

3D Engineering Solutions Scans Minneapolis Bridge Parts

Remember the I-35 highway bridge collapse in Minneapolis, now a poster child for America's infrastructure decay? The culprits in that collapse turned out to be four gusset plates, and 3D Engineering Solutions of Cincinnati was called in to provide a verification of field measurements and more complete documentation of the "bands of corrosion" found on the gusset plates.

The National Transportation Safety Board's Materials Lab Division wanted accurate measurements of the corrosion levels to determine if they were the cause of the collapse. 3D Engineering Solution's advanced laser scanning technology, collecting approximately 20,000 points of data per second, was able to provide measurements in areas that standard measuring devices are unable to provide

them. Also, 3D's technology provided a 3-dimensional record for analysis. After completion of the gusset-plate scanning at the NTSB site, the millions of measurement points taken by the laser were loaded into advanced modeling software in 3D's lab, where more than a thousand cross sections of the parts were created to be used for dimensional analysis.



"The portable laser-scan articulating CMM/arms and the Innovmetrics PolyWorks point cloud software we use are both best-in-class technologies that provide a level of analysis unattainable by standard field measurements," said James T. Irwin, president of 3D Engineering. "We sent two of our field personnel to the NTSB site for two days of scanning, and within a short period of time, we were able to provide the NTSB not only with data that would have been unobtainable using standard measurement methods but also a 3d record that provided a means of obtaining additional information, if necessary, without the need for additional on-site measurement.

3D Engineering Solutions operates a state-of-the-art metrology lab in Cincinnati, and brings more than a hundred years of collective engineering experience to customers needing engineering or measurement services in numerous industries, including transportation infrastructure, automotive, aircraft and aerospace.

About 3D Engineering Solutions:

3D Engineering Solutions provides advanced engineering services. Specializing in tool / fixture design, reverse engineering, 3D modeling, and portable CMM / laser based data collection and inspection. 3D Engineering performs on-site laser scanning services providing an extension of OEM's quality and engineering departments' capabilities. 3D possesses over 100 years experience in advanced manufacturing for the aerospace industry. 3D Engineering provides 24/7 problem solving for reverse engineering, process tooling design and FAI, First article Inspection.

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