



 conworth engine

# 3D SOLUTION

C-Eagle  
R-Eagle  
T-Eagle  
H-Eagle  
3D Note

# Conworth offers unprecedented 3D solutions

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Founded in 2020, Conworth, along with its highly skilled members, has developed Conworth Engine based on server and graphics technology. Operating under the slogan 'unprecedented 3D solutions' we provide solutions in the AEC, Asset Management, Smart City, and Contents sectors. Beyond the current domains, target markets will be expanded into various fields such as Real Estate, Mobility, Retail and Satellite imagery data.



# PROBLEMS & SOLUTIONS

Conworth offers a range of 3D technologies powered by the Conworth Engine the clients facing challenges in implementing 3D solutions.



## Quality Rendering

Real-time 3D optimal rendering that satisfies user requirements

# Construction

#FM

#Immersive Contents

# DX

#Asset Management

## Extensive Data Size

Absence of integrated management/visualization solutions for massive 3D data

#Government / Public

#Smart City

#GIS

#FCM

#Asset Management

#3D Map

#PCD

## Massive Computing

Massive computing power required for the analysis and utilization of 3D data

#Infra

#PCD

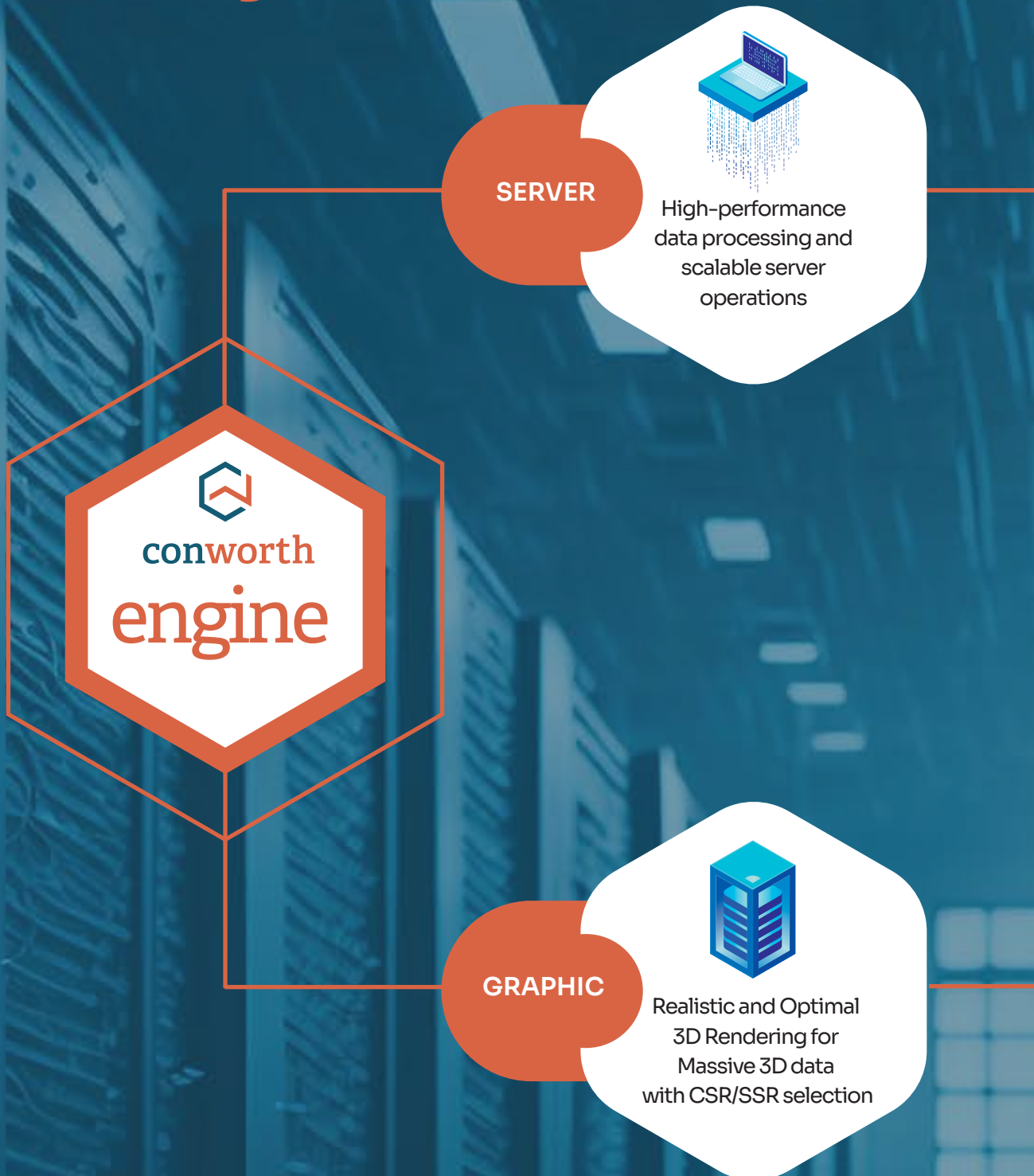
#BIM

#Consistency review

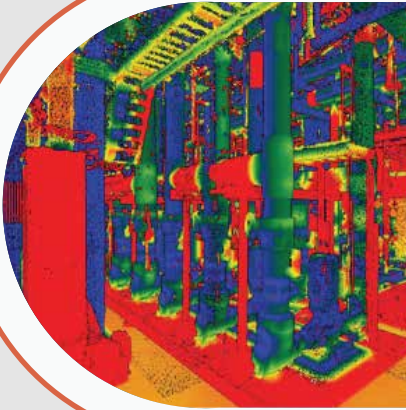
#Plant

#Architecture

# The Conworth Engine enables efficient **server operations** and facilitates effective **3D rendering**



Conworth's exclusive server cluster and graphics technology powers an advanced 3D engine, delivering unparalleled solutions for various industries with eight key processing and virtualization features.



**Multi-core Processing**  
Massive Computing



**Web/App Approach**  
Accessible from anywhere



**Local Cloud Approach**  
Data security solution



**Distributed File/Server**  
Scalable/competitive price

**Efficient server operation**  
**Effective 3D rendering**



**Indoor/Outdoor Full 3D**  
Seamless 3D integration



**3D File Format Handling**  
Various 3D data management

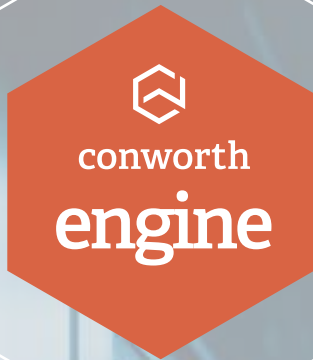


**Optimal Graphic Quality**  
Beyond present limits



**CSR/SSR Selection**  
Various device support





# OUR SOLUTIONS

## C-Eagle

3D Data Platform for  
Site Management



**3D Consistency Review**  
Consistency inspection for  
Scanned(As-Is) vs. BIM



## 3D Note

Location-based  
3D Collaboration Tool



## R-Eagle

3D Asset Management  
with Robot and IoT



## T-Eagle

City-scale 3D Data  
Visualization



## H-Eagle

Immersive  
3D Visualization

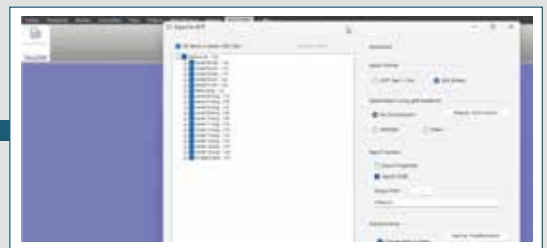
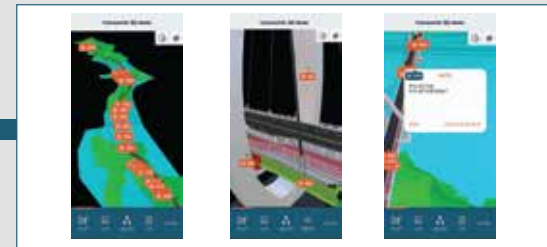
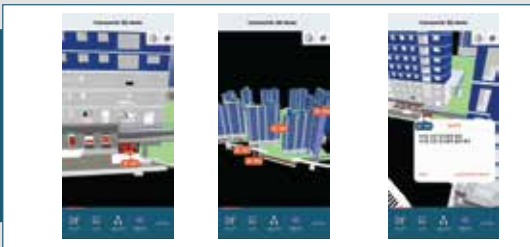
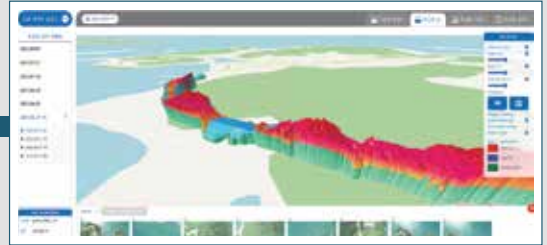


## GLTF Converter

Revit to GLTF converter  
Navisworks to GLTF converter



For more information about our solutions, please visit our website at <https://conworth.io/solutions>



# C-EAGLE

## 3D Data Integration Platform for Site Management

The construction industry's future depends on digital transformation to improve productivity. Collecting, storing, managing, analyzing, and sharing data and information from construction sites is crucial.





## MAIN FUNCTIONS

A 3D data integration platform for construction and infrastructure site management that enables integrated management of diverse location-based data

### Pointcloud vs BIM Consistency Assessment

(Review, report and visualization of 3D consistency assessment)



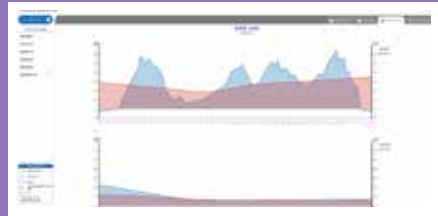
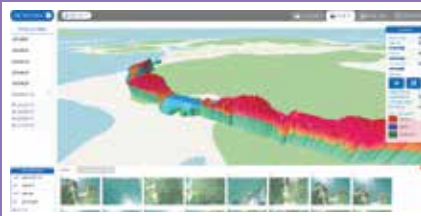
### Location-Based Data Integration Management

(3D notes, pictures, drawings, measurements, etc.)



### Built-in Drone Imagery Based Earth-work Solution

(3D earthwork visualization, quantity analysis, reporting, etc.)



Architecture  
Sector

Infrastructure  
Sector

Plant  
Sector

# CONWORTH 3D NOTE

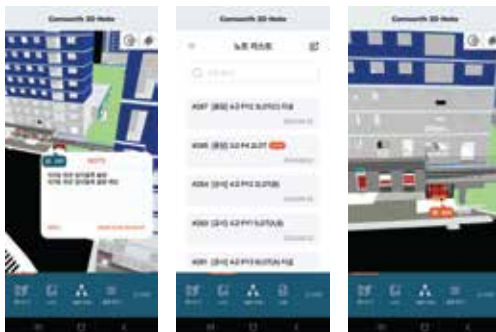
A user-friendly 3D collaboration tool derived from the location-based data integration management feature of C-Eagle.



## MAIN FUNCTIONS

### 1 Web/App-Based 3D Data Visualization

Providing web/app-based visualization of diverse 3D data, it empowers real-time on-site collaboration and information sharing.



### 2 3D Location-Based Note

Users can efficiently record and share issues, drawings, action items, memos, and more using location-based notes in the 3D virtual space.

### 3 3D Space Measurement Tool

Enables quick and easy measurement of various dimensions (length, area, angle, volume, etc.) in the 3D virtual space.



Conworth 3D Note is a collaboration tool that enables users to create notes in a visualized 3D space. With this tool, users can note and share work details and memos, photos, and drawings related to issues. The aim of this tool is to improve construction productivity with more intuitive communication in 3D virtual space.

### Mobile based Application

Real-time rendering of the entire construction site using BIM

Web-based access with mobile environment support

Multi-access SSR (Server Side Rendering) technology

3D Location-Based Data Platform for Construction

### Collaboration Tool

Create 3D Note with work/issues, photos, videos, and more

Instant notifications for on-site work/issues (mentions, SMS)

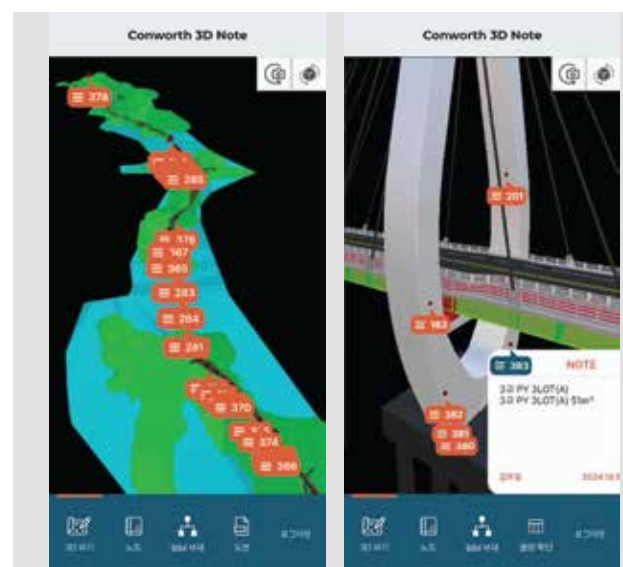
Integration with 3D BIM and drawings

Integration of 3D BIM with quantity takeoff

## Application Cases



3D Note (Apartment Complex Construction Site)



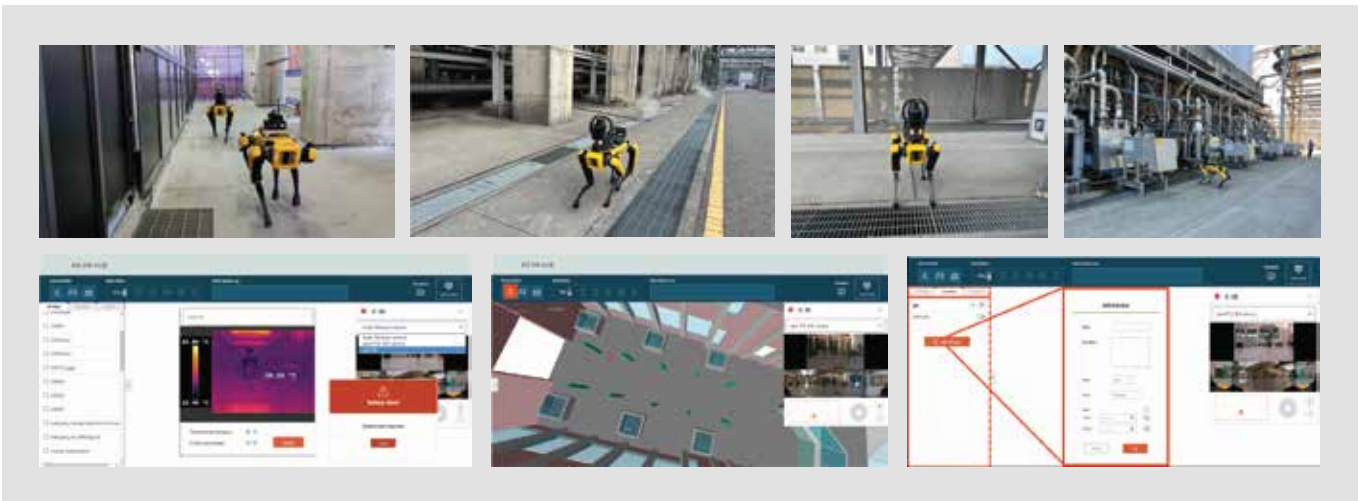
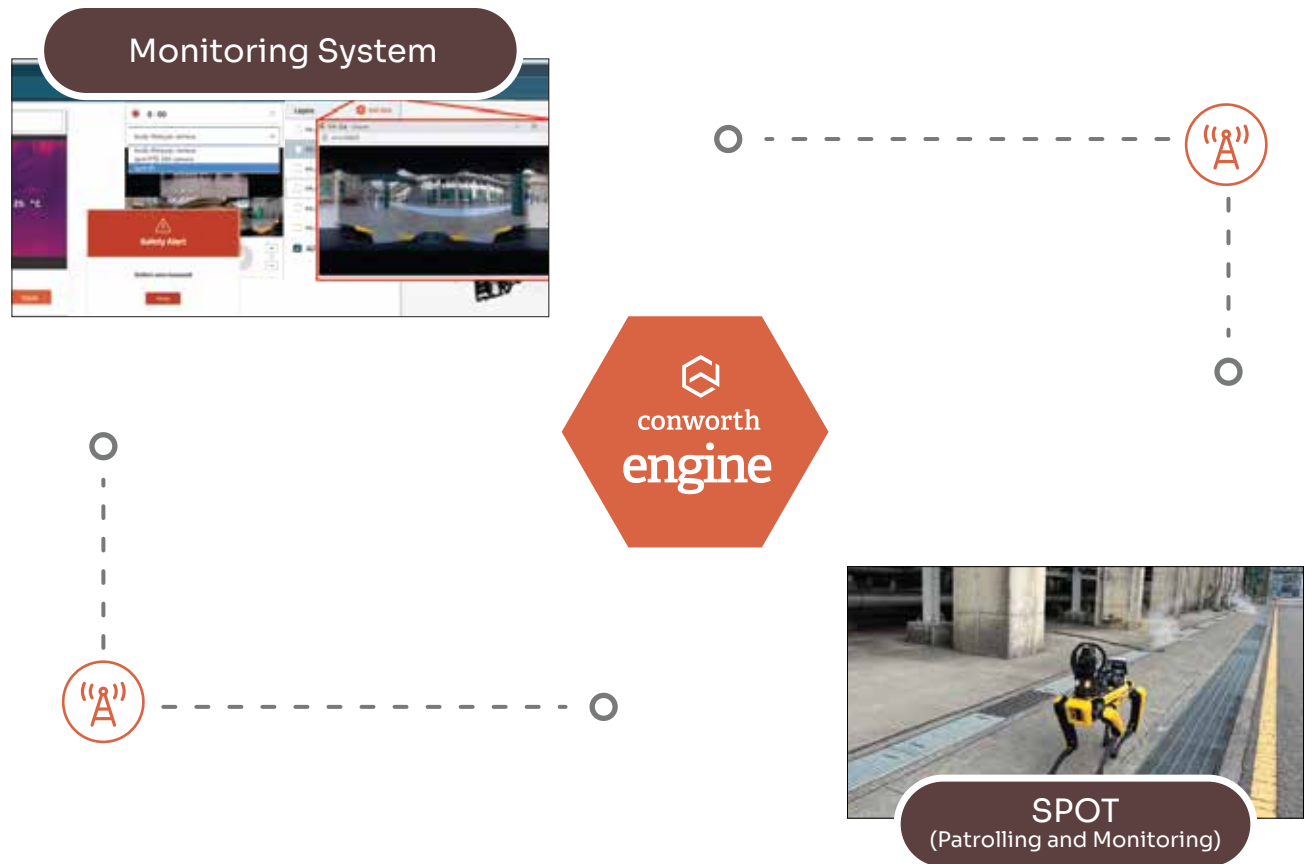
3D Note (Bridge Construction Site)



# R-EAGLE

Asset Management Solution through Robot and IoT Monitoring

A 3D asset management solution employs an autonomous robot integrated with various IoT sensors, enabling functions such as gas leak detection, gauge reading, and hazard monitoring. All these tasks are performed within a 3D location-based system.





# FEATURES AND PACKAGING

● Basic ● Optional

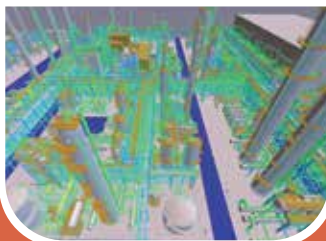
Hardware (Robot)	Cameras / Sensors	Software System
● SPOT (Quadrupedal Walking Robot)	● Sensor Set Module	● R-Eagle (Operational/Control Software)
● SPOT Controller	● IR/PTZ/360° Camera	● Server Option (On-premise, standalone, IDC, Cloud)
● Etc. (Battery, Charger, EAP)	● Gas Detection Sensor	
● SPOT Charging Shelter		



## PROCESS

1

Generating a 3D Models for Sites



2

System/Server Setup



3

Site Preparation  
(SPOT charging shelter)



4

Robot Path  
System Setup



5

Autonomous  
Monitoring  
Scenario Setting



6

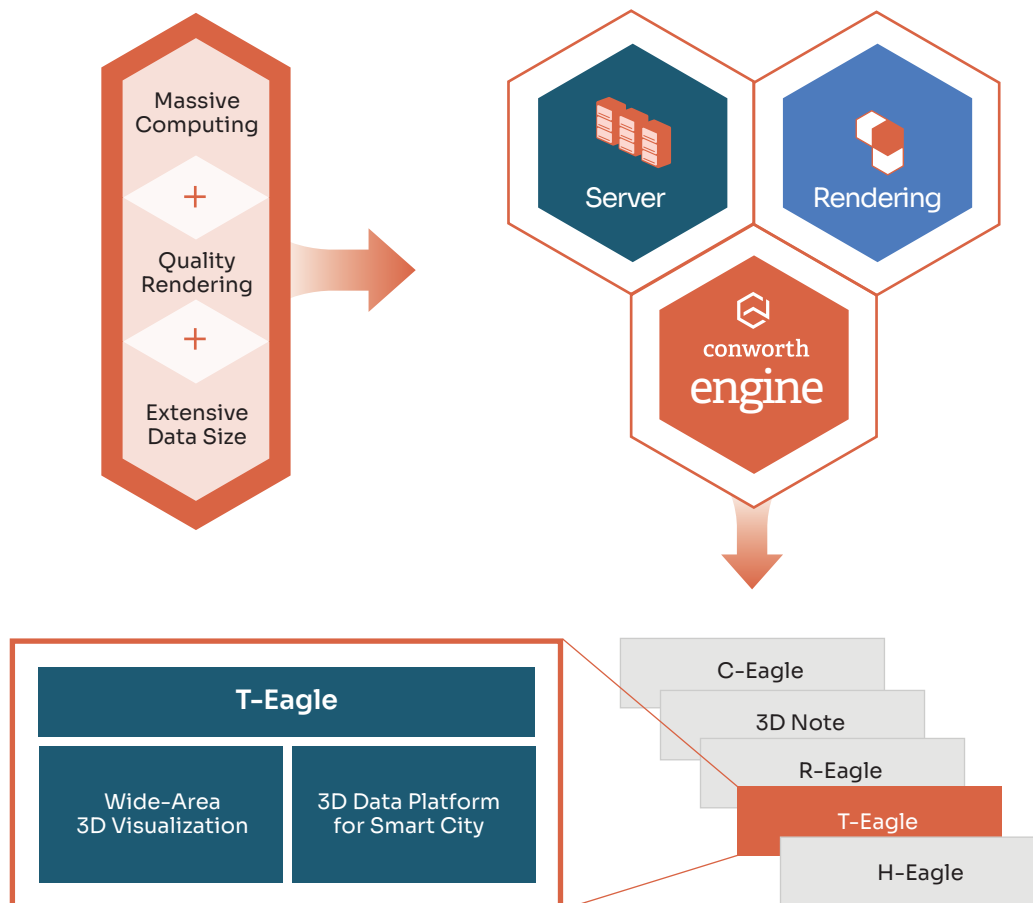
Real-time  
Monitoring/Reporting



# T-EAGLE

## Large-Area 3D Visualization Solution

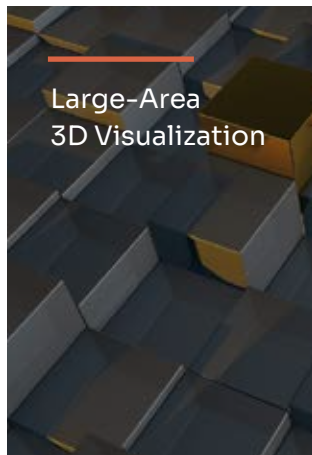
A 3D visualization solution for a smart city with spatial big data management and analysis using distributed server and graphic technology.



## Application Cases



T-Eagle specializes in 3D visualizing large-scale point clouds and provides features for two main purposes: Large-Area 3D visualization and 3D data platform for smart city.

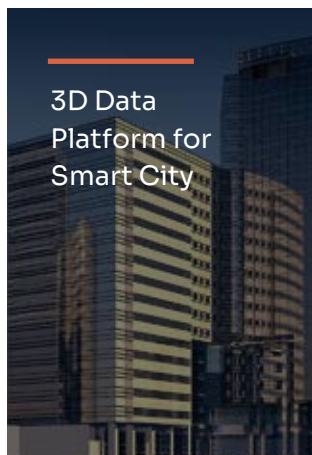


### 3D Visualization of Large Regions (Metropolitan Level)

Massive Point Cloud Data Processing (Spatial Big Data)

A Full-3D Spatial Data Management

Accumulation of Metropolitan-Level 3D Data



### 3D Data Visualization for Digital Twin

3D Location-based Data Platform for Smart City

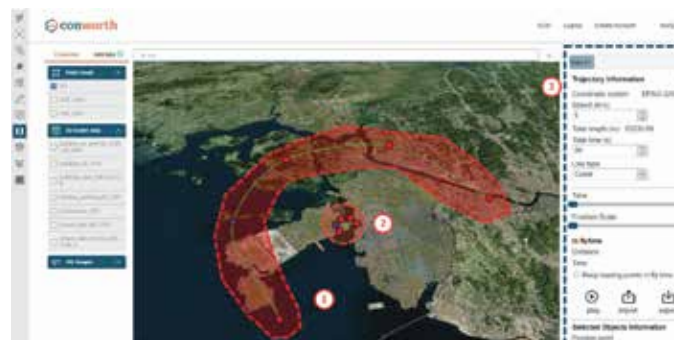
3D Flight Simulation for Path Planning

3D Big Data Management and Analysis

## Application Cases



Measurements (Length, Area, Height, Angle, Volume, etc.)

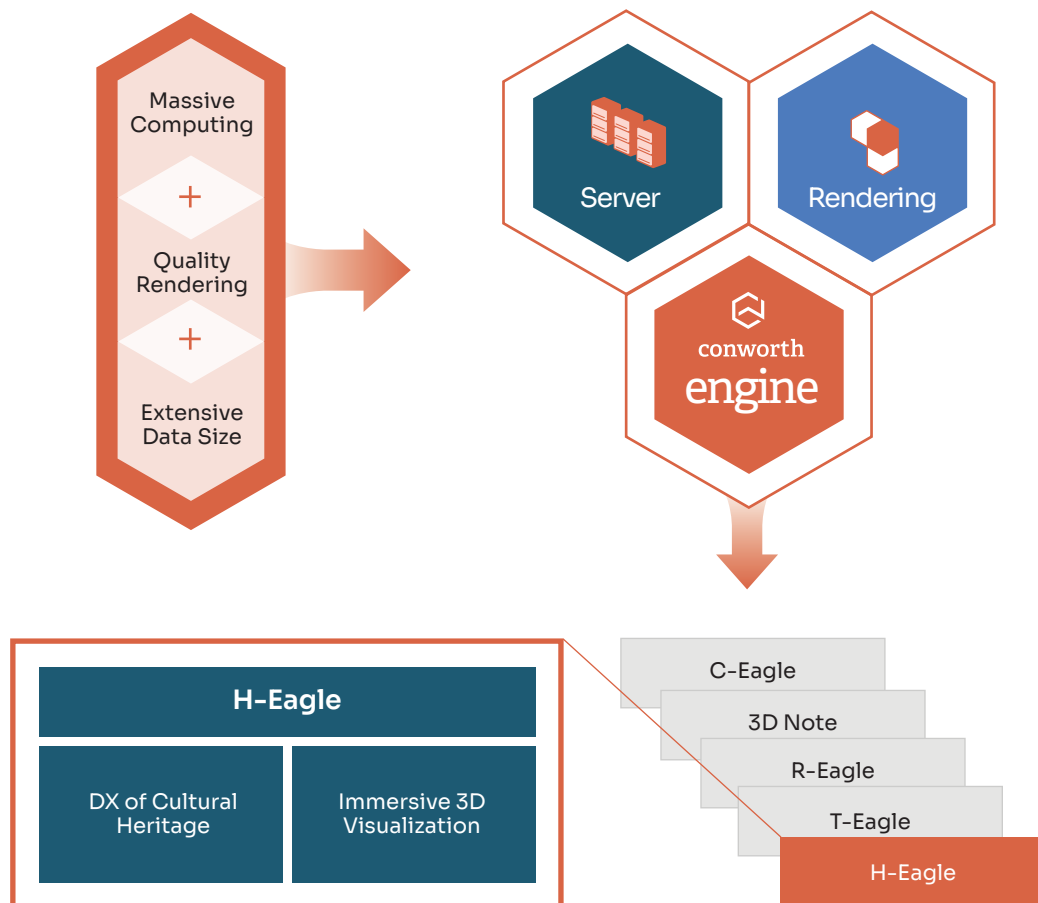


Flight Simulation – ① Flight Path ② Target Path ③ Control Panel

# H-EAGLE

## Immersive 3D Visualization Solution

A 3D visualization solution for immersive experiences of 3D contents through mesh/texture optimization and web-based server-side rendering.

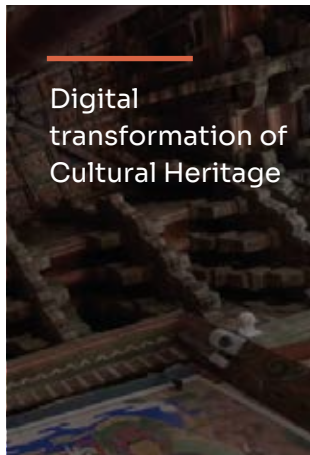


## Application Cases





H-Eagle is designed for the visualization of high-quality and massive 3D mesh/texture data, serving two main purposes:  
Digital Transformation of Cultural Heritage and Immersive 3D Visualization.

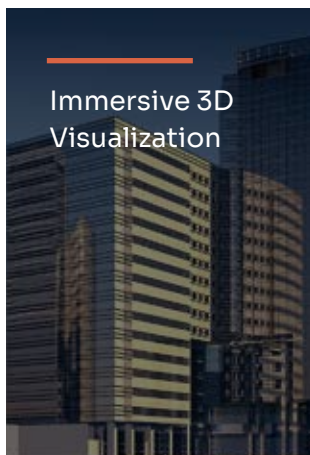


### Digital transformation of Cultural Heritage

Digital transformation for Preservation and Management of Cultural Heritage

Immersive Contactless Tourism and Content digitization of Cultural Assets

Recovery of Damaged Cultural Heritage Due to Disasters and Calamities



### Immersive 3D Visualization

Ultra-precise Visualization for an Immersive Experience (Texture with 16,384 X 16,384 Pixels)

High-volume and High-detail 3D Data Visualization with Mesh Optimization

Web-based and Instant 3D Visualization with Server-side Rendering

## Application Cases



3D Visualization of Cultural Heritage (Indoor②)



3D Visualization of Cultural Heritage (Ceiling)








# CONWORTH ENGINE

Conworth Engine is optimized for massive computing, quality rendering, and handling extensive 3D data. Technologies such as multicore processing, proprietary server clusters, massive instant rendering, and CSR/SSR selection, developed specifically for these purposes, constitute our competitive advantage.







## Optimized for location-based 3D data integration/processing/management

Data \ Comparison group					
Web/App Approach	○	○	△	○	○
Multicore Data Processing	○	N/A	N/A	N/A	N/A
Proprietary Server Cluster	○	×	×	×	×
Full 3D	○	○	○	○	○
Massive Instant Rendering	○	×	×	×	×
CSR/SSR Selection	○	×	×	×	×
Photorealistic 3D Contents	○	○	○	○	○

## Massive 3D Rendering Test

Test PC Spec : AMD Ryzen 5 5600X 6-core / NVIDIA GeForce RTX 3090 Ti / 64GB RAM

Data \ Comparison group				
FAB (5.16Gb, 5.3M Polygons, 2 Texture)	○	○	○	×
Petrochemical Plant (6.53Gb, 144.3M Polygons, 0 Texture)	○	×	×	×
Cultural Heritage (21.3Gb, 151.5M Polygons, 7 Texture)	○	×	×	×
Architectural Landmark (743Mb, 1.9M Polygons, 2275 Texture)	○	○	×	○



## Partners & Clients



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