



3D Intelligent Technology and Solution Provider

3D Reconstruction | Reality Capture Hardware | Spatial Intelligence | Photorealistic Metaverse

A Globe Leader in 3D Spatial Intelligent Computing

Mission

To build the infrastructure for 3D intelligent spatial computing

Vision

Promote mutual enhancement between the digital and physical world.

Founder & CEO

Dr. Kaiyong Zhao

Phd in Distributed High-Performance Heterogeneous Computing

Executive Member of CCF Distributed Expert Committee

Named Shenzhen Overseas Top-level Talent

Expert in Distributed High-Performance computing, AI, 3D technologies and robotics

Partner



Capital Partner



Products

Spanning the entire production chain and transforming production methods of the 3D industry



Status Quo

High Professionalization

Open Ecosystem

Diverse Plugins

Shareable Metaverse

High Labor Cost

Spatial Perception

3DGS

AI algorithms

HPDC

Conflicts of Accuracy and Efficiency

Highly integrated

Multi-SLAM

Real-time reconstruction

Digital World



XGRIDS Space



Web



UE



Unity



Cesium

.....

Applications



Lixel CyberColor



Lixel Studio ^{3.0}

Data Processing



Lixel R1



K1



Lixel L

L2 Pro



LixelGO

Scanning & Reconstruction

Physical World

XGRIDS Value

Modular & Accessible For B2C /B2B

AI-Assisted Processing

Cm-level Accuracy
5-10 times Efficiency

Innovative 3D Content Production Experience



All-in-one Integration

Real-time Reconstruction

Robust and Reliable

Diverse Accessories



Elevation



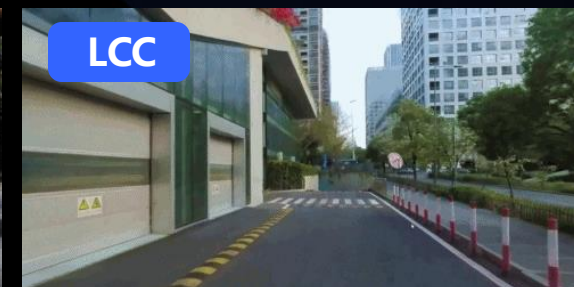
True-color point cloud



Mesh



LCC



Up to 1cm
Accuracy



Real-time modeling
& computing



Lightweight
Compact



Stable
Reliable



Automation



Cinematic



Multi-terminal



Further DEV





Spatial camera for convenient capture

AI Processing, simple and user-friendly

Lixel | The world's first real-time SLAM device, highly integrated



Highlights

-  **Real-time** calculation for Instant Reconstruction
-  **High precision** LiDAR + Visual + IMU=Multi-SLAM
-  **High integrated** Built-in 360, IMU, GPU, detachable battery,
-  Independent Research and Development

Scanning time (each battery)

90 Mins



Scenarios



Relative Accuracy

±1 CM

All-in-one Integrated Design

Lixel L2 Pro

| Professional high-precision 3D scanner



Leading the mobile scanning industry into a new era of REAL-TIME computation.



Core Parameters

Working Ranging	120 meters/300 meters
Relative accuracy	1cm
Absolute accuracy	3cm
Scan rate	32/640,000 points/second
Protection Grade	IP54
Duration of a single work	90 mins



1mm
point space



Remote
Collaboration



Real-time



True Color
Point Clouds



LixelGO

APP

Topographic Survey

Mining Survey

Agriculture & Forestry

Urban Renewal

AEC Survey

Production Plan

Real-time Calculation for Instant Reconstruction

- The results can be viewed in real time to avoid rework due to improper collection.
- Real-time results are consistent, no wait time for usable .las file

All-in-one Integration

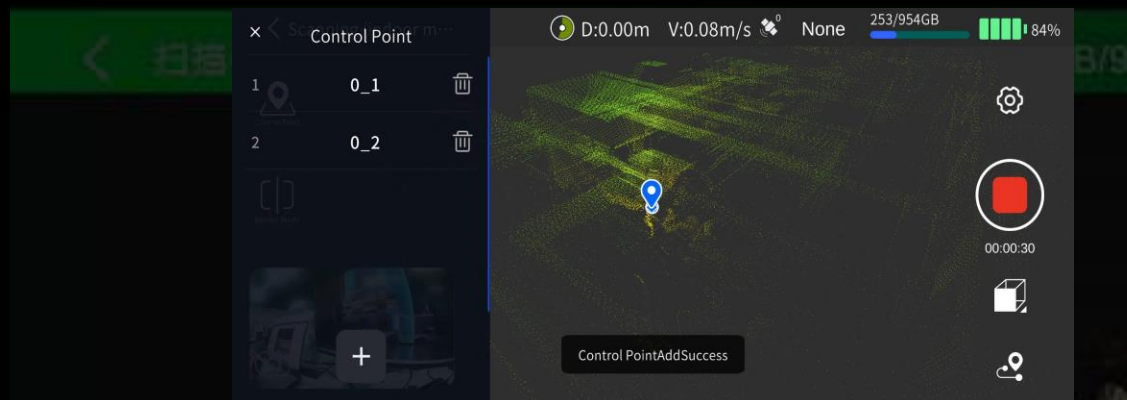
Real-time Reconstruction

Robust and Reliable

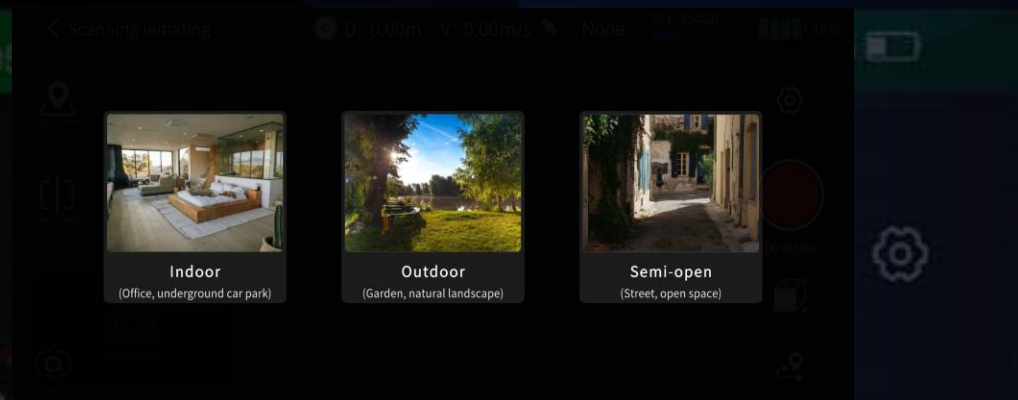
Diverse Accessorie



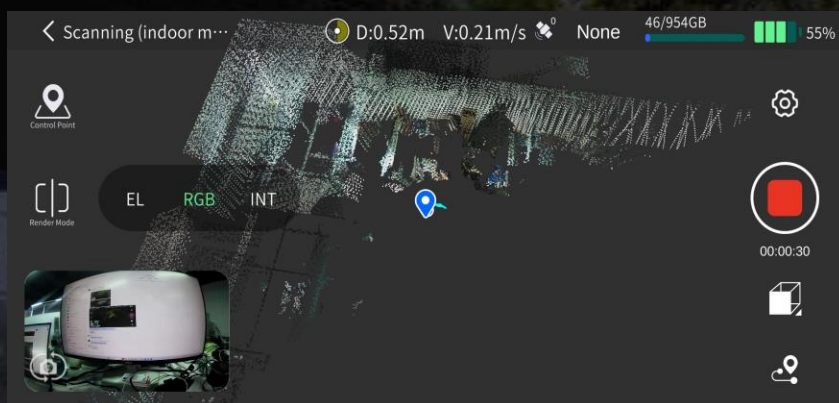
LixeIGO APP



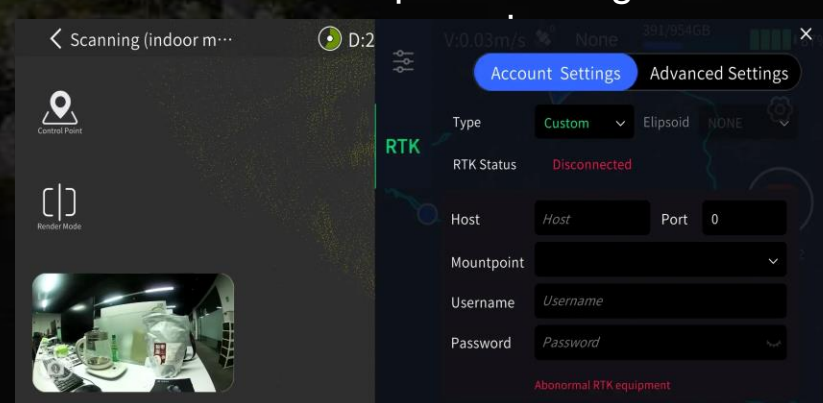
Adding control points



Multiple scanning



Various viewing mode



Device settings

Lixel L2 Pro | True SLAM with real-time output

Real-time point cloud quality comparable to post-processed data.



L2 (post-processed)



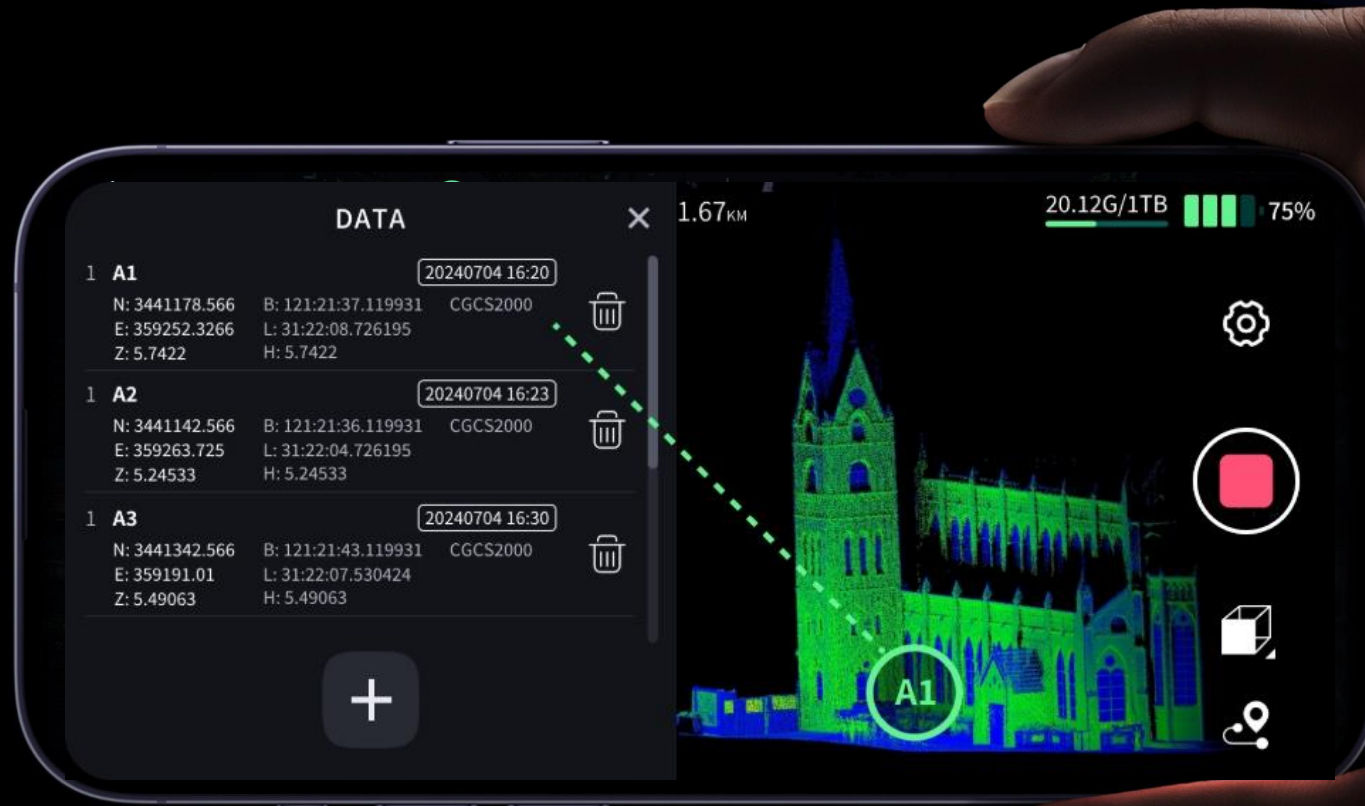
L2 PRO (real-time)

Real-time Accuracy

- Absolute Accuracy: **3cm**
- Relative Accuracy: **2cm**
- Horizontal/Vertical Accuracy: **0.015°**
- Repeatability: **2cm**

Lixel L2 Pro | Real-time data with absolute coordinates

No more waiting - Data is Georeferenced in real time.



* Supports **WGS84** and **CGCS2000** coordinate systems

Lixel L2 Pro | Photo-quality color point clouds



XGRIDS LixelUpSample™ point cloud algorithm generates dense point clouds with 1 mm spacing.



*Benefit from the built-in 360 cameras, color accuracy is greatly improved.

Lixel L2 Pro | A seamless, user-friendly, and reliable workflow



Maximize usability and flexibility

Phone mount



One-press GCP marking



Precision verification report



Extension pole



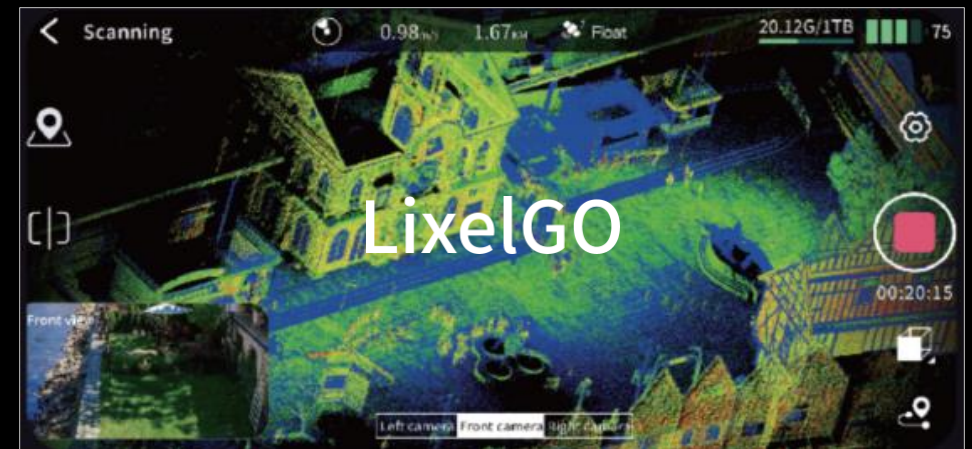
Supporting Harness



Direct phone connection



Pairing software support



Lixel L2 Pro | Diverse Accessories



RTK Module



Phone mount



Backpack Kit



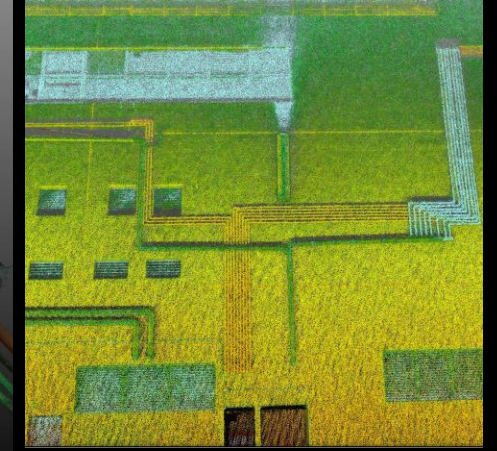
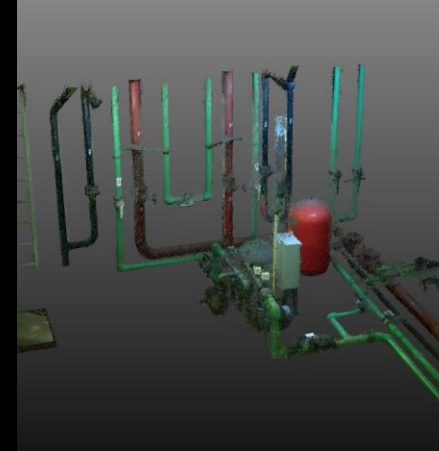
Extension pole



Lixel L | Sample Data of Color point clouds



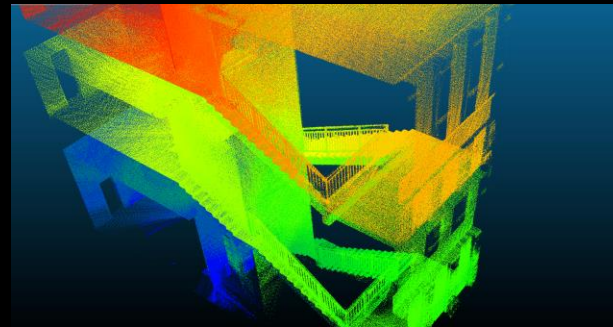
True Color Point Clouds



Detailed reliable scans on-the-go



Adaptable in multi-environment



Adaptable in multi-environment

Lixel Kity K1 | Consumer-grade Spatial Camera



Compact yet powerful. 3D Reconstruction simplified for all.

Core Parameters



Working Ranging	40cm
Relative accuracy	$\pm 1.2\text{cm}$
Absolute accuracy	$\pm 3\text{cm}$
Scan rate	400,000 points/second
Protection Grade	IP54
Duration of a single work	1.5 hours



Real-time
Modeling



True Color
Point Clouds



Lightweight
Compact



360°
Scanning



LixelGO

APP

Underground Mapping

Cinematic Modeling

Indoor Measurement

Culture & Tourism

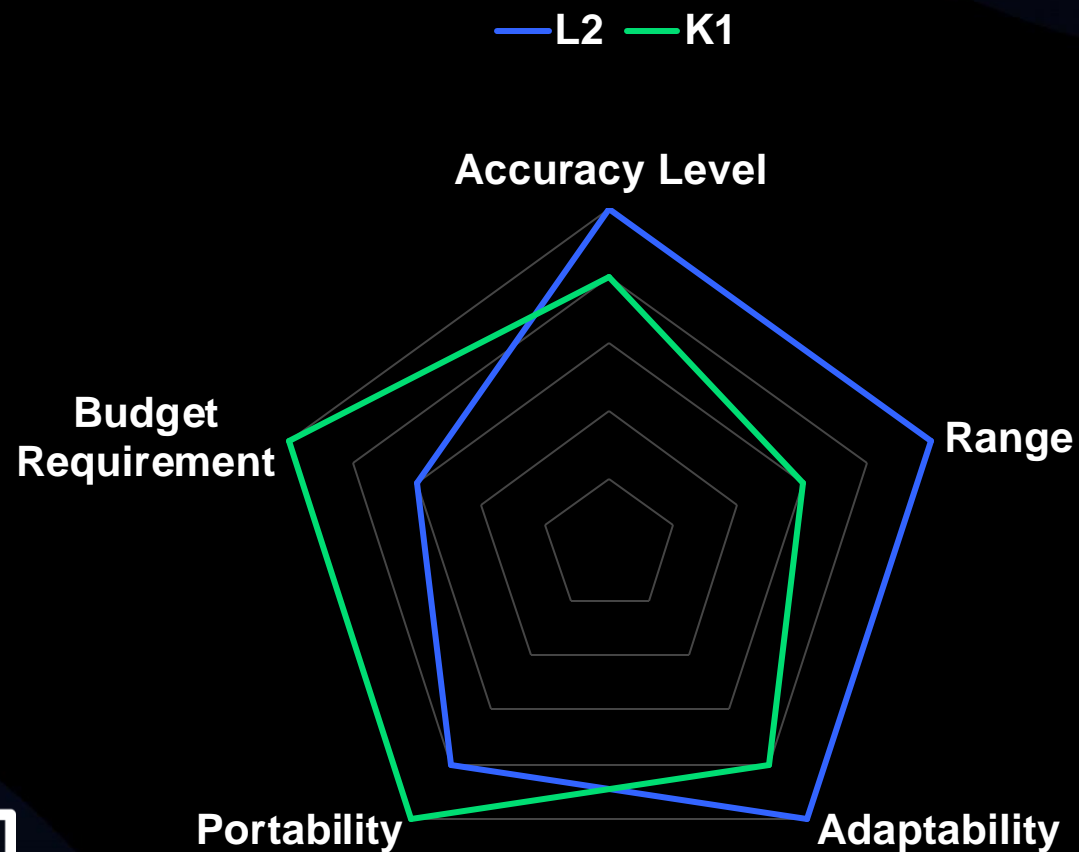
AEC

XR

Product positioning



LixelKity K1



L2 Pro

Product	L2 Pro			K1
Model	16/120	32/120	32/300	K1
Working Range	0.5m~120m	0.5m~120m	0.5m~300m	0.1m~40m
Laser Class	Class 1 / 905nm			Class 1 / 905nm
Laser FOV	360°×270°			360° * -7~+52°
Scan Speed	320,000 points/s	640,000 points/s	640,000 points/s	200,000 points/s
Processing Mode	Real-time / Post-processing			Real-time/Post-processing
Operating Temperature	-20°~50°			-20°~50°
IP Level	IP54			IP54
Storage Capacity	1TB SSD			TF card 256G (swappable)
Operating Time	90min			90min
Protection Level	IP54			IP54
Handheld Weight	1.6kg			1kg
Visual-Aided Positioning	Supported			Supported
Real-Time Colored Point Cloud	Supported			Supported
5G Real-Time Transmission	Supported			Supported
RTK Fusion	Supported			Supported
Resume Scanning from Breakpoint	Supported			Supported
Point Cloud Format	.las			.las
Relative Accuracy	±1.2cm			±1.2cm
Absolute Accuracy	≤3cm			≤3cm
Repeat Accuracy	≤2cm			≤2cm
Number of Cameras	3			4
Power Consumption	<30W			<20W
Power Supply	Fast-lock battery/External power			Fast-lock battery
Battery Capacity	46.8wh			28.8wh
Camera FOV	N/A			Color panorama HDV 360°*360°

Scenarios



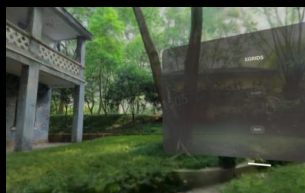
Lixel Kity K1

Small to medium spaces

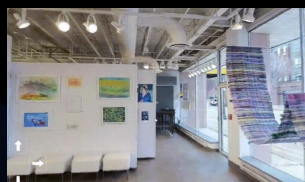
Low scene complexity



Indoor



Virtual Reality



Culture & Tourism



AEC



Outdoor



Filming & VFX



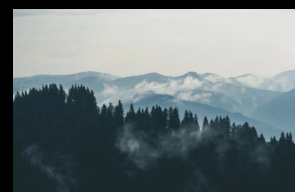
Underground



Aerial



Survey & Mapping



Natural Resources



Factory & Production



Lixel L2

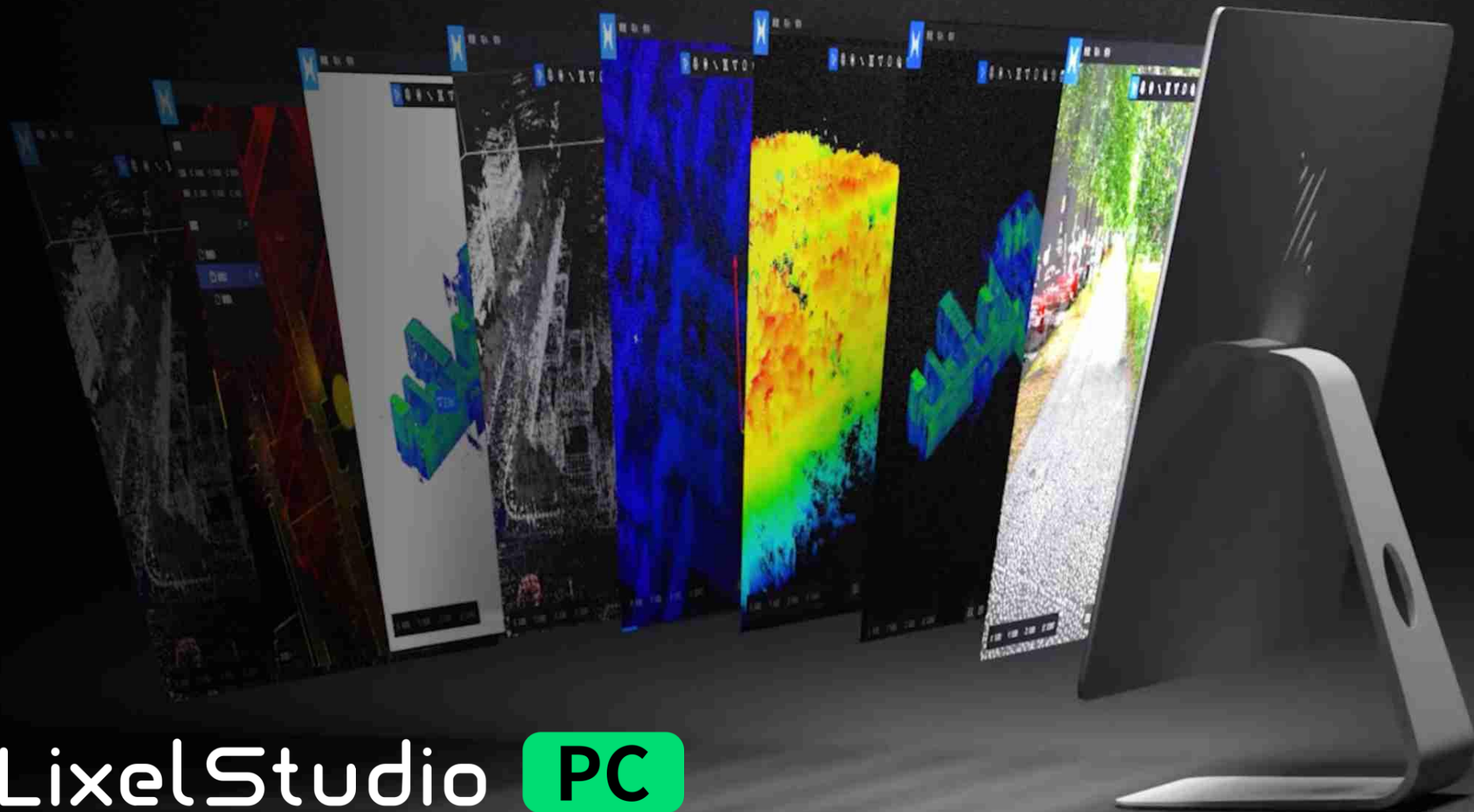
Stronger Expandability

Small to Large scale spaces

Higher Volumetric Accuracy

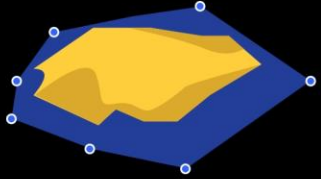


Post Processing Software



LixelStudio **PC**

))) LixelStudio^{3.0} | All-in-One Point Cloud Processing Software



Stockpile Measurement



Support for Multiple Data Formats



One-Click Project Processing



Mesh



Segment



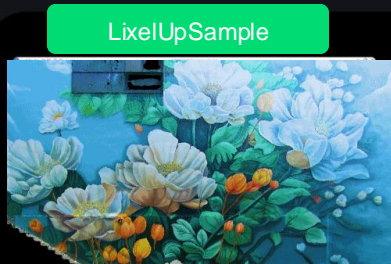
Measurement



Registration



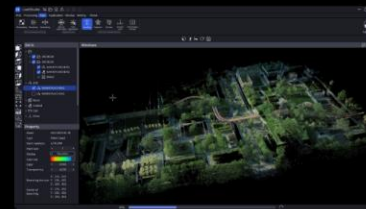
Clip Box



LixelUpSample

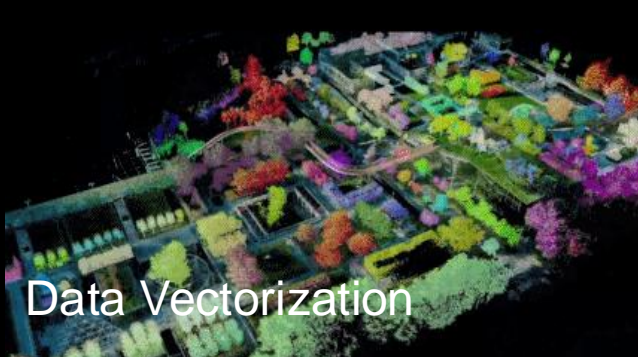
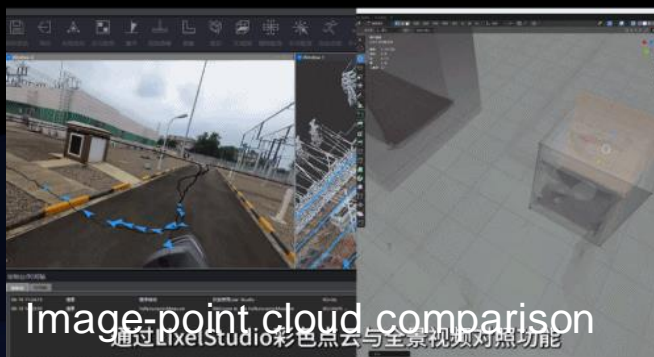
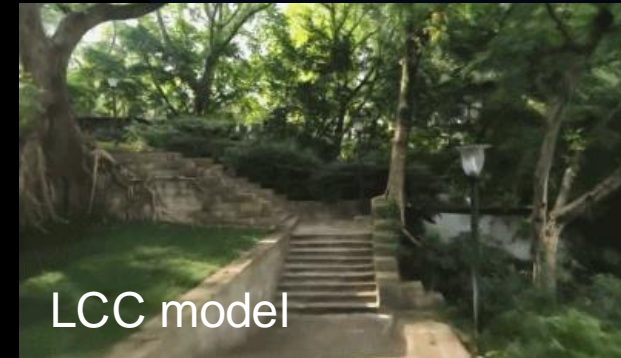
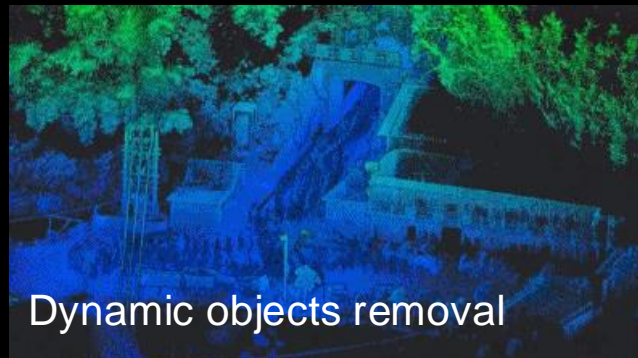
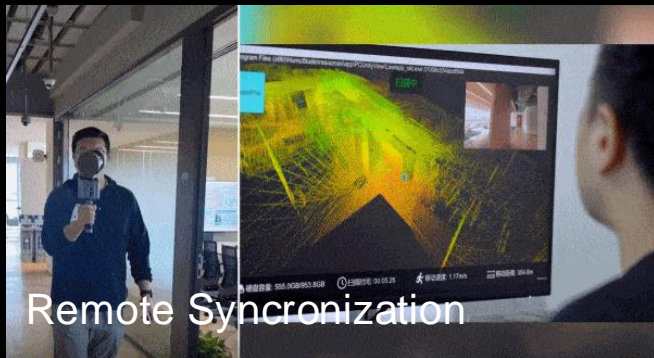


Light/Dark Mode



Panoramic Overlay

All-in-one workflow, Aided by AI

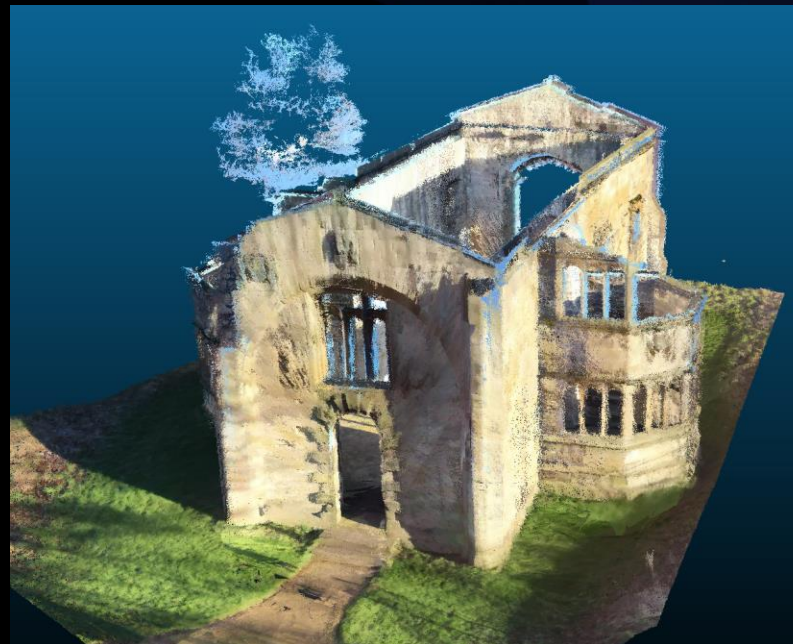


Real-time Data Preview
& Transmission

Point Cloud Data
Processing

Automated Deliverable
Generation

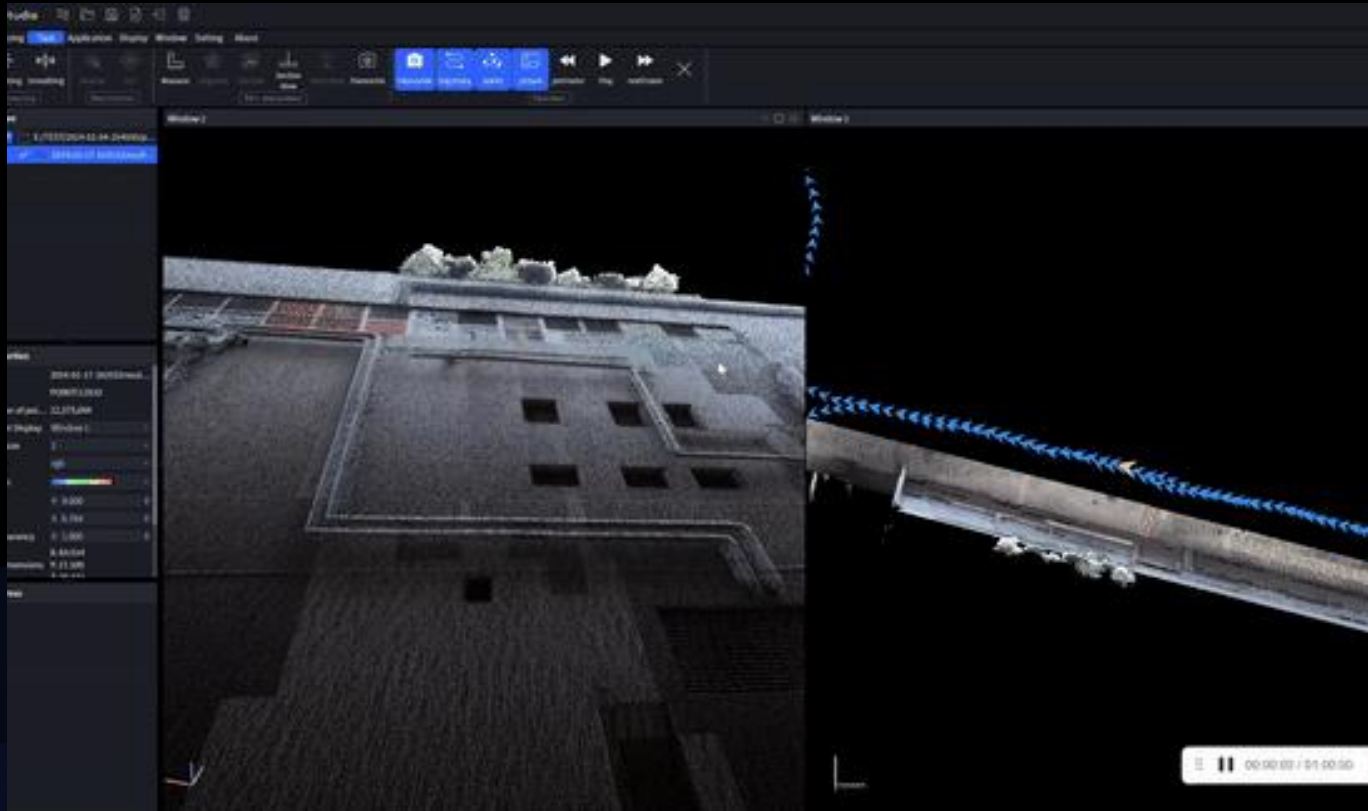
Colorization | Coloring point clouds with true bright color



Color Point Cloud before/after post processing



Panoramic Overlay | For model referencing and measurements



Accurately overlaid Point Cloud and Panoramic Imaging

Carry out precise point-to-point measurements on panoramic images, label POI, saving them to open in 3rd party software for

**BIM model referencing
and more**



Lixel CyberColor

Lixel CyberColor

**World's First SLAM-based
3D Gaussian Splatting solution**



Automation



Cinematic



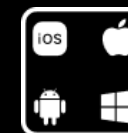
Large-scale Model



Cm-level Accuracy



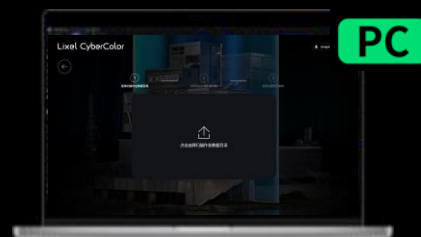
Multi-terminal



Further DEV



Lixel

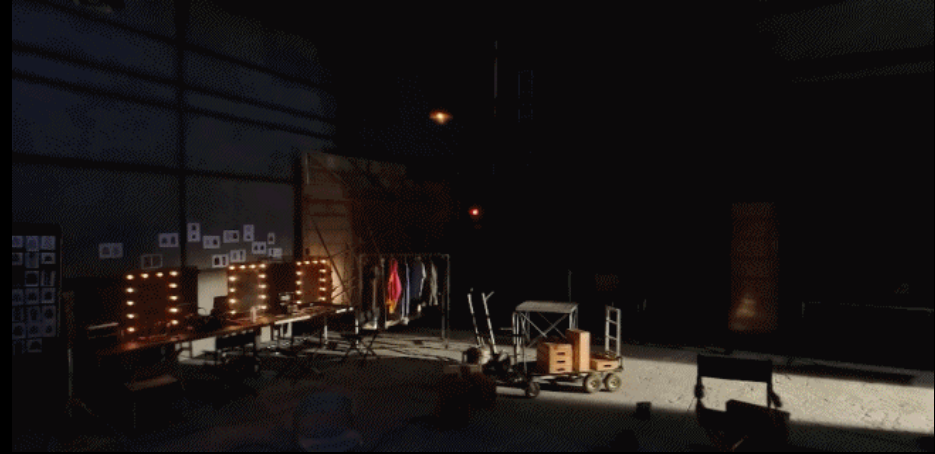


LCC Studio & Viewer

Lixel CyberColor | The first SLAM-based 3DGS solution



Ideal for large, complex scenarios



Low-light and feature-scarce sites



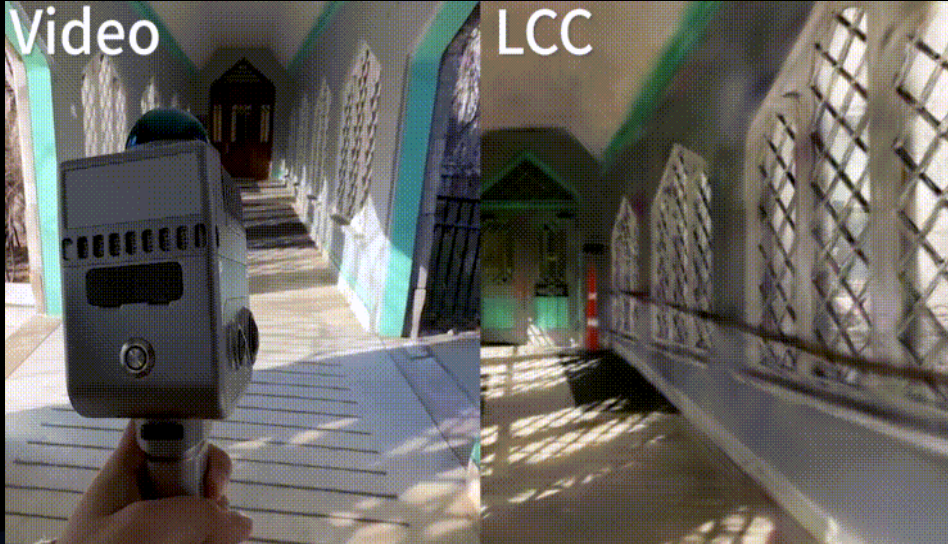
Cm-level Accuracy that's measurable



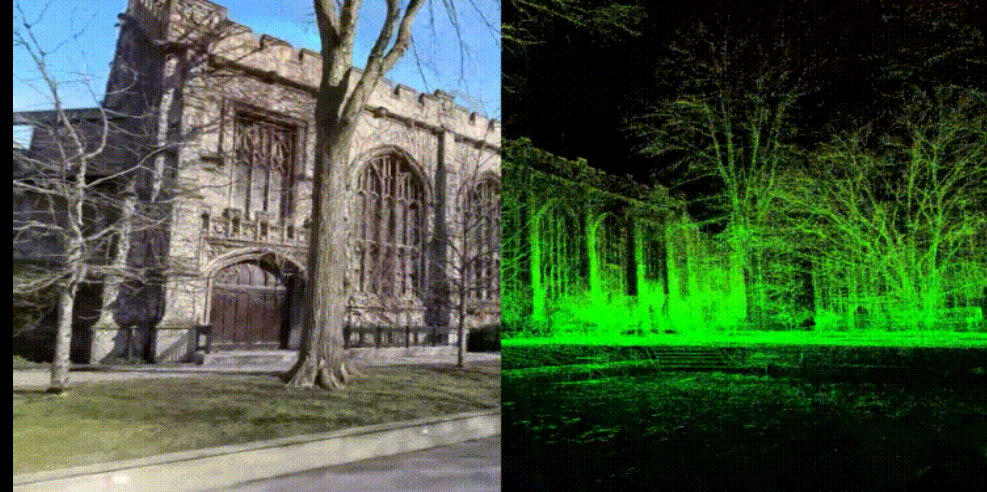
Smooth performance in multi-terminal



Removing dynamic objects for a cleaner model.



Utilize LCC for →

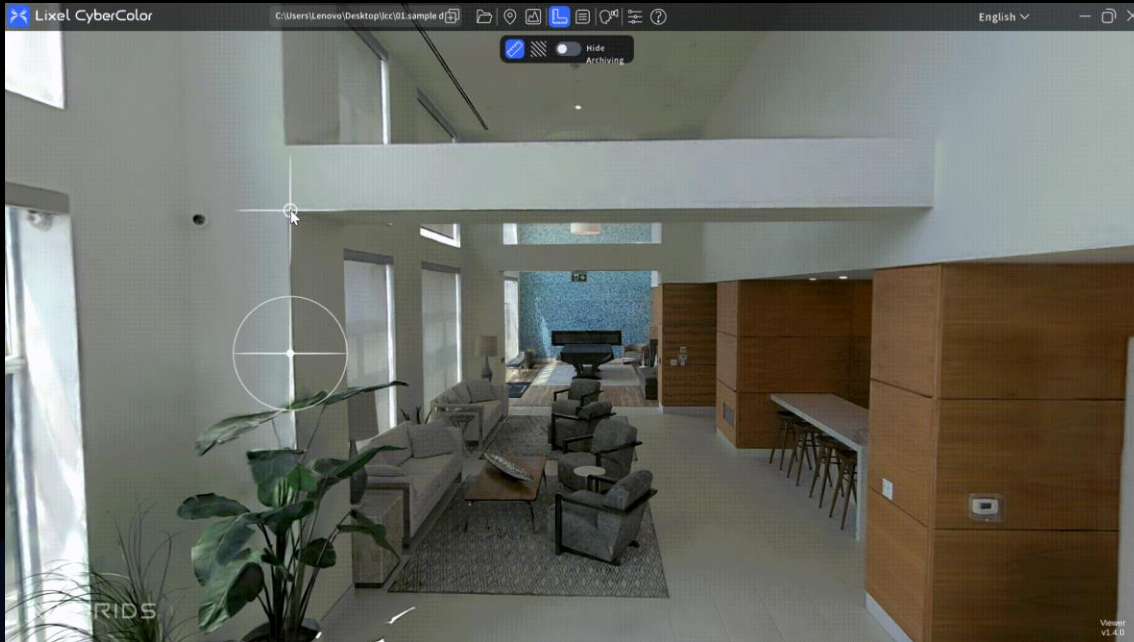


✓ Large-scale scenes

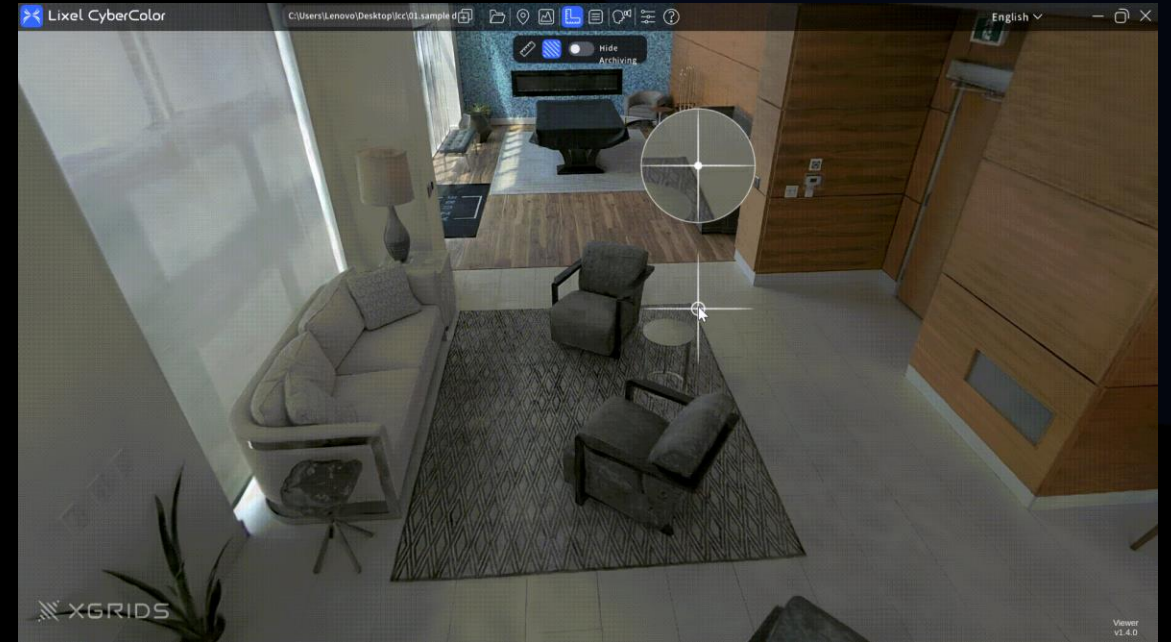


✓ Complex indoor and dark scenes

Lixel CyberColor | Cm-level accuracy, measurable models



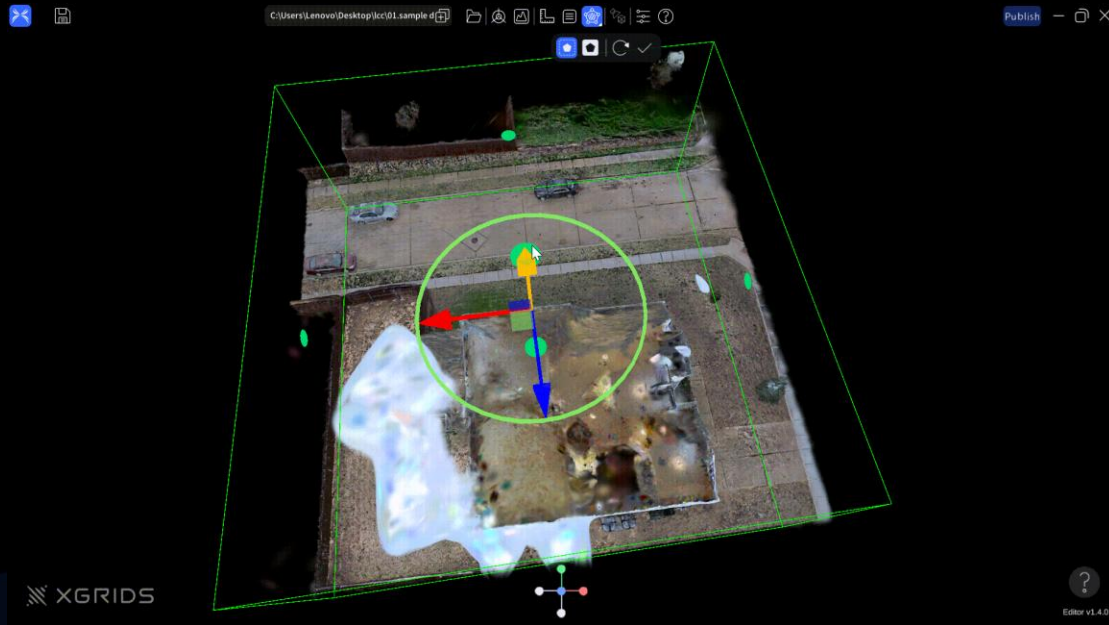
✓ Distance measurement



✓ Area measurement



- ✓ Annotate your POIs
- ✓ Supporting text, image, video and hyperlinking
- ✓ Notes list for quick relocating

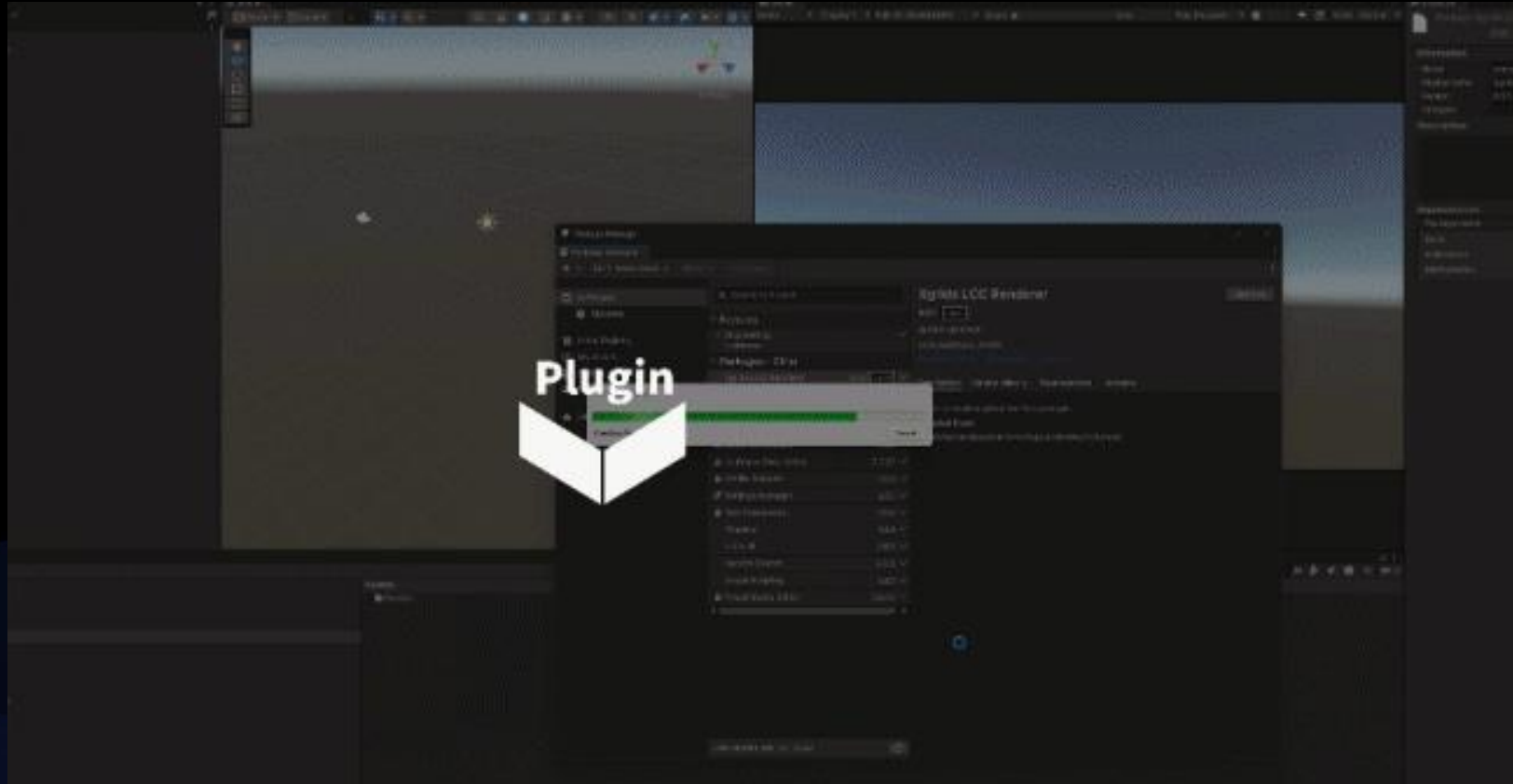


✓ Sectional Clipping



✓ Individual Object Removal

Lixel CyberColor | Extensive Secondary Development Capabilities Available



Lixel CyberColor | Workflow



Lixel Spatial Cameras

Mobile capturing

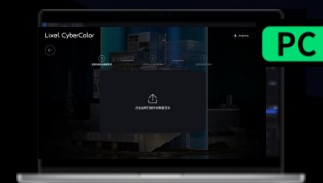


LCC Studio

Auto-processing



Local Viewer



LCC Viewer



Publish Online



XGRIDS Space



Model Export



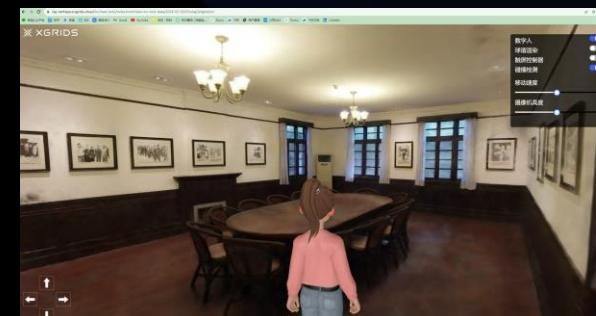
SDK and plugins



Unity



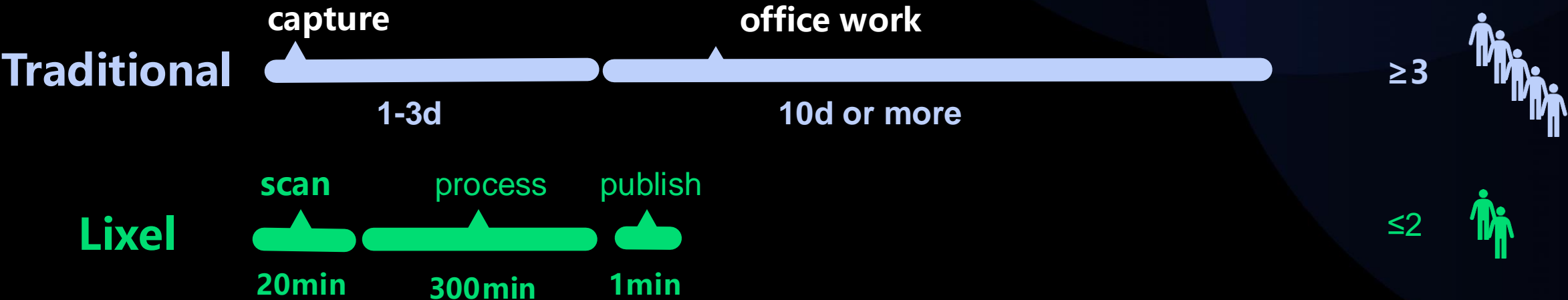
Local Viewing



Share Online



Further R&D



Real-time Color Point Cloud



Auto Mesh model



Manual refined model



LCC 3DGS model

Park- 25,000m²

Industrial Application

Providing 3D infrastructure for various industries



AEC



Digital Twins



Natural Resources



Survey & Mapping



Culture & Tourism



Filming & VFX

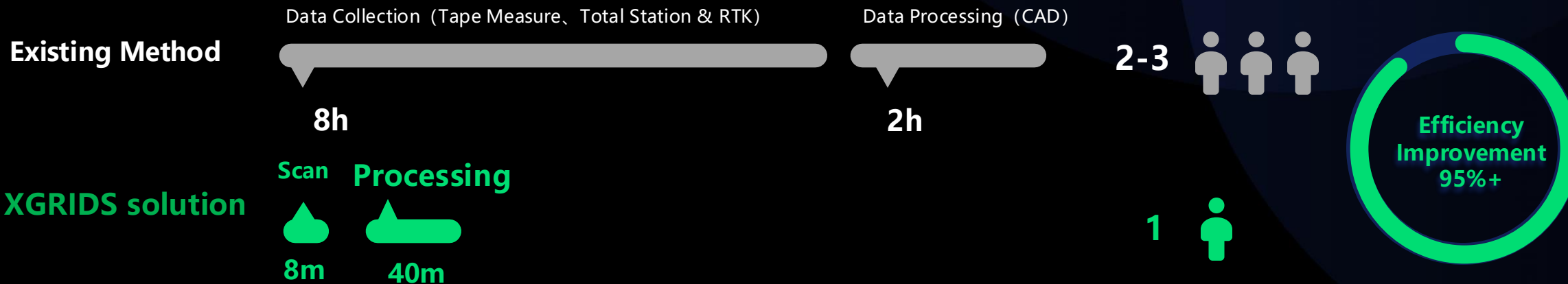


Virtual Reality



Factory & Production

AEC | Spatial Measurement



Floor Plans

Stockpile measurement

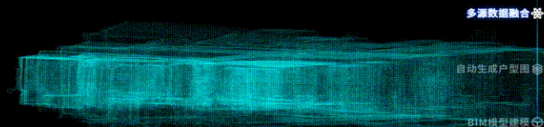
Cadastration

Mapping & Survey

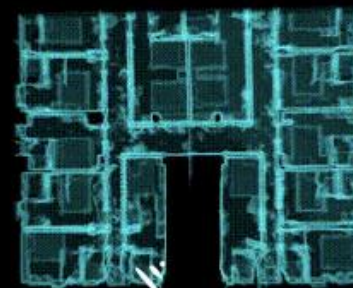
Emergency Survey



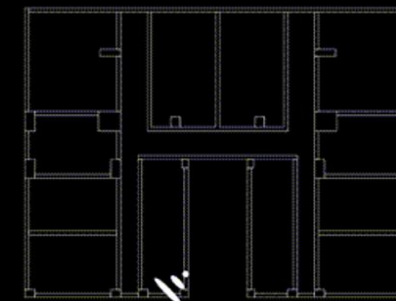
Scan Efficiently



AI Processing



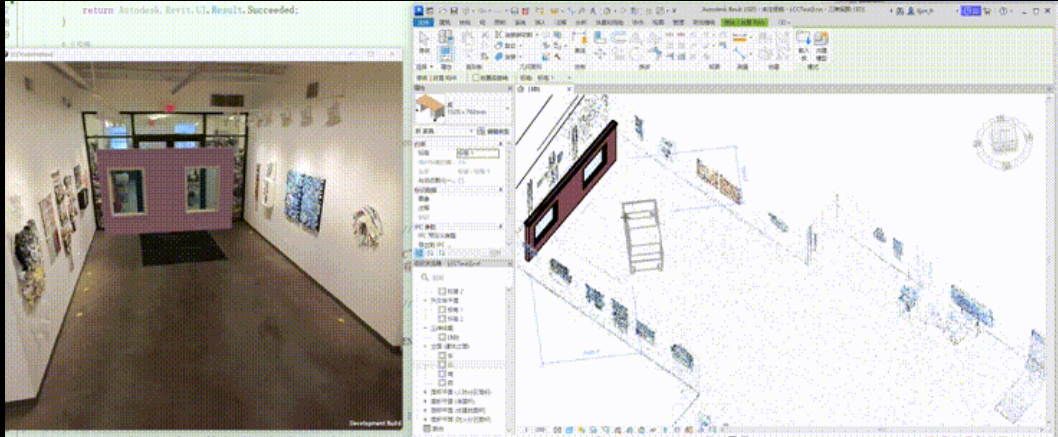
Real-time Point
Cloud Modeling



CAD Drawings

4 floors factory, 1140m²

AEC | Scan to BIM and design collaboration



Scan to BIM

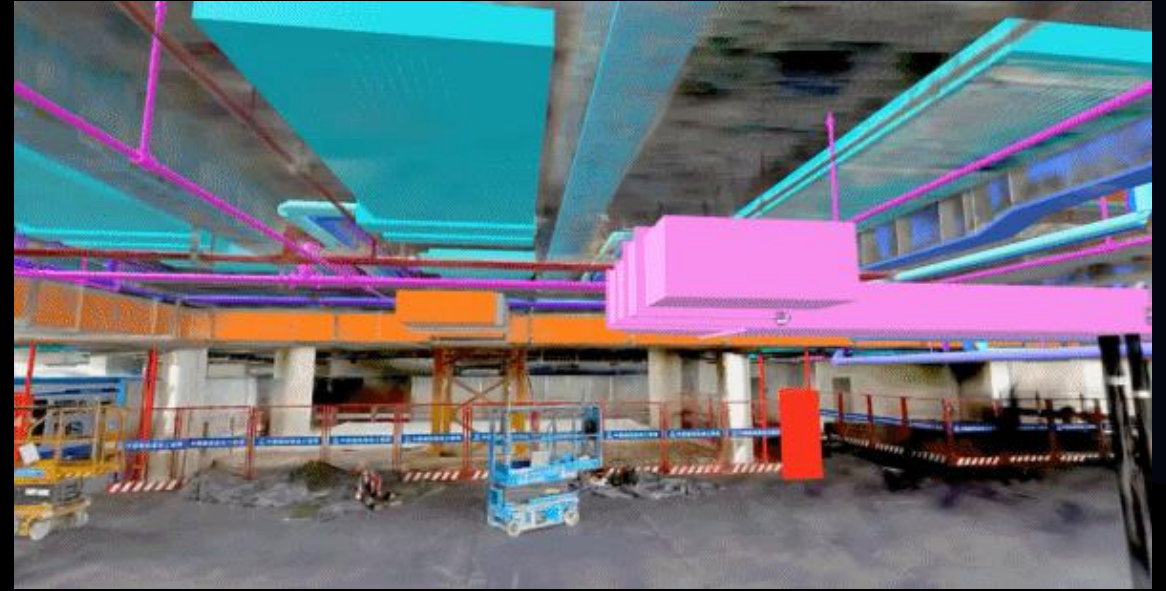
- Lixel K1 for **indoor scanning**
- LCC Studio for **training**
- LCC Viewer for **measurement and remote discussion**
- LCC **Revit SDK** for BIM, modeling with real-time reference



AEC | Engineering Management



On-site Inspection



Engineering Comparison

[Click to download Sample data](#)

Real Estate | Online business and design



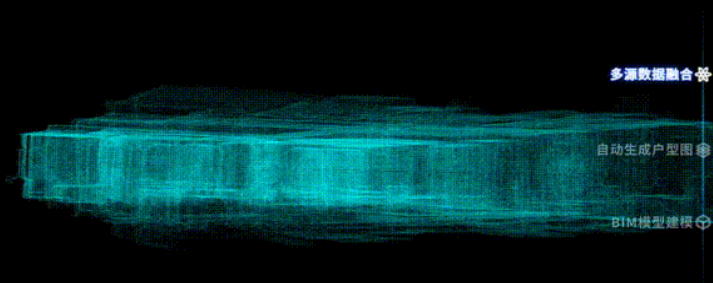
Online showcase



Floor plan design

[Click to download Sample data](#)

Smart Cities | Efficient scan, data fusion of in/outdoor



3d reconstruction

for **1100+** household in
urban village

Generate relative **CAD in
1 day**

Estimated **7-10 days**
by traditional solutions

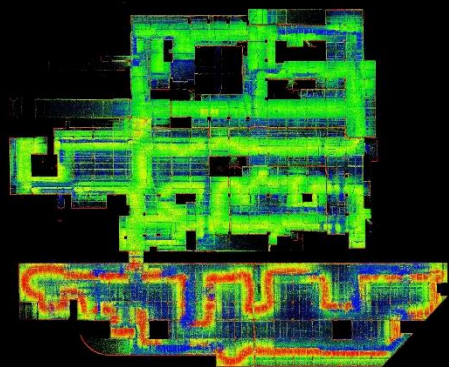
Urban
renewal

Digital
management

Old cities
transformation

Smart cities

Urban Underground Space | LiDAR solution for complex and dark environments



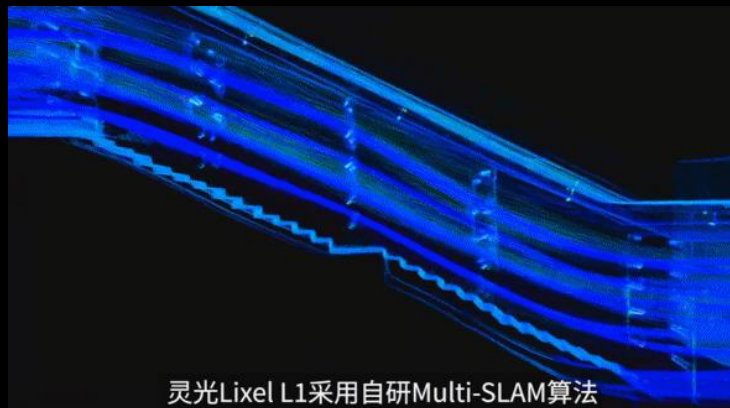
Parking lot point cloud



Structure extraction



Floor plan



Point clouds of large scale underground space

36min scanning

38000m²

Real-time reconstruction of underground space like parking lot and tunnels and fast generation of floor plan.

Estimated 48h by traditional stationary scanning.

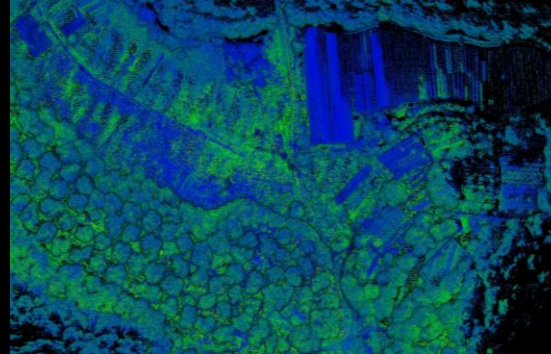
Digital Upgrade

Security plan

Autopilot

Smart piping

Landscape Resource Statistic | Scan and measure in one time

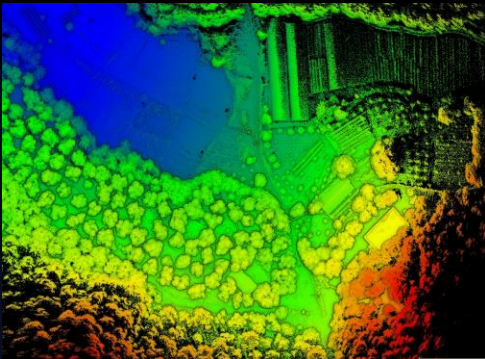


Scan in a time

for data of roads, trees, buildings, and farmland.

Point cloud segmentation

for single measurement of every tree and reports.



Landscape
design

Forestry
census

Trees
statistic

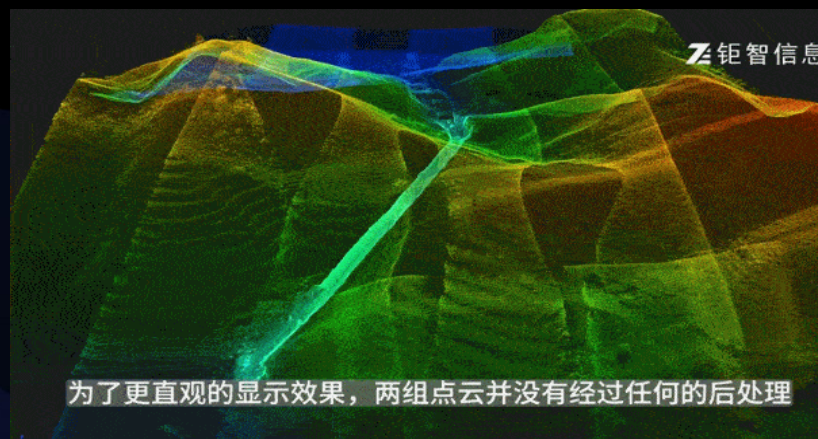
Outdoor
CAD

Mines & Tunnels | Data fusion of outside and inside



Simplified workflows for **aerial-underground data fusion and digital mining.**

Handheld scanner
for various complicated environments



为了更直观的显示效果，两组点云并没有经过任何的后处理

Tunnel
measurement

Production
programme

Production
safty

Digital
mining

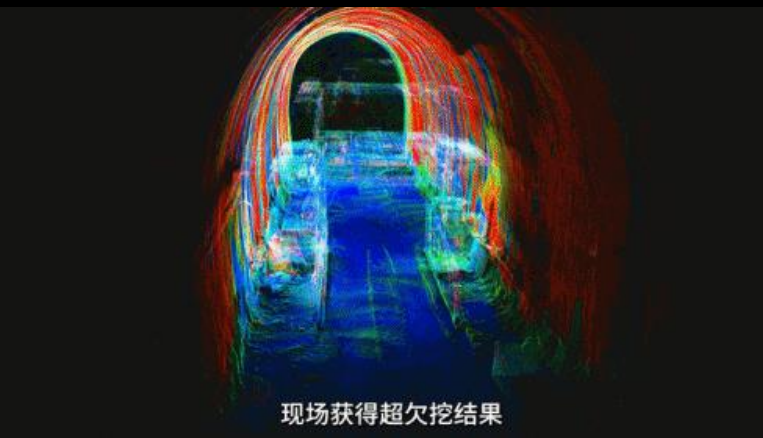
Tunnel O/U Excavation | Subsea Tunnel



The world's longest
subsea tunnel

operational depth **-115m**

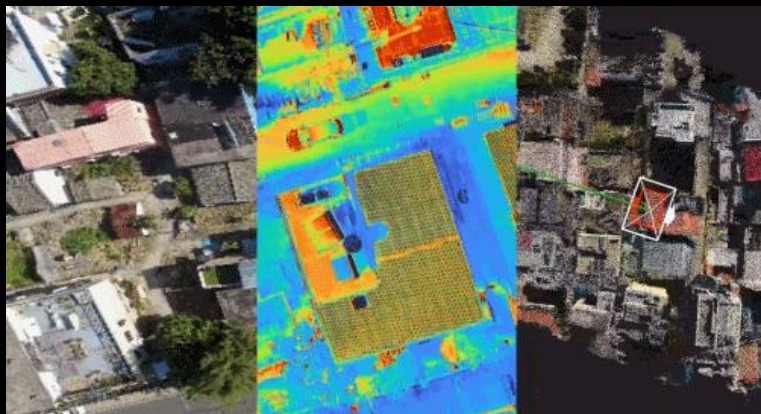
Data error **< 20mm**



Capture **excavation face**
data and conditions

in real-time

Emergency & Security | Multi-sensor 3D modeling in real time



Multi-sensor data collection



Mesh model of site

Remote transmission
Modelling in real-time
LiDAR/infrared/visual modules

3D modeling and multi-sensor data fusion for site measurement and inspections, accident reconstruction, simulation animation.



Condition of overall situation



Accident scene survey

Anti-terrorist
security

Forensic
evidence

Emergency
rescue

Site
reconstruction

Earthquake | Real-time generation of 3D maps even in harsh environments



No network and
power

-15°C

LixelSky S1 aerial scan+

Lixel L2 scan from ground level



Real-time generation of **3D point cloud** and **DOM**

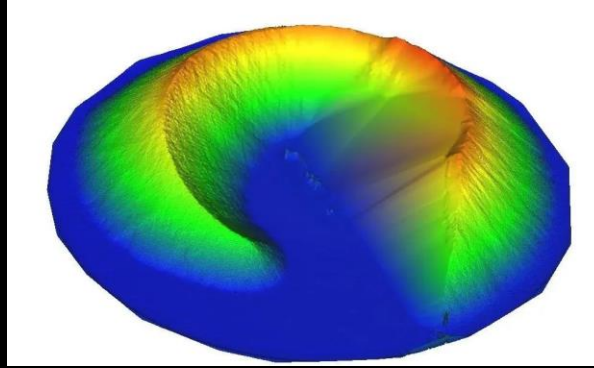
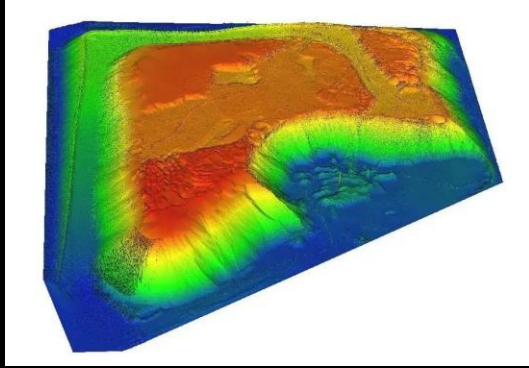
Rescue

Relocation

Decision-
making

Real-time
modeling

Stockpile Measurement | Mobile/frequent scanning with dated reports



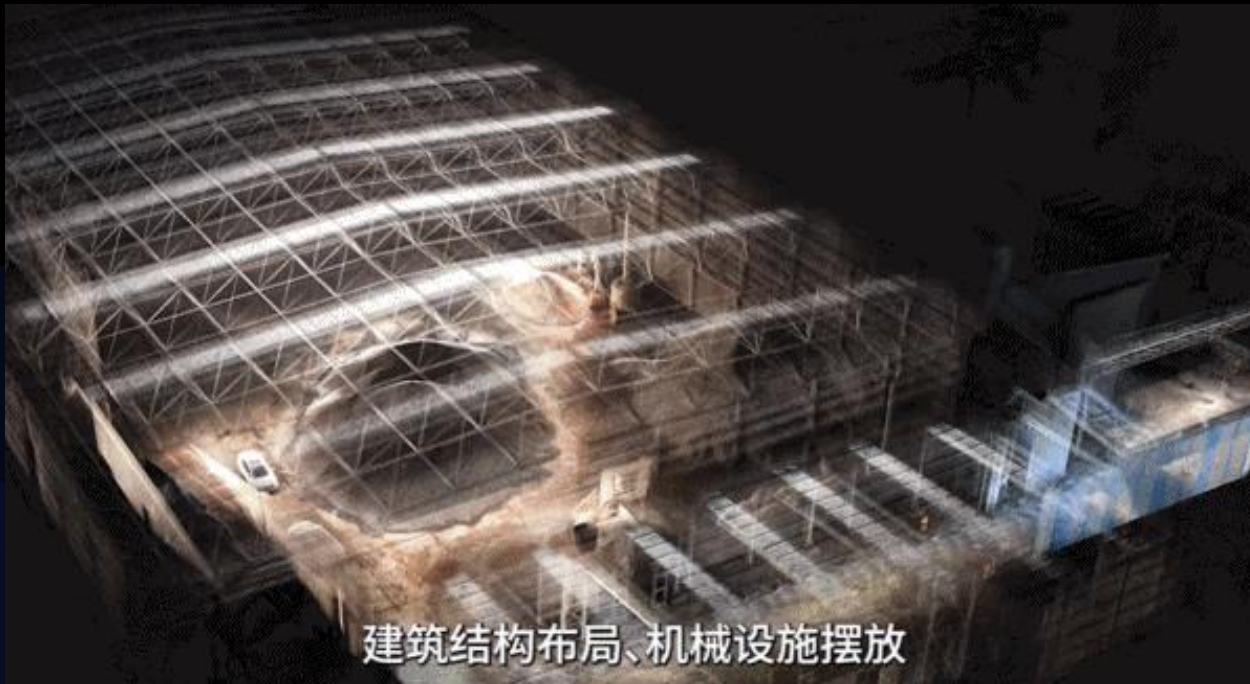
Easy measuring stockpile to get

Areas & Volume

anytime and anywhere

Costs and time

of a single operation can be reduced significantly



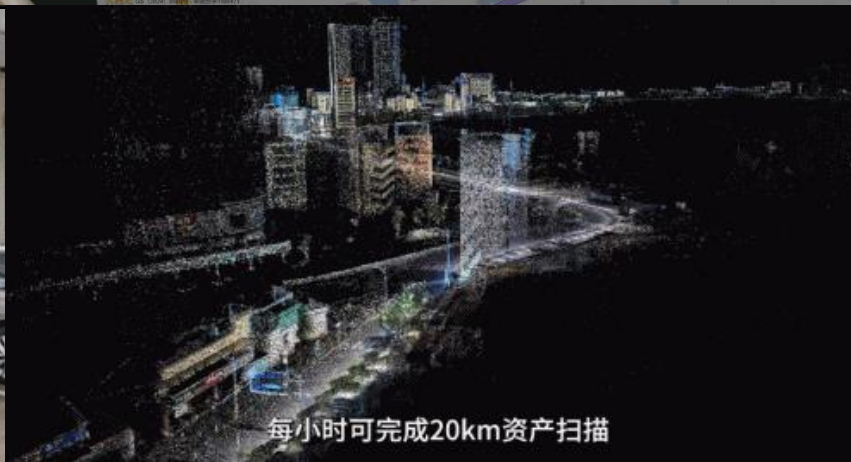
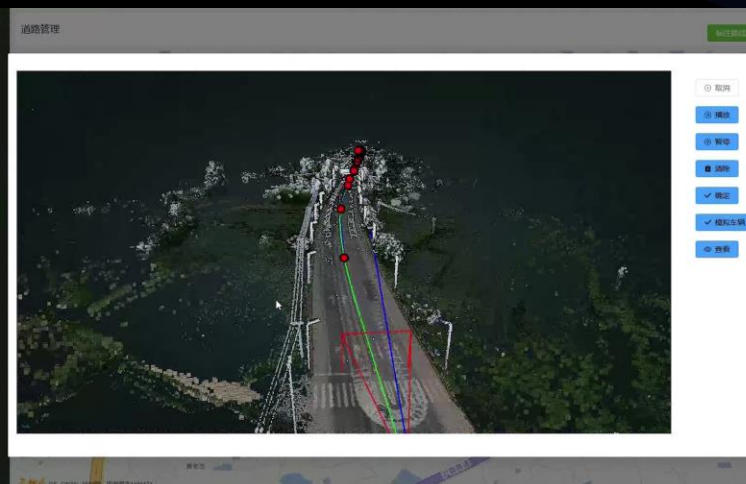
Mining

Food
inventory

Irregular
piles

Construction
material inventory

Road Assets | Mobile Inventory Management With 3D Model



20km/h

Mobile scanning and modeling

Cm-level Accuracy+absolute coordinate

Digital
Management
Platform

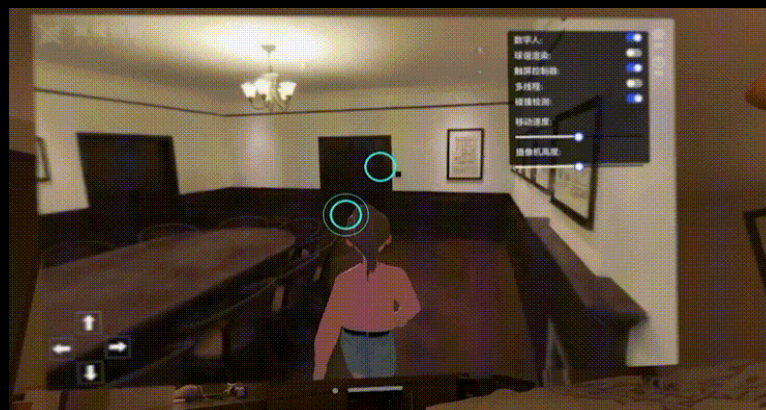
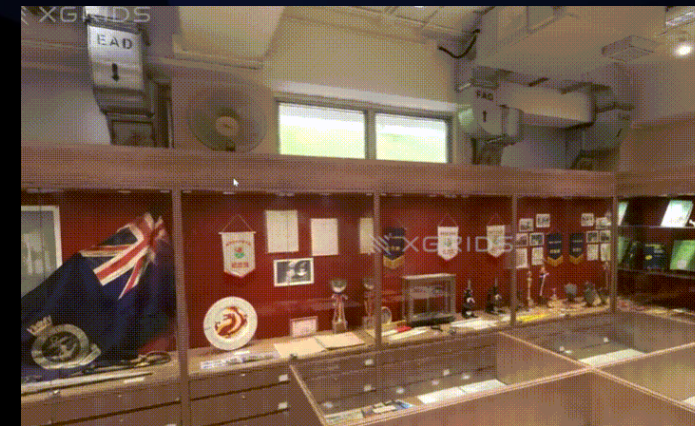
Urban Roads

Expressways

Maintenance

Vehicle-Road
Coordination

Virtual Tour | Cultural preservation

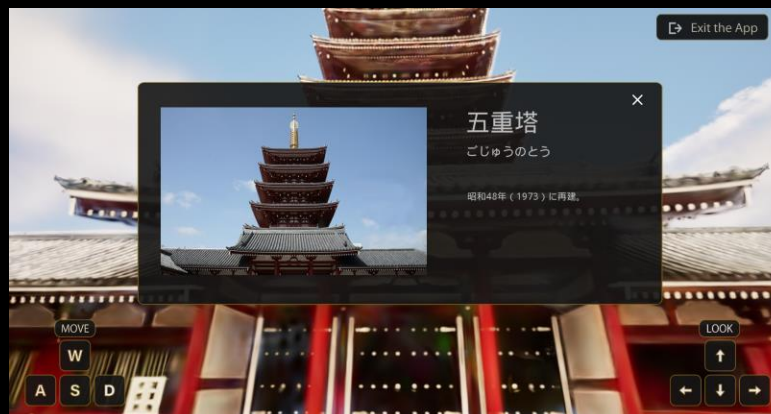


Cultural preservation

Avatar interaction

Model navigation/ POI view

Virtual Tour | Interactive 3D Application

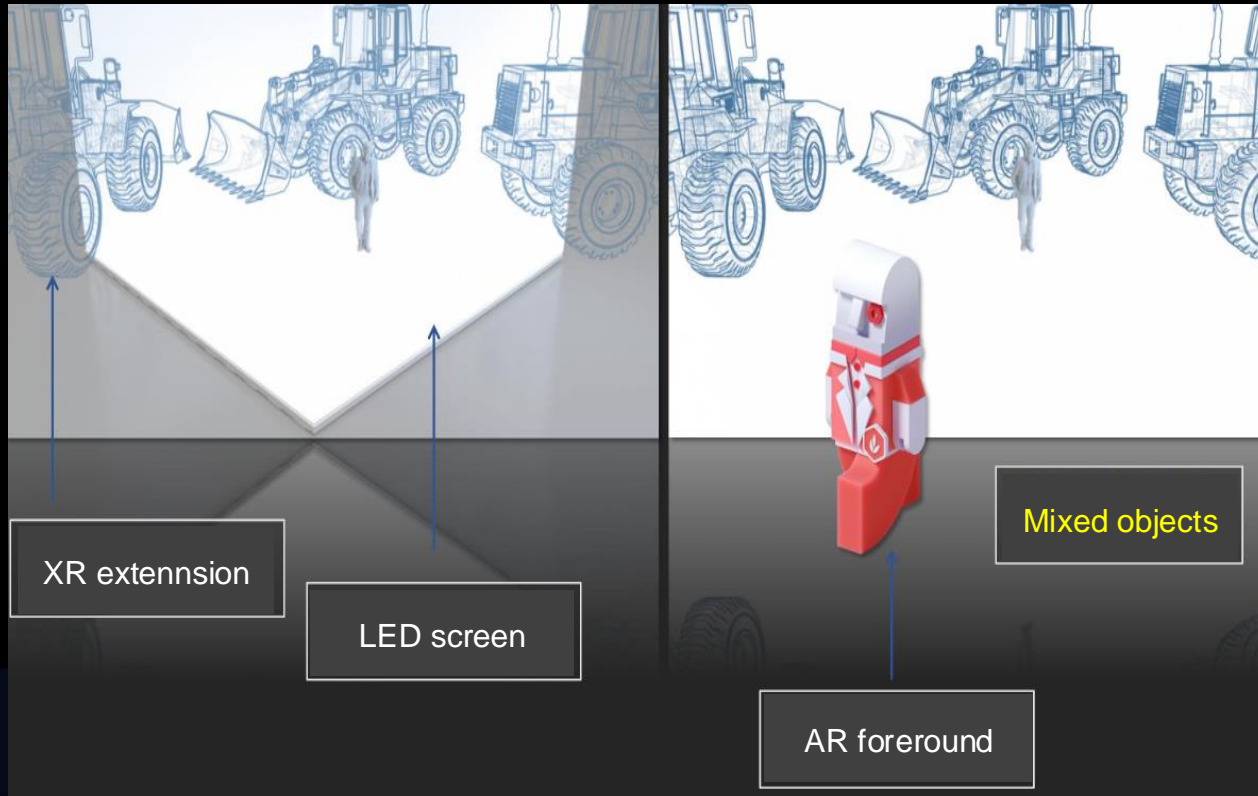


Osaka Temple

Lixel L2 for scanning
LCC Studio for training
LCC Unity SDK for **interactive application development**



Filming | Virtual Production



LCC for ready-to-use 3D scene





Visual Effects modeling



Virtual background

Culture & Heritage | 1:1 Photorealistic Reconstruction



Quickly generate

Cm-level accuracy
photorealistic 3D models

Accurately restore the building structure and

Vivid details

All in one Digital display system

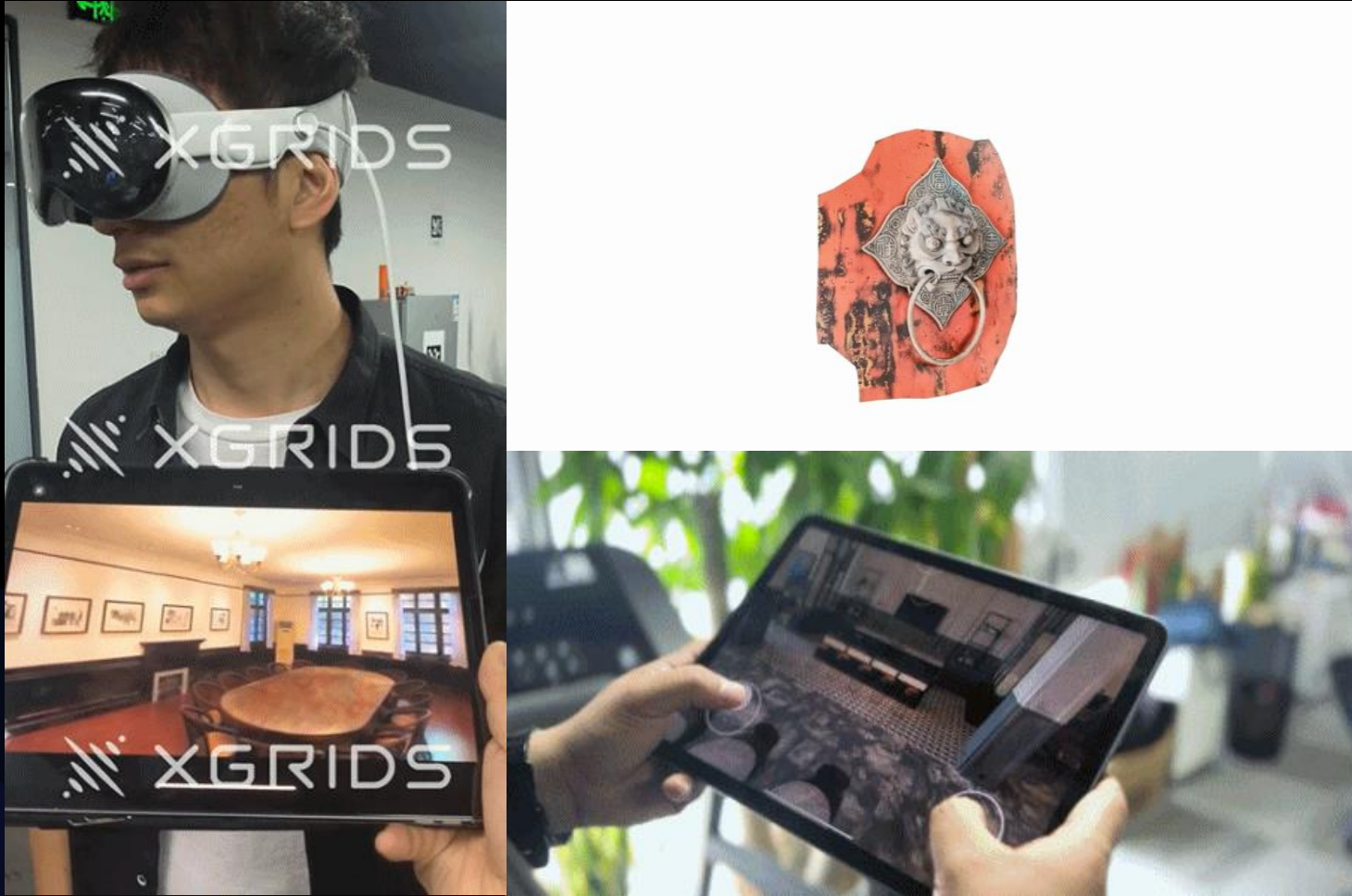
Cultural Relics

Exhibition

Preservation

Metaverse

XR | Efficiently generate digital assets for XR fusion



Providing

**Cm-level 3D
Interactive Content**

for XR devices

Virtual-real interaction

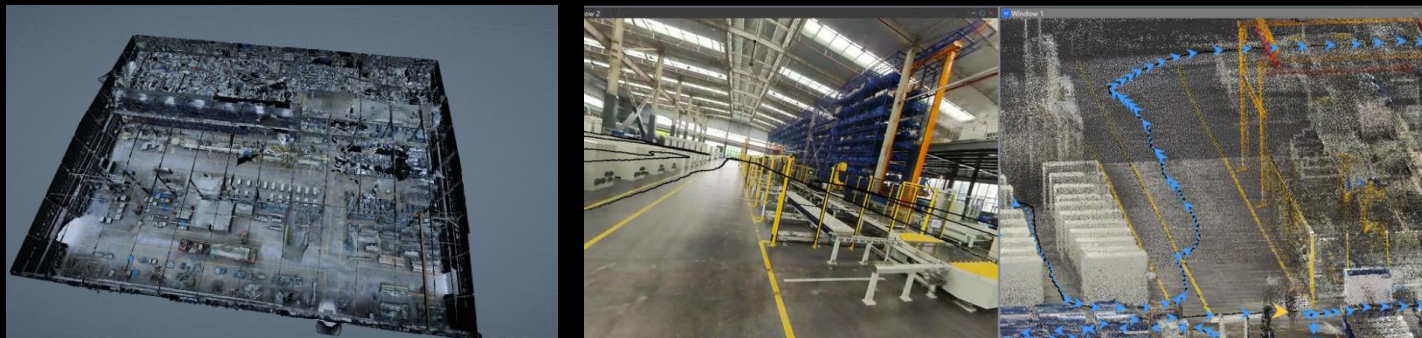
E-commerce

AR/VR

Art design

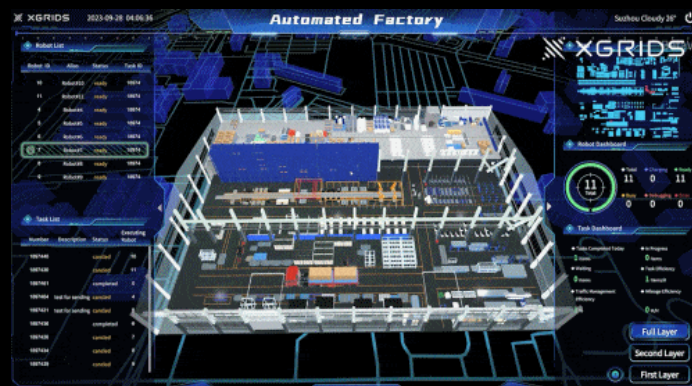
Filming and
game

Case Show | Unmanned Digital Factory



1. Efficiency of building models
for all elements management and
decision making

2. High-accuracy simulation
with data and 3D technologies
empower digitalization of the factory



- 8000m² factory scanned in 20min
- Point clouds modeling in real time
- 5 days for all elements modeling
- 1 week for visualization system deployment

Scanning



Lixel

Processing



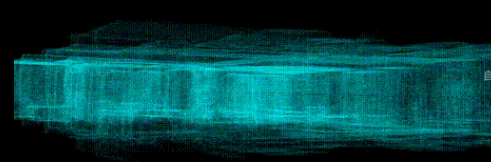
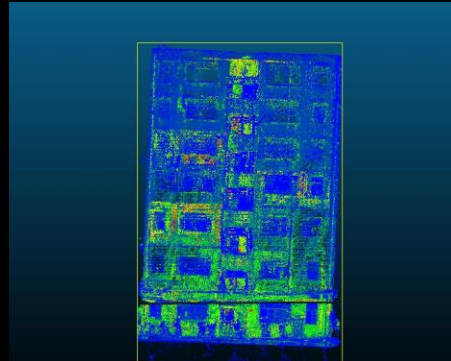
LixelStudio

Management



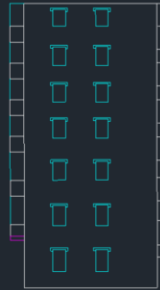
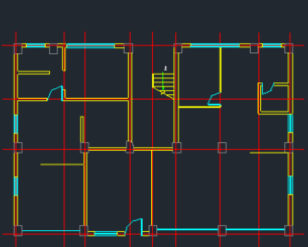
XGRIDS Space

As-built Measurement & CAD | Semi-automated vectorization



7-story old building,
scanned in 30 minutes.

Corresponding **floor plans** and **elevations**
generated within **1 day**.



Land Archive

Old building
renewal

As-built

Cultural relics
preservation

A futuristic, multi-tiered industrial structure, possibly a space station or advanced research facility, is depicted. The structure is composed of various grey and white rectangular blocks, some with windows and external equipment. A tall, slender radio tower with multiple antennas stands to the left of the main structure. A large, vibrant blue beam of light shines down from the top center, illuminating the scene. The entire structure is situated on a dark, rocky island with some green moss or vegetation. The background is a deep, dark blue with subtle light patterns.

XGRIDS