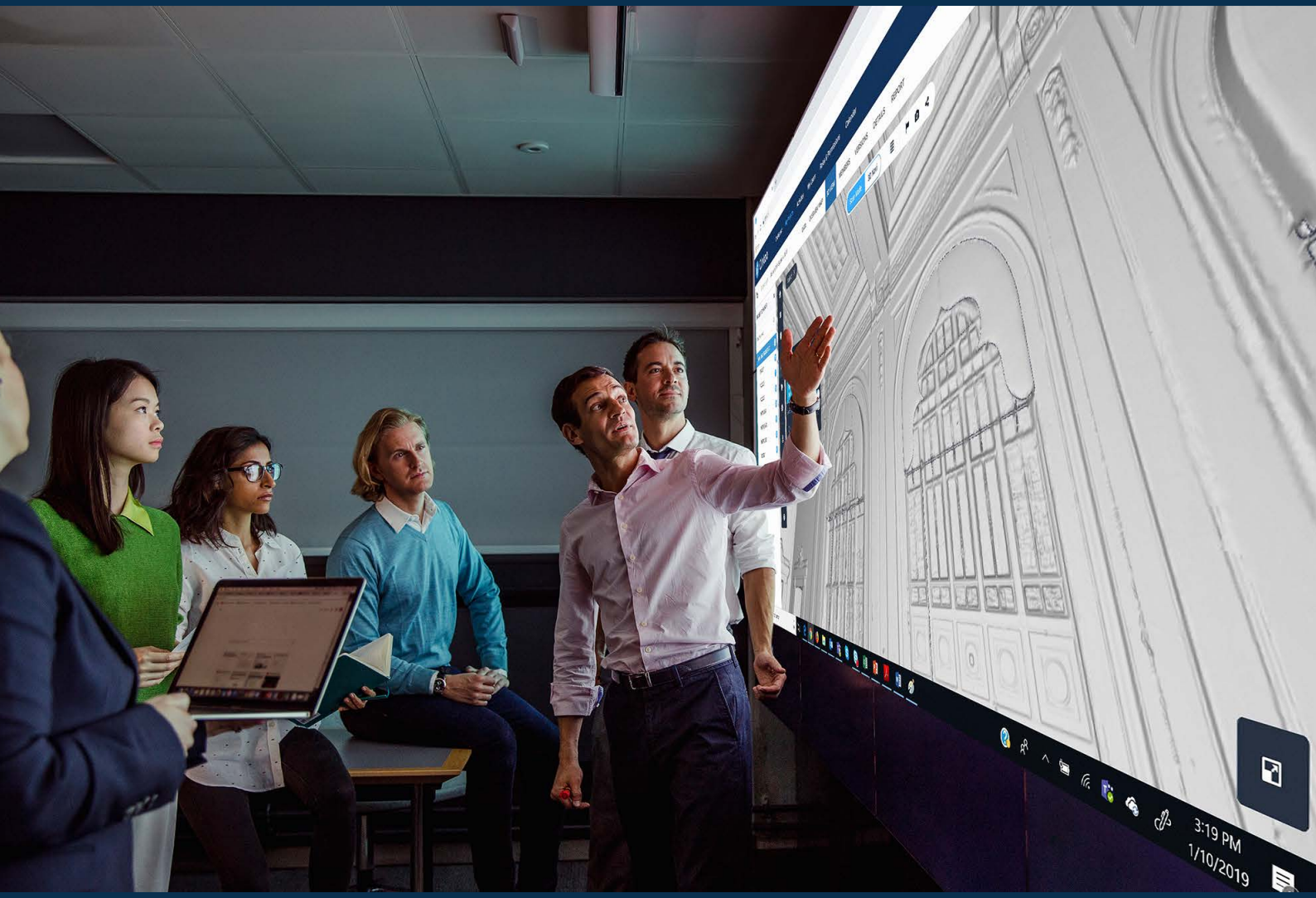
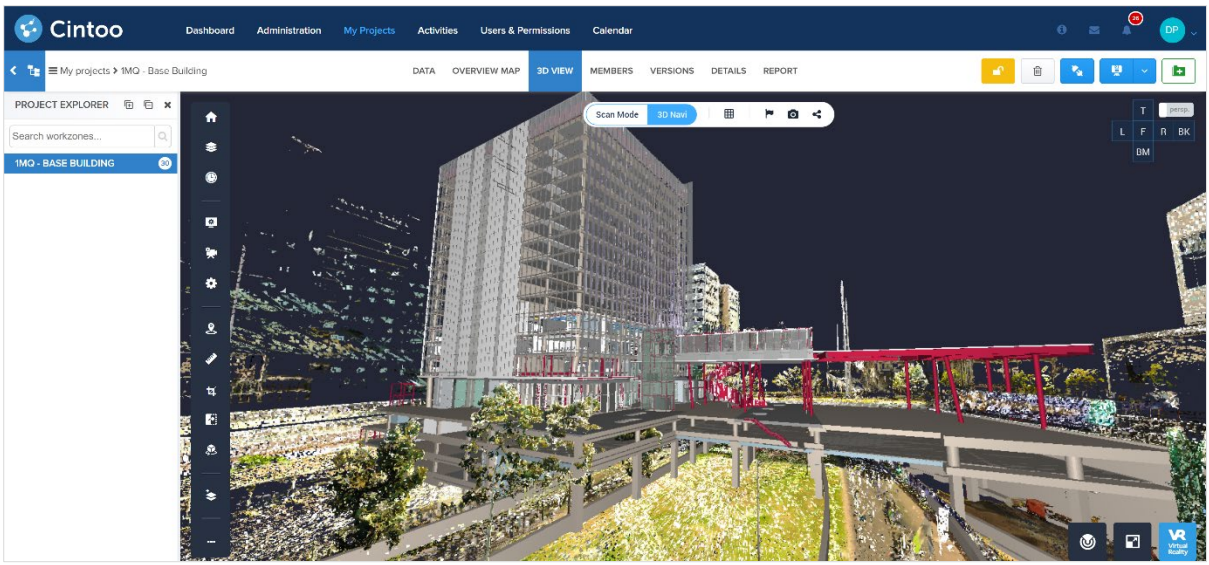
Cintoo

Cintoo Cloud Customer Stories

Cintoo Customer Success Stories From Around The World





ARUP

Arup case study: " Arup case study: "Cintoo Cloud has exceeded what we originally wanted it to do. It has become a vital part of our point cloud management and we get value out of it every day."

Background

Arup is an independent firm of 16,000 designers, engineers, architects, planners, consultants and technical specialists, working across the built environment in more than 140 countries.

Over the last few years, terrestrial laser scanning has become an integral part of Arup's buildings and infrastructure project workflows, increasingly considered a vital component of the process. The company owns several terrestrial laser scanners but kept coming up against the same challenge – how to get their scan data to everyone involved in their projects, both internally & externally.

Teams were spending hours trying to upload point clouds to file sharing platforms or downloading the data onto their machines only to find they did not have either enough

computing power or the right software installed to be able to view, manage or manipulate the huge files.

Having trialled several different platforms to manage their point clouds, Arup was introduced to Cintoo Cloud and immediately recognised that it would make hosting and sharing their as-built data significantly easier and far more efficient.

Workflows Used

- Various terrestrial laser scanners
- Revit
- Cintoo Cloud

Results

Arup began using Cintoo Cloud in November 2019 to host and manage their data and has since uploaded over six thousand scans to the platform. The company has dozens of registered users across its teams in Australasia, the UK and the US, while the data is shared far more widely with clients, external architects, subcontractors and BIM Managers and, as such, usage of the platform has been growing exponentially.

One of the major benefits of the platform is the ability for team members to view their project data virtually, without needing to do a site visit. Being able to look around their build, take measurements and gain a true understanding of what's there has provided significant time and cost savings for the business.

"Cintoo Cloud has become a key part of our Reality Capture workflows. I'm able to share project data with both internal and external team members and people are interacting with the data all the time. It's really easy to add someone in and it only takes about 10 minutes to show them how to use it and they're off," says Michael Alder, Regional Reality Capture Leader.

“One of the biggest benefits is that it enables us to get our clients more involved in the process. By giving them access to this information, they can walk through the building and immediately understand the scope of the project and what’s being done. This transparency and collaboration increase the value of what we’re doing across all disciplines.”

So great is the benefit of being able to share their project data with clients that they include it in their proposals.

Teams are also using Cintoo Cloud to compare their as-builts to their models. They upload BIM models in IFC format overlaying the scans to quickly find differences between the scanned built environment and the design intent found in the model. Any issues can be tracked up and shared with the relevant team members.

Further functionality well-used by the team is the meshing tool for cropping and exporting meshes. This has also opened up future workflows with other tools they’ve developed like pedestrian modelling and 3D Inspection software. By quickly capturing a space, and turning it into a virtual building or environment, the engineering and analysis possibilities are more easily tested.

For big projects, they use even more of Cintoo Cloud’s functionality, uploading the model into the platform along with all of the scans, level by level. They then use the model verification tool to do visual checks to help everyone understand the condition of the model compared to the scans. They can also add IFCs of proposed models in context to the scan.

“Cintoo Cloud has exceeded what we originally wanted it to do – that is, just providing easy access to view big scan data. I’m using it daily and I get value out of it every day. It has become a vital part of our point cloud management. I no longer have portable hard drives sitting around, which used to be the only way we could share our point cloud data. Now, all our scans are uploaded and anyone who wants to can download them”.

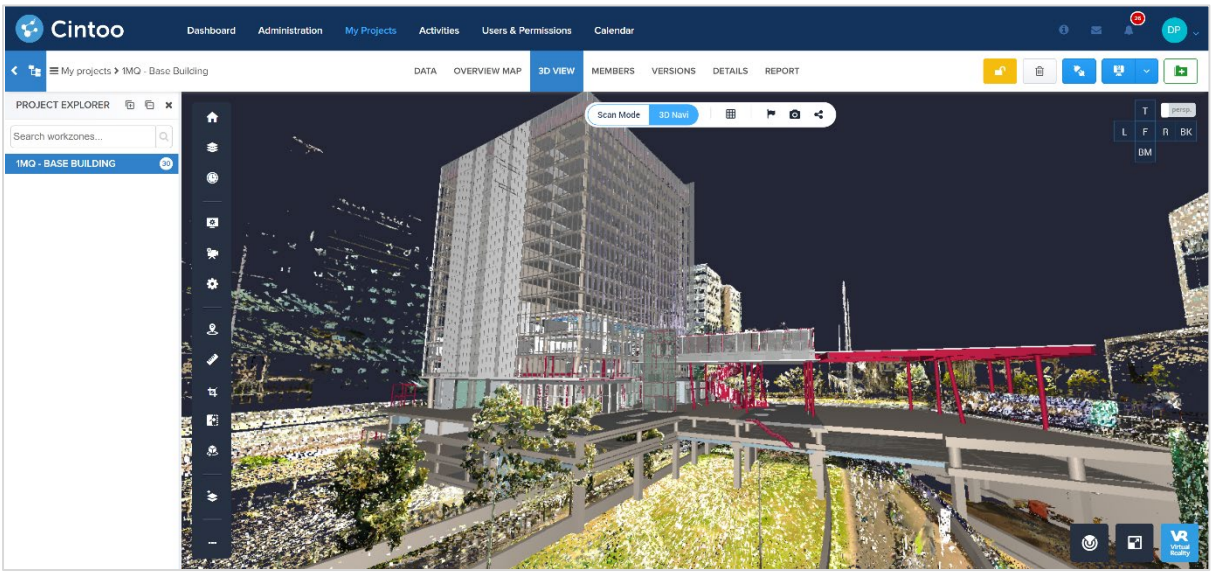
“The platform is helping us remove risk from our projects as well as become more efficient. It’s a real time saver. Overall, it’s good practice to use Cintoo Cloud in our workflows.”

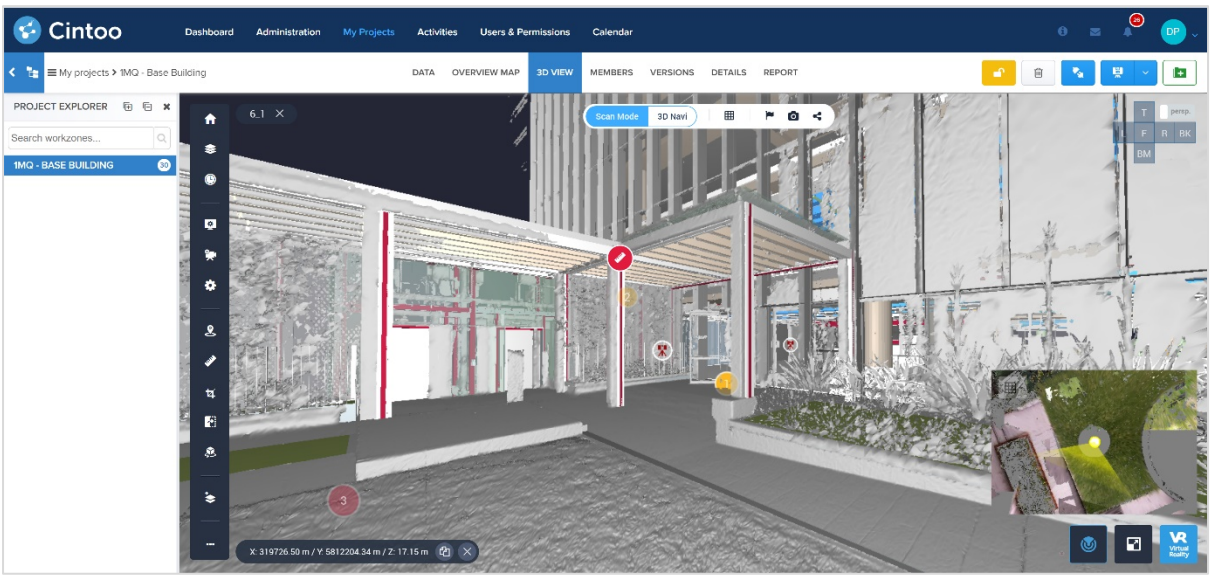
Going Forward

There is further functionality within the platform that Arup intends to explore over the coming months, like using BIM construction models for clash detection work and exporting issues to BIM collaboration software.

Furthermore, with their infrastructure work, they’re coming across more and more workflows that use unstructured scanning, so they’ll be keen to upload unstructured data alongside their structured data using Cintoo as their multi-modal platform.

Project Media and Links





Learn more about Arup on their web site: https://www.arup.com/
Read this Cintoo Customer Story online: https://cintoo.com/customer-stories.html

Bouygues UK case study: "Processing our point clouds used to take days to share. It now takes an hour using Cintoo Cloud."

Background

Bouygues UK is one of the UK's leading construction companies focusing on sectors where it can add value through the technical expertise and skills of the company and the wider global Bouygues Group. Bouygues UK is part of Bouygues Construction, a global player in construction with operations in 60 countries, 58,149 employees and generated sales of €13,355 million in 2019.

For the last five years, the Bouygues UK project team has been working on a new cancer and surgery hospital for UCLH (including a proton beam therapy cancer treatment centre), a 35,000 square metre new build, in Central London. It is one of the company's first BIM Level 2 projects with significant stage 6 deliverable requirements.

As a result, Bouygues UK decided to implement an extensive point-cloud scanning process in order to capture construction information that could inform the as-built process, eventually leading to the completion of a digital twin. In just 12 months, they have amassed 3,000 terrestrial scans and needed to improve how this data was managed and shared amongst stakeholders.

Bouygues UK uses Revizto as its BIM collaboration tool for issue management and wanted to find a solution which would integrate with this platform.

Cintoo Cloud was recommended to the team and they immediately recognised the efficiencies it could bring to their daily operations. Until now, they had been storing their point cloud data on hard drives and these were quickly stacking up. Adding to the admin was the arduous task of having to package each one up and ship them out to individual project stakeholders.

Furthermore, once recipients received their hard drive, the data wasn't always easy to interpret. Many would need to be educated on how to read it and all too frequently Bouygues UK was finding the process wasn't managed effectively.

Workflows Used

- Laser scanner: BLK360
- Leica Cyclone
- Cintoo Cloud
- Revizto

Results

The project team at Bouygues UK has now been using Cintoo Cloud since January 2020 and not only has it significantly improved the accessibility of their point cloud data, it has vastly reduced the time needed to process it. They can now upload huge volumes of scan data quickly and share it easily with stakeholders both internally and externally, not just in the UK but also globally.

Previously to this, it could take Bouygues UK up to two days to share the scans captured on site. Huge files, of over 100 gigabytes in size, would often lead to buffering and frustrating error messages. Even once the data was uploaded to the drives, further delays were caused by the need to package and physically distribute these among project stakeholders. If a drive was lost or damaged, gigabytes of scans and models, as well as weeks of work by a large team could all be lost. Cintoo Cloud means Bouygues UK can save all their project reality data in a central platform, accessible by all team members to collaborate on, avoiding these issues.

Using Cintoo Cloud, scans can be shared with entire project teams within an hour of being processed, saving up to two days a week of admin. Furthermore, the ability to segment the data makes it easier to share with different team members, and therefore far easier to interpret.

Cintoo Cloud transforms point cloud data into 3D mesh, which is 10-20 times smaller but maintains the same level of accuracy. This mesh can then be uploaded to the cloud and access to the project on the platform provided to those that need it. Different levels of access can be granted to different users, depending on whether they need to see the project in its entirety or only specific levels or zones. Cintoo Cloud then provides various functionalities for interpreting the scan data, whether it's the 3D photography, a mesh surface, colour-ranged heightmap or an instantaneous overlay with the BIM model; the platform allows us to make full use of our captured data, allowing each user to customise their own experience with ease.

The most regular users of the platform at Bouygues UK are the MEP consultants, who are accessing Cintoo Cloud weekly, if not daily. They use it to manage their as-builts and to update their models and drawings following receipt of the contractors' red line mark-ups. With MEP in a hospital being so complex, often seeing the big picture was difficult and there was only so much clarity and information to be gleaned from sketches or pdf mark-ups. Cintoo Cloud has provided the team with visibility over exactly what has been installed, working hand-in-hand with the red line drawings coming from the trades on-site.

The platform has also helped the MEP consultants to develop a far more efficient as-built process. In the past, when working from red line mark-ups, if they came across something that wasn't clear or didn't make sense work would immediately stop on that area. They'd then take photos and email team members about the problem, requesting more information from the sub-contractors, to understand what was happening. This process has now been entirely eliminated, as if they're looking at a drawing and something isn't clear they can turn to Cintoo Cloud to obtain that clarity.

A further benefit for the team in using Cintoo Cloud is how much easier it is to manage their laser scans. While before they had been producing a 2D drawing and manually mapping the data and times of when the scans took place, now they can look at 360-degree photographs and track the origins of the scans and where everything is located.

"In essence, Cintoo Cloud has had a fundamental effect on the way our team approaches their as-builts. Rather than relying on 2D drawings being reproduced digitally, we now have a tool that enables us to interact with our scan data digitally from the outset," said Lewis Wenman, Lead BIM Manager at Bouygues UK, who is advocating for Cintoo Cloud to be introduced to other projects.

"When we consider introducing new software, we're always looking at how it integrates with what we currently use. Cintoo Cloud works seamlessly with our issue management platform, Revizto, so we can either export a BCF or work live in Cintoo Cloud and take screenshots and snaps and put these back into Revizto straight away. Both options support us having one central place for issues management."

Lewis Courtnell, Senior BIM Coordinator at Bouygues UK, added: "It was also really easy to bring the project team onboard. Within half an hour people were up-to-speed with Cintoo Cloud's functionality and able to go off and use it, even non-technical users. Plus, with no installation required, the IT team hasn't needed to become heavily

involved in its integration, ensuring minimal disruption with the implementation of the platform.”

Going Forward

The team at Bouygues UK is just starting to access Cintoo Cloud more while out in the field, finding the ability to view their data on a tablet beneficial, particularly now the ceilings have been installed and they can no longer see the services located above them. Cintoo Cloud ensures that the site team knows exactly where everything is, whether it is now concealed or not.

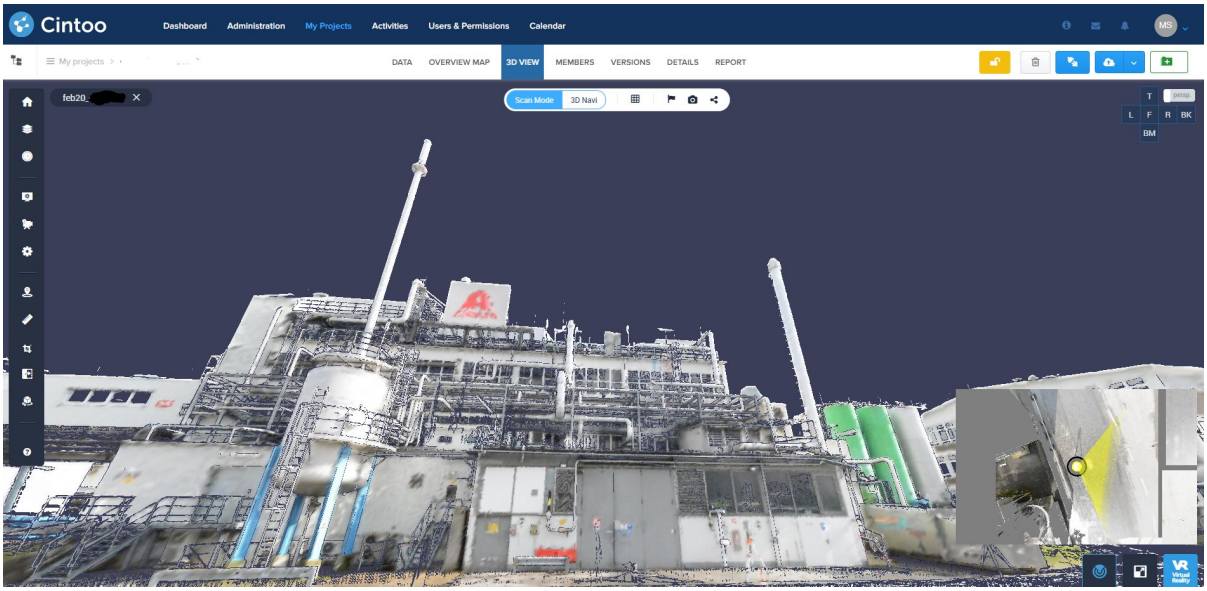
The next step is encouraging teams to use Cintoo Cloud to take measurements, avoiding needing to physically do these on-site. For example, they may have some equipment coming in and want to check the dimensions. These can be calculated using the platform, making this data available far more quickly.

Lewis and Lewis have also recognised that with their laser scans now saved in Cintoo Cloud they don’t need to keep scanning the whole building with each new project, but instead can use the models to identify and isolate smaller areas to be scanned. Cintoo is providing Bouygues UK with the ability to better plan their scanning on future projects and far more flexibility in terms of how they can use their point clouds down the line.

Phase 4 of the UCLH Proton Beam Therapy project is nearing completion, and the Bouygues UK team will be able to provide their client with a digital twin, having used Cintoo Cloud as the verification tool to confirm alignment with the BIM model.

Project Media and Links

Learn more about Bouygues UK on their web site: https://www.bouygues-uk.com/
Read this Cintoo Customer Story online: https://cintoo.com/customer-stories.html



Axalta case study: "By using Cintoo Cloud to review our as-built data, site visits have been significantly reduced, leading to time and cost savings within our projects."

Background

Axalta Coatings Systems is a leading global coatings provider, with 48 manufacturing centers and more than 30 laboratories, including the world's largest coatings R&D center in the US.

Axalta Germany has embraced digital workflows to streamline its operations and is using terrestrial laser scanners to capture as-builts when carrying out various types of projects, such as constructing new buildings and pipe bridges or replacing or maintaining equipment.

Axalta first trialled Cintoo Cloud in April 2020 to assess how the platform would integrate with its existing systems and enhance project workflows. Significant time and cost savings were quickly realized and the team began their first major project with a 1,000 scan subscription, increasing this to 2,000 scans within a matter of months.

Axalta project teams use Leica BLK 360 scanners while their contracting surveyors and other scanning companies they employ use Leica RTC 360 and Faro equipment. These different terrestrial laser scanners are all supported by Cintoo Cloud.

Workflows Used

- Leica BLK 360, RTC 360 scanners and Faro scanners
- Autodesk BIM 360 and ReCap
- Cintoo Cloud
- Autodesk BIM 360

By uploading their RCP files, planners, maintenance teams and project managers can all easily view the scan data as well as take measurements of an existing site in Cintoo Cloud, avoiding the need to go out and visit sites regularly. They combine this laser scan data with their planning data, uploaded from Autodesk BIM 360, to track the current situation against the BIM or CAD model to maintain quality assurance. Scan-scan comparison is also conducted during the building phase to continuously track progress.

Within the Axalta team, there are currently around 50 Cintoo Cloud users across seven projects. Primary users are accessing their projects on the platform twice a day, while team members less involved in day-to-day activity, such as planners, contractors or maintenance staff, as well as those less familiar with the sites, are accessing the data around once or twice a week.

Furthermore, with no limit as to how many users can be invited, if a planner or contractor is drafted in to support a project and provide a quote, they can be granted the necessary permission for a limited time while they gather the required data.

Cintoo Cloud doesn't limit Axalta to certain file formats from proprietary scan platforms. Rather, contractors can load scans in their preferred formats (e57, FLS, RCP) as well as different models (from BIM 360) and be sure the scans and models will all function in the platform.

Before each project begins on a specific area of the plant, the site is scanned. This allows for negative clash checks to be performed with the data from the completed project to ensure the scans and the model are aligned.

Results

Cintoo Cloud is providing Axalta with many operational benefits. The most crucial of these is improved productivity, saving the team time spent travelling to each site as they only need to look at the project scans in the platform to glean the information they need. On average, they are able to cut site visits from four or five times to one or two times, saving time and reducing costs.

More people are now involved in each project, thanks to the ability to remotely access the data via Cintoo, with those who aren't modelling experts able to join at an earlier stage and provide the team with feedback and potential improvements.

For those Axalta team members who don't have access to ReCap, Cintoo Cloud allows planners and contractors to access the 3D project and compare the scan to the model.

The team is also making the most of unlimited users which means that contractual staff, planners and maintenance personnel can all be given access to the parts of the project relevant to them and permissions can be managed by the Axalta team.

Marco Schuh, CAD / BIM Administrator Engineering at Axalta explained, “We have been using Cintoo Cloud for about six months and are very satisfied, especially with the fact that site visits have been significantly reduced. This has led to significant time and cost savings within our projects.

“Another benefit is the combination of point clouds and 3D planning models. This gives everyone the opportunity to get a real picture of the planning progress, even without additional hardware and software. After four months, we decided to increase our Cintoo subscription because it was so well received by all participants. We look forward to continuing to realize projects with the support of Cintoo Cloud.”

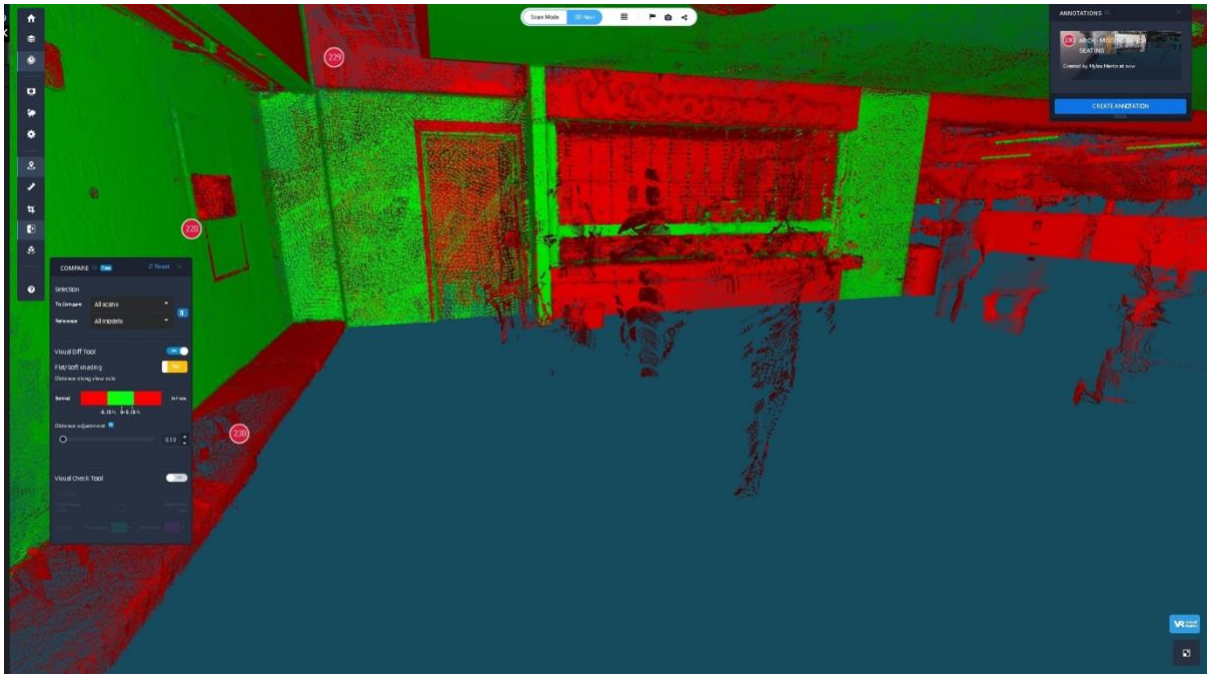
Going Forward

Project teams currently add notes and annotations to their models within BIM 360. However, Cintoo has now added the functionality to push issues, tracked within the platform, straight to BIM 360 which will provide a further benefit to the Axalta team, minimising the chance of anything being missed when moving between the two platforms.

The team also plans to investigate the option to export Work Zones as unified meshes rather than exporting unstructured crops, which it’s been doing to date. This will provide team members with a clearer view of the data and therefore more accurate interpretation.

Project Media and Links

Learn more about Axalta Coating Systems on their web site: https://www.axalta.com/
Read this Cintoo Customer Story online: https://cintoo.com/customer-stories.html



M3 DESIGN GROUP

M3 Design Group Maximizes QA/QC Accuracy in Cintoo Cloud

"*Cintoo Cloud allows us to easily confirm that what we are modeling is accurate. There's no other real solution on the market that is doing the same thing.*"

Myles Martin
Principal, M3 Design Group

M3 Design Group is a licensed architecture firm with over 15 years of experience in designing and overseeing building construction. Project types range from multi-family, mixed use, commercial, hospitality, single family and LEED certified to historical renovations.

Identifying and tracking issues more accurately than ever before

Because of Cintoo Cloud's simple and efficient User Interface (UI) design, M3 Design Group was able to train users of all skill levels in just a few hours. The firm currently has 10-20 people working in Cintoo Cloud each day for four different point cloud-scan projects: the stadium, a warehouse conversion, an auditorium and a restaurant.

With Cintoo Cloud's Visual Comparison tool, M3 Design Group is validating work in the scan-to-BIM workflow and confirming that models are "squeaky-clean." The firm is also able to tag issues and assign each with a 3D geometric point in space, unique number, severity level and party responsible for resolution. Issue tracking reports can be exported as BIM coordination files (.bcf) to be used in other modeling programs, such as Revit, which M3 Design Group uses to overlay issues created in Cintoo within live models.

Seeing is believing: Boosting collaboration and client confidence

M3 Design Group can now visually compare its point cloud scans to BIM models to automatically detect and rapidly address issues., bringing newfound clarity to teamwork. That brings a host of value:

Keep projects on track and clients satisfied.

Practically, for the QA/QC [Quality Assurance/Quality Control] process, Cintoo leaves nothing to argument," said Martin. "It's very simple to see what's acceptable and what's not." By delivering Cintoo reports alongside the BIM models, the firm has been able to visibly demonstrate its strong QA/QC process, verify that field information was accurately modeled and enable clients to have full faith in the accuracy of their models.

Easily collaborate with an unlimited number of technical and non-technical team members.

In addition to tagging and assigning issues within Cintoo, M3 Design Group can export issue reports in static PDF form (with a live link to the issue in Cintoo Cloud) to review with non-technical project stakeholders.

Before Cintoo Cloud, reporting involved a series of manual processes cobbled together, explains Martin: "We had to 3D section box the model, manually color code and then translate into Excel. This was very cumbersome and prone to miscommunication."

The firm was also limited in who could view and understand the reports, which were highly technical and not easy to share. With Cintoo Cloud, M3 Design Group can run one-click reports that feature not only the issue details, but also a clear visual snapshot of what and where the issue is, which makes it easy to communicate and work toward a resolution. "We wouldn't be able to do this stadium project without Cintoo," continues Martin.

Store and organize an unlimited number of scans.

With a project as large and complex as the stadium construction - involving 20,000+ scans and the need to review a few thousand square feet in a couple hours - scalability and organization is essential. Cintoo Cloud empowers M3 Design Group with the speed-to-processing they need and the ability to quickly access scans from anywhere to review with clients, suppliers or team members.

M3: Pioneers of the digital frontier

The firm's expertise on BIM and reality capture puts them at forefront of the digital revolution transforming AEC. Martin makes it a point to explore the wide range of solutions coming to market. "It's a bit of the 'Wild West' today with a lot of vendors' claims," he said. "Cintoo delivers in the real world."

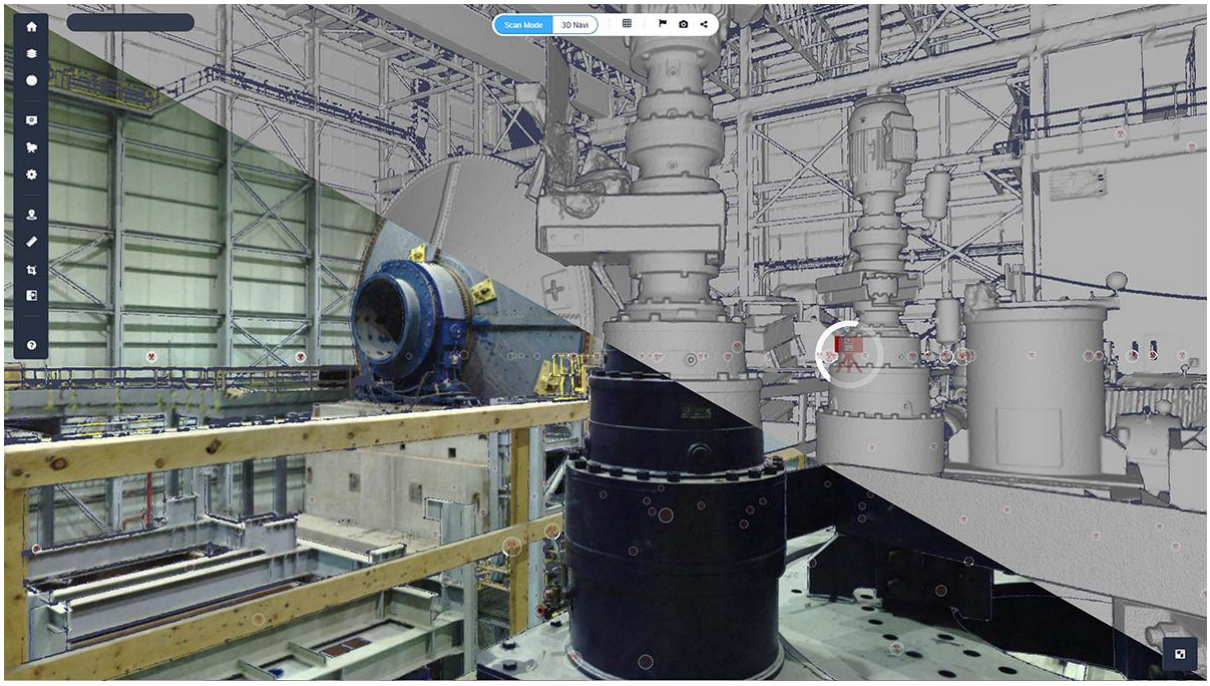
Workflows Used

- Laser scans
- Revit
- Cintoo Cloud
- BIM 360
- BIM Track

Project Media and Links

Learn more about the M3 Design
M3 Design Group web site: https://www.m3-design-group.com

Read this Cintoo Customer Story online: https://cintoo.com/customer-stories/M3-Design-Group



“Cintoo Cloud is giving everyone at BBA a fast and easy access to all 3D scan projects, directly from the web browser. The way they represent the point cloud in a surface mode is amazing, it reveals every little detail which was not possible to see before.”

Mario Laflamme

Development Manager CAD and 3D Scan Technologies, BBA inc.

Background

With over 800 employees in offices across Canada, BBA is a private consulting engineering firm that offers engineering, environmental and field services backed by advanced expertise to the Energy, Mining and metals, Oil, gas and biofuels sectors. The company has developed expertise in 3D surveying and regularly undertakes large-scale laser scanning projects of electrical substations, control buildings, plants and mills.

“As an engineering firm, we often need to perform 3D scan surveys to use within our projects” comments Mario Laflamme, BBA’s Development Manager for CAD and 3D Scan Technologies. “Today’s scanners are generating bigger point clouds faster, however the challenge is to share this data to make it easily accessible to everyone. This challenge was easily overcome using the Cintoo Cloud platform.”

Cintoo Cloud provides a unique point cloud-to-surface technology, to convert high-precision terrestrial laser scans into a 3D surface mesh before uploading to the cloud. The mesh reduces the file size by 20 and 30 times without reducing data accuracy. It can also revert the mesh data back into its original format so it can be used directly in CAD software, with the same accuracy as the original point cloud file.

Using Cintoo Cloud, BBA's scan data becomes shareable, collaborative and distributable amongst employees, contractors or clients, who can access the 3D projects from any location via their own laptop. Cintoo Cloud also provides users with tools such as team member invitations, permissions, assignments, annotations, calendar and notifications. It also provides integrated scan-BIM model comparison functionalities and scan-to-BIM workflows.

"Cintoo Cloud is a game changer for BBA" says Mario Laflamme, "It allows our clients and our own teams to collaborate directly on a Reality Capture project regardless of their physical location. BBA has a dozen offices across Canada, so being able to work on the same laser scan data via the cloud saves us an enormous amount of time and resources".

Workflows Used

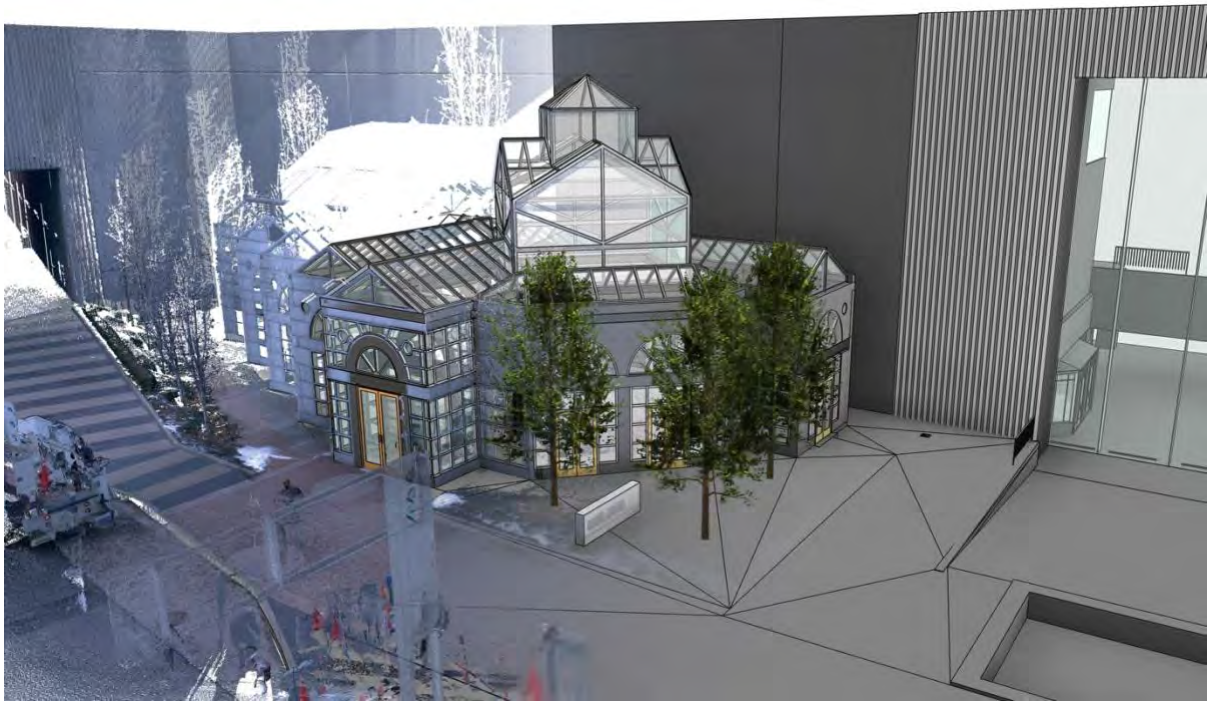
- Laser scanner: Faro S70, BLK360, Faro X330
- Point cloud software: Recap Pro
- Cintoo Cloud
- CAD Software: Revit, Navisworks, AutoCAD, SmartPlant, Cadworx
- BIM360 Docs

Results

- Quick and easy access to point cloud projects
- Fast implementation
- Better 3D model visibility which reduces error of interpretation

Project Media and Links

Learn more about BBA on their web site: https://bba.ca
Read this Cintoo Customer Story online: https://cintoo.com/customer-stories/bba.html



“Cintoo Cloud has given our team at FSU the ability to access point clouds here in Denver sooner than we thought was possible. We are able to begin modeling the day after a scan is complete, and our surveyors no longer have to worry about shipping the data or finding the best internet connection.”

Julia Clarson

Software & Technology Integration Specialist, BIM Manager.

Background

Field Services Unlimited https://www.fsusurveyor.com has been delivering architectural as-built surveys and documentation to retail and commercial clients across North America since 1992.

FSU’s small team complete over a thousand surveys and as-builts each year with tight deadlines and customized deliverables. Their as-built surveys, facility assessments and site survey reports provide the information and confidence their clients need to make architectural renovations run smoothly.

FSU does the maximum to ensure a site is recorded as accurately as possible to save customers time and money. By working closely with clients, FSU clearly determines requirements and ensures that project deliveries include all items deemed necessary for each site.

The Situation

FSU's surveyors are in and out of multiple sites each week, so anything that allows them to obtain or deliver site information more quickly is extremely valuable.

Scanning accelerates data collection but it slows delivery due to file size. The addition of Cintoo Cloud to FSU's workflows has reduced transfer times in an unprecedented way, while still retaining the full detail their team expect from point clouds.

Using Cintoo Cloud, FSU is now able to reduce project time and execute detailed as-builts up to 10,000 square feet in as little as two weeks from the start of the survey.

Workflows Used

- Laser scanner: BLK360
- Point cloud software: Register 360 and Recap Pro
- Cintoo Cloud
- Modeling software: Revit and AutoCAD

Results

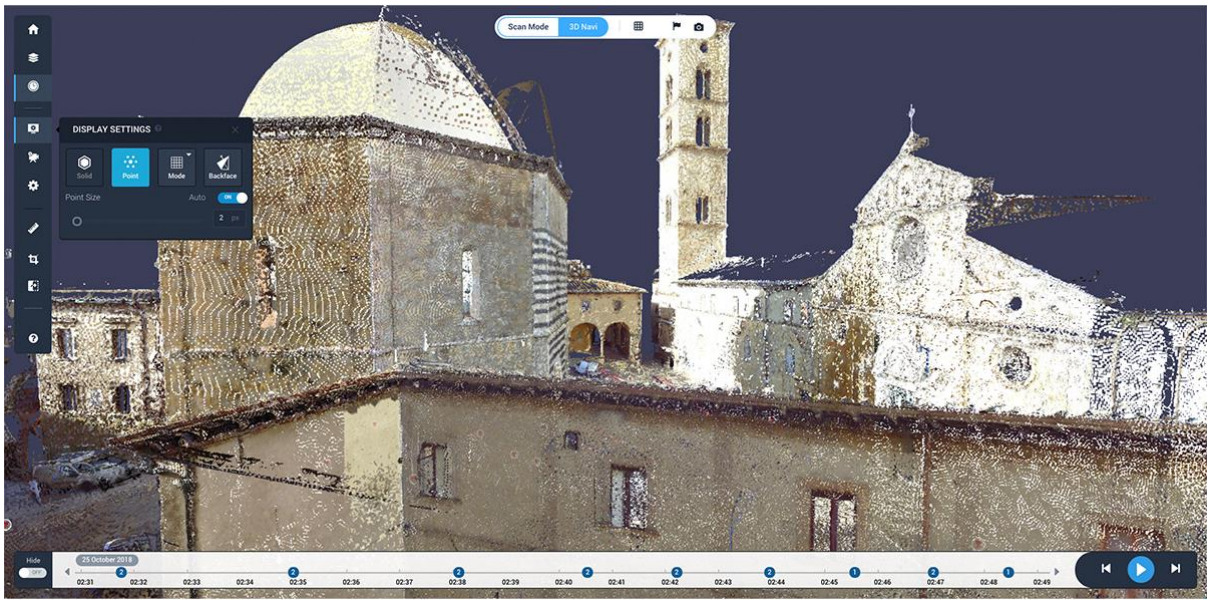
- Surveyors are easily able to send the complete point clouds back to FSU within 24 hours after they scan the site.

- Cintoo Cloud's sharing and viewing options are comprehensive, yet user-friendly. This enables FSU's teams as well as clients across a diverse range of industries to interact with sites remotely via a regular internet connection.

- FSU's Julia Clarson concludes: "Cintoo's team has been fully responsive, synergetic, and innovative from the moment we began working with them during their beta testing. They have always been open to feedback and have implemented all of the functions we have requested. This has enabled us to streamline and consolidate our process and deliverables".

Project Media and Links

Learn more about FSU on their web site: https://www.fsusurveyor.com
Read this Cintoo Customer Story online: https://cintoo.com/customer-stories/fsu.html



[volterra-detroit] foundation
volterra international residential college

“This project has become such a ground-breaking research effort involving technology partners and collaborators from around the world. As the scope of the project continues to increase, we have struggled to find a platform to efficiently share data with the team and this important work with the public. Cintoo provides us a tool which solves this problem.”

Mark Dietrick
Director of Services, Case Technologies
Board of Directors,Volterra-Detroit Foundation

Background

Since 2016, the Volterra-Detroit Foundation has worked in Volterra, Italy with experts in 3D reality capture technology, aerial and ground-based photogrammetry to record the city’s archaeological sites and artefacts. This collaborative group, known as the International Reality Capture Workshop is made up of architects, surveyors, 3D specialists, engineers, and historians from different organizations and countries.

The long-term objective is to create a complete digital document of Volterra’s sites using 3D tools and methodologies, to preserve these assets digitally and improve both archaeological and architectural research. As a work group, Volterra technology partners include Autodesk, Case Technologies, 3DR, Faro and Cintoo who can test their latest 3D products and solutions in a complex historical urban built environment.

Cintoo approached Case Technologies, one of the key technology stakeholders in the project, to try a revolutionary new approach for handling the gigantic point clouds being generated from the terrestrial laser scans in Volterra: Cintoo Cloud.

Cintoo Cloud provides a unique point cloud-to-surface technology, to convert high-precision terrestrial laser scans into a 3D surface mesh before uploading to the cloud. The mesh reduces the file size of the point cloud data by between 20 and 30 times, without reducing data accuracy or simplification in any way. What's also unique is that Cintoo Cloud can convert the mesh data back into its original format so it can be used directly in CAD software, with the same accuracy as the original point cloud source file.

Workflows Used

- Cintoo Cloud
- Autodesk ReCap
- Autodesk Revit to construct BIM models
- ReCap removes point overlaps and unwanted objects from scan
- Point clouds are also linked into Autodesk Revit software to be used to construct detailed Building Information Models (BIM). The Building Information Models may be used for accurate documentation to aid in research and also for asset and maintenance management applications.
- All data is also being aggregated and integrated with GIS data in Autodesk Map3D and Infraworks software to produce a produce a comprehensive, integrated digital resource for the city.

Results

- The data from the Volterra project is enormous, and growing larger every day with an increasing number of technology providers now involved on the project. Cintoo Cloud has provided a solution to manage all this extremely large point cloud data coming in regularly from different providers.

- Using Cintoo Cloud, Volterra's scan data becomes shareable, collaborative and distributable amongst the user group. Every stakeholder on the Scan Volterra project, can access the 3D projects from any location via their own laptop.

- Cintoo Cloud provides users with a complete set of tools, such as team member invitations, permissions, assignments, annotations, calendar and notifications.

- Cintoo Cloud enables a diverse and geographically dispersed team of people working on the project from different organizations, countries and professions. Project managers can provide users with different levels of permissions, based on their profile, and control access to core features and functionalities of the platform.

- As the number of project collaborators increases, existing users share access either by inviting new team members to join the project, or by sending a link to anybody (with password protection and expiry date if needed). People receiving the sharing invite will be able to view the reality data in 3D mode and make their own measurements.

- Cintoo Cloud provides a way to easily share the archaeological treasures of Volterra with anyone in the world, without the need for specialized hardware or software.

- Cintoo Cloud's scan to BIM model comparison tools. The Volterra laser scan data is also being used to create detailed BIM models of the architectural sites. Cintoo Cloud enables the upload of BIM models, so scans can then be compared to a BIM model of the structure. Comparing

the BIM model and the current build condition to provide an ongoing timeline of the building's condition. By overlaying the BIM model to the data, the difference between the original BIM model and the current build condition can be analyzed and the differences calculated. This helps measure the effects of damage and help in the restoration or rebuilding of deteriorated structures to its original condition.

- Work zones of specific parts of a building can be created, cropped and exported into Autodesk RCS format for direct use in AutoCAD or Revit for Scan-to-BIM. This means teams can work on a specific work zone and scan set without having to manage all that other data from the rest of the project.

Project Media and Links

Access the Volterra 3D projects on Cintoo Cloud*
*A Firefox or Google chrome browser are required and cannot be accessed via a mobile device
For more information, please contact us.

Roman Theatre

Porta al' Arco

Baptistery of San Giovanni

Medieval Gate and Fountain of St. Felice

Palazzo Di Priori

Learn more about the Volterra project
Volterra Detroit web site: http://research.volterra-detroit.org

Read this Cintoo Customer Story online: https://cintoo.com/customer-stories/volterra.html

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