

en.pluxity.com

PLUG PLATFORM

Digital Twin Platform

Integrated smart management system based on
Digital twin for any smart projects

 **PLUXITY**
(n.) the plug-ins for Soft City

PLUG-INS FOR THE SOFT CITY

OVERVIEW

As a leading company of Digital twin technology, Pluxity provides optimized services for smart buildings and smart city. We have many references and knowhow in major Korean prominent facilities partnering with Incheon International Airport, City of Seoul, Seoul Metro, etc.

Pluxity provides SMART project managers with an advanced “Digital Twins” platform in a unique position compared to other solutions as its self-developed and WEB based engine, tailored services and maintenance have been further optimized for any smart projects. It is believed that we can ultimately lead any business to make accurate prediction, minimize any potential risk and eventually to reach a goal of cost effective in the long run.

PALTFORM



Builder
3D map authoring software



PLUG City
Integrated systems for city management



PLUG Security
Security convergence control systems



PLUG Factory
Smart factory control systems



PLUG Station
Control systems of subway station and railway



PLUG Data
Control systems of data center



PLUG Driving
Integrated control systems of self-driving



PLUG Warehouse
Control systems of logistic center



PLUG Energy
Control systems of renewable energy



PLUG Military
Integrated control systems of smart army



PLUG Airport
Integrated Air traffic control systems



PLUG Kiosk
Interactive kiosk systems



BUSINESS FIELD

[Builder]

3D map authoring software

[PLUG City]

City management

Integrated systems of city management based on digital twin

[PLUG Security]

Security convergence

Control systems of security convergence based on digital twin

[PLUG Factory]

Factory facility management

Smart factory control systems based on digital twin

[PLUG Station]

Subway station and smart railway

Control systems of subway station and railway based on digital twin

[PLUG Data]

Data center and asset management

Control systems of data center based on digital twin

[PLUG Driving]

Self-driving

Integrated control systems of self-driving based on digital twin

[PLUG Warehouse]

Logistics center

Control systems of logistics center based on digital twin

[PLUG Energy]

Energy sector

Control systems of renewable energy based on digital twin

[PLUG Military]

Military district

Integrated control systems of smart army based on digital twin

[PLUG Airport]

Air traffic

Integrated Air traffic control systems based on digital twin

[PLUG Kiosk]

Public service

Interactive kiosk systems based on digital twin

PATENT / AWARDS

- » Best winner of Idea Contest of the 1st World Smart City Week Service
- » Awarded as one of the ten best entrepreneurs at the Business Fair of the 2nd World Smart City week
- » Best winner of 2020 Innovative Technology Contest hosted by Korea International Trade Association, Hoban Group, Dongbahn Sungjahng (mutual growth) Committee
- » Awarded as one of the best entrepreneurs in 2021 World Smart City Expo Tech & Solution



BUILDER · PLUG CITY · PLUG SECURITY



BUILDER

3D map Authoring Software

Easy and convenient interface, sufficient component and material library
Anyone can easily create 3D space

Main function

- » Official indoor 3D map authoring tool of Seoul city
- » Indoor modeling
- » Materials and textures mapping based on field inspection (Synchronization)
- » Web-based 3D object management
- » Standard 3D file formats supported
- » Array of objects (doors, windows, columns, etc.) by drag & drop



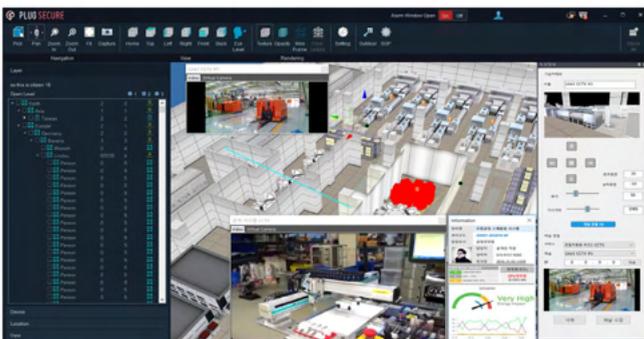
PLUG CITY

Integrated Systems for City Management

Integrated operation and monitoring of the entire city by linking different IoT sensors and CCTVs in digital-twin urban environment

Main function

- » 3D GIS monitoring of Ministry of Land, Infrastructure and Transport
- » Integrated monitoring of public data network
- » Urban energy monitoring
- » Social minority monitoring
- » CCTV intelligent monitoring
- » Urban facility management
- » City map management



PLUG SECURITY

Security Convergence Control Systems

Providing integrated control environment such as CCTV, entrance and exit control, and detection alarm in a virtual three-dimensional space of different places such as buildings and complexes

Main function

- » 3D GIS management (Indoor · Outdoor 3D map)
- » Integrated monitoring of security equipment (CCTV, entrance& exit control, detection sensor)
- » Auto 3D patrol in security areas
- » 3D simulation-optimized array of CCTV and sensor
- » CCTV PTZ, Playback, Matrix view (7*7)
- » Integrated 3D alarm of security event

PLUG FACTORY · PLUG STATION · PLUG DATA



PLUG FACTORY

Smart Factory Control Systems

Recognizing real-time information on facilities and equipment in the factory through 3D integrated control system

Main function

- » 3D modelling and visualization of factory and facilities
- » Event alarm pop-up and location marker displayed on the 3D map on detecting an abnormal condition in the factory
- » Status monitoring on equipment, safety/ fire and access
- » Array management of the plant equipment and visualization
- » Virtual 3D patrol for the security area or patrol-blind-spot area
- » Evacuation route in emergency; integrated SOP guidelines



PLUG STATION

Control Systems of Subway Station and Railway

Visualization of 3D map-based subway/rail station and integrated management/ monitoring of facilities/equipment in the station

Main function

- » 3D modelling and visualization of the entire station and local parts
- » Event alarm popup, location marker and nearby CCTV images are displayed on the map in an abnormal situation
- » Status and control for PSD, CCTV, entrance and exit control, SOS, intrusion detection, fire facilities
- » Visualizing of train operation information (approaching/stop spacing/departure)
- » Virtual patrol of the route designated by the operator
- » Evacuation route in emergency; integrated SOP guidelines



PLUG DATA

Control Systems of Data Center

In a 3D environment, space and asset information are integrated into one system for intuitive management of space and equipment status

Main function

- » Network traffic monitoring
- » Monitoring of server/network equipment control elements, e.g., temperature, humidity and distribution board
- » Failure/event alarm and manager notification
- » Server/network equipment history management (setting date, core occupancy, heat output)
- » Server room real-time monitoring (management of entrance and exit/ security access management)

PLUG DRIVING · PLUG WAREHOUSE · PLUG ENERGY



PLUG DRIVING

Integrated Control Systems of Self-Driving

Driving status, route tracking, and event management through real-time synchronization and monitoring with self-driving object

Main function

- » High-precision 3D map and transportation facilities established
- » Display of individual self-driving object operation status, speed and direction, and moving object wireframe mode
- » Self-driving vehicle failure management, alarming and message display
- » Self-driving objects (e.g., vehicle, robot, drone) movement and GPS tracking
- » Real-time synchronization of information (location, status) on self-driving vehicles on the map
- » Automated display and response of nearby CCTV and sensor information in case of self-driving event



PLUG WAREHOUSE

Control Systems of Logistic Center

Efficient logistics management by visualizing location, operation, warehousing and inventory status of labor resource, equipment, and facilities in the logistics center

Main function

- » 3D visualization of warehouse layout in the logistics center
- » Visualization of environmental information (temperature, humidity, etc.) in the logistics center
- » Visualization of logistics warehousing and inventory status
- » Automatic calculation of area for each warehouse
- » Visualization of warehouses, equipment, and workers in the logistics center
- » Visualization of individual logistics and detailed information
- » Evacuation route in emergency; integrative SOP guidelines



PLUG ENERGY

Control Systems of Renewable Energy

Efficient energy management through real-time generation measurement for new and renewable energy and analysis of generation capacity by facility

Main function

- » 3D visualization of installed location, number and operation status of renewable energy facility
- » 3D visualization and simulation of solar energy absorption/storage/electricity conversion process
- » Visualization of power generation, generation time, cost analysis and statistics by each photovoltaic facility
- » Real-time generation and consumption analysis and visualization of statistics
- » Integrated energy use status and statistics, and integrative SOP guidelines by facility

PLUG MILITARY · PLUG AIRPORT · PLUG KIOSK



PLUG MILITARY

Integrated Control Systems of Smart Army

Integrated operation and management linking with various facilities, equipment, vehicles, intrusion detection, entrance and exit control in the military district

Main function

- » Fire detection in the facility
- » Detecting temperature, humidity, and fine dust of equipped vehicles and facilities
- » Intrusion detection and facility access control
- » Identifying location of soldiers and moving objects and disseminating the situation
- » Measuring oil and water tank
- » Wattage measurement
- » Manhole detection
- » Vehicle access check



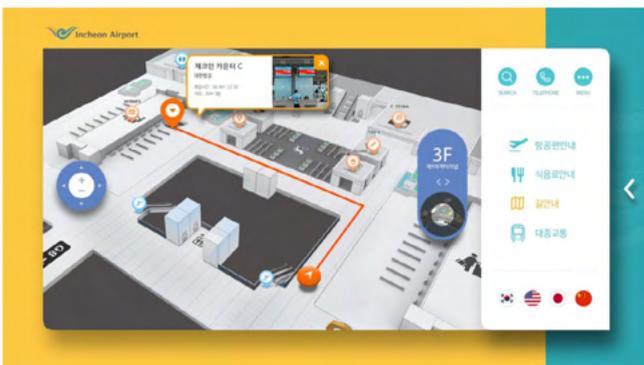
PLUG AIRPORT

Integrated Air traffic Control Systems

Integrated security control for airport operation/ integrative information for airport visitors such as shopping information and directions

Main function

- » 3D virtualization of the entire airport facilities
- » Providing an integrated operation management system by networking detection/control sensors for all facilities
- » Airport information (direction, evacuation route) provided through kiosk and mobile
- » Efficient airport operation management in various simulations



PLUG KIOSK

Interactive Kiosk Systems

Comprehensive information guidance service provided to customers visiting the target area such as 3D navigation, shopping and convenience facility information and events

Main function

- » Finding a location in 3D by purpose
- » 3D shop information
- » Information on commercial facilities and real-time event
- » Multi-browsing support based on web standards
- » Space and facility information management by manager



Plug-ins for the Soft City

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