conworth

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

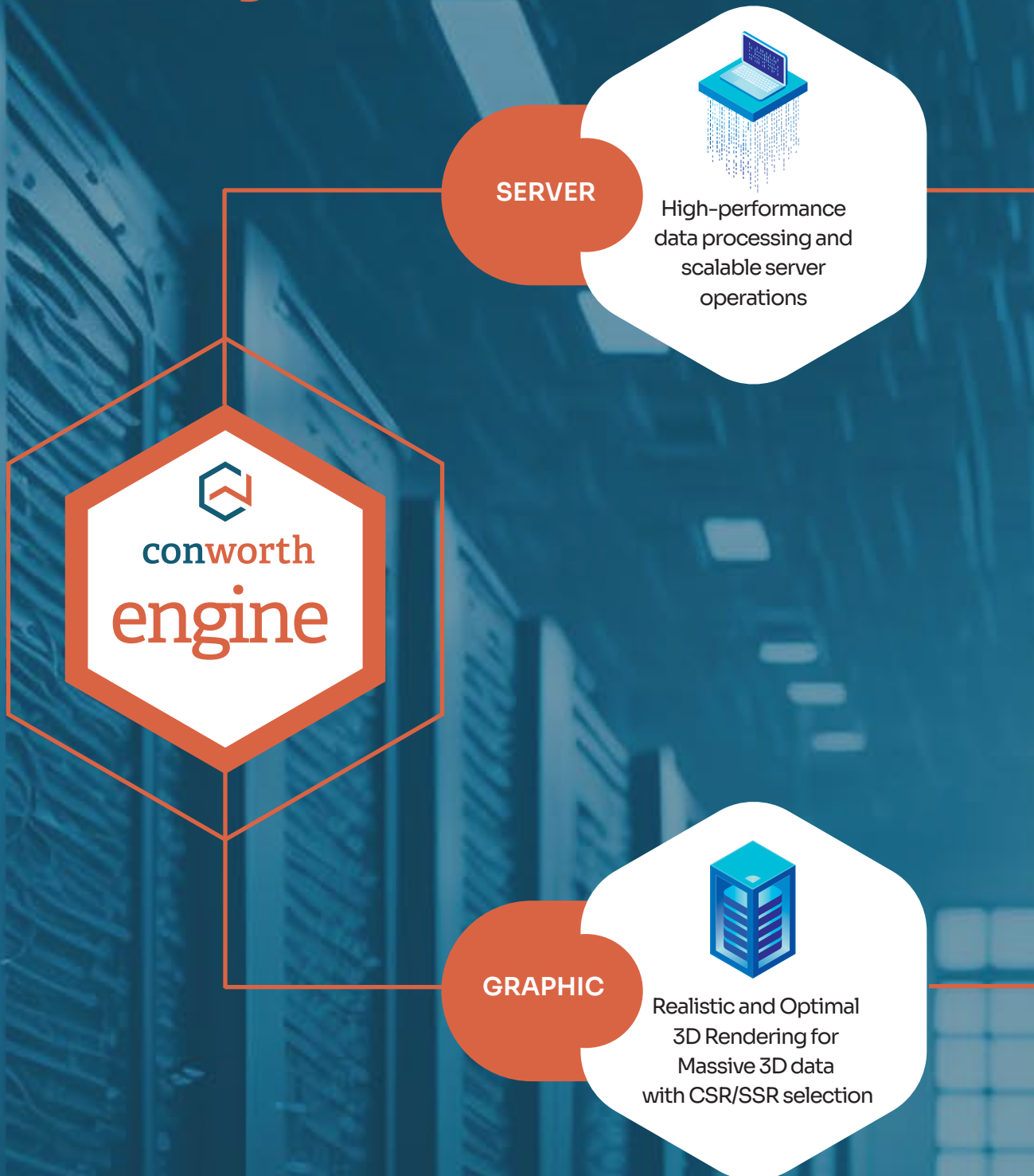Massive computing power required for the analysis and utilization of 3D data

#Infra   #PCD   #BIM   #Consistency review

#Plant   #Architecture

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

SERVER

High-performance data processing and scalable server operations

conworth engine

GRAPHIC

Realistic and Optimal 3D Rendering for Massive 3D data with CSR/SSR selection

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
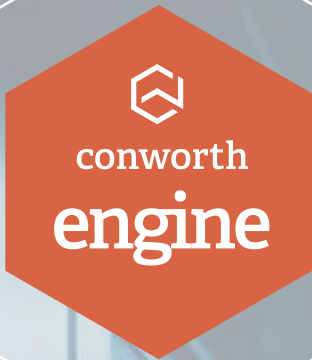

Indoor/Outdoor Full 3D
Seamless 3D integration

3D File Format Handling
Various 3D data management

Optimal Graphic Quality
Beyond present limits

CSR/SSR Selection
Various device support

OUR SOLUTIONS

conworth engine

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
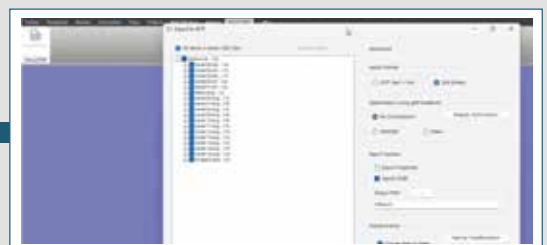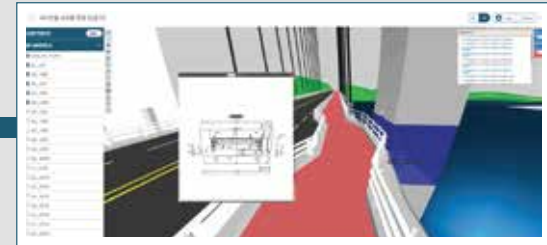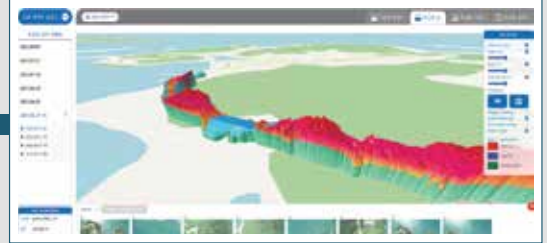City-scale 3D Data Visualization

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.

Design

Consistency Inspection and Report

Construction

3D Visualization

Field Workers

Location-based data

Real-time communion for co-working through Web/App

Construction Site

Managers

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)
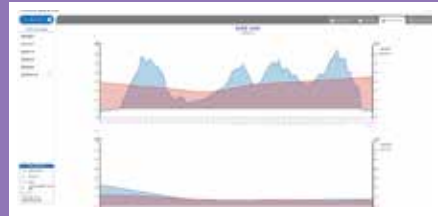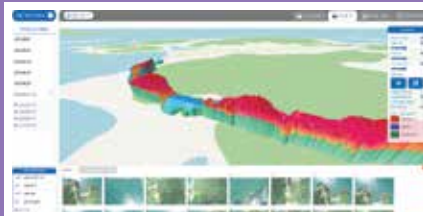

Location-Based Data Integration Management

(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.
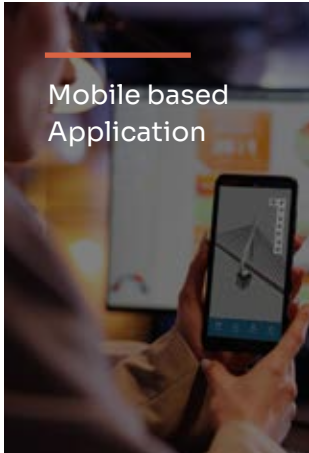

2 3D Location-Based Note

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.
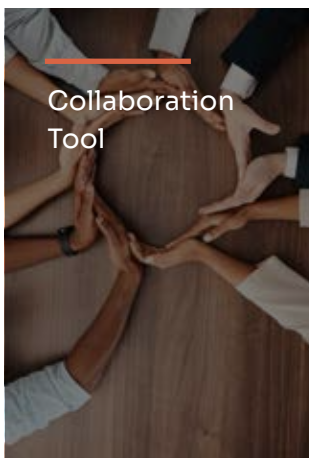
Mobile based Application

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
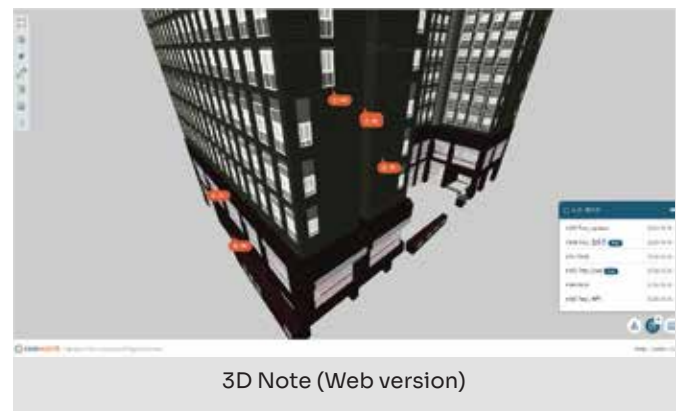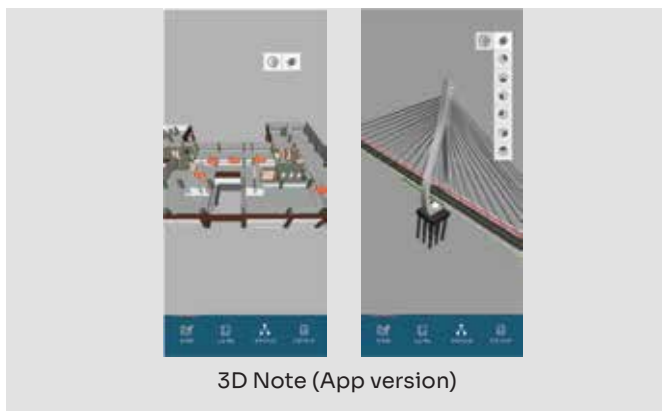
Collaboration Tool

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 (App version)

3D Note (Web version)

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.

Monitoring System

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SPOT
(Patrolling and Monitoring)
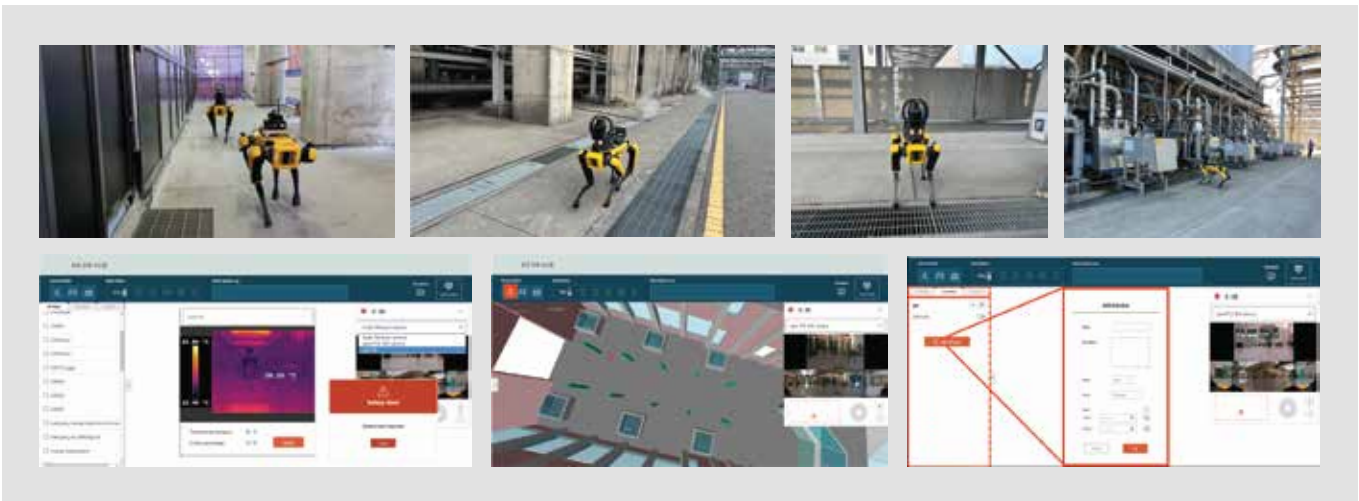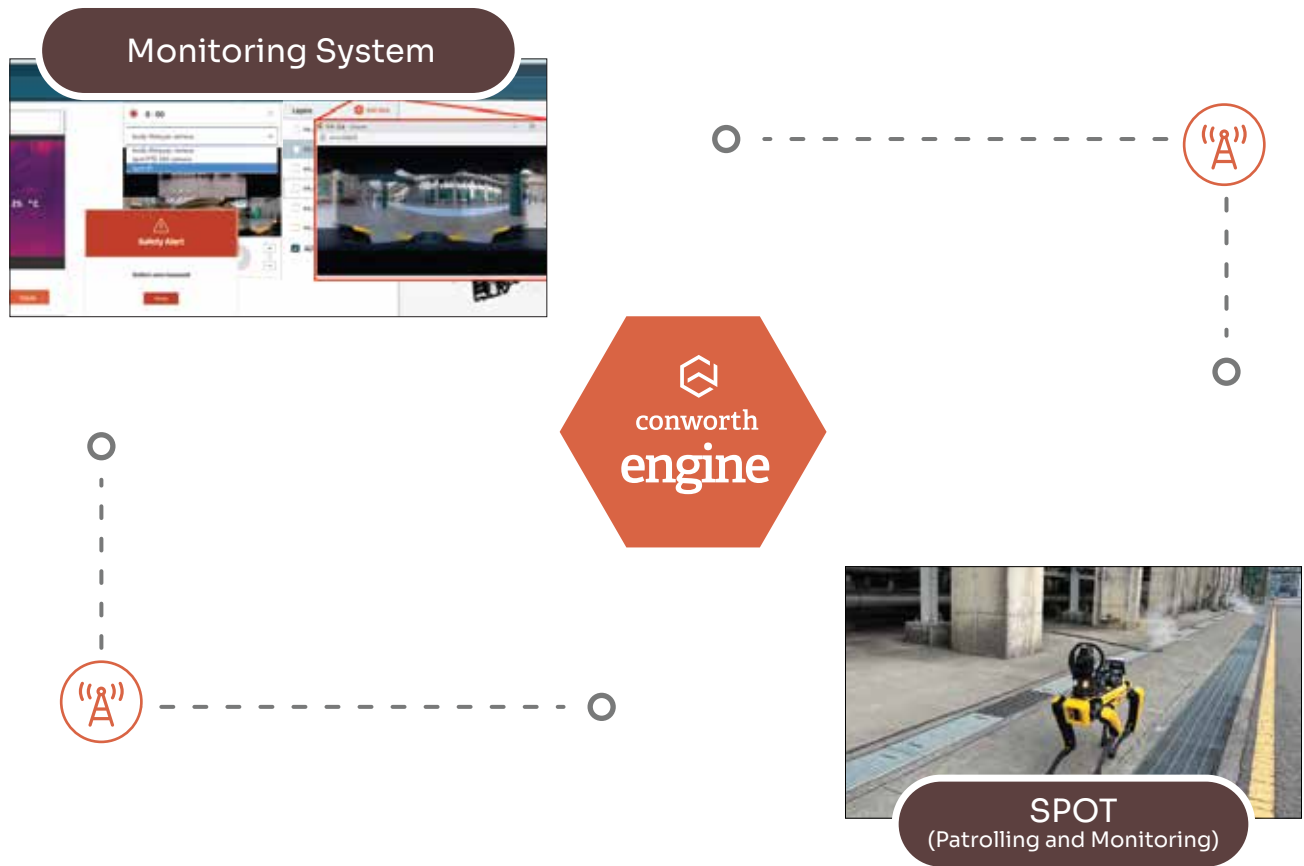
FEATURES AND PACKAGING
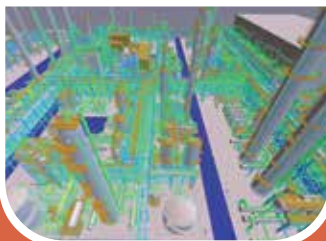
● Basic   ● Optional

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
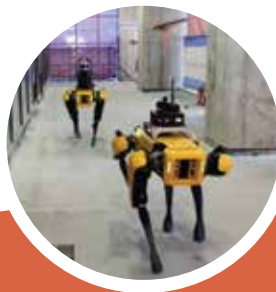
PROCESS

1
Generating a 3D Models for Sites

2
System/Server Setup

3
Site Preparation
(SPOT charging shelter)
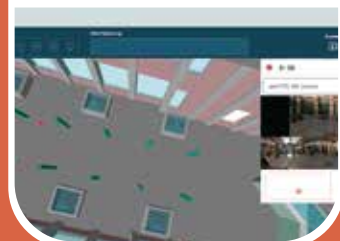

4
Robot Path System Setup

5
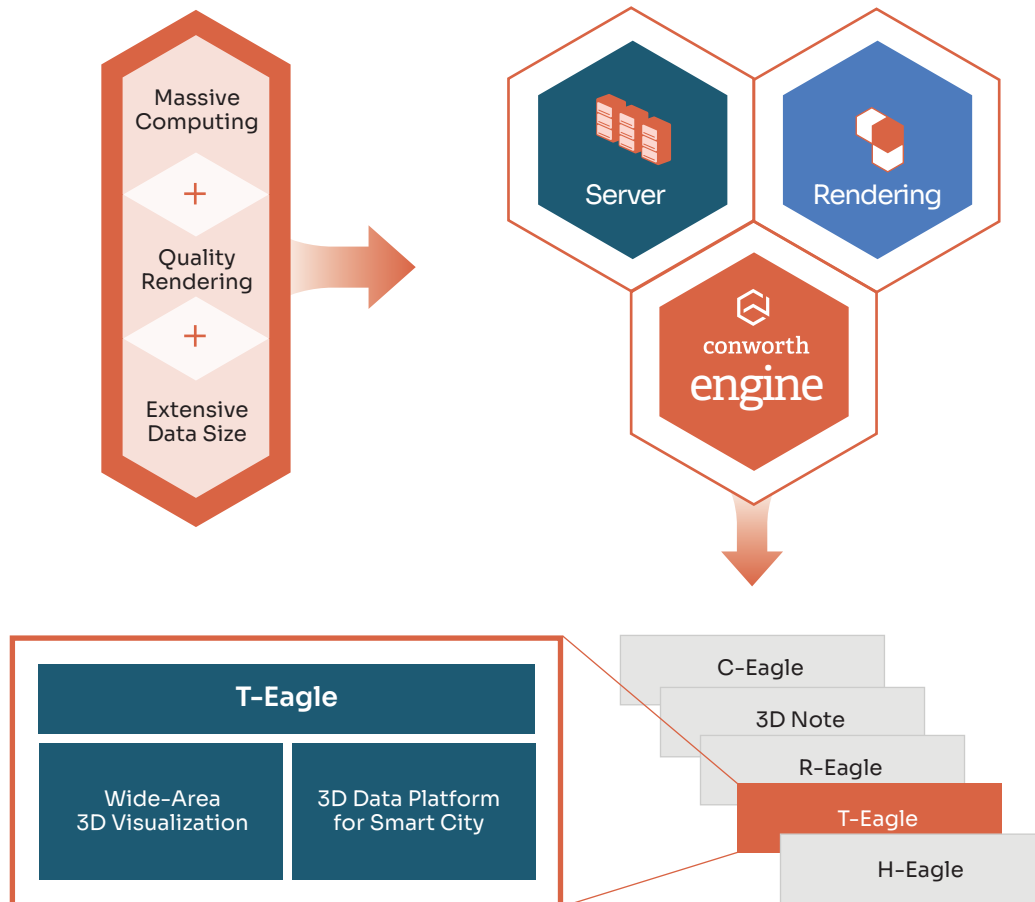Autonomous Monitoring Scenario Setting

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.

Massive Computing
+
Quality Rendering
+
Extensive Data Size

Server

Rendering

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T-Eagle	
Wide-Area 3D Visualization	3D Data Platform for Smart City

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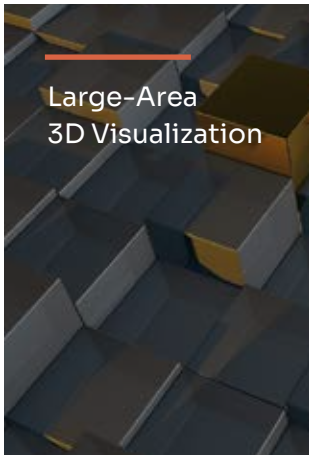R-Eagle
T-Eagle
H-Eagle

Application Cases

City-level massive PCD visualization

Basemap (2D Map) Integration and zoom-in

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.
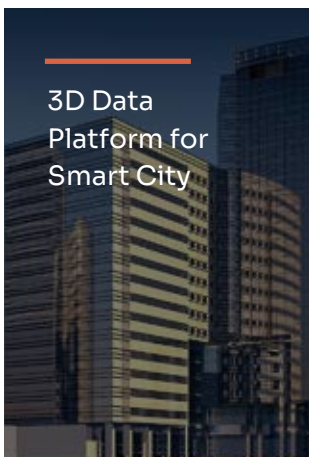

Large-Area 3D Visualization

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 Platform for Smart City

3D Data Visualization for Digital Twin
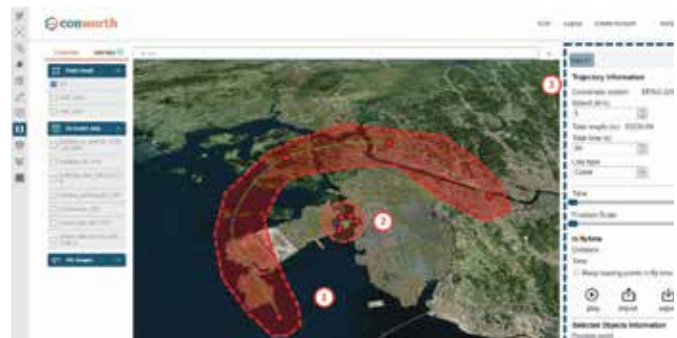
3D Location-based Data Platform for Smart City

3D Flight Simulation for Path Planning

3D Big Data Management and Analysis

Application Cases
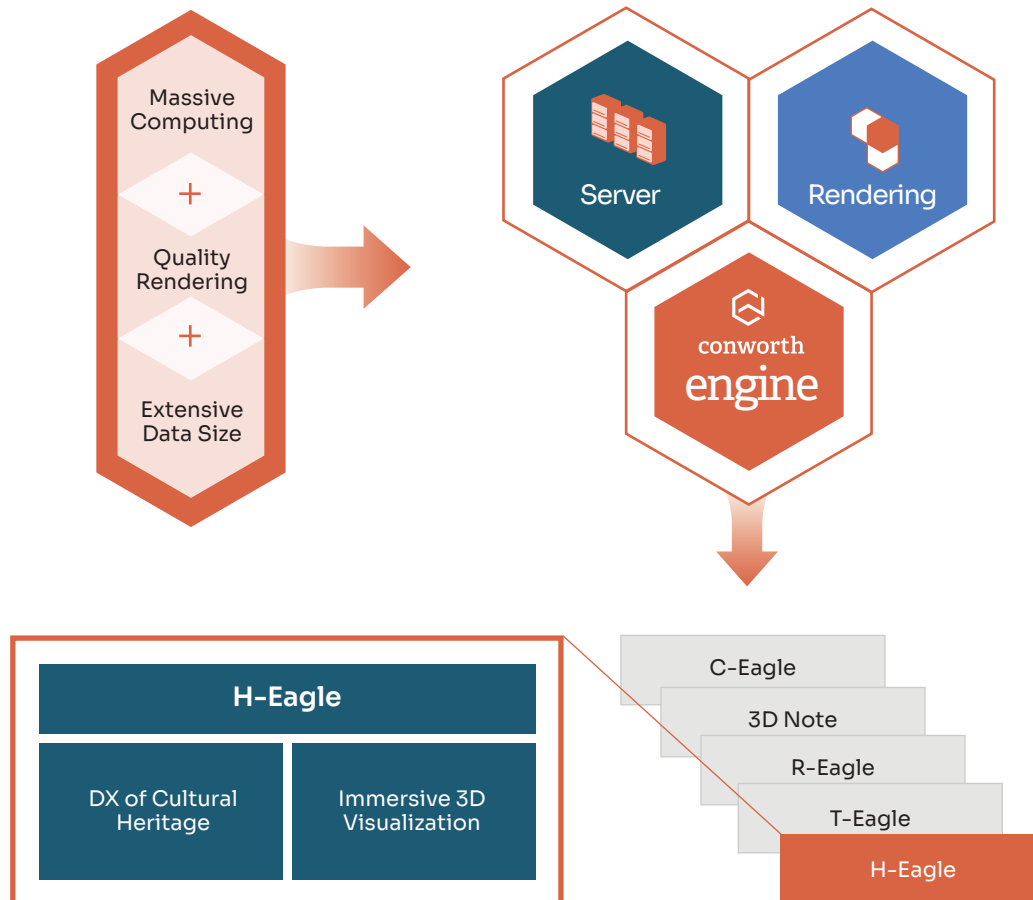

Measurements (Length, Area, Height, Angle, Volume, etc.)

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.

Massive Computing
+
Quality Rendering
+
Extensive Data Size

Server

Rendering

conworth engine

H-Eagle

DX of Cultural Heritage

Immersive 3D Visualization

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

Application Cases

3D Visualization of Cultural Heritage (Front)

3D Visualization of Cultural Heritage (Indoor ①)

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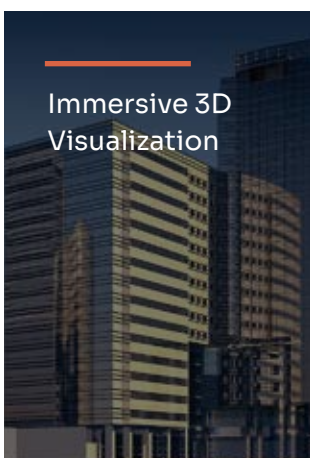Digital Transformation of Cultural Heritage and Immersive 3D Visualization.
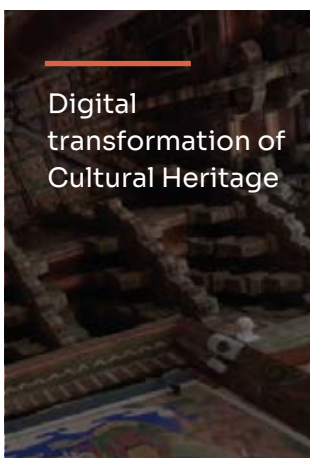
Digital transformation of Cultural Heritage

Digital transformation for Preservation and Management of Cultural Heritage

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Immersive Contactless Tourism and Content digitization of Cultural Assets

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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

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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	conworth	Unity	UNREAL ENGINE	Matterport	CYARK
Web/App Approach	O	O	△	O	O
Multicore Data Processing	O	N/A	N/A	N/A	N/A
Proprietary Sever Cluster	O	×	×	×	×
Full 3D	O	O	O	O	O
Massive Instant Rendering	O	×	×	×	×
CSR/SSR Selection	O	×	×	×	×
Photorealistic 3D Contents	O	O	O	O	O

Massive 3D Rendering Test

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

Data \ Comparison group	conworth	UNREAL ENGINE	Filament	Windows 11 3D Viewer
FAB (5.16Gb, 5.3M Polygons, 2 Texture)	O	O	O	×
Petrochemical Plant (6.53Gb, 144.3M Polygons, 0 Texture)	O	×	×	×
Cultural Heritage (21.3Gb, 151.5M Polygons, 7 Texture)	O	×	×	×
Architectural Landmark (743Mb, 1.9M Polygons, 2275 Texture)	O	O	×	O

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Partners & Clients

SAMSUNG C&T	HYUNDAI AutoEver	Platinum 플래티넘기술투자	YONSEI UNIVERSITY
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Boston Dynamics	KODIT 신용보증기금 KOREA CREDIT GUARANTEE FUND	ex 한국도로공사	K water
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Conworth offers
unprecedented
3D solutions

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