# Korea Institute of Registered Architects

# KIRA

*for ARCASIA Council meeting, Colombo*

## *“ Focus on AI ”*

January, 2025

KOREA
INSTITUTE OF
REGISTERED
ARCHITECTS

# Spread of Artificial Intelligence

- **Introduction of AI in Architecture** / Trends in the Korean Arch-Industry

## Concept Design

**Research & Analysis**
- Chat GPT
- WRTN. (Written)

**Feasibility Study**
- BUILDIT
- Flexity
- Landbook
- Valuemap
- HOWBUILD
- zenerate

**Idea & Visualization**
- Midjourney
- DALL-E
- Veras
- Stable Diffusion

## Schematic Design

**Analyzing & Optimizing**
- Autodesk Forma

**Design Visualization**
- Stable Diffusion
- D5 Rendering

## Design Development

**Cost Review**
- Automated Quantity

## Construction Documents

**Project Management**
- BIM & AI
- Procore

## On-site & Maintenance

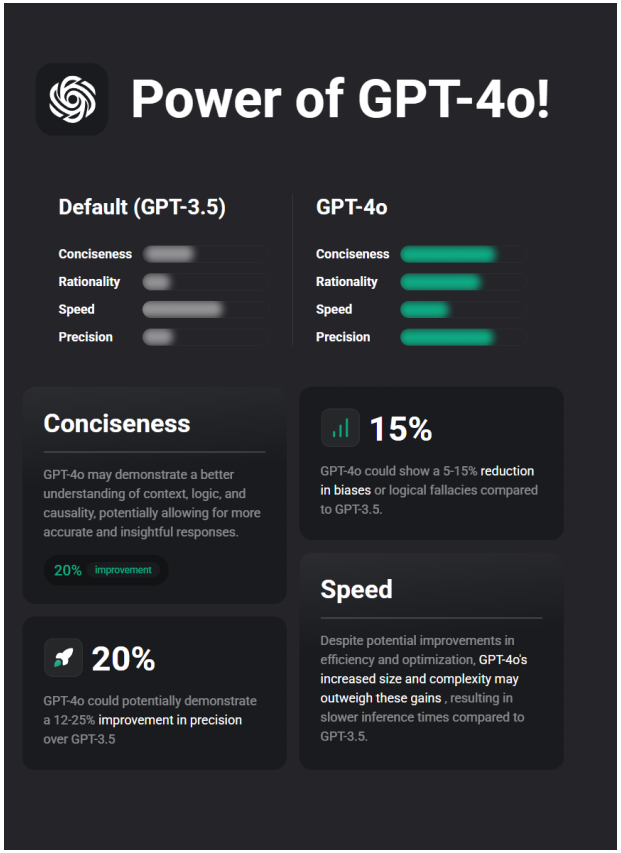
**Construction Support**
- Construction Cloud
- Clash detection
- 3D printing

**Smart things**
- Digital Twin
- Smart City

# Spread of Artificial Intelligence

## **AI-powered Research** / Chat GPT, Wrtn.(뤼튼)

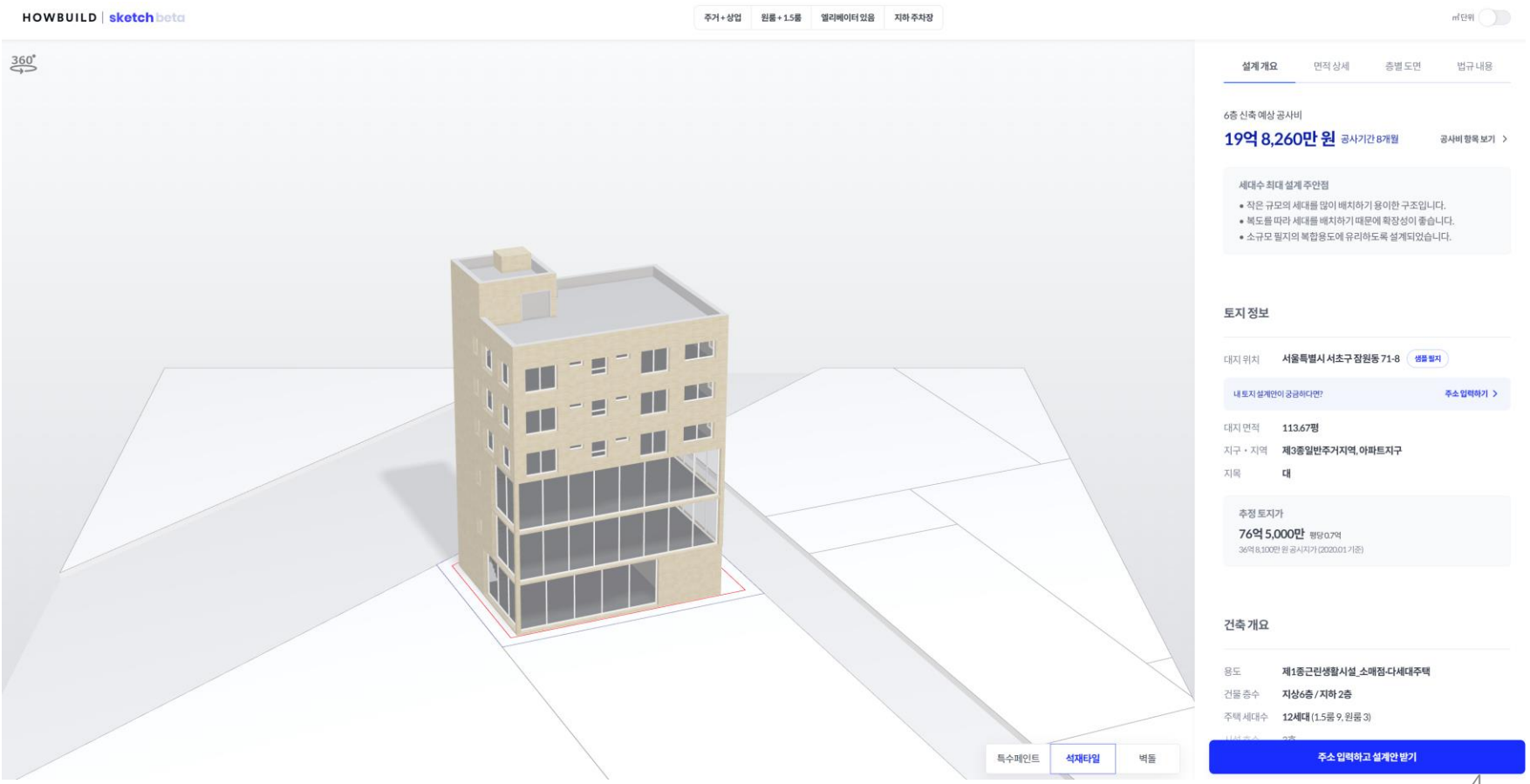
Utilized for various data research and report preparation



# Spread of Artificial Intelligence

## **AI-powered Feasibility Study** / HOWBUILD

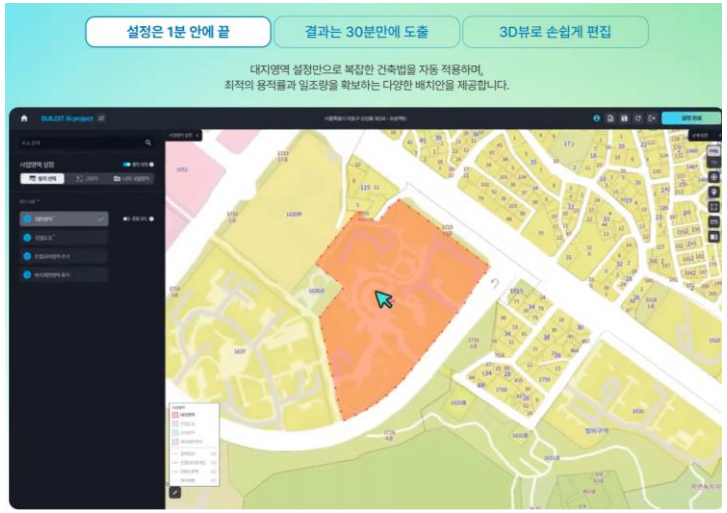
App provides a design proposal and estimated construction cost with address



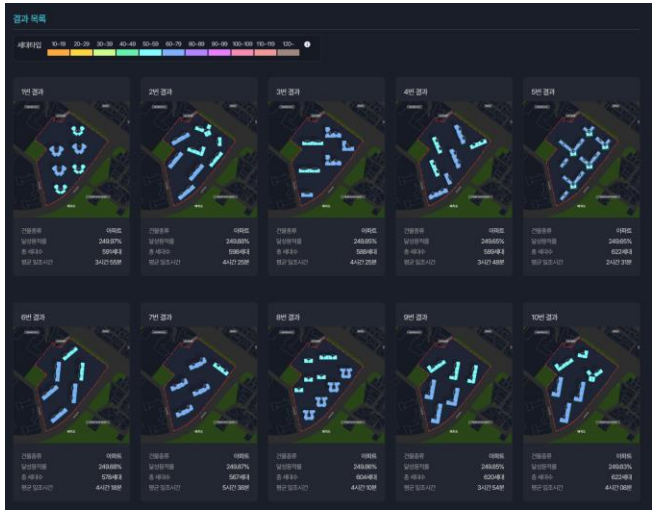
# Spread of Artificial Intelligence

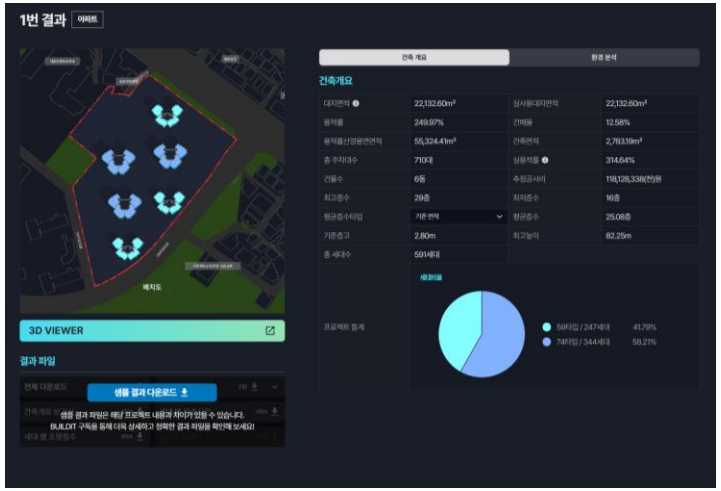
## **AI-powered Feasibility Study** / BUILDIT

Various design proposals and estimated construction cost




Design Options






3D Modeling

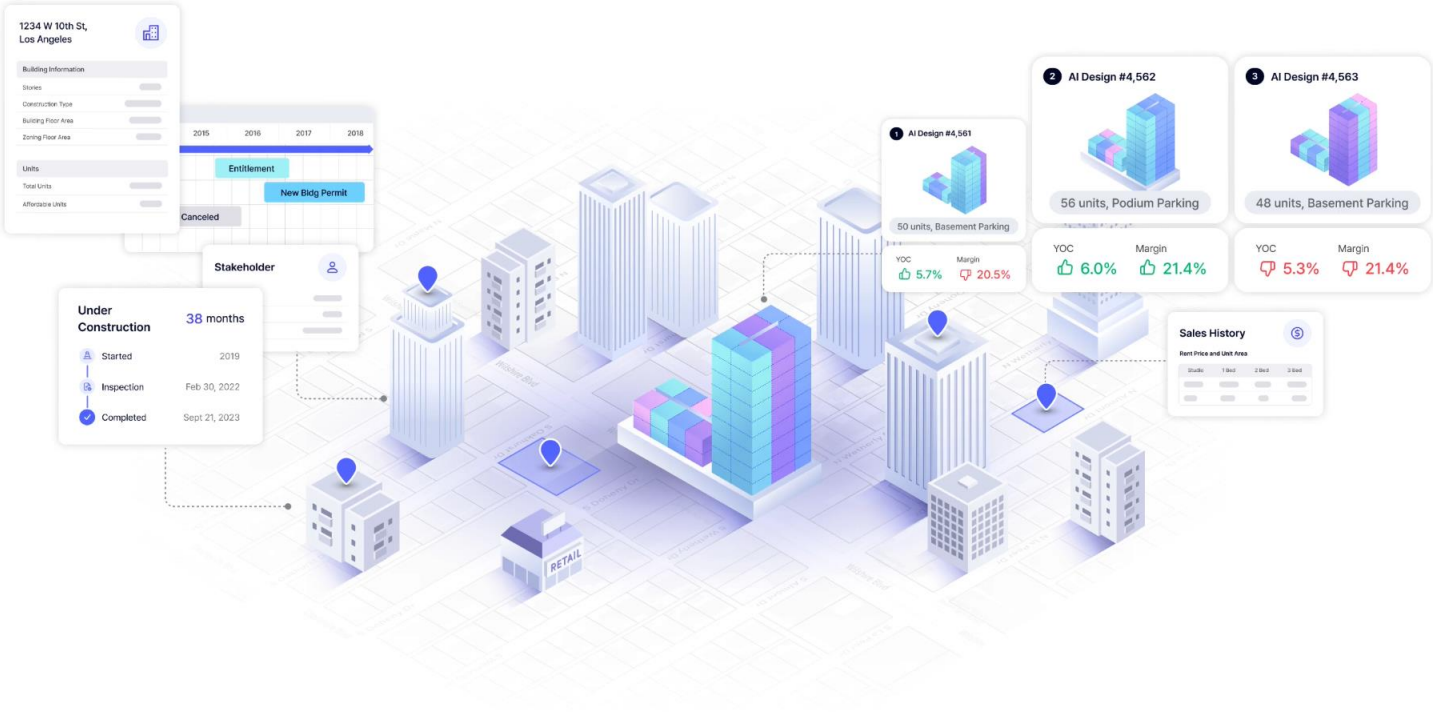
# Spread of Artificial Intelligence

## **AI-powered Feasibility Study** / zenerate

### AI-Powered Feasibility Solutions
### for Real Estate Development

Zenerate is revolutionizing feasibility studies with AI-powered solutions to streamline inefficient processes, save time and maximize returns.

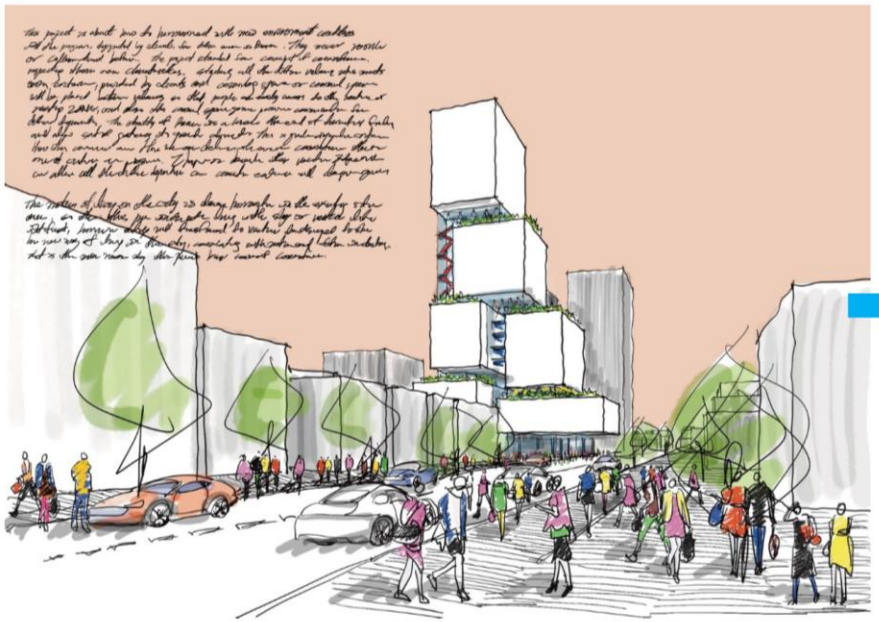
Learn More About Our Products & Services ↓

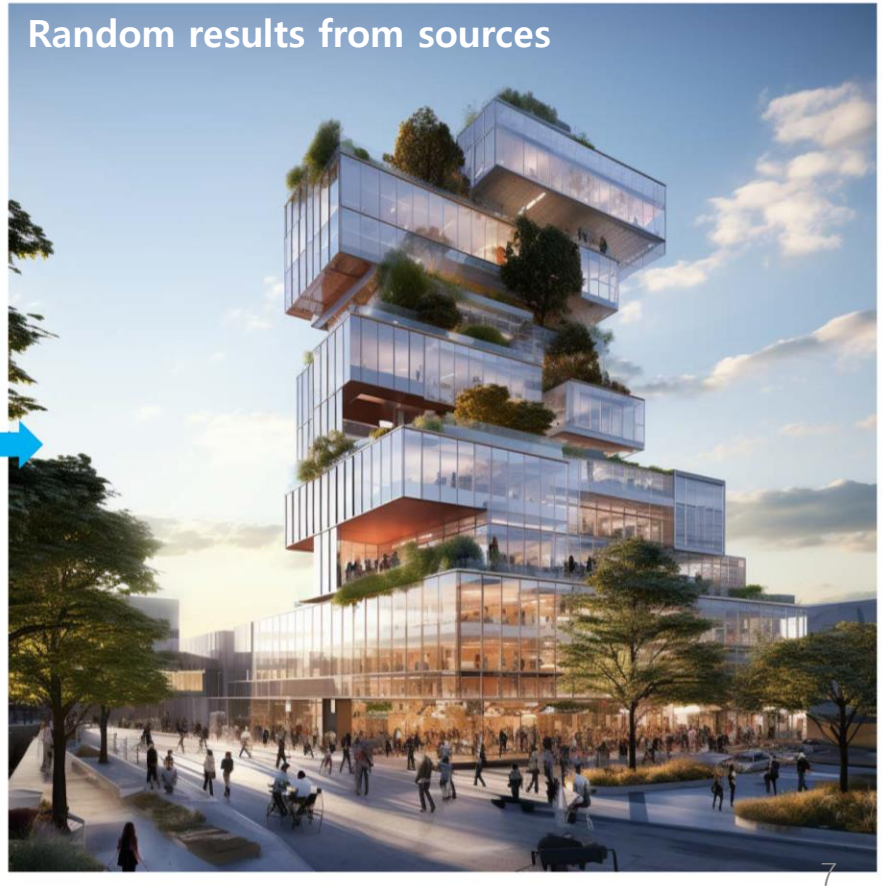


# Spread of Artificial Intelligence

## **Idea Generation & Visualization** / Midjourney

Text to Rendering Images
Sketch to Rendering Images for Concept design stage



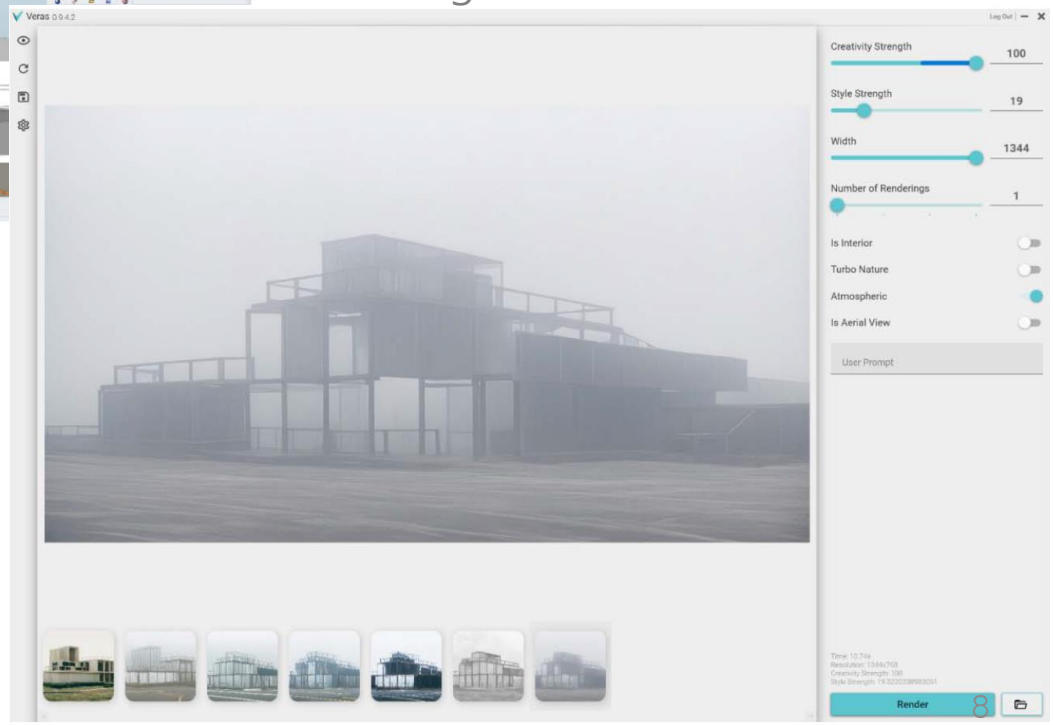


# Spread of Artificial Intelligence

**Idea & Visualization** / Veras

Modeling to Rendering Images for Concept & Schematic stages

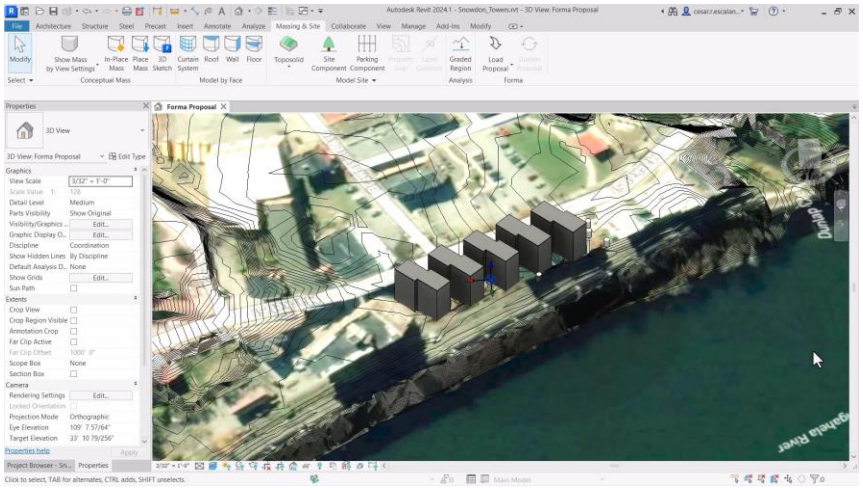
Renderings for Selected views

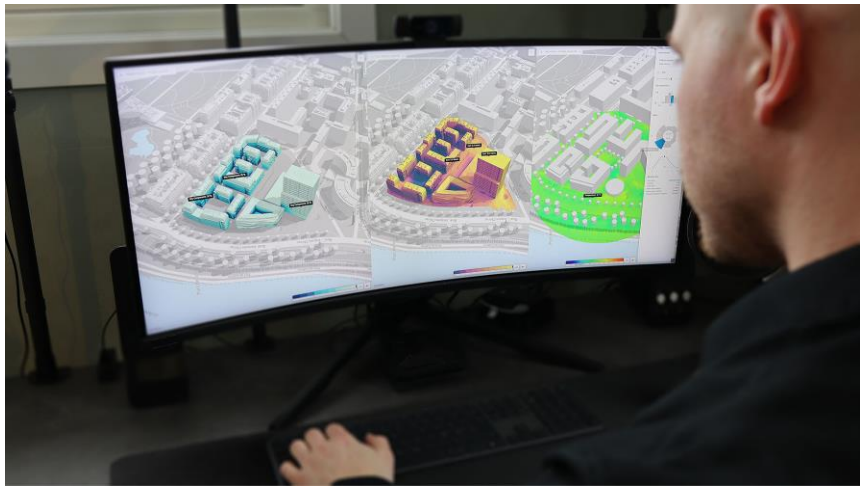


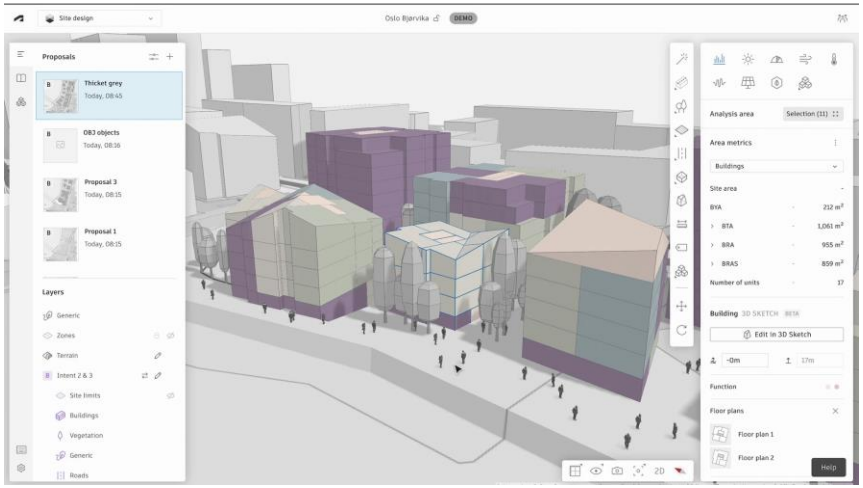
# Spread of Artificial Intelligence

**Analyzing & Optimizing** / Autodesk Forma

Use automated massing takeoffs and real-time environmental impact analysis to explore concepts and optimize for living quality and sustainability



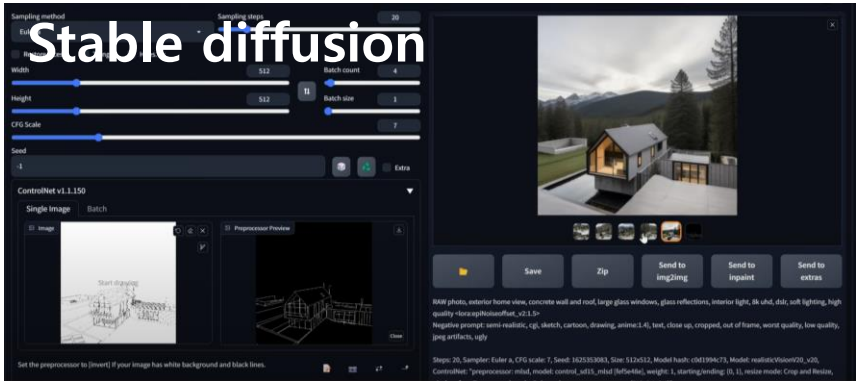


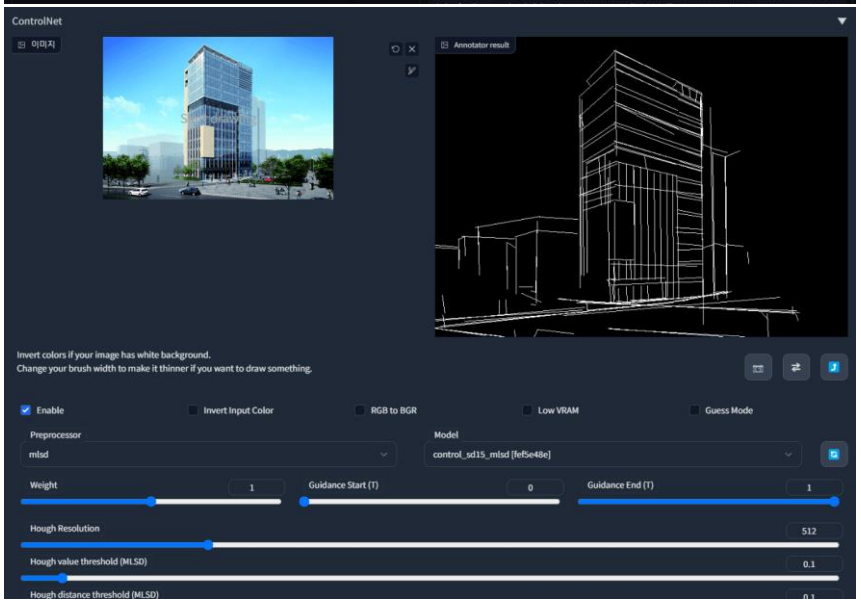


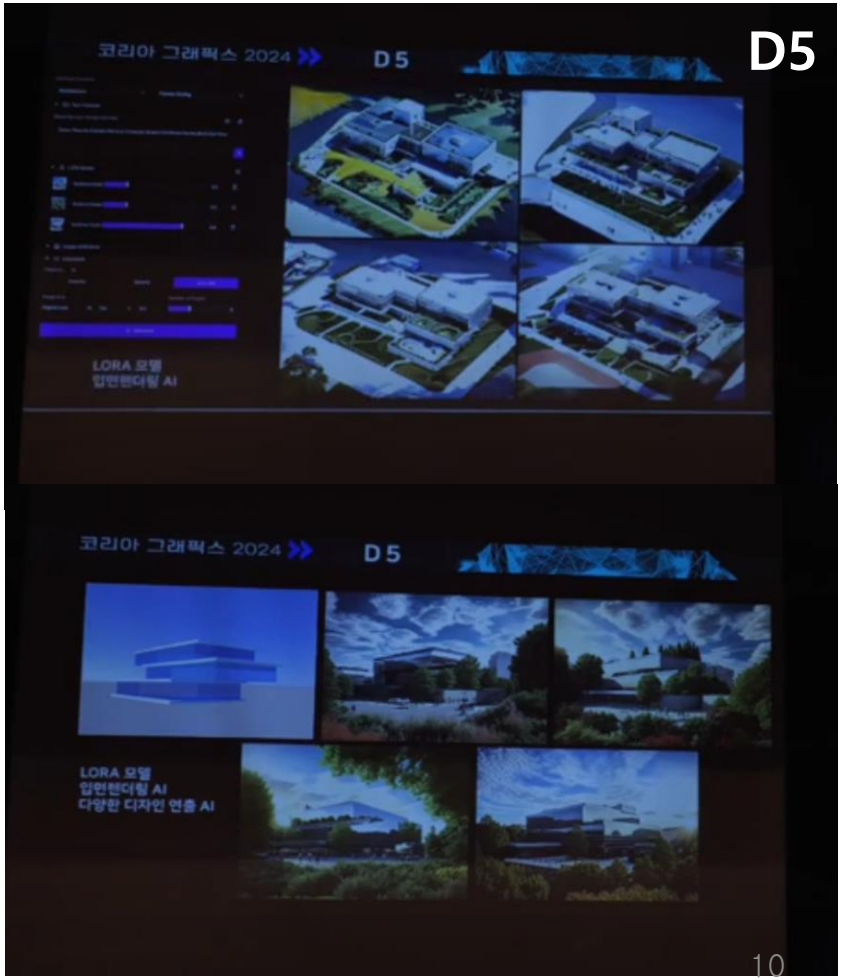
# Spread of Artificial Intelligence

## AI-powered & Real-time Rendering

Stable Diffusion_ learning with customized styles
D5 Rendering_ the most advanced real-time rendering



# Spread of Artificial Intelligence

**Application of A.I. to Architecture practice -**
interpretation of complicated building related regulations

# Spread of Artificial Intelligence

## **AUTODESK** Construction Cloud

PURPOSE-BUILT CAPABILITIES

### Explore how Autodesk Construction Cloud offers more than BIM 360

Reduce risk, improve quality, and deliver projects on time and on budget.

**Project Management**
More configurable RFI and submittal workflows, combined with Meetings, Schedule and Correspondence help keep your teams and projects on track.

**Safety Management**
With support for both PDF and native forms, plus new collaboration modes and photos support, you'll benefit from standardized, easy to adopt safety programs.

**Design Collaboration**
Turn design documentation into a robust, project-based record to capture and manage design data between all project teams.

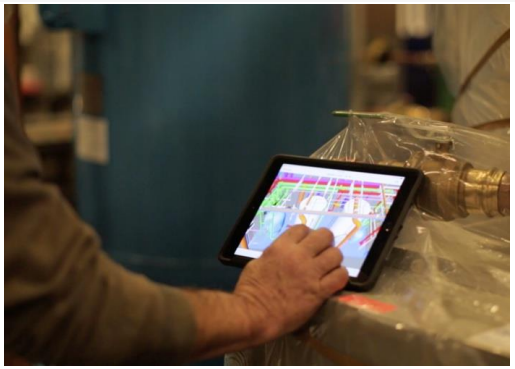
**Document Management**
Right information, right time is improved with robust permissioning and approvals, bolstered by faster drawing processing and full support for photos and videos.

**Quality Management**
With improved issue control, dashboards to visualize assigned work and the easiest to use mobile app for construction, teams can reduce rework and keep projects on track.

**Data & Analytics**
Identify and mitigate risks with predictive analytics powered by Autodesk AI, and delivered through easy-to-deploy reports and dashboards.

**Coordination & Constructability**
Better equip every member of the project to run efficient coordination with easy-to-learn BIM tools and automatic clash detection.

**Cost Management**
Now included with Autodesk Build, improve cost control, gain real-time visibility of cost-related risks and centralize all cost management activities in the cloud.

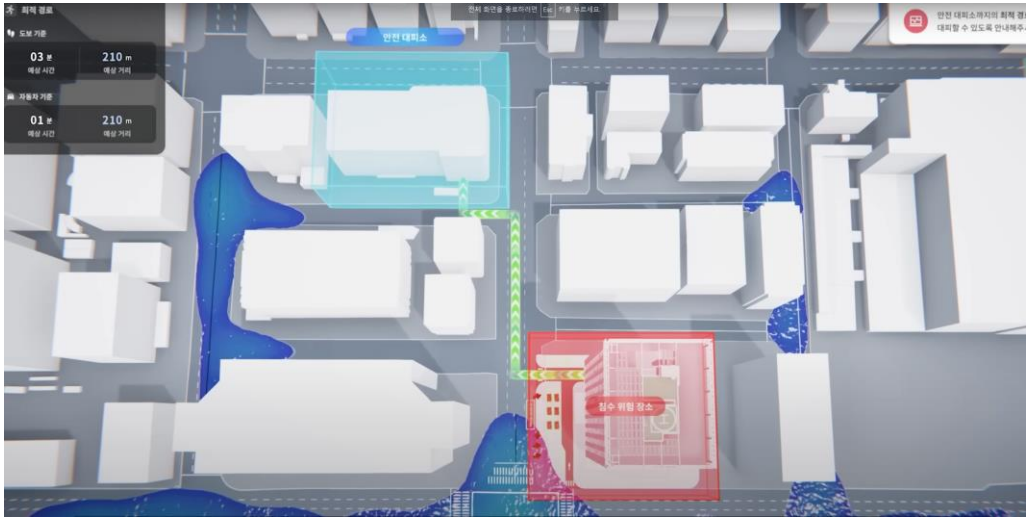


# Spread of Artificial Intelligence

## **Smart things** / Digital Twin

Utilized for disaster response and building maintenance

Optimal evacuation routes in case of disaster




Energy usage monitoring

## Challenges and Ethical Considerations ; I.P.

Despite the benefits, there are ongoing debates about the ethical implications of AI, including job displacement and intellectual property issues. The architecture industry in Korea is actively discussing how to balance innovation with ethical practices.

# KIRA Appendix.

## KIRA's motion to seek ARCASIA declaration / September 21st, 2023

# KIRA's motion to seek ARCASIA declaration / September 21st, 2023

arcasia
Architects Regional Council Asia

ARCHITECTS REGIONAL COUNCIL ASIA (ARCASIA) LTD.
IAB Centre, Plot-11, Road-7, Block-E, Agargaon, Dhaka 1207 Co. Regn. No. 202018266H info@arcasia.net

## ARCASIA DECLARATION ON SUPPORTING TO ACHIEVE FAIR ARCHITECTURAL DESIGN FEE IN KOREA

We, the members of Architects Regional Council ASIA, are jointly supporting KIRA's effort to achieve "a Fair level of Fee in Architectural projects" in Korea. As the profession of architecture is facing many challenges in current environment, the general public and governments are asking architects to respond proactively to make our built environment a better place to live.

ARCASIA Council and its member - National Institute's - presidents are hereby acknowledge KIRA's effort that having "a Fair level of Fee in Architectural projects" would be able to contribute "Safer and Sustainable Communities and Cities" in Korea.

Due to the low fees and increased scope of work, including sustainability aims, added approval process and BIM requirements, architects are facing hardships in hiring future talents with commensurate salaries. This situation would be detrimental for the future of the profession as well as the general public. Since the Fee level in Architectural design remain unchanged for the last 20 years, the current condition of architects' fee is dominated by "the Survival of the cheapest" in many countries. This needs to be changed.

In this critical stage, entire ARCASIA community is supporting Korean architects' effort and sharing our solidarity that would eventually ensure Public Safety and enhancing the beauty of the communities.

September 21, 2023

Declaration jointly made during the 43rd ARCASIA Council Meeting in Philippines.

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- KIRA's on-going effort ; public hearing @ KIRA HQ.

- **Expert panel discussion : to build sustainable practice**

- KIRA's on-going effort ; public hearing @ National Assembly

- **5 Forums at various locations in Korea. /July, Nov**
-

- KIRA's on-going effort for fair fee scale in private projects

- **Another amendment of Registered Architects Act introduced :**
- **December 19th, 2024**

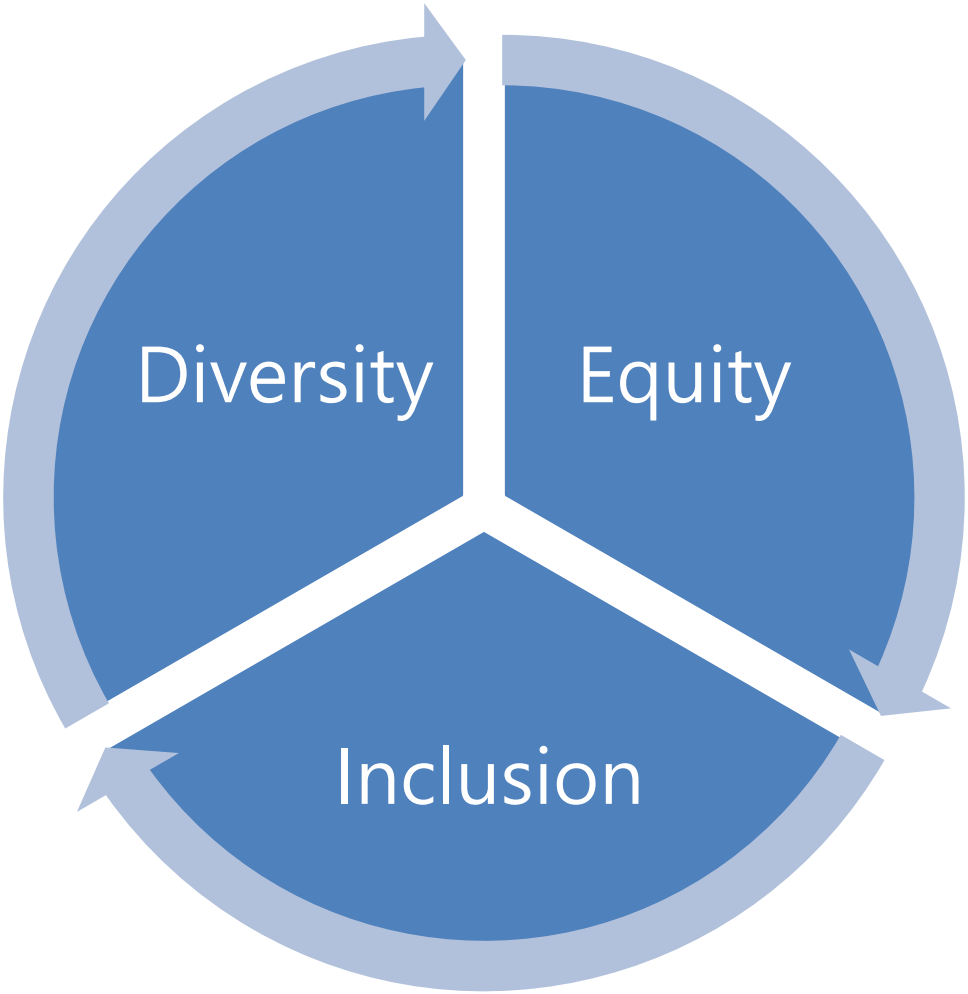
**- 13 congressmen supported the proposal to kickstart process in the National Assembly for approval.**

- The debate is focused on ;
**As it is applicable to public projects, same rule applies to the private project fee scale – mutatis mutandis/ 準用**

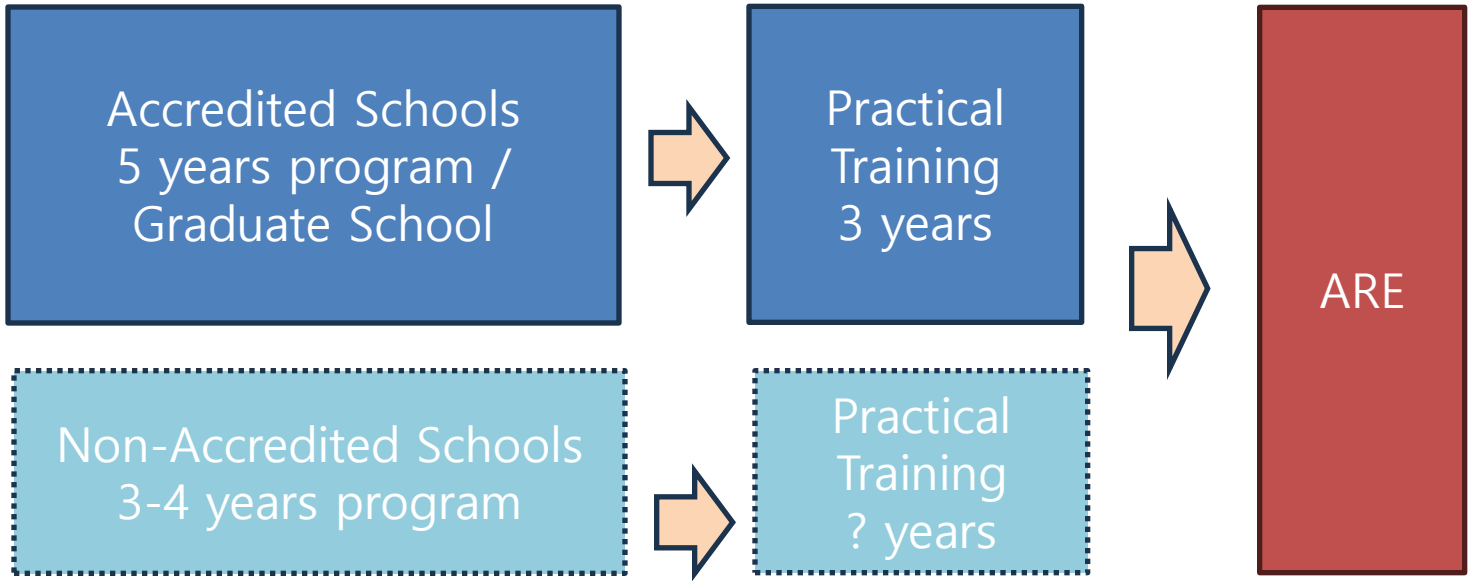
- **Milestone**
  - Integrated Fee Scale that covers Public/ Private projects
  - Introduce Standard Form of Design Contract
  - How to ensure payment of fees
  - Advantages for KIRA members : more project opportunity
  - Dis-Advantages : penalize unfair breach of fee scale

# 1. Member Status 2023 – building a new ties with members

**1.3 Towards more open institute**



- Towards Inclusive KIRA

- **Multiple path to licensure :**

- **No one left behind ; non accredited school graduates are able to take ARE**
- **Inclusive and Fair policy : KIRA/ FIKA agreed to revise "Closed Door" policy**