

# Recreating Museum Artefacts as 3D Models



RealVisuals is bringing historical artefacts to life with interactive 3D computer models created from laser scanner data generated using Pointfuse software. The Belgium-based technology company has pioneered the use of Pointfuse for heritage applications, scanning and producing models of complex museum collections including pieces from the Flax Museum 'Texture' at Kortrijk in Belgium. Working with Arithmetica, the company behind Pointfuse, RealVisuals has created a number of 3D models, the latest of which is of a historic turbine recently included in the list of best museum pieces in Flanders.

Using a Faro Focus 3D laser scanner, RealVisuals scanned the scutching turbine – the machine used process raw flax in preparation for spinning, from ten fixed positions in just 90 minutes. The resulting point cloud, consisting of almost 90 million points, was then

processed using Pointfuse into a 3D textured model in a matter of minutes. The interactive model, which can be viewed [online](#) or on [Sketchfab](#), the online platform for sharing 3D files, clearly shows the complexities of the machine and provides a permanent record of this historically, industrially and socially important object.

Vincent Impens, managing director of RealVisuals, commented that laser scanning offers a fast, effective and reliable way of recording accurate measurement of complex pieces within museum environments. The scans can be completed quickly and without touching rare, valuable or delicate objects. However, this is just the first step. If these millions of individual measurements cannot be converted into a user friendly 3D format, then the scanning element of the project is pointless.

## Bringing scanned data to life

Pointfuse brings the scanned data to life. In a matter of minutes, vast point clouds are processed into useable 3D models. Compatible with commonly used CAD systems, these models provide a permanent, detailed and accurate record of intricate items that can be analysed and shared, Impens continued.

Pointfuse is a modelling engine developed by Arithmetica, a hi-tech company based at Shepperton Studios. Pointfuse aims to give professionals a fast, precise and flexible way of converting the vast point cloud datasets generated by laser scanners or photogrammetry into high-fidelity vector models. Designed for engineers, architects and construction professionals, Pointfuse uses advanced statistical techniques to create vector models which can then be manipulated using any industry-standard CAD system.