

PROTOTYPING - PROJECT VERIFICATION: 3D PRINTING OF TRANSPORTATION TRAY

COMPANY

Geo Globe Polska is a company from the plastic processing industry, specialized in vacuum thermoforming of thermoplastic materials.

PROJECT

Creation of the prototype of a transportation tray with the use of 3D printing technology.

GOALS

1

Reducing the time of prototyping

The process of constructing prototype molds is very long and consists of many stages. Production of the first model is the basis for serial production, therefore each change in the prototype made with the use of traditional machines prolongs the lead time.

Reducing the time of prototyping from a few weeks to a few days with the use of a 3D printer.

2

Verification of the design and adequacy of the prototype production

Industrial 3D printers make possible to create details with high accuracy and tolerances. Geo Globe Polska could efficiently verify the design assumptions, including checking the fit of the detail.

The structural assumptions were checked at the planning stage before forming the prototype itself.

3

Speed-up of a new production line programming

Dedicated trays are finally used to secure the finished parts during the production process. Creating 3D printed prototypes allow to speed up the programming process of industrial robots located at production lines.

The implementation time of a new line in a car plant was reduced up to three weeks.

PROJECT DATA

| | |
|-------------------|---------------------------------------------------------------------------------------------|
| 3D print | The prototype of a transportation tray used in production lines in the automotive industry. |
| Use | Verification of the design and adequacy of the prototype production. |
| Dimensions | 580 x 400 x 40 |
| Material | ABS |
| 3D Printer | 3DGence INDUSTRY F340 |

The 3D printed part of the prototype made of ABS material used to validate the production process of the transportation tray.



Analysis of the 3D model and achievement of the assumed dimensional tolerance.

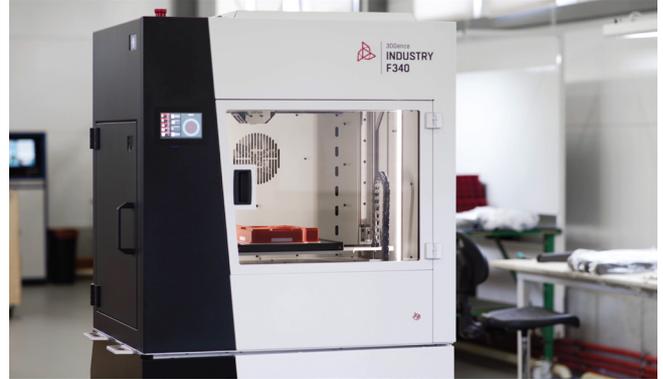


The industrial 3D printer allows obtaining parts with required tolerances.



The use of 3DGence INDUSTRY F340 enabled Geo Globe Polska to shorten the time of implementing the prototype into production, reduce project lead time and minimize the costs.

The transportation tray was 3D printed with the use of 3DGence INDUSTRY F340.



Part of the transportation tray during the 3D printing process.



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Using 3D printers we can verify the design and accuracy of the prototype. We are able to eliminate possible mistakes, which could lead to the necessity of making another, expensive prototype form.

3D printing is a much faster technology for making prototypes with complex geometry than conventional methods such as machining or milling.

Zbigniew Chrobok, Process Engineer at Geo Globe Polska



3DGence

3DGence is a Polish manufacturer of 3D printers specializing in the development of new technological solutions and the implementation of 3D printing in industrial enterprises.

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