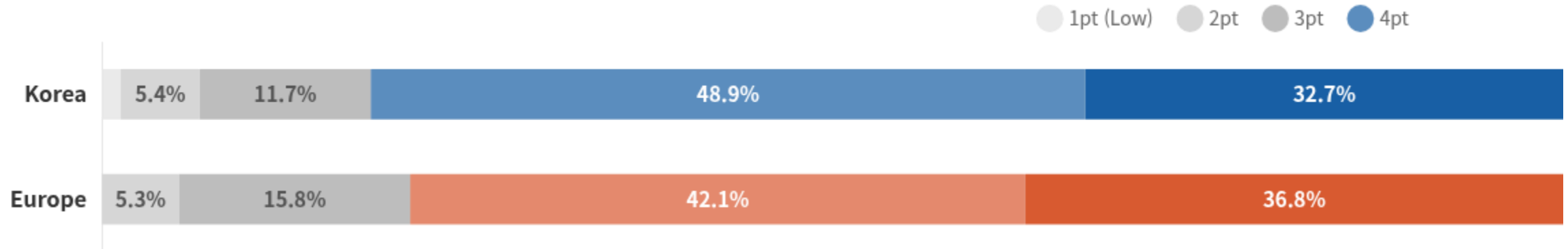
Agreement on Citiverse Concept and Definition

Korea (n=315)

4.06 / 5

Europe (n=19)

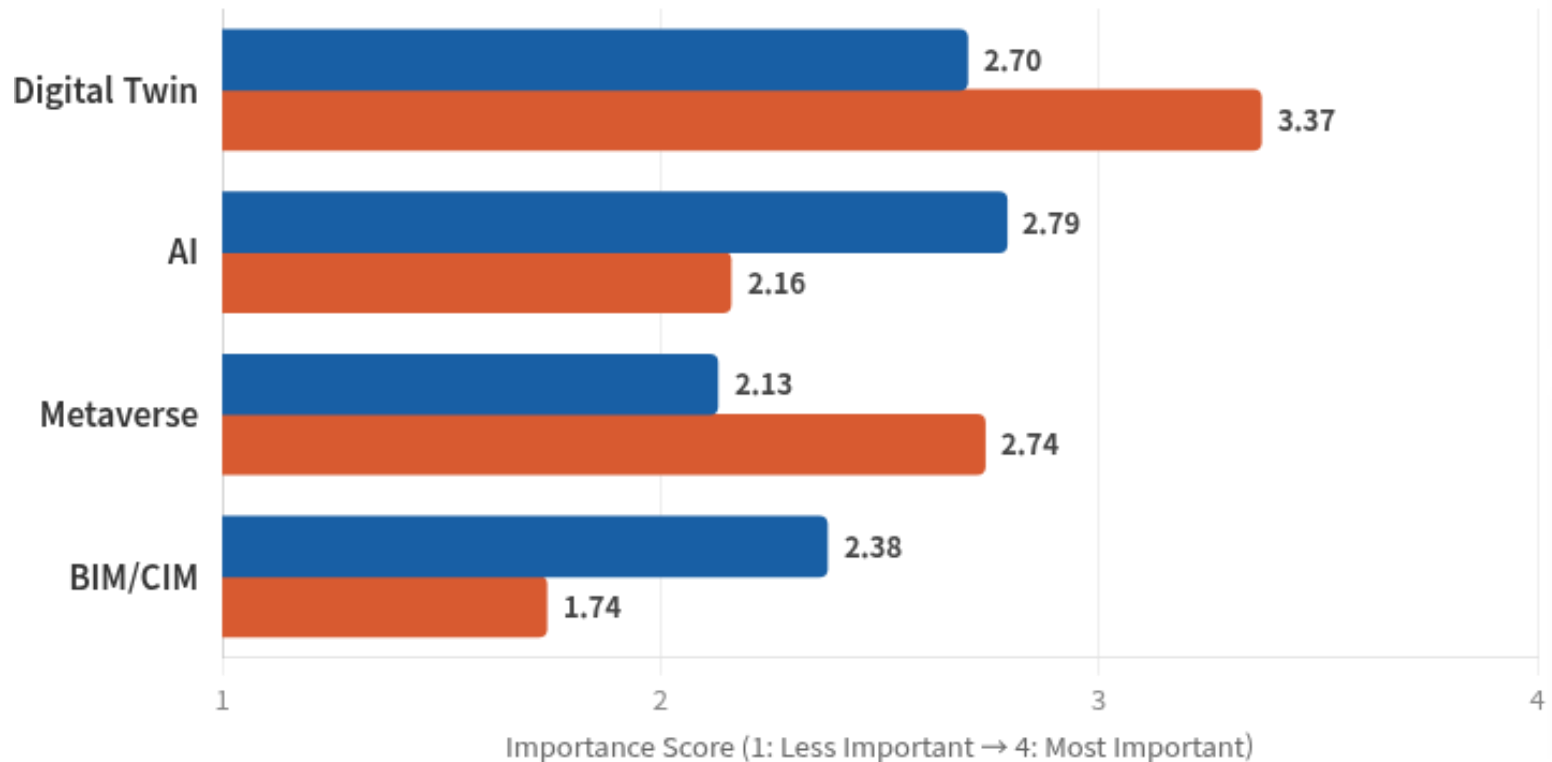
4.11 / 5



80%+ of respondents in both regions scored 4–5, demonstrating strong agreement on the proposed initial Citiverse concept

04 Global Survey on Citiverse: KR & EU

Regional Priorities in Citiverse Technologies



Korea: AI Integration

Korea places strong emphasis on **AI technology (2.79)**, with AI \approx Digital Twin. This reflects an AI-driven approach aligned with national policies.

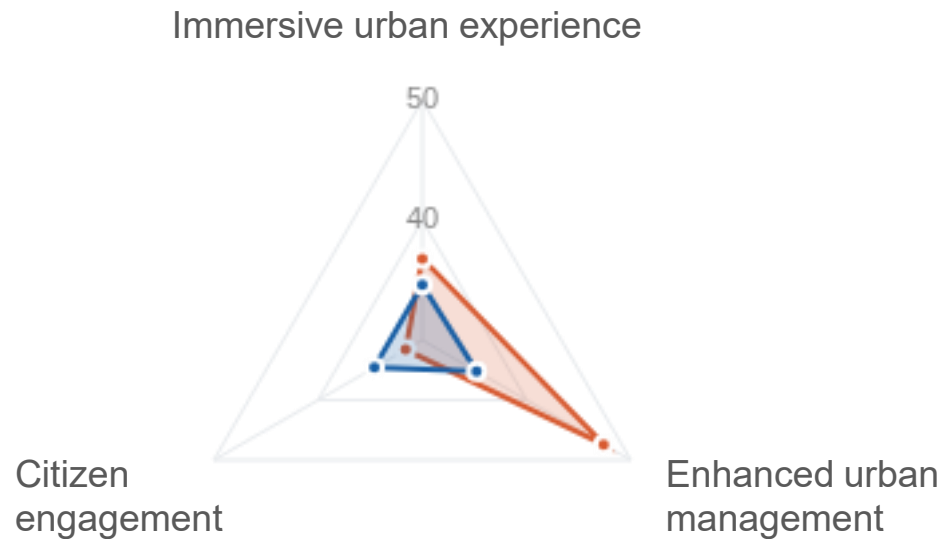
Europe: Digital Twins

Europe prioritises **Digital Twin (3.37)** clearly above other technologies, reflecting an approach centered on local digital twin

04 Global Survey on Citiverse: KR & EU

Use Case Priorities & Expected Contribution

"Very Important" Response Rate (%)



Expected Contribution to Citiverse (1–5 scale)

	Korea	Europe
Immersive Urban Experience	4.02	4.42
Enhanced Urban Management	4.24	4.26
Citizen Engagement	3.90	4.11

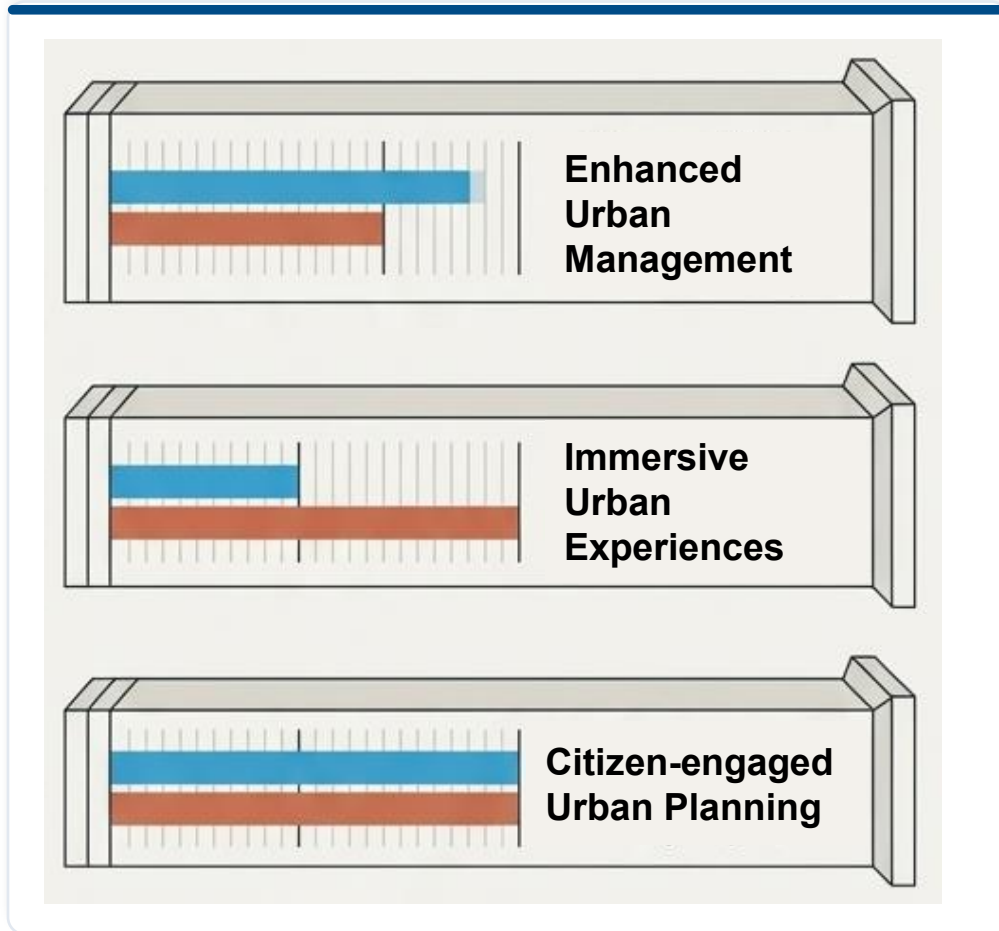
💡 Key Regional Patterns

Korea: Evenly distributed priorities across all three domains with consistent emphasis (34.6% - 35.2%).

Europe: Urban Management clearly stands out (47.4% Very Important), while Immersive Experience shows a wider diversity of opinion.

04 Global Survey on Citiverse: KR & EU

Importance of Citiverse Use-case Categories



① Enhanced Urban Management

Both regions rate this highest

Korea scores notably higher, reflecting K-AI City policy emphasis



② Immersive Experiences

EU shows stronger interest (XR/metaverse layers)

Korea's lower score signals standardisation opportunity



③ Citizen-engaged Planning

Korea ranks this highest among the three

Digital twin-based public participation is a growing priority

05 Conclusion

Korea's Perspective on the Global AI-enabled Citiverse



Infrastructure is in Place

Cities have built the AI and IoT foundation — ready to contribute real-world evidence to global standards



Standards are Moving

Contributing to define interoperability requirements that can serve as global standards for the citiverse



Global Insights to Action

A joint survey with OASC surfaced use cases and priorities across regions, ready to feed into ITU-T standardization.

ETRI stands ready to collaborate — bridging insights and ITU-T to build the global AI-enabled citiverse ecosystem together

Thank you · kjsun@etri.re.kr