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Advanced 3D Laser Scanning/CAD Tools Help Bring High Tech Violin and Cello Tailpieces to Market

Using 3D Laser Scanning and CAD technology, 3D Engineering Solutions Captured Detailed 3D Geometry of Frirsz Music's Patented Violin and Cello Tailpieces, Making it Possible to Manufacture These High Tech Innovations.



Frirsz Music's innovative cello tailpiece created from aerospace metal alloy. 3D laser scanning services were used by 3D Engineering Solutions to capture the invention's exact 3D shape for CAD modeling and eventual mass production.

Cincinnati, OH – May 2, 2011 – Using [3D laser scanning](#) and CAD modeling technology, 3D Engineering Solutions helped The Frirsz Music Company bring its patented violin and cello tailpieces that improve sound and performance to the marketplace. These lighter than wood tailpieces comprised of aerospace metal alloy can now be manufactured for musicians everywhere because of the 3D scanning services and design expertise provided by 3D Engineering Solutions.

The original tailpieces underwent precision scanning, which captured the objects' high-density geometry and compound surface curvature. 3D Engineering's 7-axis, laser

measuring devices and specialized software allowed engineers to collect data as millions of points and create point cloud files. That data was then used to generate highly accurate 3D CAD models of the violin and cello tailpieces.

“To have an opportunity to replicate in 3D CAD one-of-the-kind violin and cello tailpieces is a great example of bringing an entrepreneurial vision to life,” noted 3D Engineering Solutions VP of Operations, Rob Glassburn. “We helped bridge the gap between inventor and production company, with the assistance of our CAD engineering team.” Senior 3D CAD Engineer Gene Hoppe’s experience in designing tools and fixtures in the automotive and aerospace industry provided the necessary skills to handle some of the complex manufacturing issues of this project such as draft, temperature coefficients, and material selection.

In addition to creating CAD designs and documentation from prototypes, 3D Engineering uses advanced [reverse engineering](#) techniques to create highly precise designs from physical parts and tooling, even when little or no design documentation is available. If a component's initial design intent has been partially lost as a result of production process variation or tool degradation, this process can capture the data in real time and provide an accurate 3D CAD model.

About 3D Engineering Solutions:

Customers rely on 3D Engineering Solutions to design process tooling and fixtures for the automotive, industrial, green energy, nuclear and aerospace industries, using engineering tools such as Unigraphics NX7 Mach 3 CAD platform, with data transfer via 3D’s secure FTP site. Leading edge point cloud software, InnovMetrics PolyWorks, allows a common software platform for collecting data across all of Faro laser-based data collection platforms. In addition to reverse engineering services, 3D Engineering Solutions is registered with the State of Ohio for Professional Engineering and [ISO 17025 Certified](#) for third party inspection. In their sixth year of operation, the company

maintains a state-of-the-art, climate controlled metrology lab, servicing the Midwest OEM needs for 3D laser scanning, data collection, 3D CAD modeling, FAI / [PPAP inspection](#), and reverse engineering services. 3D Engineering Solutions brings more than 100 years of collective experience to every engineering project. For more information about 3D Laser Scanning services or general information about 3D Engineering Solutions, call 513-771-7710 or visit the company's website at: <http://www.3D-engineering.net>

About Frirsz Music:

Located in upstate New York, The Frirsz Music Company was founded by Nicholas Frirsz, a fifth generation master violin maker who has devoted his life to the art of violin making. Frirsz carries on the tradition of the oldest family of luthiers in the world and handcrafts custom instruments for some of the world's most discerning musicians, who appreciate the superior craftsmanship he provides.