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.

ROI OF 3D SCANNING FOR REVERSE ENGINEERING

TRADITIONAL METHOD
Manual Measurement

Time
Approximately 2 weeks to complete each 3m part + production time

Cost
Approximately 80 hours at $50/hour = $4000

Method
Using measurement tools including tape measures, calipers, angle meters, protractors and thread gauges. Then the final drawing is created in CAD software.

Level of accuracy
High risk of inaccuracy, since it is very difficult to measure such parts by hand.

NEW METHOD
High-Speed 3D scanning with Artec Eva

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
11 hours at $50/hour = over 85% cheaper than the manual method.

Method
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
Up to 0.1 mm 3D accuracy.

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

ROI per 3m part

<table>
<thead>
<tr>
<th>Method</th>
<th>Time</th>
<th>Cost</th>
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<tbody>
<tr>
<td>Manual + CAD</td>
<td>80 hours</td>
<td>$4000</td>
</tr>
<tr>
<td>3D scanning + CAD</td>
<td>11 hours</td>
<td>$550 = 85% saving</td>
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ROI OF 3D SCANNING FOR REVERSE ENGINEERING

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.