Gammon's Path to Virtualization and Future Technologies

Gammon Digital Ecosystem: Architecting the Future of AI-Ready Construction

Realizing the Single Source of Truth through in-house innovation and structured data.

Unified Environment

Transitioning from fragmented tools to a centralized Common Data Environment (CDE).

Industry Alignment

Executing directives for a digital-first Built Environment

Proprietary IP

Empowering construction teams through in-house, domain-specific technology.

The Pathfinder's Advantage: Why We Build In-House

Construction-specific challenges require construction-specific data logic.

Industry Baseline	The Gammon Standard
✕ Reliance on fragmented, third-party software.	✓ **Custom-built Intellectual Property (IP).**
✕ Isolated data silos.	✓ **Designed by construction professionals, for construction professionals.**
✕ Results in the systemic "Wait to Rush" productivity waste.	✓ **Results in full ownership of data architecture and seamless cross-departmental integration.**

Orchestrating Proactive Safety

Shifting from reactive reporting to real-time, AI-driven hazard orchestration.

Mobile Robotics Deployment

Utilizing advanced robotic dogs and action cams for autonomous site patrols.

Low-Latency Streaming

Continuous feed transmission to specialized external AI video analytics vendors.

Real-Time Risk Processing

Immediate identification and alerting of on-site safety hazards.

Unified Data Connection

Transforms visual site conditions into structured safety data, training future predictive risk models.

Establishing the Single Source of Truth

A mobile-first platform that eliminates manual paperwork and auto-populates complex site reporting.

Daily Site Progress Entry

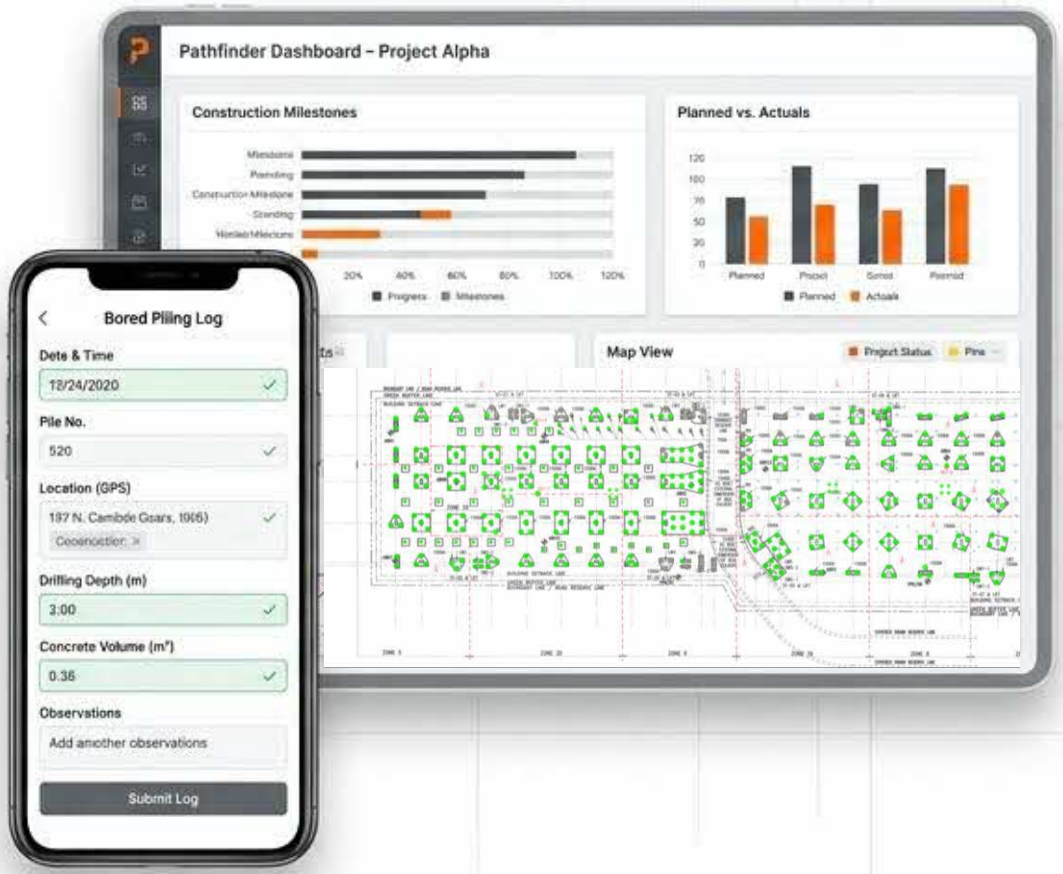
Intuitive mobile capture designed specifically for frontline site teams.

Automated Complex Reporting

Instantly auto-populates highly technical documents, such as Bored Piling Reports.

Eliminating Redundancy

Permanently removes manual data duplication between the field and the back office.



Unified Data Connection

Converts qualitative, manual site observations into a standardized, unified data structure ready for lean construction analysis.

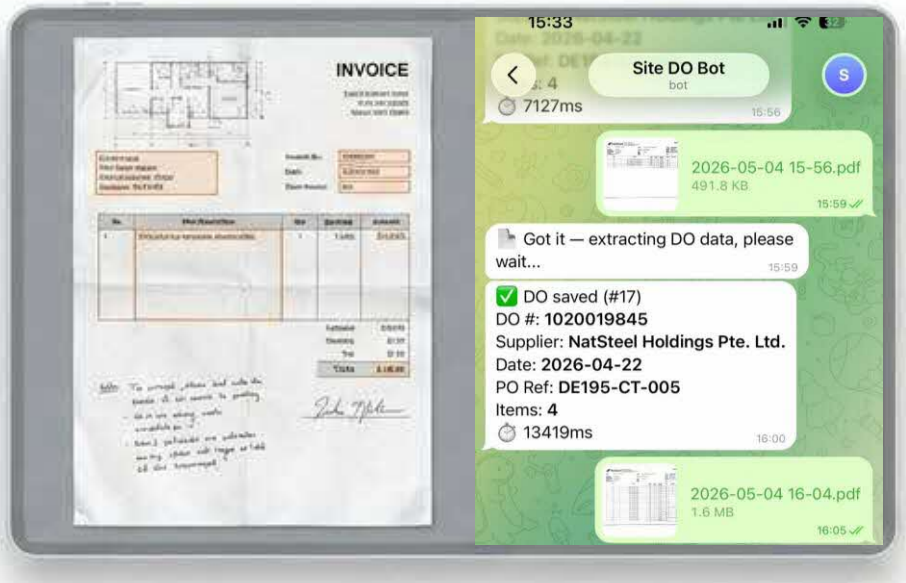
Bridging the Experience Gap with AI OCR

Automating the digital supply chain by liberating teams from mundane back-office data entry.

Incoming Delivery Orders

Proprietary AI Chatbot

An in-house developed conversational interface for seamless document management.



Optical Character Recognition (OCR)

Completely automates the extraction and processing of incoming Delivery Orders (DO).

Error Reduction

Drastically lowers manual data entry errors and accelerates processing times.

Unified Data Connection

Digitizes and standardizes unstructured paper documents into query-able logistics data within our proprietary silos.

Gambot™: The Gammon Digital Ecosystem

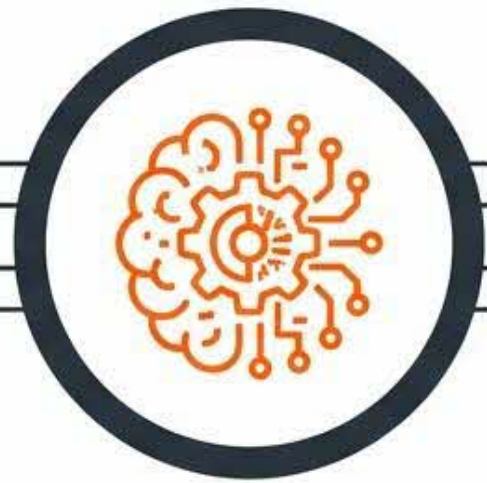
Transforming site reporting through centralized, fully-deployed AI.

Conversational Interface

Familiar, WhatsApp-style messaging environment. Reduces frontline reporting workflows to under 2 minutes using guided, dynamic prompts.

Live Field Scaling

The backbone of Safety Reporting (observations & dynamic risk). Actively integrated with Site Diary, i720 quality checking, computer vision for restricted-zone monitoring, and bored pile scheduling.



Gambot™ AI Core

Automated Structuring

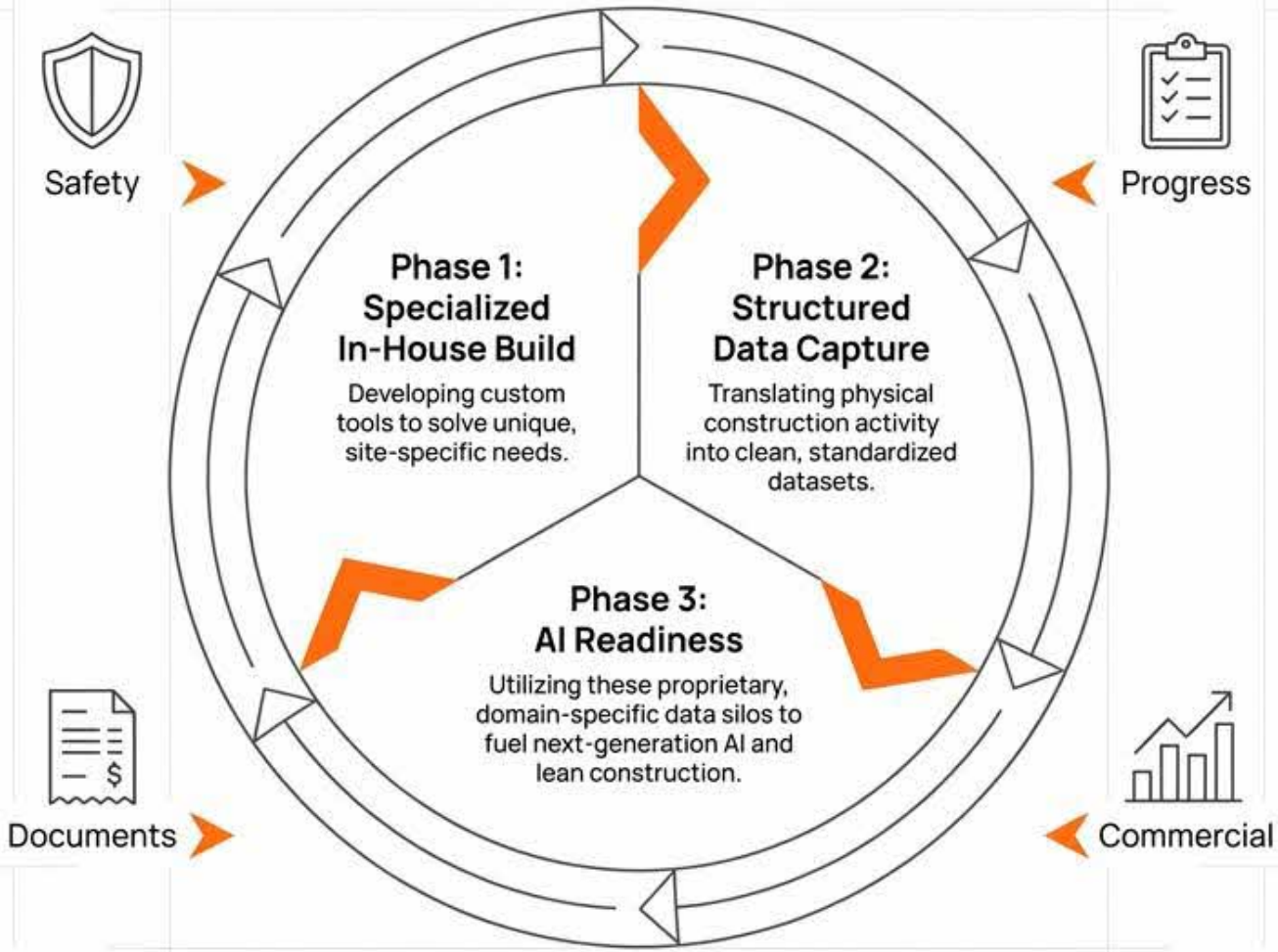
Instantly translates conversational chat inputs into centralized, classified, and structured data to drive strategic management planning.

In-House ChatGPT

Enterprise-grade virtual assistant. Delivers immediate Q&A and intelligently interprets the context of documents, site images, and video feeds.

The Innovation Engine: The Gammon Flywheel

How our strategic initiatives continuously build momentum toward AI readiness



Architecting the Future, Together

Transforming the Built Environment into a data-rich ecosystem that attracts next-generation talent.

Eradicating Productivity Waste

Utilizing our CDE to permanently solve the industry's historical "Wait to Rush" syndrome.

Human-in-the-Loop AI

Empowering our workforce with actionable, real-time data orchestration—augmenting human expertise, never replacing it.

A Destination for Digital Natives

Cultivating a technology-first environment to bridge the industry experience gap and attract the best minds in the Built Environment.

Advance Reality Capture

The Bridge Between Physical Assets and Digital Intelligence.

X30 Pro Robot with Leica LiDAR Scanners

The X30 Pro is a quadruped robot that can navigate uneven terrain and staircases, making it adaptable in different spaces. Its durable frame and lasting battery makes it an ideal industry-standard robot.

d.ASH Pack

DJI Drone

PRIMARY CAPTURE TECHNOLOGIES

LiDAR Scanning

Laser-based distance measurement. Indispensable for high-precision industrial facilities and historical landmarks requiring sub-millimeter accuracy.

Photogrammetry

Generating 3D data from high-res 2D images. Best for large-scale outdoor environments and detailed texture mapping using drones.

Mobile SLAM

Simultaneous Localization and Mapping. Enables rapid capture of complex indoor spaces by simply walking through the environment.

3D LiDAR Scans in Construction

1 As-Built Documentation

Creating accurate digital representations of existing structures for renovation projects, avoiding costly mistakes and ensuring efficient workflow.

2 Design & Planning

Generating precise 3D models for design and planning purposes, improving visualization, coordination, and reducing potential issues.

3 Construction Monitoring

Tracking construction progress, comparing actual construction with the design, and identifying discrepancies for timely adjustments.

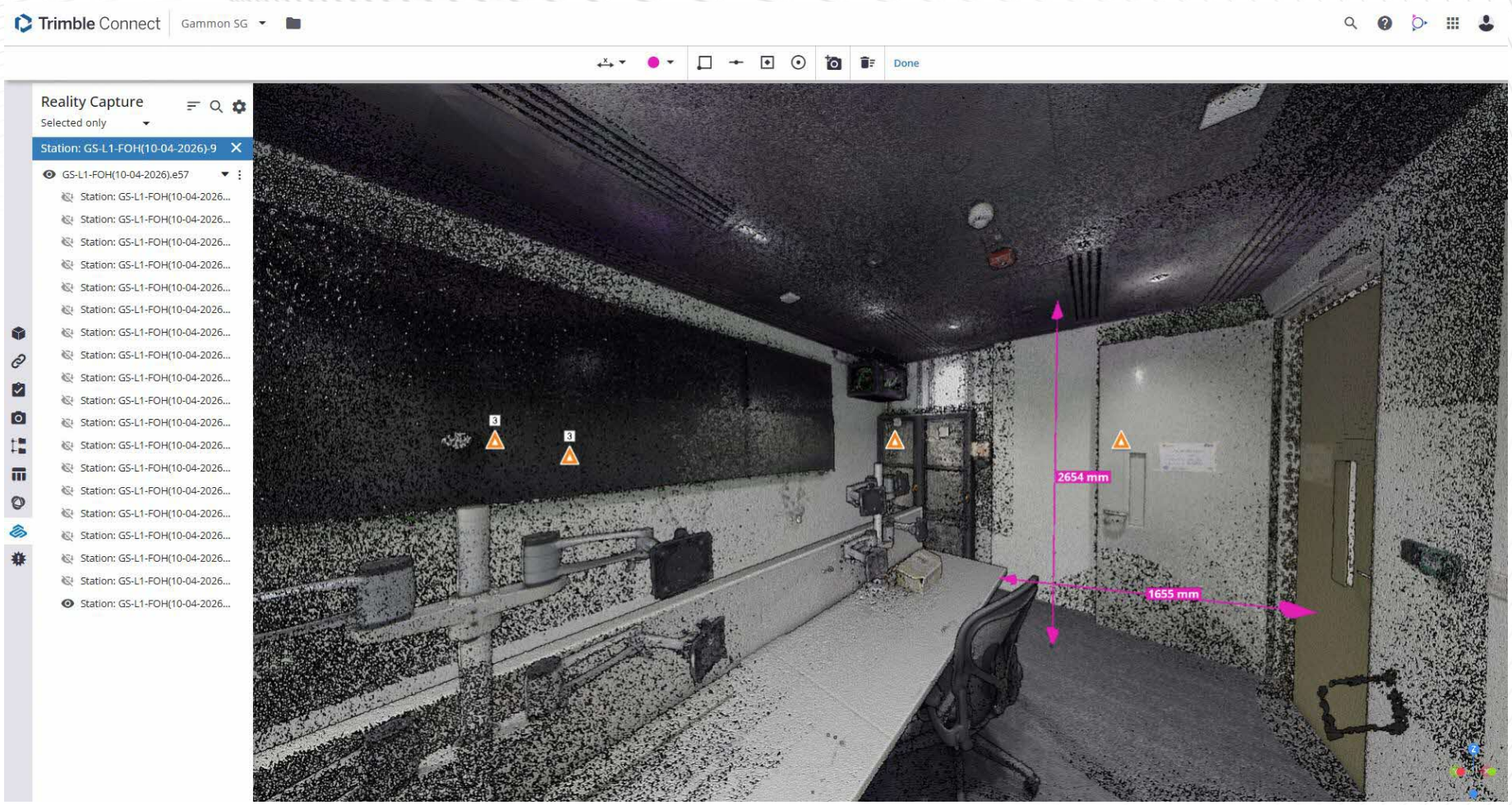
4 Quality Control

Verifying the accuracy of construction work against the design, detecting potential flaws, and ensuring compliance with specifications.

TRIMBLE CONNECT: THE VIRTUAL INSPECTION PLATFORM

Serves as the Common Data Environment (CDE) for virtual inspections:

- Centralized repository for BIM models & point clouds.
- Real-time visualization for cross-disciplinary teams.
- Transparent task management with "To-Do" assignments.
- Seamless access via web, desktop, and mobile devices.

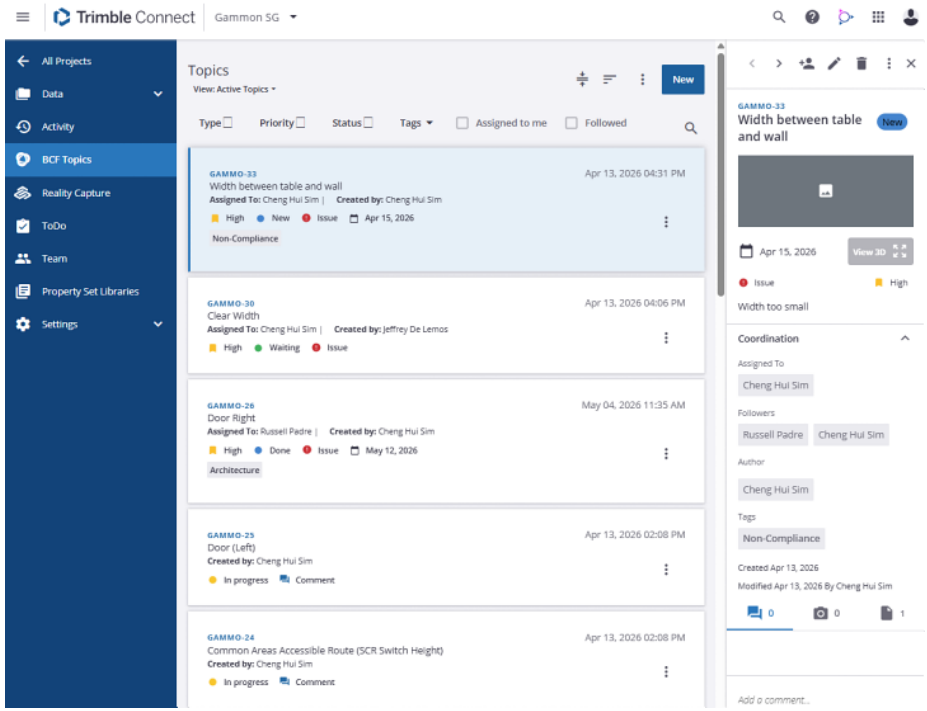


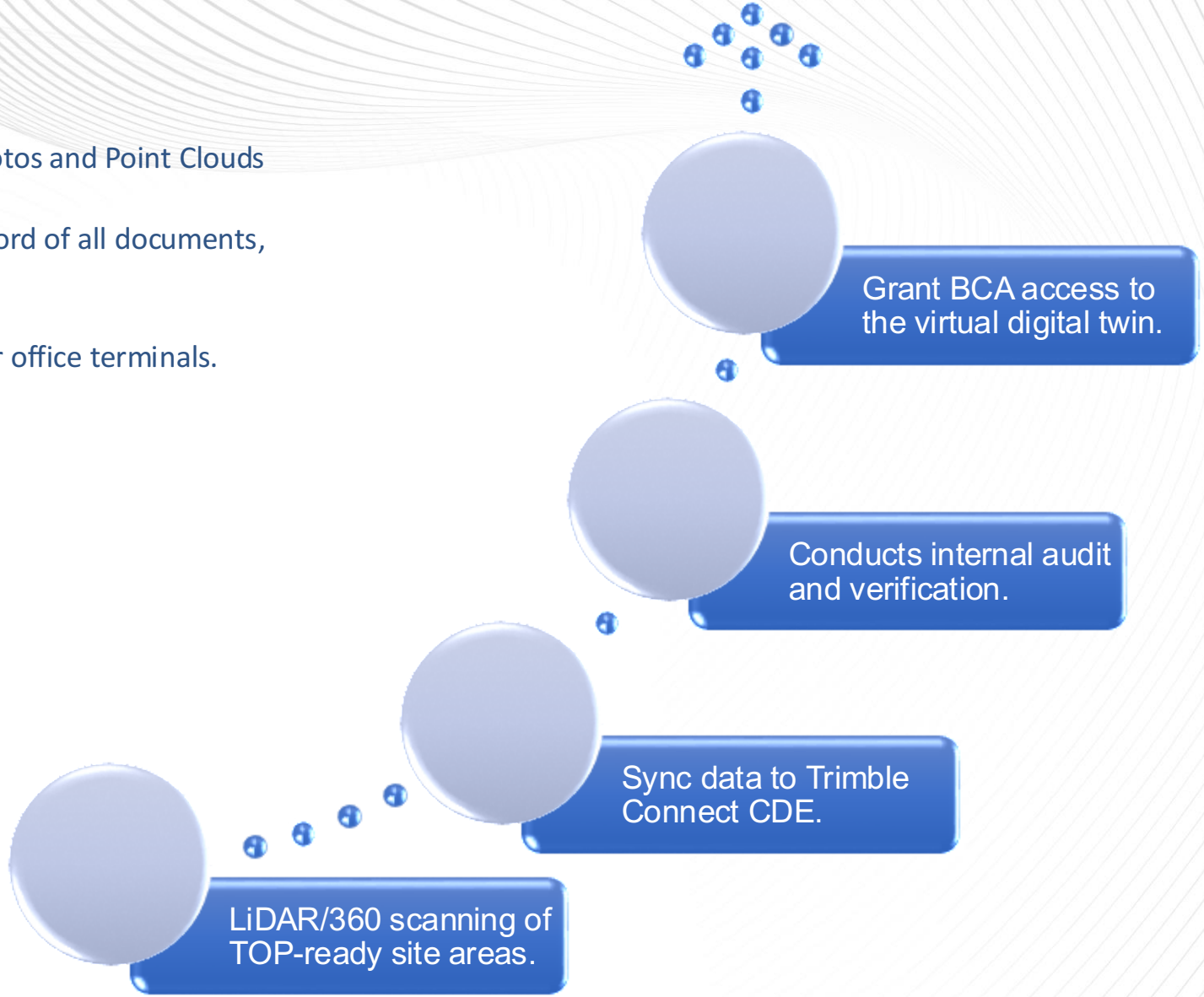
Scanners provide the millimetric precision required for statutory clearance.

By capturing millions of data points per second, LiDAR creates a precise 3D "as-built" point cloud that reflects the true condition of the site at the point of TOP application.

REGULATORY COMPLIANCE

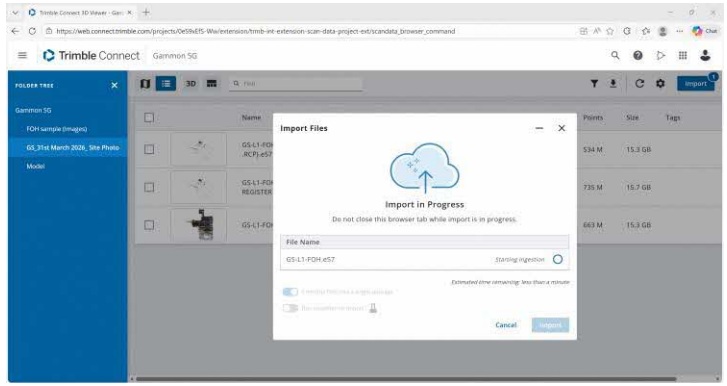
- ✓ **Visual Proof:** Close-up measurements using high-res Photos and Point Clouds
- ✓ **Audit Trail:** Trimble Connect provides a timestamped record of all documents, versions, and communications.
- ✓ **Accessibility:** BCA officers can inspect specific from their office terminals.

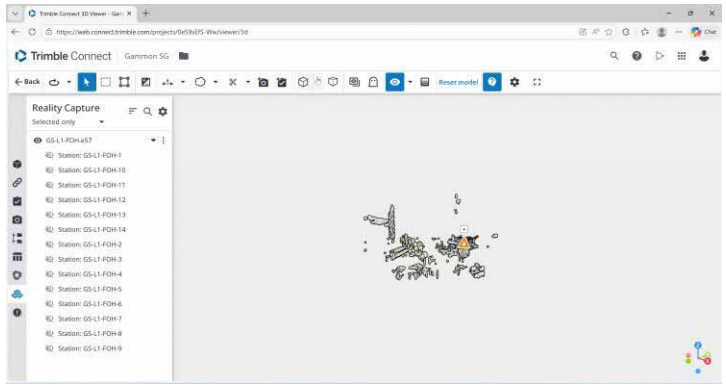


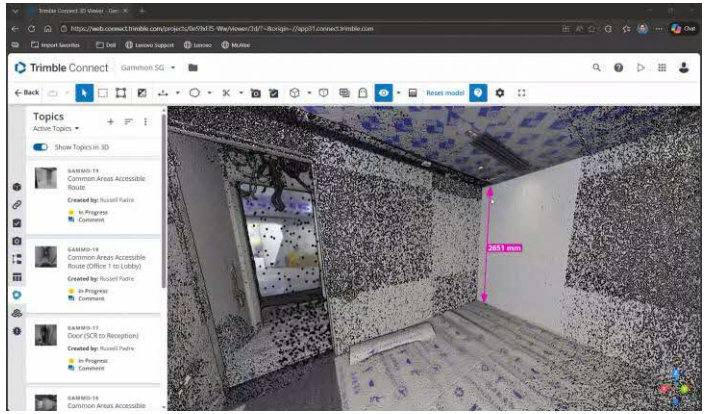


Global Switch

GS2TS – Virtual TOP







Digital Construction Rehearsal

We’ve moved beyond static planning. We don't just 'plan' construction; we rehearse it. By integrating SketchUp, Lumion, and Unity—powered by the Meta Quest 3—we have built a ‘Digital Construction Rehearsal’ pipeline that ensures every person on-site has lived the project before the first shovel hits the ground.

Unity: Immersive Safety Training

The final, most critical layer is Unity, experienced through the Meta Quest 3 VR headset. This is where our 3D models become a fully interactive, immersive reality.

1:1 Scale Safety Walkthroughs: We upload our SketchUp models into Unity and use the Meta Quest 3 to conduct 1:1 scale safety reviews. The Quest 3's high-resolution displays allow our safety officers to 'walk' the future site with incredible clarity, identifying blind spots and fall hazards that are invisible on a flat screen.

SHE VR Training

1. **Zero-Harm**

   Culture: Identifying risks in a Meta Quest 3 headset before they exist in reality is how we can actively prevent accidents.

2. **Eliminating**

   Rework: Rehearsing the method statement catches coordination errors early, saving us thousands in potential on-site rework.

Thank You

Gammon