# AI Transformation for Society

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# The Paradigm Shift of AI

AI is evolving beyond traditional decision support to become an integral part of autonomous operations.

### Embedded directly into operational systems

AI is no longer an external layer. It is integrated directly into smart city infrastructure, utility grids, and industrial control systems for seamless execution laying the foundation for the AI-enabled Citiverse.

### Enabling autonomous decision-making

Moving beyond human-in-the-loop models to systems capable of processing real-time telemetry and making critical operational decisions instantly.

### Coordination across complex systems

Facilitating distributed intelligence where multiple AI agents collaborate across domains to optimize traffic, energy consumption, and emergency response.

### Interaction with physical environments

Bridging the digital-physical gap through advanced robotics and IoT actuation, allowing AI to sense and transform the physical environment in real-time.

# Korea's National AX Strategy

Accelerating AI Transformation (AI + X) across 7 Strategic Industries

### AI Robot

Specialized humanoid robots for industrial automation.

### AI Vehicle

Full commercialization of L4 autonomous driving systems.

### AI Ship

Autonomous maritime vessels for global logistics lead.

### AI Home

Smart appliances and ecosystems for global markets.

### AI Drone

Advanced ecosystems for fire-fighting and logistics drones.

### AI Factory

Specialized humanoid robots for industrial automation.

### AI Semiconductor

Developing core NPUs for autonomous systems, industrial robotics, and AI-native hardware R&D.

# Beyond DX: The Next Frontier is AX

DX is changing the tool, AX is changing the hand that holds it.

### Digital Transformation (DX)

The Foundation: Digitizing urban systems and connecting data streams to build a smart cities and communities.

### AI Transformation (AX)

The Destination: Embedding AI into operational DNA to transition from "connected" to "intelligent and autonomous."

# The AX for Cities & Communities

AI permeates every level – from individual devices to entire societies

| | | |
|---|---|---|
| LAYER 5 | City & Society Operations | Global optimization and automated policy execution |
| LAYER 4 | Services | Citizen services, healthcare and smart mobility apps |
| LAYER 3 | Platform | AI model hub and multi-platform data integration |
| LAYER 2 | Edge Environment | Local AI inference and real-time processing at the edge |
| LAYER 1 | Devices & Sensors | Sensors, cameras, IoT terminals and physical actuators |

# AX in Action: Real-world Implementation

Turning vision into reality: Current AX implementations across urban services and social systems.

### Mobility

Autonomous systems for efficient urban transit.

### Energy & Utilities

Smart grids and automated resource management.

### Public Services

AI-driven administrative and citizen support.

### Public Safety

Real-time monitoring and proactive threat detection.

### Environment

Automated ecological monitoring and climate response.

### Urban Planning

Digital twin integration for smarter development.

# Life in the AI-Native Society

From passive infrastructure to an intelligent partner that anticipates and responds to human needs.

### Hyper-Personalized

AI-driven services that preemptively understand citizen needs, providing tailored welfare and administrative support.

### Proactive Safety

Moving from response to prediction; urban systems that identify and mitigate risks before accidents occur.

### Universal Access

Democratizing technology to ensure inclusive Citiverse access, bridging physical and digital divides for all.

# Emerging Technologies for AX

The technological engines driving the transition from connected infrastructure to autonomous urban intelligence.

## Urban Generative AI

Generating optimal urban designs and simulating policy impacts through advanced generative models.

## Edge Intelligence

Decentralized AI processing that ensures data privacy and ultra-low latency response in critical urban loops.

## Digital Actuation

Seamless orchestration where AI decisions directly transform physical environments via robotics and IoT.

# Challenges & Standardization

Fostering a sustainable AX ecosystem by addressing ethical challenges and ensuring technical interoperability.

### Trust & Ethics

Establishing transparent AI governance and ethical guidelines to ensure accountability in autonomous decision-making.

### Global Collaboration

Driving pre-standardization initiatives for AX to ensure seamless interoperability across global Citiverse infrastructures

# THANK YOU

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