

nexa3D®

CREATED3D
ADDITIVE MANUFACTURING SOLUTIONS PROVIDER



CASE STUDY

From Design to Production in Under Ten Hours



To help British manufacturers reduce lead times, lower costs and achieve greater design agility, end-to-end additive manufacturing (AM) solutions provider CREAT3D has supplied PAKT3D with a Nexa3D NXE400. The ultrafast polymer 3D printer provides PAKT3D's customers with a competitive edge and is already delivering great results.

BACKGROUND

CREAT3D works in partnership with its customers to provide streamlined and efficient manufacturing, design and engineering AM processes. It gives its customers independent advice based on their needs using its extensive sector knowledge. CREAT3D provides bespoke training packages, installation services and maintenance plans to ensure systems are running efficiently throughout their lifetime. As a distribution partner, CREAT3D supplies Nexa3D's revolutionary patented

Reseller

CREAT3D

Customer

PAKT3D

Industry

New generation service, engineering

Product

3D Printer NXE 400

Applications

- Fast turnaround prototypes
- Mould tooling
- End components

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creat3d.solutions

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www.pakt3d.com



Look at the quality of parts we can produce in a matter of minutes or hours.

**– Peter Kent
Director, PAKT3D**



lubricant sublayer photo-curing (LSPc) 3D printer, the NXE400, to its customers. One successful example of where the company has supplied an NXE400 system is to PAKT3D.

PAKT3D is a new generation service and engineering bureau, which collaborates with businesses in the automotive, aerospace, motorsport, fitness, medical and marine industries. It specializes in helping businesses improve quality, reduce lead-times and cut costs during the development and production of parts. Using advanced Nexa3D technology, PAKT3D now offers its customers the ability to rapidly produce high-quality production parts, prototypes, and tools.



WHY THE NXE400?

Typical challenges PAKT3D's customers suffer include long lead times, low quality and costly processes. These are common in engineering, design and manufacturing firms when producing components, mold tools, tooling and prototypes.

In addition, many businesses are under time pressure and require a combination of high-speed manufacturing and design agility for their business to remain competitive. These challenges have triggered companies to look at new methods of manufacturing, such as 3D printing, as a solution.



*Automotive Interior Moulding.
Print time under 6 hours*

MAKING WAVES IN THE UK MARKET

PAKT3D invested in a NXE400 Ultrafast 3D printer and installed it at its design and manufacturing site in Surrey. The machine features continuous 3D printing at speeds up to 1 Z cm per minute. It produces accurate, durable prints, using tailored materials with unique chemical and physical properties. This means PAKT3D can print parts and tools within hours, helping its clients to substantially reduce lead times and ultimately costs.

“Remaining competitive in the Industry 4.0 era means investing in technology that will bring high quality products to market quickly,” explained Avi Reichental, chairman and co-founder at Nexa3D. “Manufacturers must innovate to survive, and the NXE400 means businesses can do more than survive, they can blow their competitors out of the water.”

“The quality of parts that we can produce in under ten hours using the NXE400 is revolutionary,” explained Peter Kent, director of PAKT3D. “By using the

Nexa3D technology, we don't have to decide between quality, speed or margin. This benefits our customers who require all these factors for immediate design feedback or getting the product quickly to market."

A TRUE SUCCESS STORY

Nexa3D's printers give back time by redefining traditional manufacturing methods into faster and more flexible models. One successful example of a PAKT3D customer project was with ARBR Bikes, a UK specialist manufacturer of handcrafted performance bicycles. Producing the bottom downtube guard bracket previously required an Ultem mold tool that was costly to produce, had a two-day lead time and created a surface finish that was poor, creating a requirement for intensive hand-finishing. ARBR Bikes challenged PAKT3D to produce robust tooling in just one day. Within a few hours, PAKT3D produced a newly designed mold tool using xCE black resin on the NXE400, smashing the customer's challenge and showing the true abilities of the NXE400.

"To print the same tool on an FFF 3D printer, it would have taken more than five days, but with the Nexa3D technology it took us just six hours," continued Kent. "The surface finish of the printed tool was so impressive from the outset that it requires less than ten minutes preparation before heading off



to the laminating clean room.”

“We loved the speed and quality of the parts produced on the NXE400 so much that we will now be working closely with PAKT3D to produce more components for our state-of-the-art bikes,” explained Robert Barr, founder of ARBR Bikes.

Irrespective of industry, the key benefits of ultrafast additive manufacturing are demonstrated in cost savings and increased production speed. Applications

have expanded from mold tools to frame molds, 3D printed patterns to end use components. More extensive geometry and design adaptability can be achieved using 3D printing, compared with more traditional manufacturing methods, and this can all be carried out in a fraction of the time.



PAKT3D component and original component from the Ultem mould tool



To find out more about Nexa3D, its product range and how you can start your 3D printing journey, visit www.nexa3d.com, like us on [Facebook](#), or follow us on [Instagram](#), [Twitter](#), and [LinkedIn](#).

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Upgrade Additive Manufacturing

About Nexa3D



Nexa3D is passionate about digitizing the world's supply chain sustainably. The company makes ultrafast industrial grade polymer 3D printers affordable for professionals and businesses of all sizes. The company's photoplastic printers are powered by its proprietary Lubricant Sublayer Photo-curing (LSPc) while its thermoplastic printers are powered by Quantum Laser Sintering (QLS), both of which increase print productivity some 20X. The company's partnerships with world-class material suppliers unlocks the full potential of functional polymers that are tailored for production at scale. The company's NexaX proprietary software platform optimizes the entire production cycle through process interplay algorithms to ensure part performance and production consistency, while minimizing material usage and waste, reducing energy and carbon footprints.

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