



3D print of the housing used in the agricultural vehicle

Company

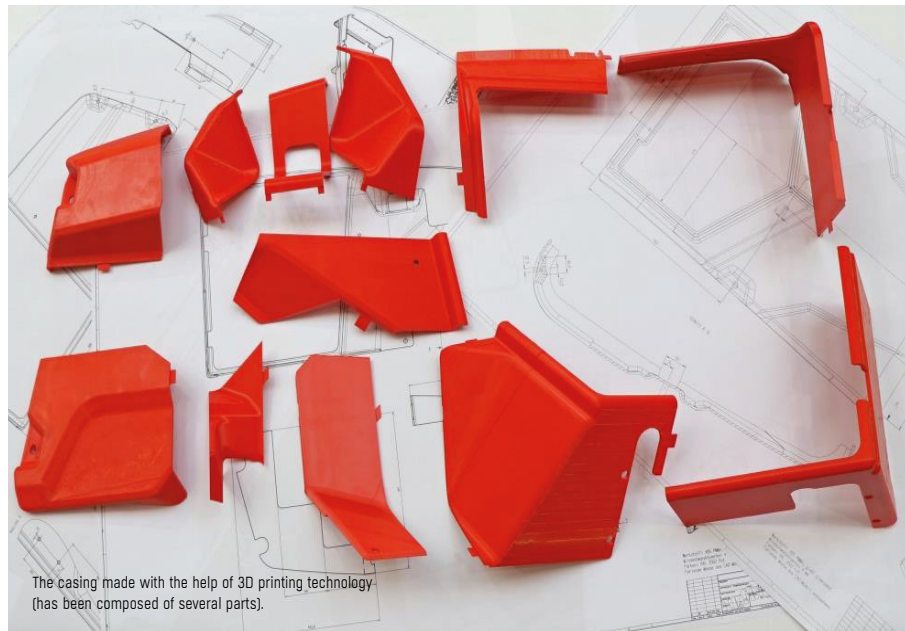
REFORM is an Austrian manufacturer of specialized vehicles for agriculture. Annually produces about 600 vehicles and 700 devices with accessories.

Why 3D printing

Reform was looking for a solution that would help it increase production flexibility and accelerate the introduction of new machine models to the market. The growing demand for new elements, including the production of prototypes with complex geometry, has allowed the company to open itself to the introduction of new technology. 3D printing turned out to be a very important step forward not only for the entire company, but most importantly, for the entire manufacturing process.

Project

The use of 3D printing technology to accelerate work on the new generation of vehicles.



Project data

3D print	Housing
Material	ABS
Printer	3DGence INDUSTRY F340

	3D Printing	Milling
Time	3 days	till 28 days
Cost	66 EUR	1220 EUR

Goals:

1 Shortening prototype production time

The time window for the production of prototype parts is usually very narrow. Moreover, most of the new elements are subject to structural modification at the molding stage. Ordering new parts to external companies is usually associated with a long lead time, which can take up to 3-4 weeks. Making corrections further extends the waiting time. The company wanted to produce parts as soon as possible, verify their geometry and perform functional tests.

Screen reader support enabled.

The use of a 3D printer in the company has allowed to accelerate the implementation of the new project. In just a few days the manufacturer could test 3D printed parts on prototypes of his vehicles.

2 Making parts with complex geometry

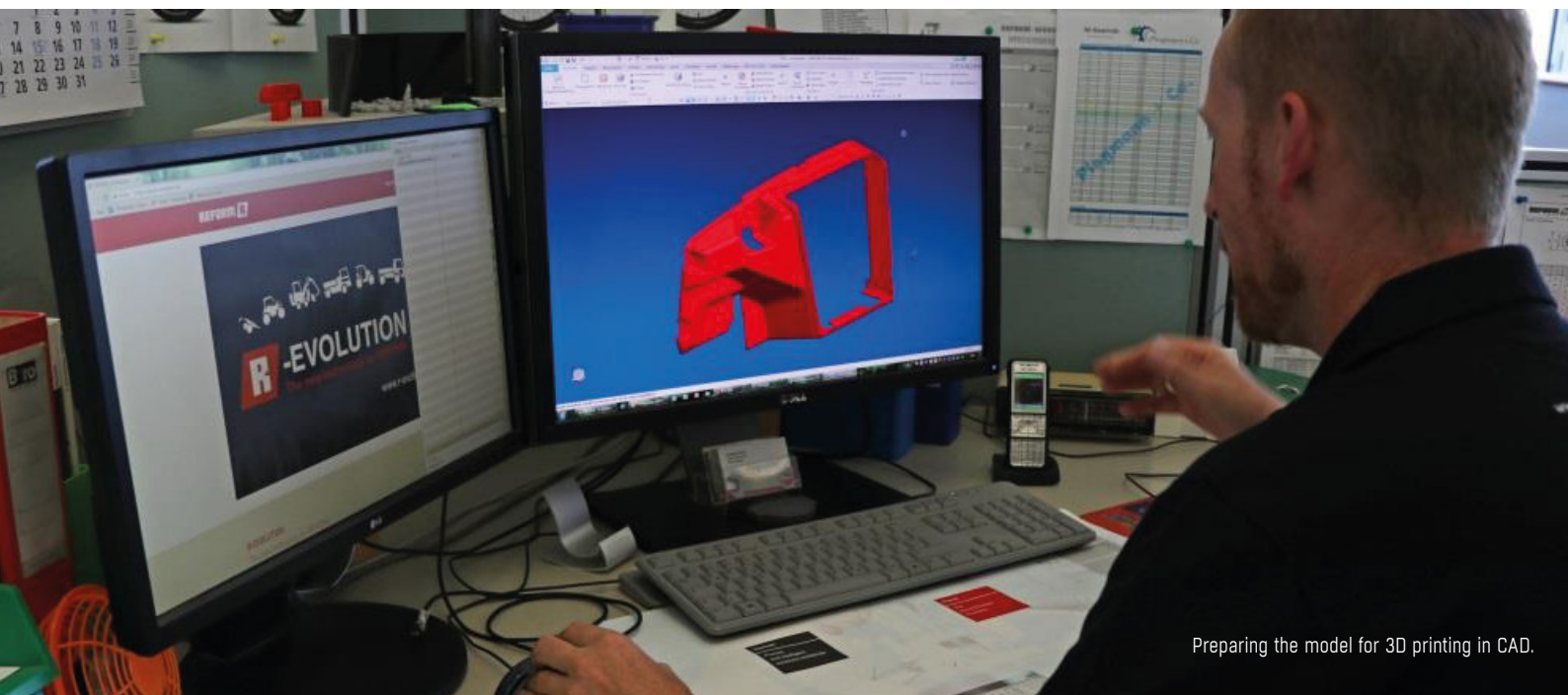
The company is increasingly making plastic components with very complex geometry. Investment in tools for thermoforming prototypes may be at risk due to numerous design changes.

The use of FDM technology allows the production of elements with even the most complex shapes.



Advantages of 3D printing at REFORM

- low production costs: the costs incurred are only the cost of the material and electricity
- time saving: the 3D printer can work 24 hours a day
- the ability to quickly modify prototypes
- no need to use third-party services



Preparing the model for 3D printing in CAD.

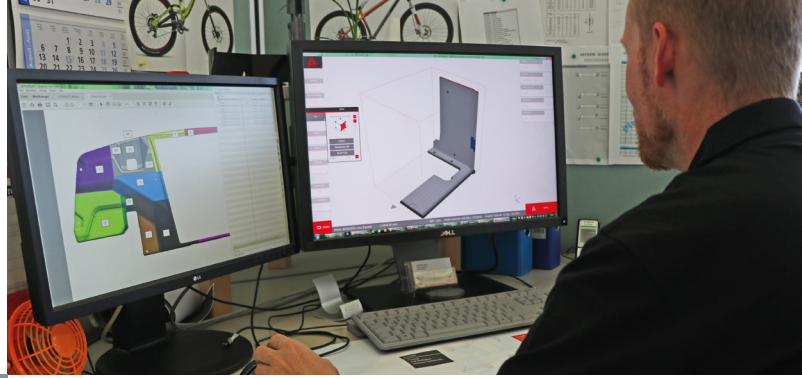
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Using our own 3D printer, we have the ability to make the first prototypes of such parts of our vehicles as armrests or joystick handles. The range of possibilities of using 3D printing in our production processes is unlimited. What's more, some of the solutions can be tailored to the needs of our customers, small-lot production of dedicated handles is no longer a problem for us.

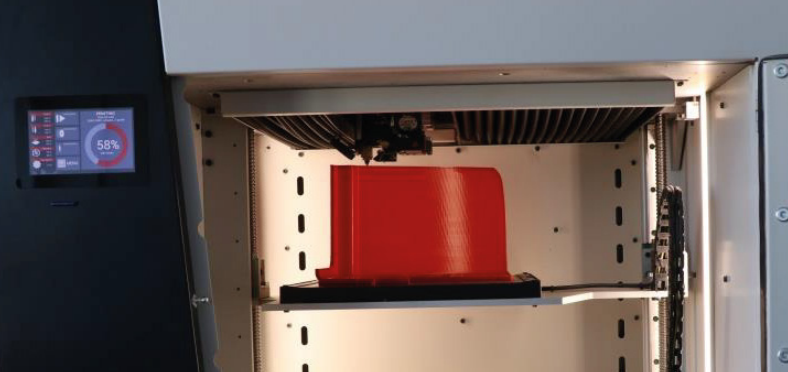
*Now we can be very flexible in the production of new parts. What's more, we have the ability to react immediately in the event of structural changes. **Time plays a very important role in the production of new vehicles. We are proud that the 3DGence printer allows you to use Industry 4.0 solutions in all REFORM plants.***

1. Preparing the model for 3D printing in CAD.

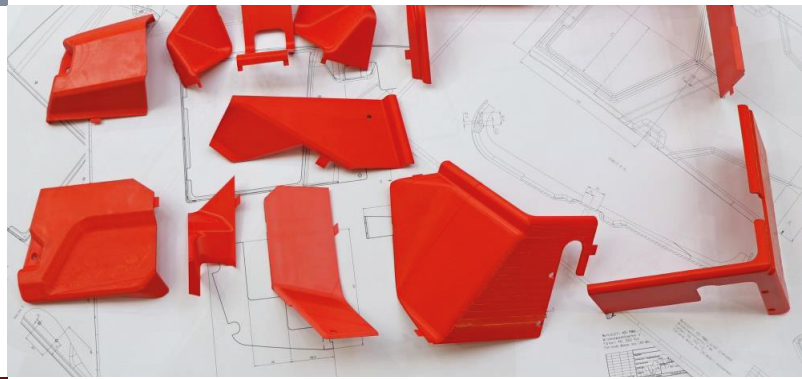
2. Preparation of model parts for 3D printing in 3DGence Slicer 4.0 software.



3. The entire build volume of the 3DGence INDUSTRY F340 (260 x 340 x 340 mm) was used for the 3D printing of the housing.



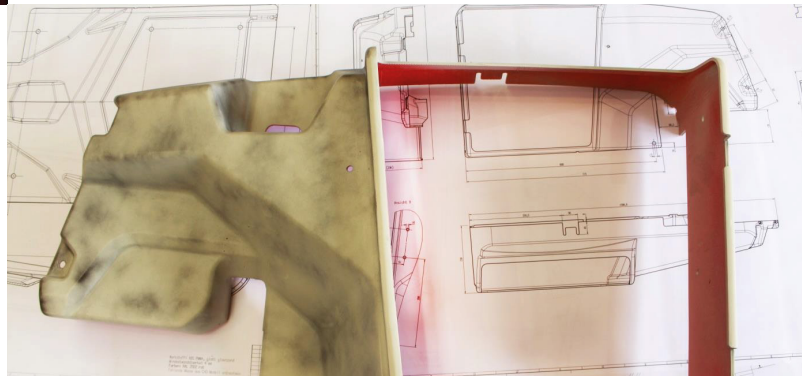
4. All parts of the housing were 3D printed with the use 3DGence INDUSTRY F340.



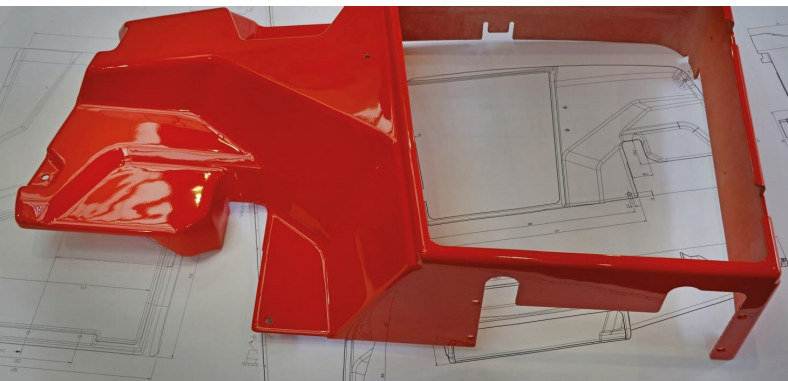
5. All housing parts have been joined together using a special plastic adhesive.

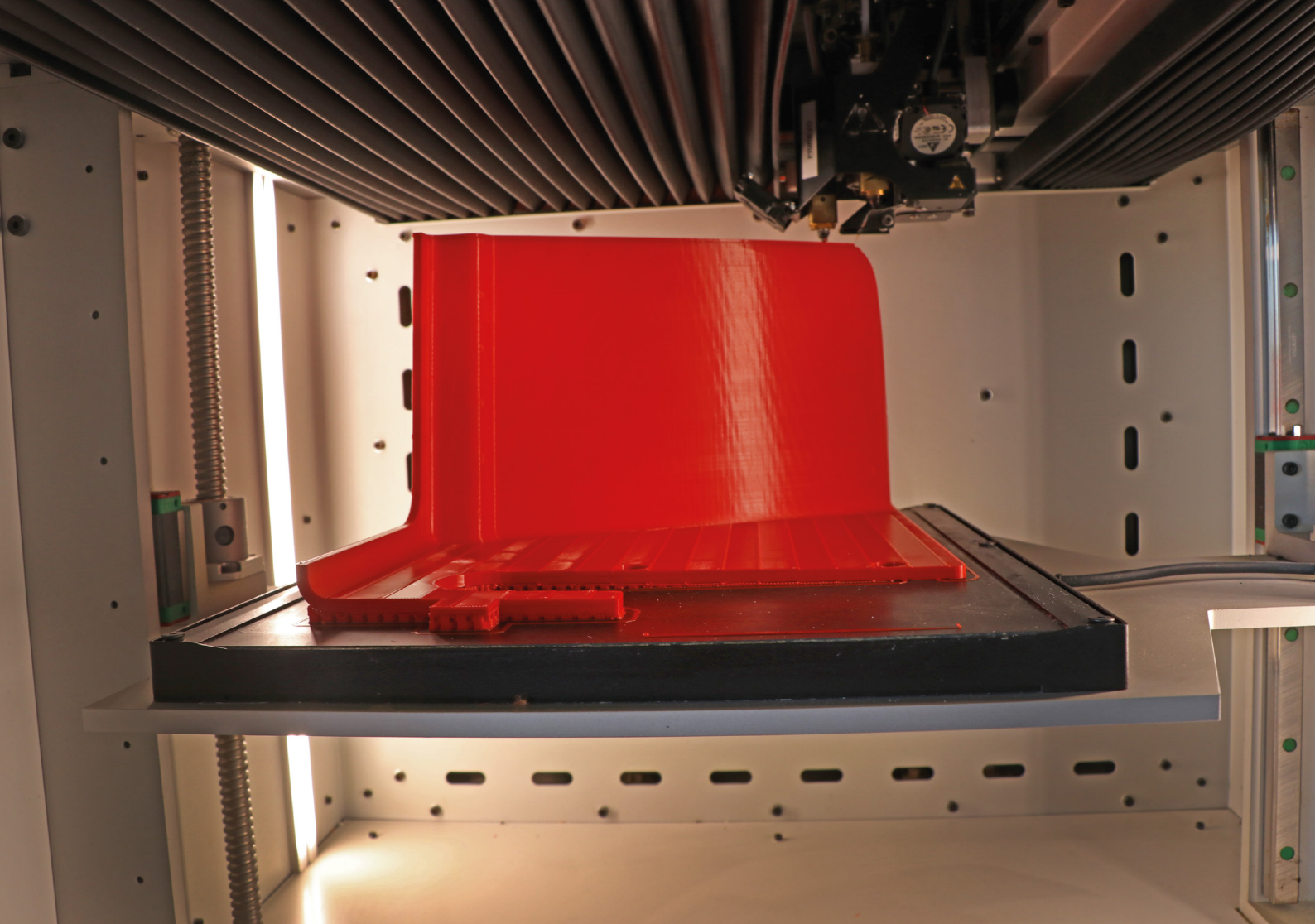


6. The 3D printed housing has been processed, the filling process has allowed to obtain a smooth surface for the model.



7. The last stage in the production of the housing was lackering.





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3DGence is a progressive manufacturer of industrial, high-performance 3D printers, and a provider of comprehensive and innovative 3D printing solutions including professional accessories and engineering-grade materials.

3DGence Sp. z o.o.
Przyszwice Office
ul. Graniczna 66
44-178 Przyszwice

Sales department: +48 32 438 98 91
Support: +48 32 438 98 64
E-mail: cs@3dgence.com
Services: 3dservices@3dgence.com