ROI OF 3D SCANNING FOR REVERSE ENGINEERING

ARTEC 3D SCANNERS: THE PERFECT INVESTMENT FOR REVERSE ENGINEERING

An international manufacturer and distributor of construction machine spare parts wanted to replace old parts with new ones milled from 3D models made by the Artec Eva 3D scanner.

	TRADITIONAL METHOD Manual Measurement	**NEW METHOD** High-Speed 3D scanning with Artec Eva
Time	Approximately 2 weeks to complete each 3 m part + production time	11 hours total: 30–40 mins to scan each part, 3–4 hrs to create 3D model, 7–8 to convert to solid models.
Cost	Approximately 80 hours at $50/hour = $4000	11 hours at $50/hour = **over 85% cheaper than the manual method.**
Method	Using measurement tools including tape measures, calipers, angle meters, protractors and thread gauges. Then the final drawing is created in CAD software.	3D scanning each part in detail, top and bottom, using Artec Eva, 3D data processing in Artec Studio and CAD conversion using Geomagic Design X.
Level of accuracy	High risk of inaccuracy, since it is very difficult to measure such parts by hand.	Up to 0.1 mm 3D accuracy.

THE COMPANY ACHIEVED OVER 85% REDUCTION IN TIME AND COST USING 3D SCANNING

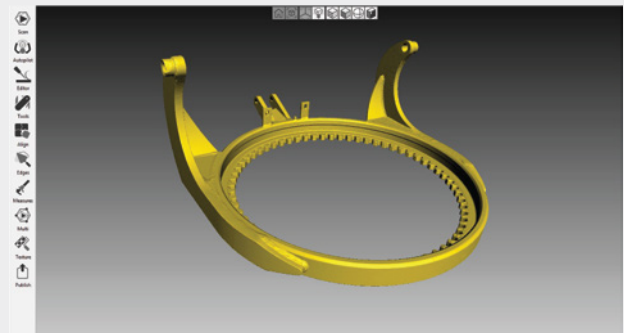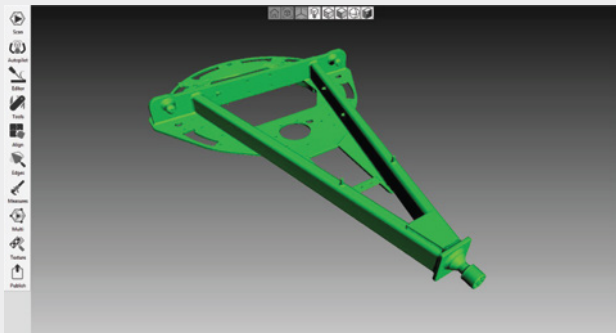| ROI per 3 m part		
Manual + CAD	80 hours	$4000
3D scanning + CAD	11 hours = 85% saving	$550 = 85% saving

Scan to CAD with Artec Eva, up to 0.1 mm 3D accuracy

It was 85 % faster and 85 % cheaper to make these parts ready for manufacture, compared to using traditional measurement tools.
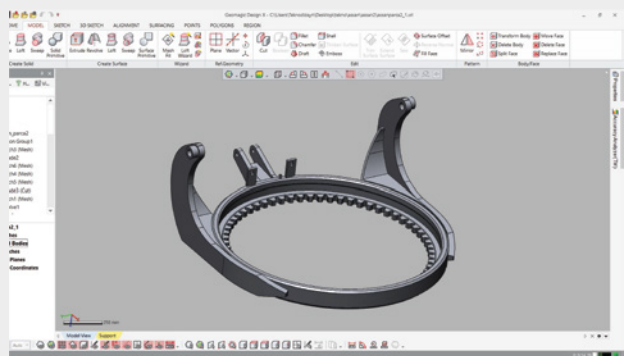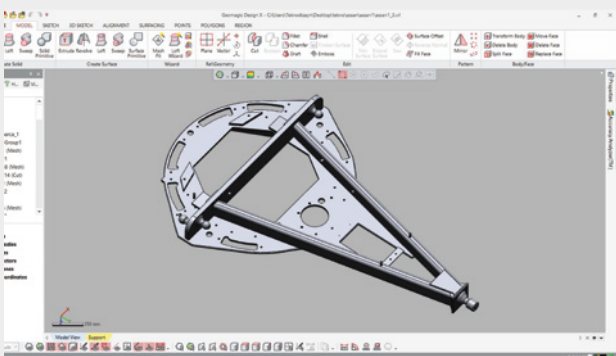
1. 3D scan all sides of your object.

2. Process the 3D data in Artec Studio and create a high precision 3D model.

3. Convert the mesh model into solids.

Other advantages of using 3D scanning: ACCURACY

Measuring these kinds of large parts manually is very difficult, lengthy process and is likely to result in an inaccurate model as a result. 3D scanning, however, is much faster and simpler, and perhaps most importantly, results in a high precision 3D model which you can manufacture with confidence.

Artec 3D