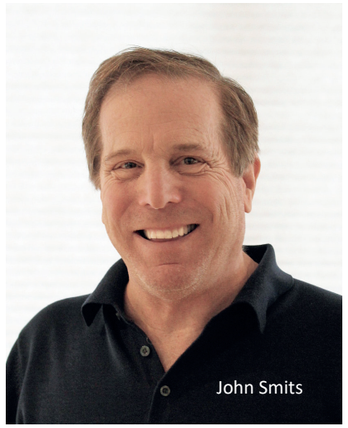
ECM - Global Measurement Solutions

Innovative AEC 3D Scanning Services

As a company specializing in quality 3D scanning and engineering support services, East Coast Metrology (recognized as ECM – Global Measurement Solutions) empowers AEC industries with 3D laser scanning technology that gathers accurate survey-grade data for complex sites. ECM recognizes the construction industry as a hotbed for invention and innovation, assessing the validity of technologies that change the way buildings are designed and built. These technologies support the use of data-rich models within architecture, thereby aiding the development of building information modeling (BIM). A rapid expansion in the capabilities and widespread use of 3D high definition laser scanning technology in this sector is elevating BIM's efficiency, accuracy, and level of detail. With its rise in popularity, misconceptions about the technology have also spread. For one, companies often consider scanning and creation of BIM models as a commodity. However, John Smits, the Vice-President of ECM - Global Measurement Solutions, begs to differ. "The creation of BIM models takes a considerable amount of expertise, experience, time, and effort—aspects that often end up falling between the cracks," says Smits. He goes on to mention that many organizations lack clarity on how to reap the benefits of Laser scan-to-BIM. This is where ECM - Global Measurement Solutions is in a class by itself.

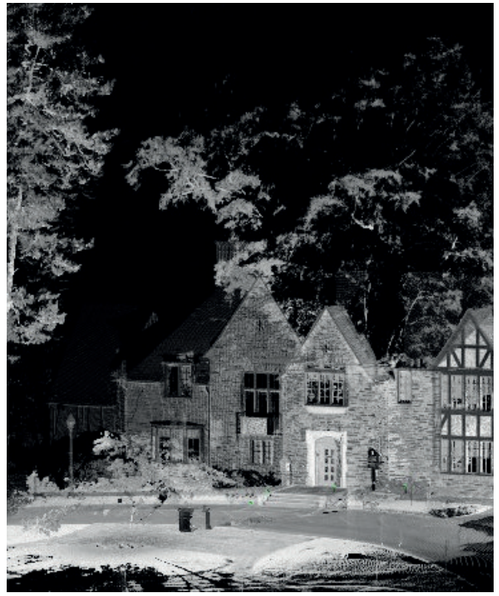
ECM has successfully used 3D scanning on a variety of projects, especially those where difficult accessibility creates safety concerns such as high-rise structures, piping, electrical plants, and high-traffic roadways. Founded in 2001, ECM has witnessed the impact of 3D documentation technology in shaping the growth of BIM models. With its team of expert engineers, ECM delivers quality dimensional metrology, 3D scanning, and engineering support services to a diverse range of industries including manufacturing, power generation, architecture, and construction. As an early adopter of laser scanning and 3D modeling, ECM recognizes first-hand the cost and learning curve associated with these technologies. The company leverages an array of specialized precision 3D laser scanners to document buildings, structures, objects, and machine parts. The resulting 3D digital datasets are used as the basis for CAD and BIM models. These models and datasets, in turn, become a valuable tool for their clients, used for quality control, construction drawings, renderings, animations, virtual reality, or 3D printing and replication.

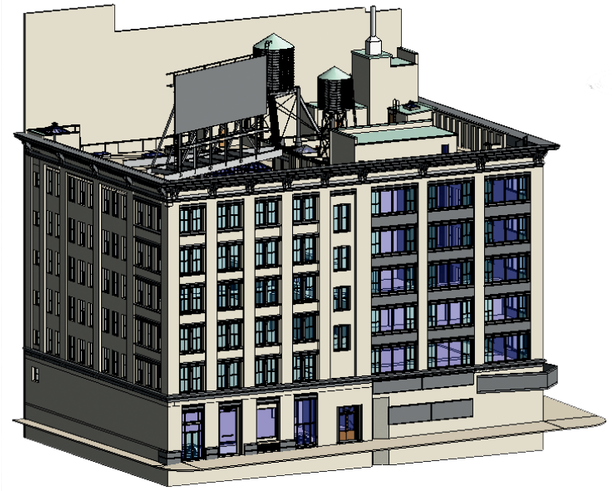
The initial accumulation of precise accurate 3D data is the first step in any project. Smits mentions that gathering this 3D information can be challenging; scan data can be distorted by weather, moving objects such as people, obscured by plants, and other factors. He explains that a typical project



involving scanning and development of a building's 3D BIM model necessitates that the model is accurate to 1/8inch or less, and often must conform to USGS data so that the model can be used across multiple platforms. To achieve this, ECM uses precise variable range scanners such as the Faro Focus3D, along with targets and survey controls for the building's exterior, stairwells, main floor, and roof. The resulting 3D digital envelope is then transformed into a BIM model that can be amended with specialized floor plans or ornamental details. This first-generation BIM model, with its accurate depiction of current conditions, saves both time and money for the client as they proceed through the design and construction process.

ECM's expertise in building scanning goes beyond documentation of floors and walls. They have learned how to successfully capture cellar and attic framing, spaces above ceilings, and below floors. These skills made it an instant choice over others for a project at Duke University. Apart from accurately documenting a decorative masonry building using its effective laser scanning capabilities, ECM also provided key details that added value to the university's rehabilitation efforts. Furthermore, the use of a highly precise hand scanner allowed ECM to document important architectural ornaments in their building. The final 3D files not only became a means to ensure replacement if the elements were damaged but also allowed 3D models to be replicated on a smaller scale. These models could potentially be used to raise funds for the University's renovation efforts, another valued benefit from ECM's services.





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As an industry leader for almost 20 years, ECM's prime advantage is the expertise of its licensed professional architects and certified metrology engineers. The company's daily use of specialized scanners for a diverse clientele allows it to continually upgrade its equipment, providing its clients with the best that current technology offers. It has successfully established strong relationships with the leading 3D scanning software and equipment manufacturers, enabling it to remain ahead of competitors by getting first-hand access to the latest technology and premium software to meet ongoing market demands. When it comes to meeting customers' project needs, ECM stands firm in its commitment to delivering projects on time and within budget.

Successfully integrating best-in-class on-site scanning services and 3D BIM models while also offering in-house equipment rentals and calibrations, ECM serves as the "one-stop-shop" for its customers. While relishing its staggering success, the Massachusetts based organization aims to enhance its BIM capabilities in the upcoming years. It plans to continue incorporating the latest technology, automating processes to improve the cost and quality of its BIM deliverables. It will be interesting to witness how ECM – Global Measurement Solutions leverages technology to draw ahead of the competition.