RAPTOR

Centrum Inżynierskie

Manufacturer of plastic and composite parts

1

Reverse engineering, 3D printing and part and tools manufacturing

We use reverse engineering and 3d scanner to restoration plasic and composite parts. We create new parts and become a manufacturing partner for our customer.

We manufacturing housings and mechanical parts.

We restore and manufacturing a spare parts in 24 hours.

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1 What is the reverse engineering proces looks like?

1

Delivery of damaged part

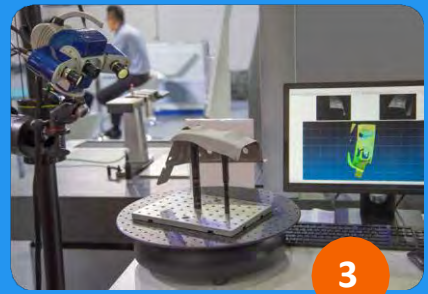
A part or a damaged element can be delivered by sending technical documentation, a 3D model or a physical model to the address of our office. If there is no documentation, we will carry out an on-site visit to the company

2

3D Scan / Designing

In the case of sending a damaged physical model, it is digitally restored by 3D scanning or manual measurements.

The action depends on the complexity of the element to be recreated.



3

Optimization of the damaged part

If a given part is damaged many times in the same place, we will design it

in such a way that critical areas are leveled. We will use a more durable material to make it last longer.

4

Execution - 3D printing / CNC machining

After preparing the model and appropriate optimization, the part will be produced.

If you need express design, the part will be created additive. At the customer's request, we can use CNC methods.

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The list of materials for production is available at the link:

DOWNLOAD

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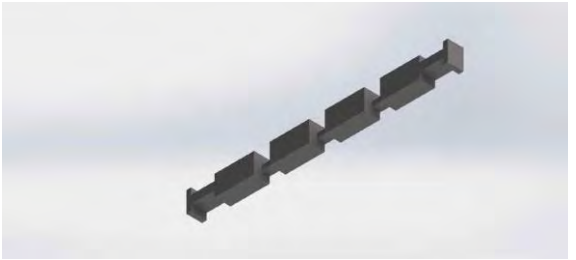
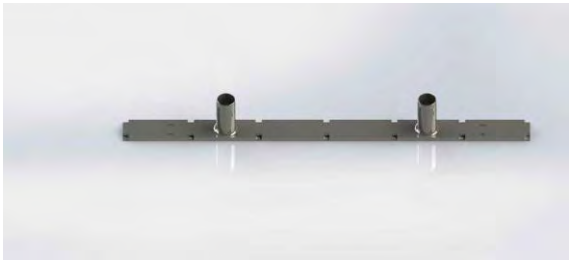
1 Reverse engineering - realizations










PRZYKŁADY NASZYCH REALIZACJI

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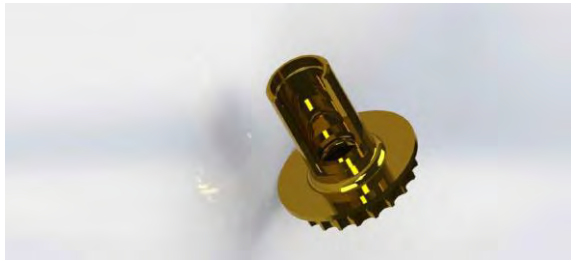
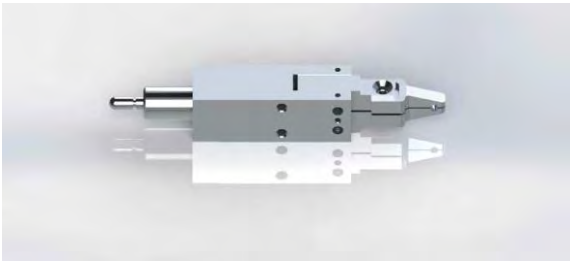
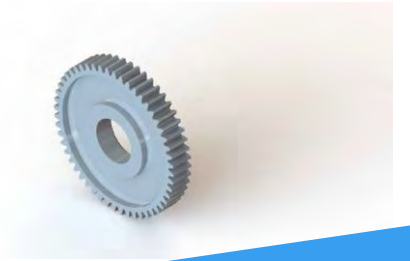
1 Reverse engineering - realizations







EXAMPLES OF OUR REALIZATIONS

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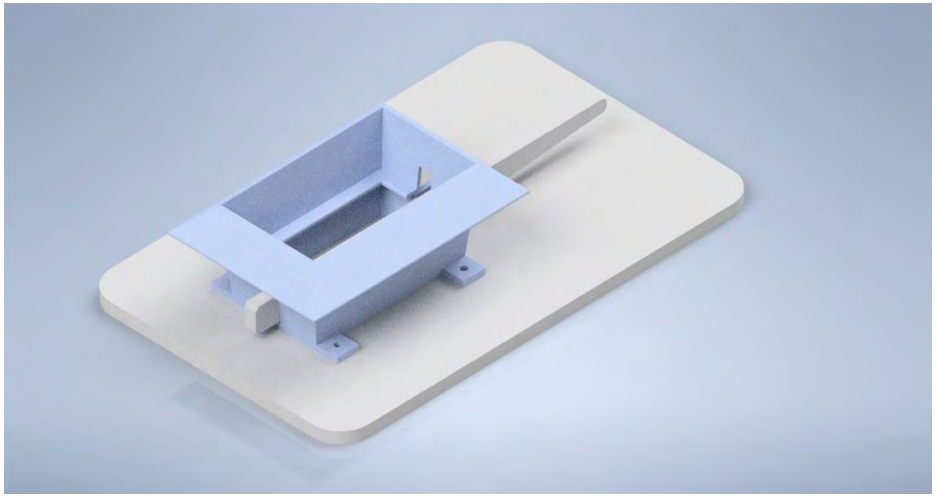
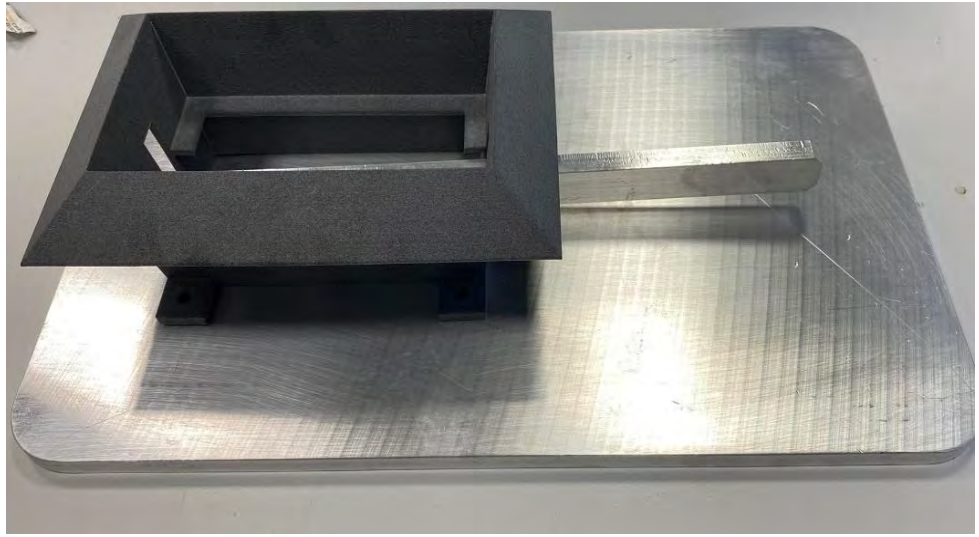
1 Part restoration - Nozzle for FUTABA grinder for HTL Strefa S.A

The nozzle has been recreated and optimized for production

This action was able to optimize the production time more than 3 times. The original nozzle consisted of 3 elements. After redesigning the topology, the whole thing could be manufactured as a whole.

1 Tool production - JIG tooling for Gillette Poland International Sp. z o.o.

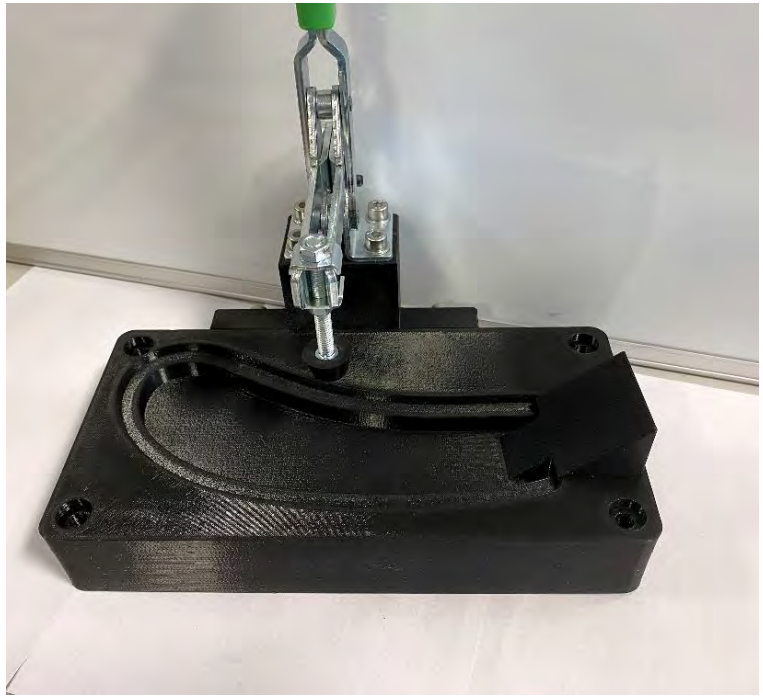




Topology optimization and production of tooling for the manual labeling operation were performer.

The body is made of PP by laser sintering technology. Base and lever made of PA9 – machined. The part was delivered the next business day.

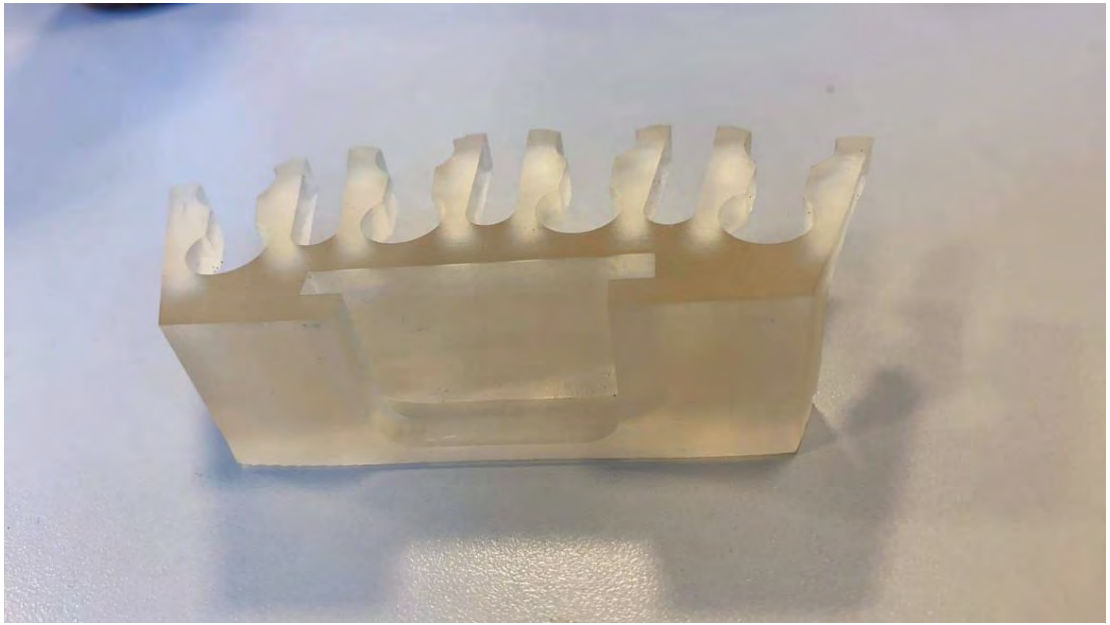
1 Tool production - manual upholstery device for Fritz Hansen Sp. z o.o



All elements were restored and replicated.

The body is made of PC-ABS using the FDM method. We delivered 3 tools to the client in less than 4 days. The photo shows the original model from the left. Model reconstructed on the right.

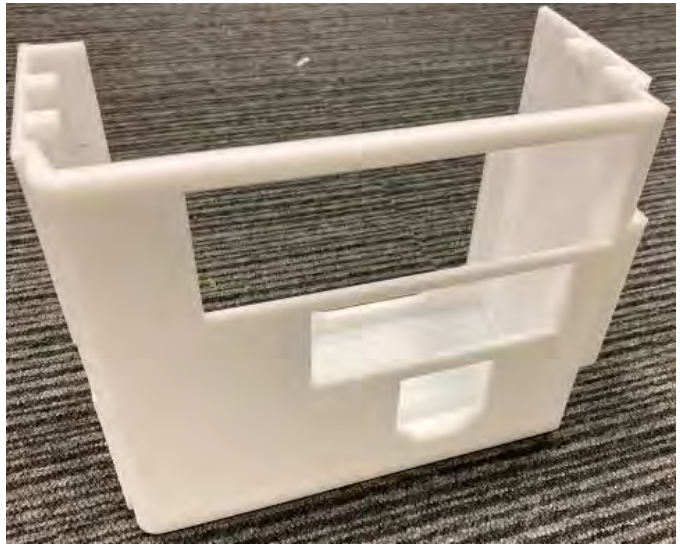
1 Production of parts - reconstruction of a robot gripper for Bioton S.A.



Advantage? The price of the original part is three times higher than the replacement. In addition, the waiting time has decreased from 30 days to 1 business day (lockdown period). The replacement does not differ from the original in terms of quality.

The original part was recreated to a 3D model. Then, production tests were performed.

1 Production of enclosures for a German client from the medical industry



The production of housings for DNA testing devices allows the product to be introduced to the market faster and start assembly for the first customers.

The production time is **80% faster than using conventional methods** such as injection molding. More than 100 elements were produced in **just 7 days.**

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1 Production of Christmas figurines for supermarket chains in Germany - a tycoon in the FMCG industry

Production of Christmas figurines for employees of chain stores in Germany.

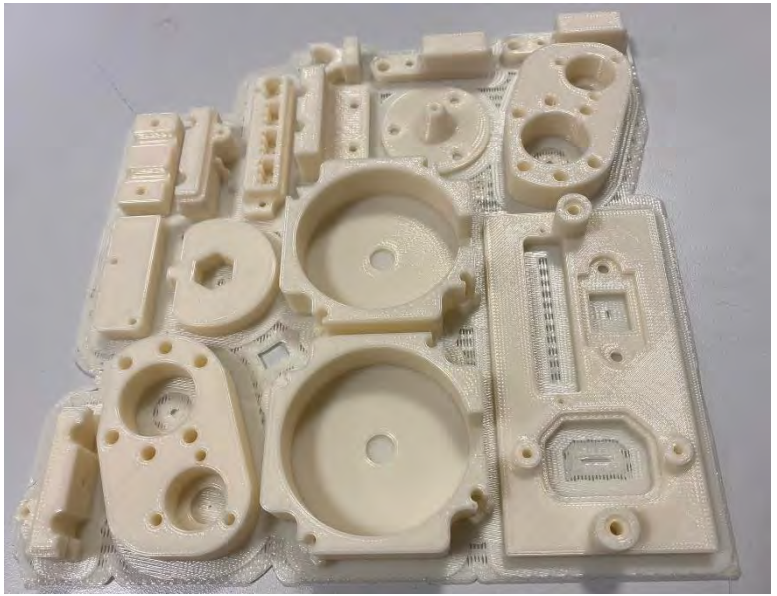
Our task was to produce 1000 figurines. In addition, the client entrusted us with the service of painting and mounting hooks, enabling hanging figurines, e.g. on a Christmas tree at home. The delivery time is 2 weeks.

1 Production of a prototype of an overlay intended for intubating patients for a startup from the Medical University of Lodz

Production of prototype overlays for intubating patients

Our task was to produce a prototype overlay intended for intubating patients. The overlay protects the patient's oral cavity from damage to the dentition during intubation and facilitates access to the ventilation tube. It was made in powder technology from flexible PU.

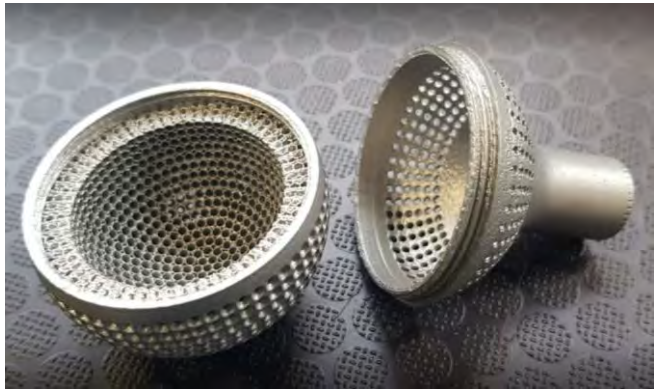
1 Production of mechanical parts for a customer from the vending industry



Production of a set of mechanical parts from PA12 for a vending machine.

Our task was to produce a set of mechanical parts for a patented internal mechanism in a vending machine. The parts were delivered the same day.

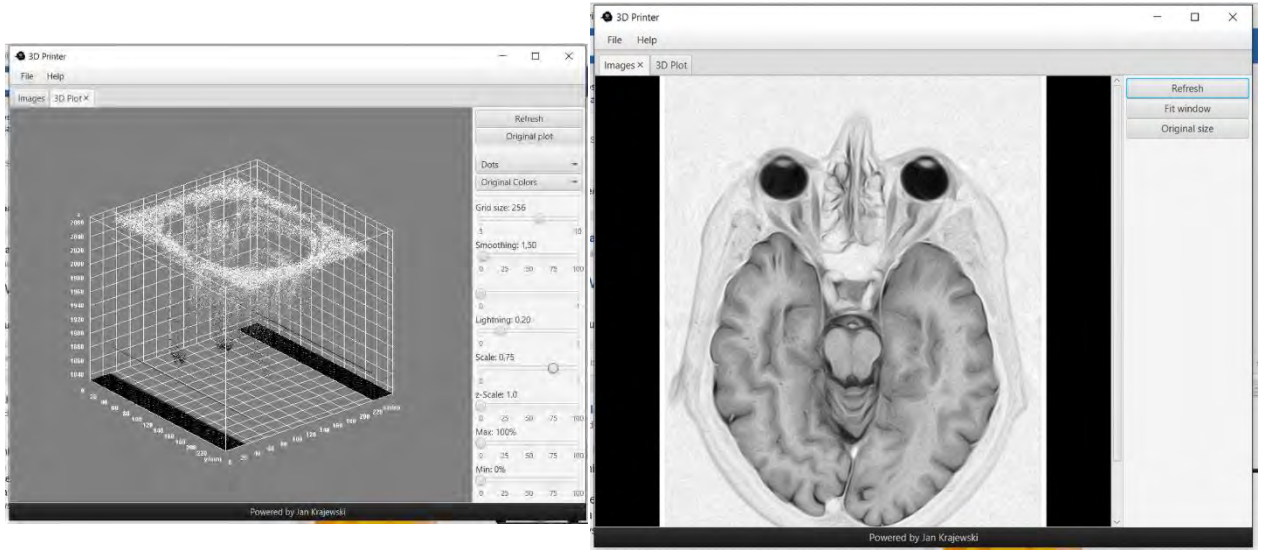
1 Production of parts - design and production of a prototype of a sound overlay suppressing noise with the 3D printing technology from metal



Research and development work consisted in maximizing the possibility of using 3D metal printing in the design of an overlay suppressing sound noise of a specific frequency.

The sound overlay is made of 316l steel by 3D printing. The first tests showed the ability to suppress noise during recording. A "honeycomb crown" with appropriate parameters was used for this.

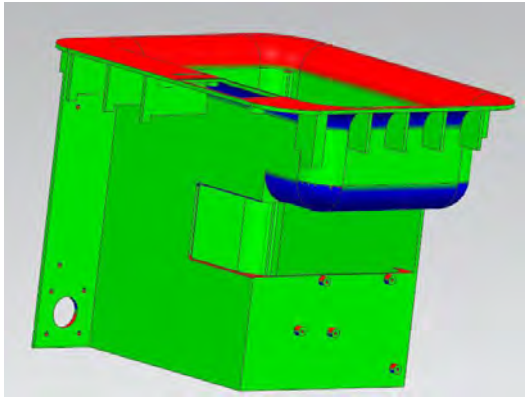
1 3D printer prototype for titanium and ArtMED software - designing a set for generating X-ray images from DICOM documentation



Research and development work consisted in designing software for generating 3D models based on DICOM images. Thanks to this method, the generated models could be sent to a 3D printer in order to print the finished bone implant.

The sound overlay is made of 316l steel by 3D printing. The first tests showed the ability to suppress noise during recording. A "honeycomb crown" with appropriate parameters was used for this.

1 Mass production of plastic components - injection mold design, DFM analysis and target production.



The service consisted in designing, manufacturing an injection mold and producing 10,000 items on request.

The company plans to develop its production capabilities and is looking for business partners who would like to produce their elements in our company.

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Our customers:

THE LARGEST COMPANIES TRUST US

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