

nexa3D®

CASE STUDY

Optimiz3D Uses the NXE 400 to Deliver Prototypes in One Day and Eliminate Tooling Costs



ABOUT

Optimiz3D is a start-up contract manufacturer with the plan to not only offer traditional CNC machining services, but to also offer higher value manufacturing and fast turnaround times. They do this by specializing in both 5-axis CNC manufacturing and 3D printing services. Their services include on-demand production of prototypes, short-run manufacturing as well as custom production applications.

Founder, Miha Koprivec began his career



Customer

Optimiz3D

Industry

Contract Manufacturer,
Machine Shop Services

Product

3D Printer NXE 400

Applications

Prototyping, Small Series
Production, Custom Production

Advantages

- Over €7,500 cost savings when compared to injection molding
- Lead time reduced from weeks to days
- Small series production with ultra-fast print speeds

Learn More

www.optimiz3d.si



The NXE 400 has given our business and our customers a real advantage. They are able to evaluate their designs faster, modify their designs easier, and even run small series production with us at record speeds.

**– Miha Koprivec
Director, Optimiz3D**



in a family business owned by his father. This company was a part supplier and manufacturer of technical products made of elastomers and thermoplastics, mainly serving the automotive industry. “I saw an opportunity for 3D printing in this type of industry. It was not common, but I saw a real value in 3D printing for serial production of parts and not just product design,” says Koprivec. “That’s where my interest in learning more about 3D printing for production really began to take off.”

CHALLENGE

Contract manufacturing — especially for smaller operations — is a game of profitable job portfolio management. The margins between competitive and non-competitive, successful, and unsuccessful are thinner than the metal chips the machines throw. Uncertainty and uniqueness define the job shop. Product mix in the factory can vary from week to week, even day to day, and volumes fluctuate widely.

Optimiz3D saw the opportunity to transform traditional contract manufacturing by integrating highly productive AM into their

process – enabling low-overhead, fast response and flexible manufacturing. They knew they could ensure flexibility and profitability with the right 3D printer. Their goal was to maximize productivity and yield while also producing high-quality parts in less time with high machine utilization. Additionally, by being able to provide customers flexibility in the types of jobs, materials, and parts, it would give them more opportunity to capture new business.

In order to find the ideal printer for the new business model. Optimiz3D worked directly with 3DZ, one of the largest authorized dealers of 3D printers in Europe, to identify a 3D printer that would help them gain the

competitive advantage they needed in order to make their business stand out. 3DZ's decades of experience in the 3D industry, proved really helpful when helping Koprivec decide on an industrial printer that fit for his business.

After evaluating various 3D printers with 3DZ, Koprivec chose Nexa 3D's NXE 400 based on its printing speeds and the size of its build envelope. "I mainly collaborate with companies that need prototypes for design evaluation," says Koprivec. "It's all about having options, and the agility and flexibility to produce parts that makes sense for their situation. The NXE 400 enables us to reduce lead times and offer more cost-effective options."

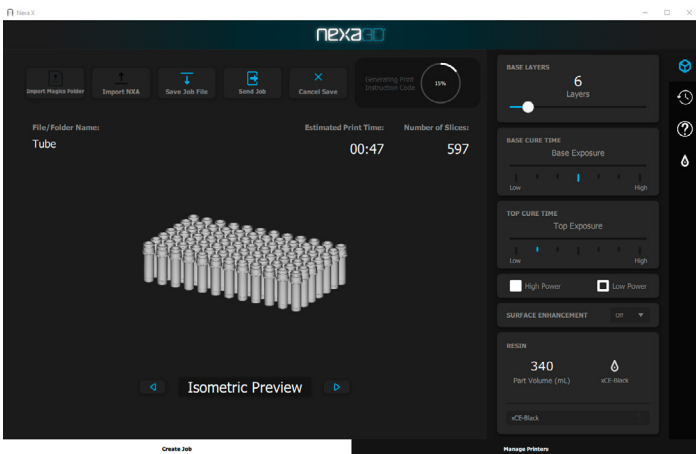


SOLUTION

After purchasing the NXE 400, Koprivec quickly realized how big of an impact it made to be able to deliver a prototype within one day instead of weeks. “Its given our business and our customers a real advantage. They are able to evaluate their designs faster, modify their designs easier, and even run small series production with us at record speeds,” Koprivec says.

In one case, working with a customer in the machine production industry, Optimiz3D was able to offer their 3D printing services as a solution over injection molding, saving the customer a significant amount of time and money.

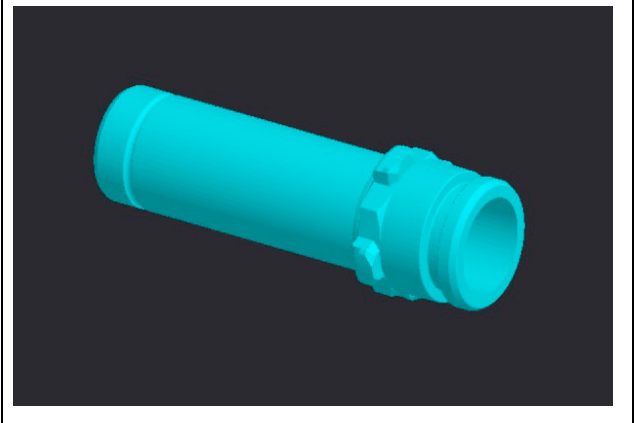
“The part is a tube diameter 15mm and 60mm long,” Koprivec says. “Normally this part would be injection molded out



of PA6GF15 material. For this specific part we used xCE-Black material which has excellent mechanical properties and high temperature resistance, as this was the customer’s requirement. The main benefit of 3D printing in this case is the tooling cost, which is zero, thus lifetime project cost is smaller than in the case of injection molding.”

In addition to the cost savings, other benefits included a fast production start and the flexibility to implement later design modifications without expensive tooling changes.

Part description: Tube diameter 15mm, 60mm length		
Process	Injection molding	3D printing
Process parameters	2 cavity mold, 25s cycle time	84 parts/plate, 45min printing
Material	PA6GF15	Xce Black
Per part cost	0,11 €	0,93 €
Tooling cost	24.000 €	- €
Yearly demand [pcs]	4000	4000
Project lifetime [years]	5	5
Project costs	26.200,00 €	18.600 €



The cost per single 3D printed part is higher, but by eliminating the need for tooling, the overall lifetime project cost is lower.



Upgrade Additive Manufacturing



NXE 400

See what the World's Fastest Industrial 3D Printer can Do For Your Business.

With an unprecedented 16L build volume measuring 10.8 in x 6.3 in x 15.7 in (27.5 cm x 16 cm x 40 cm), intelligent optimization, and Nexa3D's revolutionary patented LSPc technology, the NXE 400 is the perfect printer for any application.

Learn more at www.nexa3d.com.

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