



REVERSE ENGINEERING

Improve product
functionality,
analyze competitor
parts, create new
CAD models

NEL PRETECH CORPORATION

METROTOM



REVERSE ENGINEERING THAT WILL:

IMPROVE PRODUCT DESIGN

Extract design intent from existing parts with highly accurate & repeatable data.

CREATE A USABLE 3D MODEL

Get a simple-solid model or a fully-parametric CAD model.

RE-DESIGN LEGACY PARTS

No CAD data? No problem. Rebuild a parametric model from scratch or get all design tree information for editing.





Get accurate data backed by **PEOPLE** who are subject matter experts,
a **PROCESS** with proven measurement uncertainty,
& a **PLATFORM** of top-performing technology

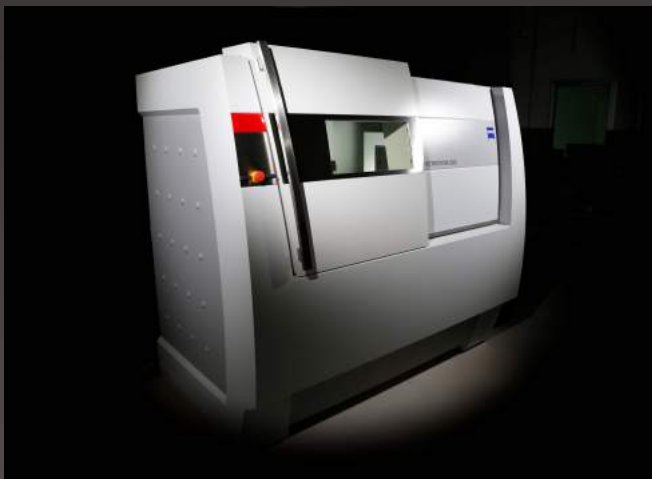
ULTRA PRECISE 3D MEASURING
TO
RECONSTRUCT AN OBJECT INTO A 3D CAD MODEL



Zeiss Metrotom 1500 CT Machine



Coordinate Measuring Machine

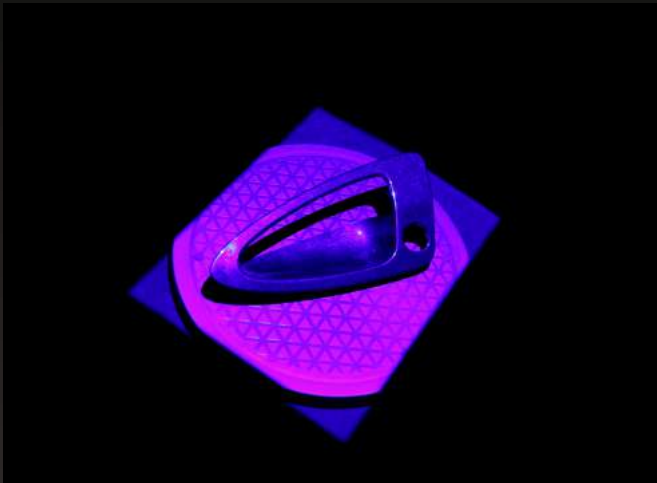


Zeiss Metrotom 800 CT Machine



ATOS Q Blue Light Scanner

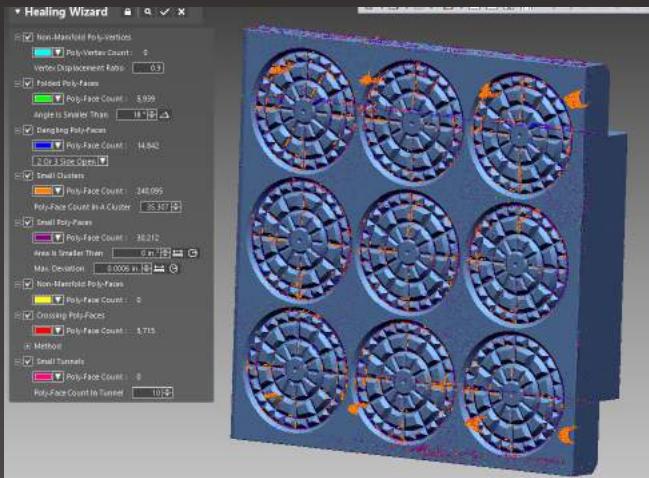
Our reverse engineering services are industry leading,
but what does it take to build a 3D CAD model?



3D Scanning with Blue Light Technology

STEP 1: Gather Data

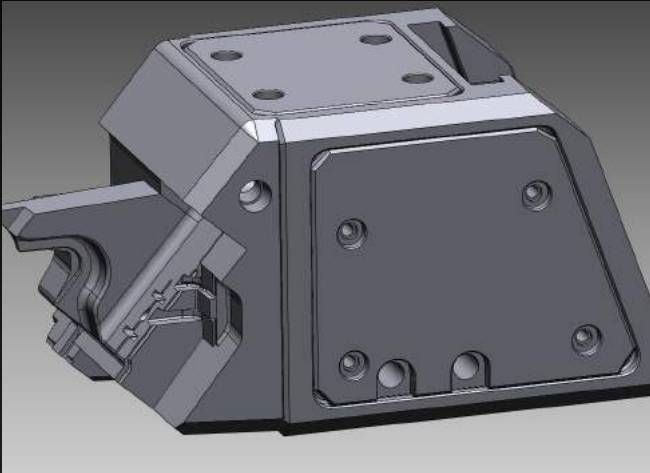
Capture data from products using different tools such as structured light scanning systems, cmm's, industrial ct scanners, and video measurement equipment. These tools help extract relevant information from the part to be replicated, depending on your requirement.



Post-scan Processing

STEP 2: Data Processing

Re-create an electronic CAD model of the object based on interpolation of the previously extracted data. A polygonal .STL model is provided or further processing can be done for a solid .STEP conversion.



Fully Parametric CAD Model of Tool

STEP 3: CAD Model Creation

Our reverse engineering software can shrink wrap a surface over the entire STL model. The result is a model that matches the scanned part exactly.

Another option is parametric modeling containing geometrically perfect surfaces.

All can be exported in a .STEP or .IGES format. Fully parametric models can be provided in a native Solidworks format.

Review of the data can be accomplished with a scan to CAD deviation color map analysis.

Delivering The Exact Reverse Engineering Services Your Project Requires

- Re-design legacy parts
- Surface modeling for rapid prototyping
- CAD conversion for 3D printing
- Extract design intent
- Create new molds
- Re-create one-of-a-kind parts
- 3D modeling for marketing or archiving
- Product development

Nel Pretech Corporation is a
3D & CT scanning laboratory
with value-add
engineering & metrology services.

ISO/IEC 17025
accredited by A2LA



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