

The background of the flyer is a collage of industrial images. In the top right, there's a close-up of a hexagonal mesh structure. In the bottom right, there's a 3D printed metal part with a flange and a hole, with the AMTH logo embossed on it. A green diagonal stripe runs from the bottom left towards the center. The AMTH logo is positioned diagonally across the top right, with 'AMTH' in green and 'Additive Manufacturing Technology by Hydropress' in black below it.

AMTH

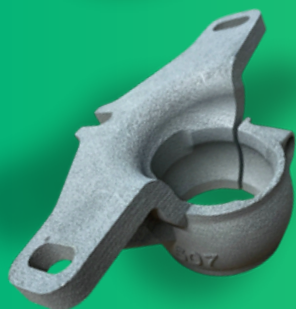
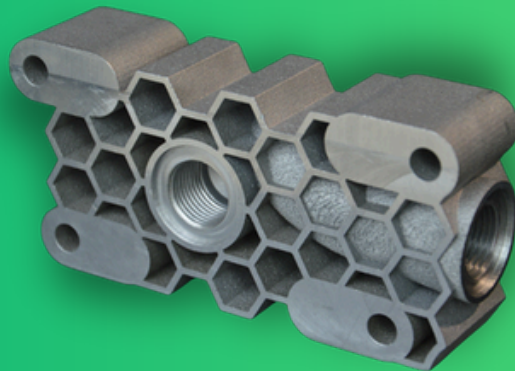
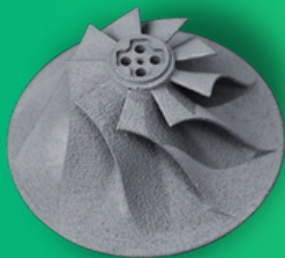
Additive Manufacturing
Technology
by Hydropress

3D PRINTING SERVICES

IN METALS AND POLYMERS

FOR INDUSTRY
AND RESEARCH INSTITUTIONS

Which 3D PRINTING technologies do we use?



DMLS /SLM

3D printing in DMLS technology allows for the production of metal components with high precision and strength. As a result, it makes it possible to manufacture parts with optimal geometries that would be difficult or even impossible to achieve using conventional machining processes.

materials:

Aluminium alloys,
tool steels,
stainless steels,
nickel alloys, titanium alloys

This technology is already used in the aerospace, automotive, medical, and energy industries, where precision, reliability, and quality are essential. DMLS is also an ideal solution for single-unit and small-series production, as well as for prototyping functional metal components..

SLS

3D printing using the SLS method makes it possible to create durable and precise components without the need for supports. It works perfectly for single-unit and small-series production, as well as for manufacturing complex shapes that are difficult to obtain with other techniques.

This technology is used in the automotive, aerospace and medical industries, as well as in the design of consumer products and functional prototypes. Thanks to SLS, even the most demanding projects can be carried out quickly and cost-effectively.

materials:

The most commonly used are polyamides (such as PA12, PA11), which can additionally be reinforced with glass or carbon fiber to increase stiffness, and with the addition of materials such as thermoplastic polyurethane they are used for the production of flexible components.



FDM

3D printing in FDM technology is another manufacturing method that makes it possible to quickly produce both single items and small series of components. It allows for the preparation of test models, utility parts, or promotional products (marketing applications).

This solution works well in many fields - from industry and science to architecture and home applications.

materials:

PLA, ABS, PETG, TPU, ASA, nylon PA



Who is already using **3D PRINTING**?



**PRODUCTION
AND
MAINTENANCE**



AUTOMOTIVE



**MARINE
INDUSTRY**



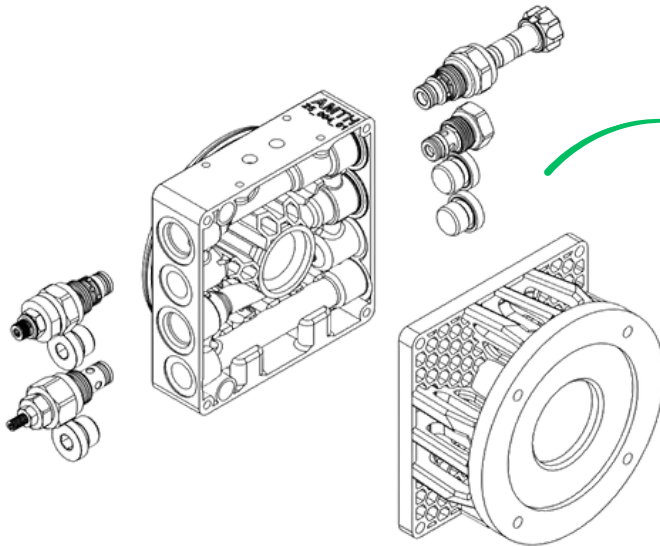
TRANSPORT



AEROSPACE

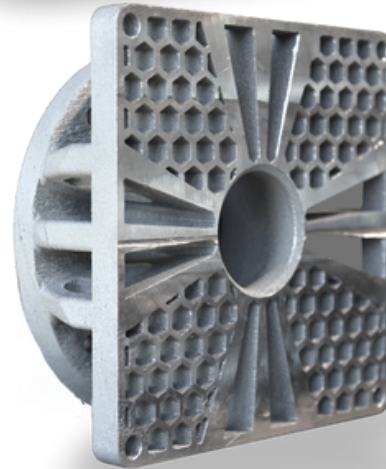
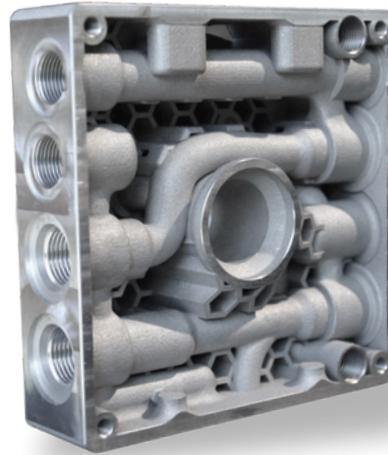


ENERGY



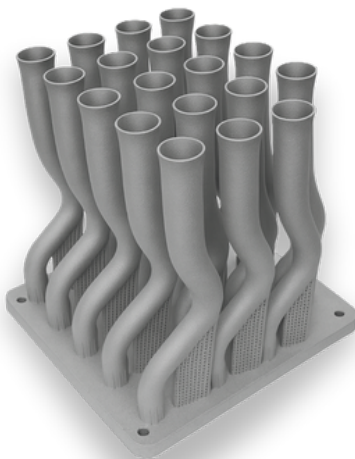
hydraulic block

design of the block and mounting,
printed in aluminium (AlSi10Mg),
taking into account additional
functionalities, geometry optimization,
and weight reduction



fluid and gas transfer components

flow optimization, geometry
adjustment, and reduction
of the number of connections
through the integration of several
elements into a single structure,
while maintaining operational
parameters



Power transmission components

complex structures and
shapes, time-consuming
and difficult to achieve
using conventional methods



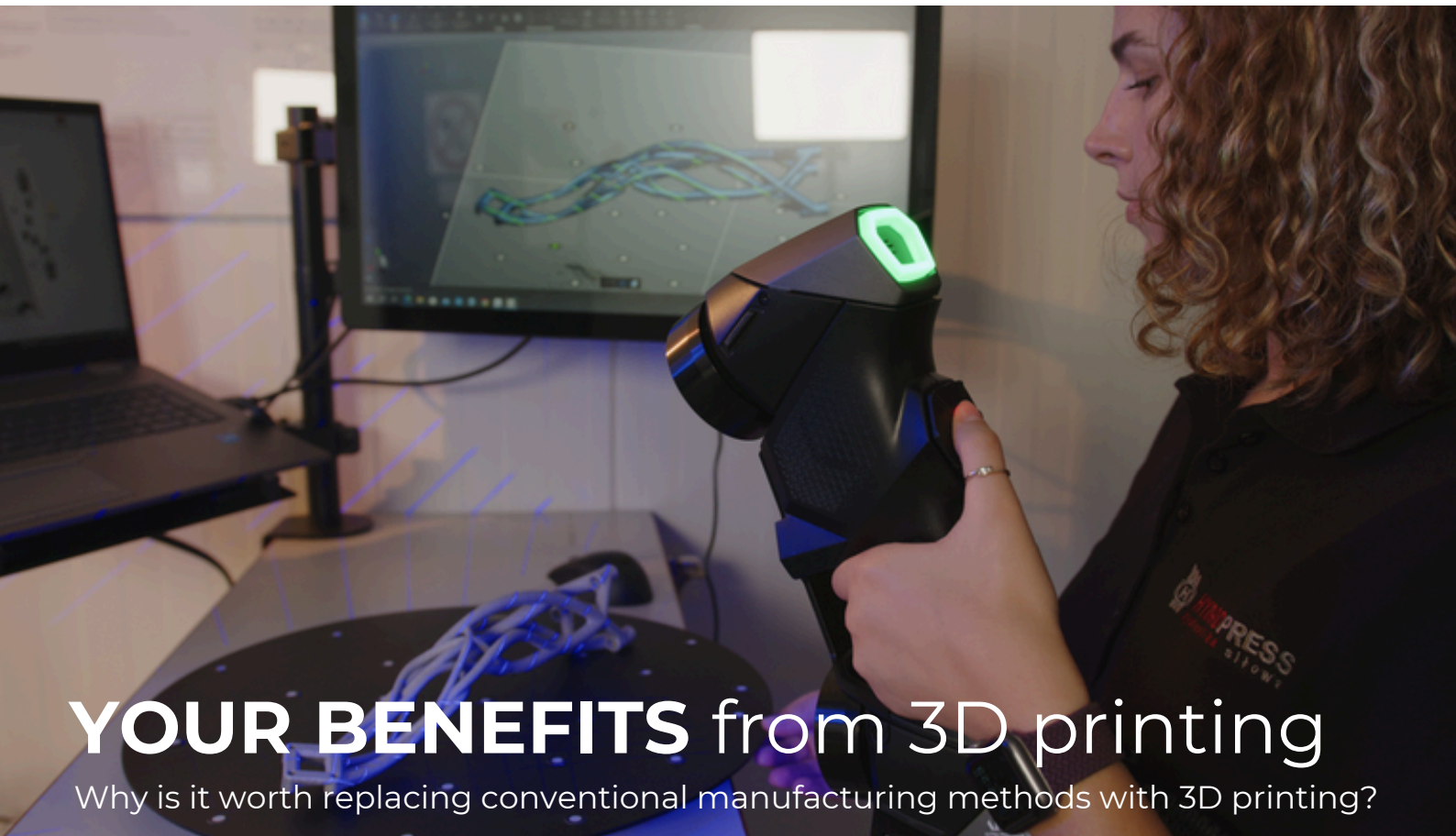
CASE STUDY

Rapid **PROTOTYPING**

Frequent design changes? Long lead times for prototypes? No technical documentation?
Tight deadlines?

Sounds familiar?  Call or write to us!

We will find a solution to fulfill your requirements.



YOUR BENEFITS from 3D printing

Why is it worth replacing conventional manufacturing methods with 3D printing?

- | | |
|--|---|
|  <p>Reduce the cost of small-batch production compared to standard manufacturing methods such as machining (shape optimization) or casting (high mold costs).</p> |  <p>Shorten the lead time for prototypes, even with numerous design changes, and quickly obtain spare parts and single-unit products.</p> |
|  <p>Shorten supply chains, optimize inventory management according to the “Just in Time” principle. All this while maintaining full confidentiality of your order data.</p> |  <p>With our expert design and production support, you will bring new products to market faster.</p> |



Complex geometries

Weight reduction



Design optimization

Ecology



Individual approach

EXAMPLES

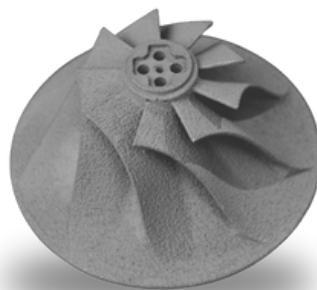
of 3D printing applications

At AMTH, we support our clients in achieving their business goals by optimizing costs and lead times of projects and produced prototypes.

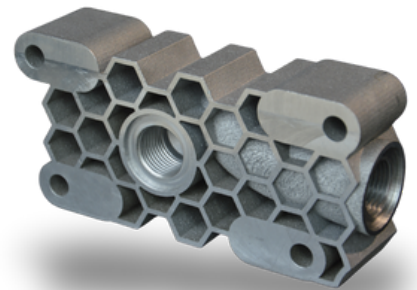
We use our experience in the field of hydraulic systems and technological know-how to provide full support from AMTH engineers - from consultation, through design, to manufacturing and post-processing.



**STRUCTURAL
COMPONENTS**



**AUTOMOTIVE
AND
INDUSTRY**



**HYDRAULIC
SYSTEMS**

**CONVENTIONAL
MANUFACTURING
METHOD**



casting,
subtractive
machining

**TIME REQUIRED
FOR
CONVENTIONAL
MANUFACTURING**



8 weeks
(includet design)

**TIME REQUIRED
FOR 3D PRINTING**



2 weeks
(includet design)

**MATERIAL
EXAMPLES
FOR 3D PRINTING**



aluminium alloys,
tool steels,
stainless steels

organic shape,
designed
generatively



casting,
subtractive
machining



8 - 10 weeks



3 weeks



aluminium alloys,
tool steels,
stainless steels,
nickel alloys

complex geometry,
time-consuming
and difficult to achieve
using conventional
methods



casting,
subtractive
machining



12 weeks



3 weeks

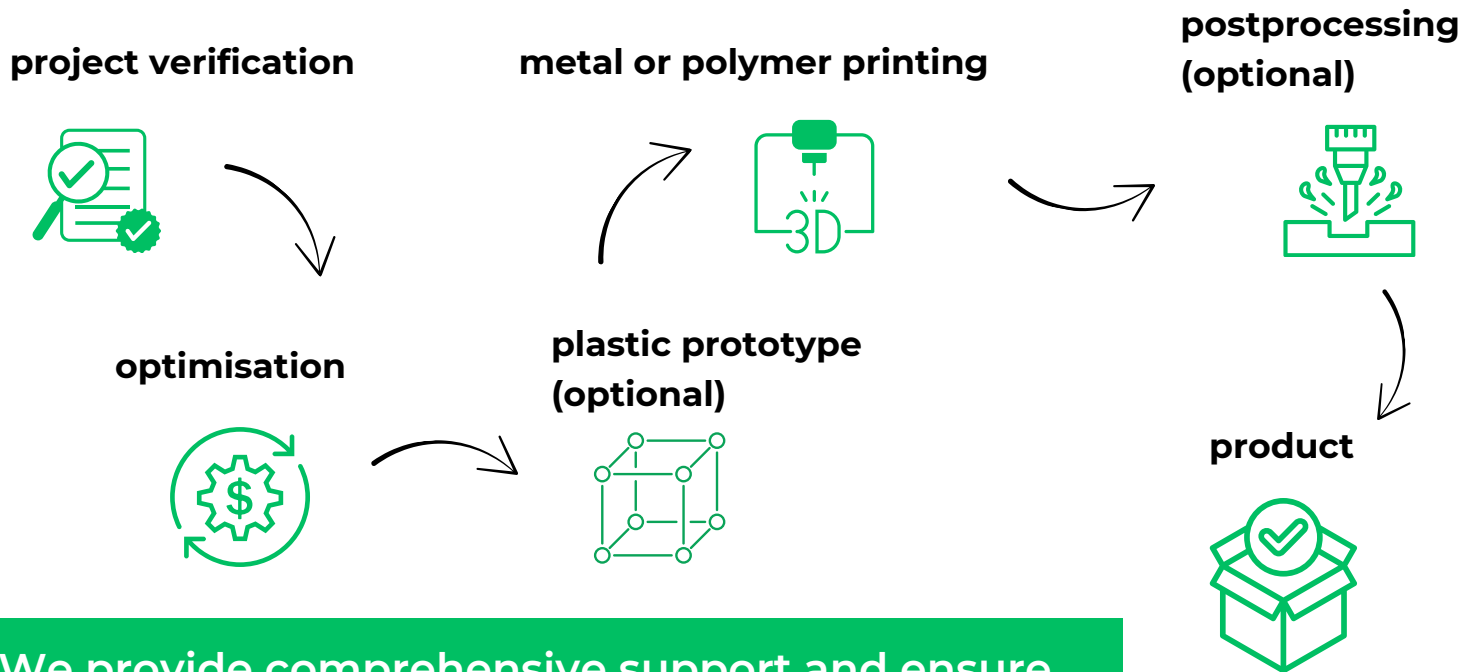


aluminium alloys,
tool steels,
stainless steels

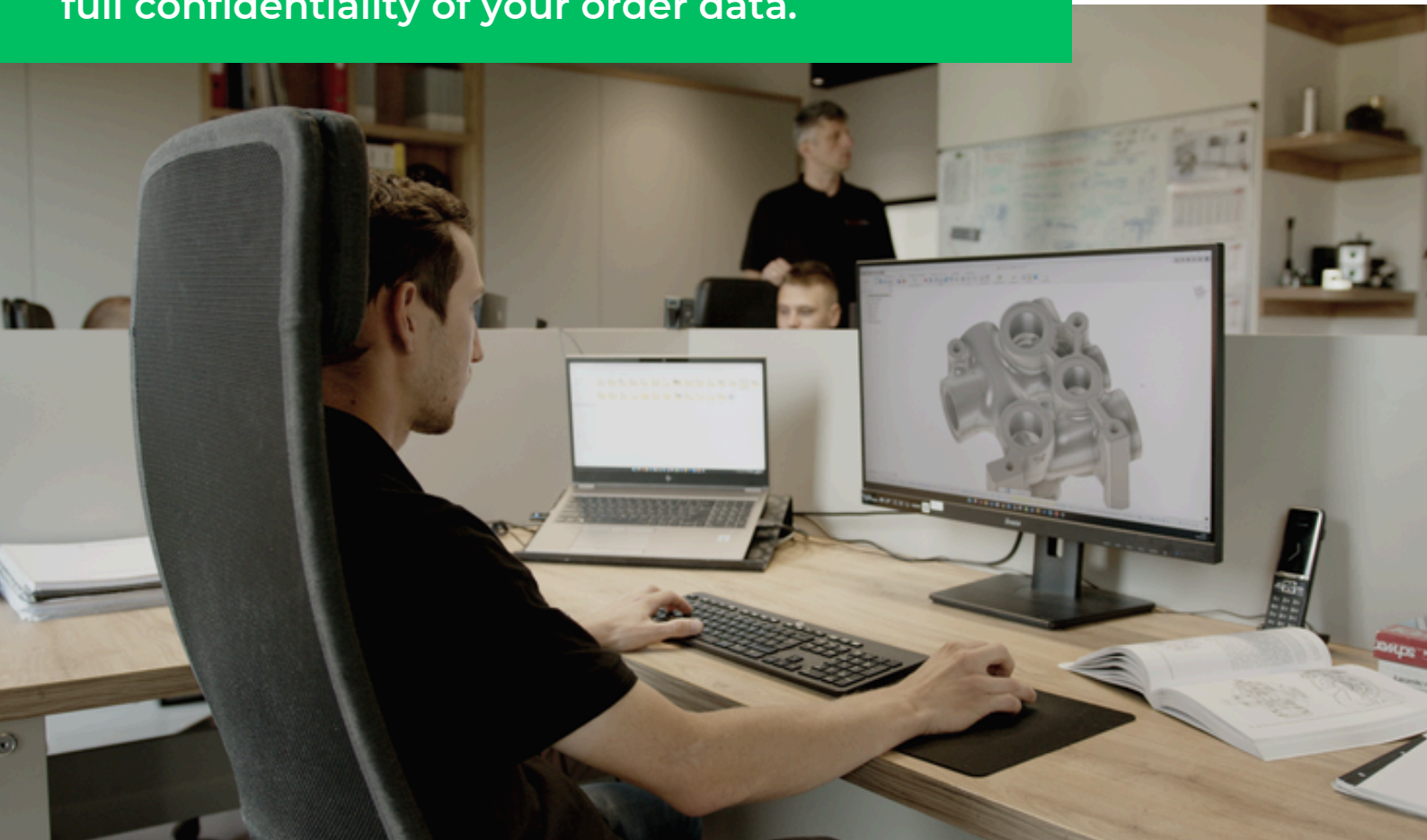
flow optimization,
weight reduction

What does **WORKING ON A PROJECT** look like?

The AMTH engineering team offers comprehensive support at every stage of project implementation: from concept, through design modifications, to quality control of the manufactured components. Depending on the client's individual needs, we present an appropriate action plan.



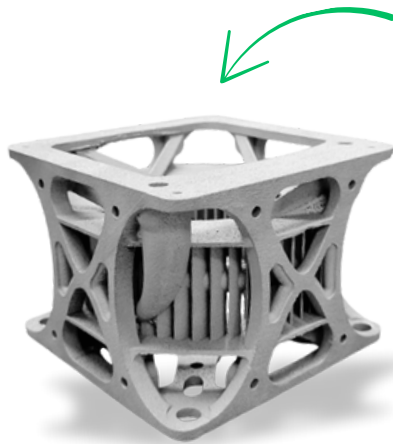
We provide comprehensive support and ensure full confidentiality of your order data.



Why should **you choose us?**

We think and act comprehensively!

The Hydropress Research and Development Center has the largest metal 3D printing system in Poland, as well as equipment for comprehensive support in testing and post-processing of manufactured products.



METAL 3D PRINTING SERVICES

- DMLS / SLM

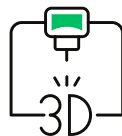
RESEARCH AND TESTING

- material and coating composition analysis
 - spark spectrometry
 - X-ray spectrometry
- metallographic microscopy
- endoscopy
- hardness testing
- roughness testing
- corrosion testig

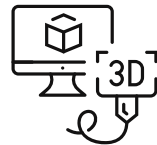


POLYMER 3D PRINTING

- SLS
- FDM



3D SCANNING



SURFACE FINISHING

- sandbasting
- glass bead blasting
- grinding
- electroless nickel-phosphorus plating
- electroplating
- coloring



CNC MACHINING

- milling
- turning
- electroerosion



HEAT TREATMENT

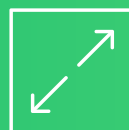
- chamber furnace temperature up to 1300°C



PROCESS CONTROL



SHORT LEAD TIMES



LARGE 3D PRINTING WORKSPACE



WIDE RANGE OF MATERIALS

**AMTH OPERATES THE LARGEST
METAL 3D PRINTING SYSTEM IN POLAND:**



EOS M 290

metal 3D printing

build volume:
250 x 250 x 325 mm

EOS M 400

metal 3D printing

build volume:
400 x 400 x 400 mm



FUSE 1+ 30W SYSTEM

Industrial polymer
3D printing system

build volume:
165 x 165 x 300 mm

Get to Know Us



AMTH
our services

www.amth.pl/en-gb

YouTube / Hydropress
Power Hydraulics

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AMTH

Additive Manufacturing
Technology
by Hydropress