

When we think of Lidar Scanning, we think of a cloud of millions of points in space, maybe with some color, representing an object's outside surface. Since we are in the AEC Industry, this "point cloud" is going to be a building, piece of MEP equipment, infrastructure, civil conveyance systems, etc. The critical thing to note is that an existing structure (whether 100 years old or 1 year old) could at some point find itself being Lidar Scanned and turned into a 3D Model! Below is a list of steps in a typical Lidar Scanning process and a brief description of what happens during these steps.

Task 1 // Determine What Needs to be Captured



Required Stakeholders visit the proposed areas needed to be captured, taking detailed notes of the project's overall goals to build out the scope.



By visiting the site in person, a better estimate can be made of the project's duration, specific access needed, and equipment required to complete the survey.

Task 2 // Conduct Field Survey



Survey Teams will travel around the project site capturing the scans necessary to create a point cloud model of the structures in the scope of work.



The field survey can require the use of a variety of equipment in addition to the Lidar Scanner, such as Robotic Total Stations and Drones.

Task 3 // Register & Publish Point Cloud



Having completed the field scanning process, the survey team now uses software to combine all the scans into one larger "unified" scan. "Registering" the point cloud this way makes the information easier to transport and removes unnecessary points from the cloud.



Other information captured during the Field Survey, such as real-world coordinates, can be applied to the data during the registration process to ensure alignment downstream in Design Authoring and Review Software.

Task 4 // Utilize Survey Data to Create Deliverables



Designers and Engineers can utilize the point clouds to assist in creating BIM and CAD deliverables.



There is no "magic switch" to convert a point cloud into a Revit or ACAD file. It's essential to define what you want in your BIM and CAD deliverables ahead of time to capture everything you need and not capture too much.