

## CUSTOMER SUCCESS STORY

# TAI Engineering Uses Reality Capture to Compete & Win New Business



[TAI Engineering](#) provides a complete range of engineering, management, and technical services to clients in the industrial, manufacturing, and buildings and facilities sectors. The firm employs over 175 professionals who work in its corporate headquarters in Owings Mills, Maryland, as well as in regional offices in Illinois, Texas, Delaware, and in its fabrication and field services facility located in Linthicum, Maryland.

As a prosperous mid-sized business, TAI Engineering's management team is always looking for new ways to compete and win additional business.

**“This new technology and equipment is one of the primary ways that we are increasing our presence in new markets.”**

**—Alan Miller, Principal and Director of Projects and Business Development, TAI Engineering**

## The Challenge: Reality Capture Requirements

In 2016, TAI Engineering received a request for proposal from a large client which included 3D imaging services. As part of the project, the company requested a 3D rendering which would show how a facility roof would look in terms of piping and means of egress, after the design work was completed. The TAI team had limited experience with reality capture technologies and contacted IMAGINiT Technologies to discuss various options.

## The Solution: Proof of Concept

Rather than immediately investing in 3D laser scanning equipment, TAI decided to partner with IMAGINiT on a reality capture proof of concept to ensure that it could deliver a return on investment.

During the proof of concept, IMAGINiT's reality capture experts worked side-by-side with the TAI team to scan and process the data from the client site. TAI Engineering incorporated the proof of concept into its bid and won the client's business. “The proof of concept opened our eyes,” said Alan Miller, Principal and Director of Projects and Business Development at TAI Engineering. “The speed with which we could gather data and the accuracy of the data collected helped us see the possibilities and potential uses of reality capture. We realized that 3D laser scanning would be a cost-effective means for capturing field data for our drawings.”

## What Happened Next: Investing in Reality Capture

Based on the successful proof of concept, TAI Engineering decided to purchase its own 3D laser scanning hardware. “Since our firm does a lot of small and mid-sized projects, it made sense to purchase a scanner. It gives us greater flexibility to meet client deadlines,” noted Miller. Although the team considered other vendors, TAI elected to purchase the equipment from their trusted partner IMAGINiT.

TAI Engineering is already seeing direct gains from having reality capture technology. Rather than sending multiple people into the field with hand held lasers, tape measures and cameras, the firm can send a single person with the scanner and collect highly accurate field data. Thanks to training delivered by IMAGINiT, TAI Engineering now has four people skilled at field scanning and who understand how to manipulate the resulting data. Miller commented, “When we contact IMAGINiT with questions, we always get a rapid response, their training was spot on for our needs.”

On a recent construction project, a client asked TAI Engineering to verify the design documents and 3D model created by another firm. By scanning the building site, TAI could ensure the tie-in points for prefabricated pipes were in the right place. “We scanned the site at the beginning of the construction process and then scanned again later. Our isometric drawings now match the field. By incorporating scanning into the process, we save construction and field time by avoiding field welding,” said Miller.

## The Future: Leveraging Reality Capture to Expand the Business

TAI Engineering views reality capture and 3D laser scanning as central to its operations. According to Miller, more and more competitors are using laser scanning and it will soon become the standard way to gather field data for all size engineering firms. He observed, “Construction rarely goes according to drawings.” TAI now uses laser scanning on almost every project, instead of other measuring devices. This approach saves time, while providing accurate drawings and installations.

Reality capture is also becoming an essential part of TAI’s business development efforts. Data from laser scanning makes it possible for TAI to create visualizations quickly for clients. In addition, the firm is actively working on expanding its business to new sectors. “This new technology and equipment is one of the primary ways that we are increasing our presence in new markets,” said Miller.

## About IMAGINiT Technologies

IMAGINiT Technologies, a Rand Worldwide Company, is the world’s largest provider of enterprise solutions to the engineering community, including the building, manufacturing, civil and mapping industries. With over 25 years of experience, and 45 offices throughout North America, we provide the expertise, training and support to help companies realize the full power of design technology, maximize ROI and gain competitive advantage.



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Advanced Structure  
Advanced MEP  
Product Design & Manufacturing  
Government  
Simulation NAMER  
Architecture, Engineering &  
Construction  
Fusion Lifecycle

### Certification

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Civil Infrastructure  
Process and Power

### Value Added Services

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Authorized Certification Center