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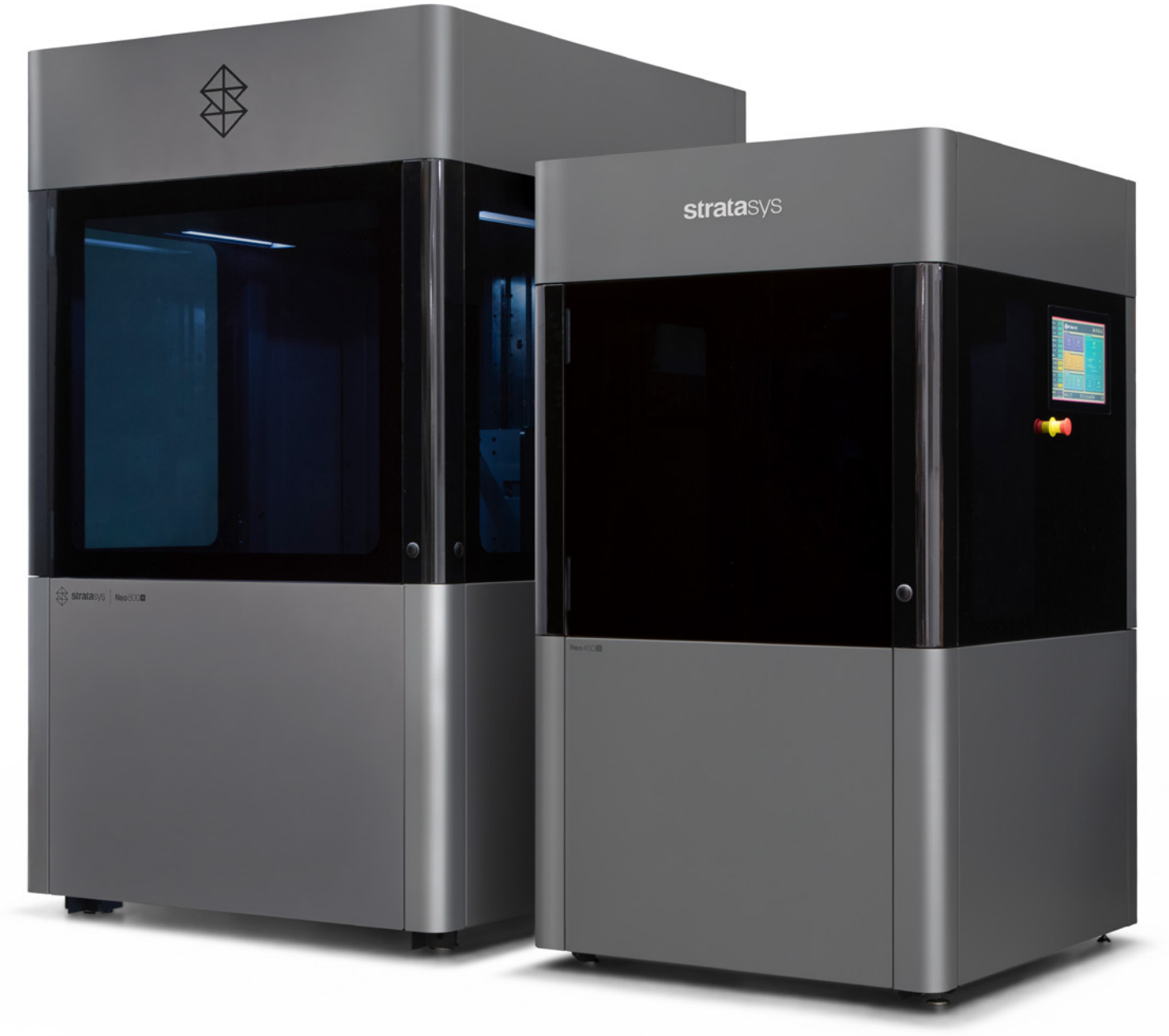
BROCHURE
SLA

Stratasys Neo® stereolithography 3D printers



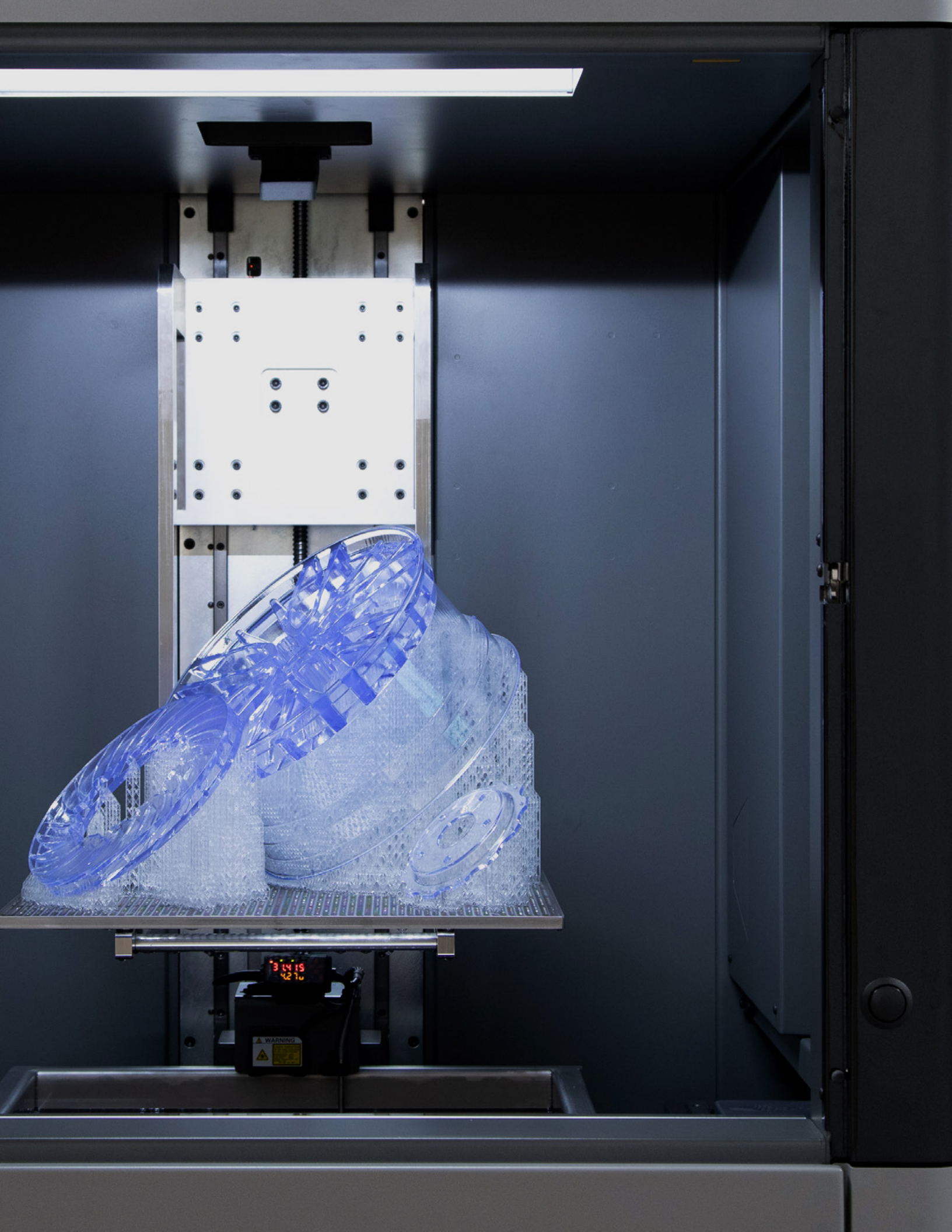
Neo®800+ 3D printer

Neo®450s 3D printer

Build prototypes, rapid tooling and master patterns with the state of the art Neo® stereolithography range.

The reliable and proven Neo 3D printer builds high-quality parts with superior surface quality, accuracy and detail.

Build medium to large SD parts or small detailed HD parts on the Neo450s 3D printer.



Why choose the Neo® stereolithography 3D printer?

Reduce finishing time by up to 50%

The Stratasys Neo 3D printer produces highly accurate parts with unparalleled industry quality. Optimizing machine design and utilizing the latest cutting-edge technology available for lasers and scanners, our beam delivery system produces exceptional layer-to-layer alignment repeatability. The printed parts are dimensionally accurate, with exceptional sidewalls and crisp feature resolution.

ScanControl+™[7] technology in the Neo800+ 3D printer optimizes laser scanning and energy delivery for sharper details, smoother surfaces, and less post-processing.

Versatile and Functional

The Neo 3D printer is available in a large 800 x 800 x 600 mm platform or a compact 450 x 450 x 400 mm option, offering flexibility for a wide range of applications. Both models feature multiple build modes (SD & HD), allowing users to balance speed and resolution to meet their specific needs.[1]

Faster Build Speeds[2]

The high-power laser system optimized scanning strategy on the Neo 3D printer ensure fast, high-precision printing across a variety of commercially available 355 nm SLA resins. Dynamic beam shape control, standard across the Neo 3D printer range, further enhances speed and accuracy.

The Neo800+ 3D printer takes this further, printing up to 50% faster than the Neo800 3D printer via an advanced scan strategy, enhanced border control, and specially designed ScanControl+ ready materials.[7]

Proven Reliability and Quality Assurance

The Neo series is carefully engineered with state-of-the-art optics, robust hardware, and precision components to ensure reliable, repeatable results.

The Neo800+ 3D printer enhances this reliability with environmental monitoring and collision detection, helping to ensure consistent, high-quality prints while reducing downtime in industrial production settings.

Designed with an open-resin system, offering customers the ability to utilize any commercially available 355 nm hybrid resin chemistry.

Produce highly accurate parts with unparalleled industry quality.

Open Resin System

An open material system means users are not restricted by the usual parameter constraints, offering the ability to utilize any commercially available 355 nm hybrid resin chemistry.

Enhance Workflow Efficiencies with Titanium™ Software

Titanium™ software simplifies daily operation and enhances functionality, with customer-driven updates ensuring a user-friendly experience. It includes real-time monitoring, build tracking, and automated machine diagnostics to reduce downtime and improve workflow efficiency.

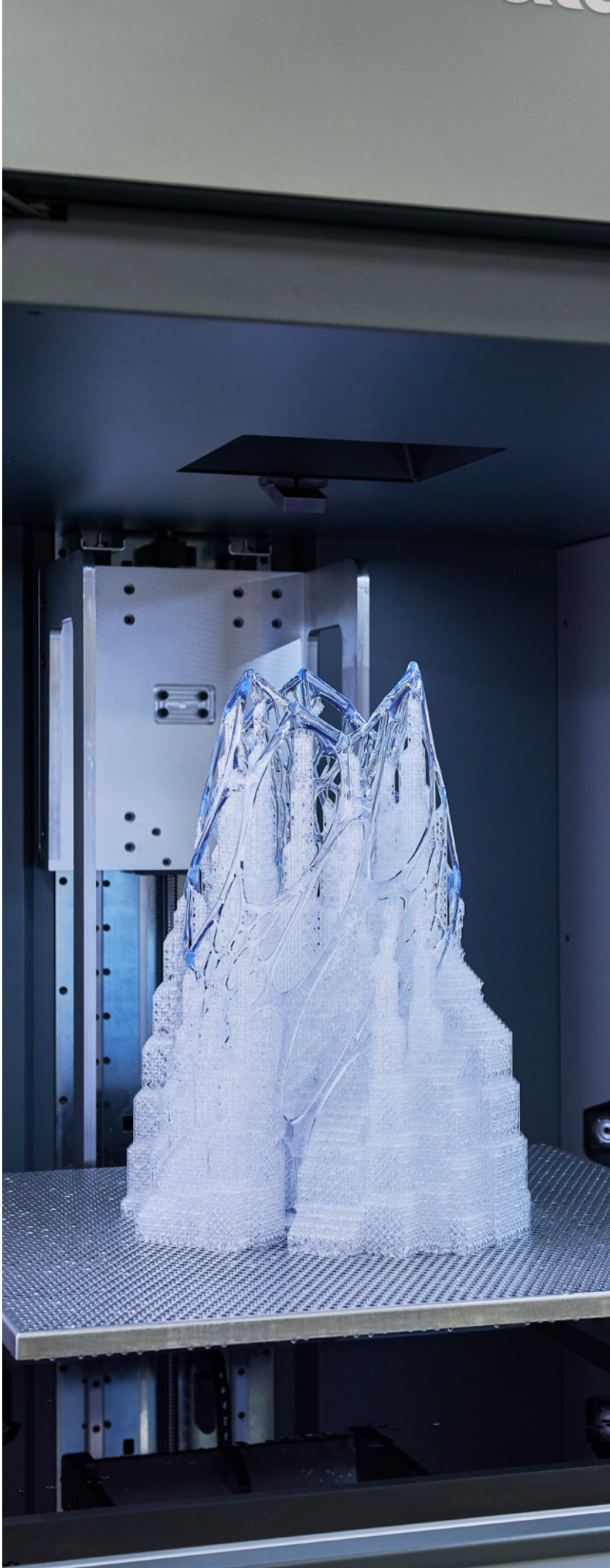
Part Traceability and Data Reporting

Titanium software captures build history, parameter detail and part traceability data reporting.

Outstanding, Accessible Service and Support

Stratasys provides industry-leading service and support, with highly skilled engineers available for remote diagnostics or on-site assistance when needed. Direct access to the Stratasys team behind the design of the Neo series ensures maximum reliability and confidence in your system

Printed parts are dimensionally accurate, with exceptional sidewalls and crisp feature resolution.



The Neo 3D printer is designed for reliability and productivity. Stratasys expert service engineers are available to assist when needed.

Neo®800+ 3D printer

The new benchmark for high-speed, large-format SLA

Designed by engineers for engineers, the Neo800+ 3D printer delivers industry-leading speed, quality, and reliability.

For years, the Neo800 3D printer has set the global standard in large-format stereolithography (SLA) technology, delivering high-precision prototypes, rapid tooling, and master patterns at industrial scale. Renowned for its reliability, accuracy, and industry-best sidewall quality, it has been the go-to solution for high-yield production across sectors like F1, automotive, service bureaus, and universities.

Now, the Neo800+ 3D printer takes that legacy further. With up to 50%[6] faster printing, enhanced surface fidelity, and an optimized scanning strategy, the Neo800+ 3D printer is built for engineers who need precision at scale.

Key highlights

- A large build platform enables full-scale, smooth-surface parts without bonding or sectioning.
- Up to 50%[6] faster print speeds reduce production time, supporting larger, more complex builds in a single print.
- Advanced laser technology and ScanControl+ deliver sharper details and smoother finishes with SD and HD modes.
- Multiple parts can be produced in one build, maximizing efficiency and reducing costs.
- A seamless end-to-end workflow streamlines post-processing for faster, high-quality production

See the Specs

Neo800+ 3D Printer Specifications**		
Laser & Scanning System	Laser	4 Watt, 355 nm, solid-state frequency tripled Nd:YVO4
	Beam Focus	Dynamic & Variable
	Beam Size	120 to 750µm
	Scanning Speed	Up to 790 in./s (20 m/s)
Layer Resolution		50 to 200 µm*
Minimum Feature Size		0.007 in. (0.17 mm) in X & Y† 0.016 in. (0.4mm) in Z†
Build Modes		High Detail & Standard Detail (HD & SD)
Accuracy	Dimension <3.94 in. ±0.004 in.; Dimension >3.94 in. ±0.15%† Dimension <100 mm ±0.1 mm; Dimension >100 mm ±0.15%†	
Material Compatibility	Open resin system – compatible with commercially available 355 nm stereolithography resins	
Capacities	Build (XYZ)	Half: 31.50 x 31.50 x 11.81 in. (800 x 800 x 300 mm) Full: 31.50 x 31.50 x 23.62 in. (800 x 800 x 600 mm)
	Vat Fill	Half: 83 US gal (780 lb‡) [316 ltr (354 kg‡)] Full: 147 US gal (1378 lb‡) [558 ltr (625 kg‡)]
Software	Operating System	Windows 10 IoT Enterprise LTSC 2021
	Input File Format	SLC
	Control Software	Titanium
	Build Prep Software	GrabCAD or Materialise Magics
	Remote Editor	Titanium Assistant (Optional)
Connectivity	Ethernet	Fully compliant with IEE 802.3, IEEE 802.3u, IEEE 802.3ab
	USB Port	USB 3.1
Features & Build Options	Build validation / Build time estimator / Material usage estimator / Scheduled start / Open build parameters enabling any material to be processed / On-the-fly parameter adjustment and part deletion / Upper surface build quality optimization / Bubble remover with automated option	
Advanced Services & Reporting Tools	Industry 4.0 compliant / Full part traceability / Logging of machine utilization; build history; parameters; material usage; formatted data export / System and build status email notification § / Onboard camera / Resin viscosity tracking / User level access control / Scheduled lighting	
Support	1-click "snapshot" job diagnostic pack for remote support / Remote diagnostics §	
Electrical Requirements	208 ~ 240 V, 50/60 Hz 900 W Typical operation, 1900 W Max	
Environmental Requirements	Temperature range: 68-74 °F (20-23 °C), max rate change ±2 °F/hr (1 °C/hr) Relative humidity 20-50% non-condensing	
UPS	1 – 2 hrs of system up-time with intelligent UPS control***	
Dimensions (WxDxH)	Printer (uncrated)	53.2 x 64.2 x 90.6 in. (1,350 x 1,630 x 2,300 mm)
	Printer Crated	67.3 x 73.2 x 100.8 in. (1,710 x 1,860 x 2,560 mm)
	Vat (uncrated)	46.9 x 35.9 x 34.3 in. (1,190 x 910 x 870 mm)
	Vat Crated	55.2 x 41.4 x 43 in. (1,400 x 1,050 x 1,090 mm)
Weight	Printer	1,764 lb (800 Kg)
	Vat	529 lb (240 Kg)
Crated Weight	Printer	2,646 lb (1200 Kg)
	Vat	960 lb (435 Kg)
Warranty	System	12 months on-site service and support, as per Stratasys conditions of sale
Accessories	UV800	1,058 lb (480 Kg)
	Unload Cart	463 lb (210 Kg)
Regulatory Conformity	CE UKCA FC	

* 100µm layer parameters are supplied for Stratasys certified materials. Parameters for alternative thicknesses may be available. Layer thickness range is material dependent. Contact Stratasys for more details.

† Accuracy and minimum feature size will vary depending on material, parameters, part geometry and size, pre- and post-processing methods and environment.

‡ Based on typical material density, 2.47 lb/0.3 gal @ 78.8 °F (1.12kg/ltr @ 26 °C).

§ Internet connection is required for full or partial functionality.

** Specification can be subject to change without prior notice.

*** When connected to a Stratasys Certified UPS, not sold with the Neo800+ 3D printer, please contact Stratasys for further details.

Neo®800 3D printer

Build large parts with superior surface quality, accuracy and detail

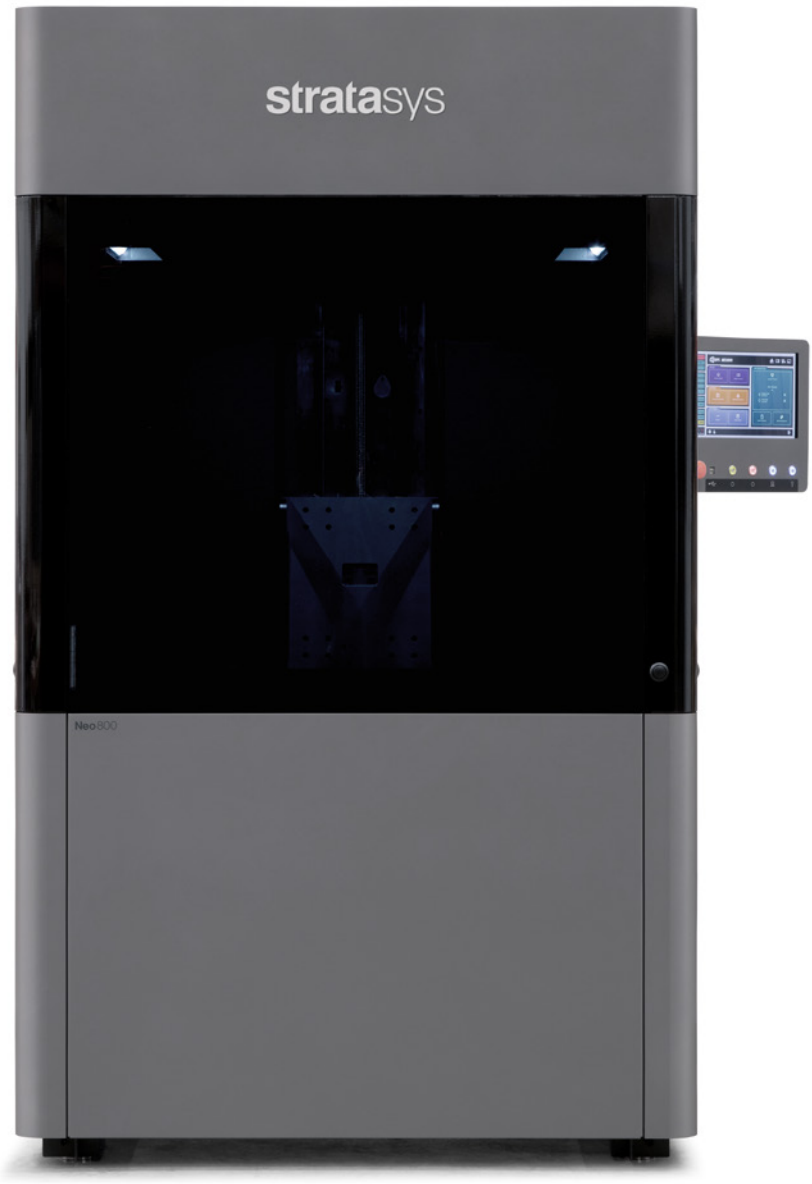
The Neo800 3D printer builds large prototypes, rapid tooling and master patterns, and is the global market leader of large-format stereolithography technology.

The Neo800 3D printer is renowned for its reliability and industry standard side wall quality. It has an established track record for delivering consistently accurate parts and high yield volumes for industrial production.

Known in the industry for its productivity and performance, the Neo800 3D printer is placed around the world in a range of organizations, including F1, automotive, service bureaus and universities.

Key highlights

- Print large parts with outstanding surface finish on the 53.2 × 64.2 × 90.6 in. (800 × 800 × 600 mm) build platform.
- Produce large parts without the need for sectioning, or build multiple parts in one build, saving time and costs.
- Intuitive Titanium software optimizes build quality and captures build data for greater traceability, enhancing work efficiency.
- Dynamic laser focusing and SD and HD build modes produce highly accurate and detailed parts.
- A seamless end-to-end workflow streamlines post-processing for faster, high-quality production.



See the Specs

Neo800 3D Printer Specifications**		
Laser & Scanning System	Laser	2 Watt; 355 nm, solid-state frequency tripled Nd: YV0[4]
	Beam Focus	Dynamic & Variable
	Beam Size	150 to 600 µm
	Scanning Speed	Up to 400 in./s (10 m/s)
Layer Resolution		50 to 200 µm*
Minimum Feature Size		0.008 in. (0.2 mm) in X & Y† 0.016 in. (0.4mm) in Z†
Build Modes		High Detail & Standard Detail (HD & SD)
Accuracy	Dimension <3.94 in. ±0.004 in.; Dimension >3.94 in. ±0.15%† Dimension <100 mm ±0.1 mm; Dimension >100 mm ±0.15%†	
Material Compatibility	Open resin system - compatible with commercially available 355 nm stereolithography resins	
Capacities	Build (XYZ)	Half: 31.50 x 31.50 x 11.81 in. (800 x 800 x 300 mm) Full: 31.50 x 31.50 x 23.62 in. (800 x 800 x 600 mm)
	Vat Fill	Half: 83 US gal (780 lb‡) [316 ltr (354 kg‡)] Full: 147 US gal (1378 lb‡) [558 ltr (625 kg‡)]
Software	Operating System	Windows 10 Pro
	Input File Format	SLC
	Control Software	Titanium
	Build Prep Software	GrabCAD or Materialise Magics
	Remote Editor	Titanium Assistant (Optional)
Connectivity	Ethernet	Fully compliant with IEE 802.3, IEEE 802.3u, IEEE 802.3ab
	USB Port	USB 3.1
Features & Build Options	Build validation / Build time estimator / Material usage estimator / Scheduled start / Open build parameters enabling any material to be processed / On-the-fly parameter adjustment & part deletion / Upper surface build quality optimization / Bubble remover with automated option	
Advanced Services & Reporting Tools	Industry 4.0 compliant / Full part traceability / Logging of machine utilization; build history; parameters; material usage; formatted data export / System & build status email notification § / Onboard camera / Resin viscosity tracking / User level access control / Scheduled lighting	
Support	1-click "snapshot" job diagnostic pack for remote support / Remote diagnostics §	
Electrical Requirements	208 ~ 240 V, 50/60 Hz 900 W Typical operation, 1900 W Max	
UPS	1 – 2 hrs of system up-time with intelligent UPS control***	
Environmental Requirements	Temperature range: 68-74 °F (20-23 °C), max rate change ±2 °F/hr (1 °C/hr). Relative humidity 20-50% non-condensing	
Dimensions (WxDxH)	53.2 x 64.2 x 90.6 in. (1,350 x 1,630 x 2,300 mm)	
Weight	Printer	1,764 lb (800 kg)
	Vat (empty)	529 lb (240 kg)
Warranty	System	12 months on-site service and support, as per Stratasys conditions of sale
Accessories	Unload Trolley for Neo800 / UV800 oven & hot box	
Regulatory Conformity		

* 100µm layer parameters are supplied for Stratasys certified materials. Parameters for alternative thicknesses may be available. Layer thickness range is material dependent. Contact Stratasys for more details.
† Accuracy & minimum feature size will vary depending on material, parameters, part geometry and size, pre- & post-processing methods and environment.
‡ Based on typical material density, 2.47 lb/0.3 gal @ 78.8 °F (1.12kg/ltr @ 26 °C).
§ Internet connection is required for full or partial functionality.
** Specification can be subject to change without prior notice.
*** When connected to a Stratasys Certified UPS, not sold with the Neo800 3D printer, please contact Stratasys for further details.

Neo®450s 3D printer

A versatile printer with flexible options to suit multiple needs

Reliable, productive and efficient, the Neo450s 3D printer is designed and engineered for industrial-grade performance.

The compact, reliable Stratasys Neo450s 3D printer has a 17.72 x 17.72 x 15.75 in. (450 x 450 × 400 mm) platform and builds prototypes, rapid tooling and master patterns with exceptional surface quality, accuracy and detail.

The Neo450s 3D printer offers performance and versatility, deigned for nonstop printing of industrial production parts. It produces small to medium parts with consistent accuracy and repeatability. Dependable and reliable, the Neo450s 3D printer offers both standard (SD) and high detail (HD) build modes.

- Fast production of complex, industrial-grade quality prototypes, tooling or master patterns, with superior surface finish and detail.
- One machine with multiple build modes reduces the need to operate many SLA systems with different functions, reducing costs and space requirements.
- Dependable and reliable, designed for nonstop printing of industrial production parts.
- Intuitive Titanium software captures build history, parameter detail and part traceability data for further insight and reporting.
- Variable laser beam technology allows you to rapidly build SD or produce fine resolution HD parts with intricate, small, detailed designs.[1, 4]

See the Specs

Neo450s 3D Printer Specifications††		
Laser & Scanning System	Laser	2 Watt; 355 nm, solid-state frequency tripled Nd: YV0[4]
	Beam Focus	Dynamic & Variable
	Beam Size	80 to 750 µm
	Scanning Speed	Up to 400 in./s (10 m/s)
Layer Resolution		50 to 200 µm*
Minimum Feature Size		0.006 in. (0.15 mm) in X & Y† 0.016 in. (0.4 mm) in Z†
Build Modes		High Detail & Standard Detail (HD & SD)
Accuracy	Dimension <3.94 in. ±0.004 in.; Dimension >3.94 in. ±0.1%† Dimension <100 mm ±0.1 mm; Dimension >100 mm ±0.1%†	
Material Compatibility	Open resin system - compatible with commercially available 355 nm stereolithography resins	
Capacities	Build (XYZ)	Short: 17.72 x 17.72 x 1.97 in. (450 x 450 x 50 mm) Half: 17.72 x 17.72 x 7.87 in. (450 x 450 x 200 mm) Full: 17.72 x 17.72 x 15.75 in. (450 x 450 x 400 mm)
	Vat Fill	Short: 10 US gal (95 lb‡) [38 ltr (43kg‡)] Half: 22 US gal (203 lb‡) [82 ltr (92kg‡)] Full: 37 US gal (348 lb‡) [141 ltr (158 kg‡)]
Software	Operating System	Windows 10 Pro
	Input File Format	SLC
	Control Software	Titanium
	Build Prep Software	GrabCAD or Materialise Magics
	Remote Editor	Titanium Assistant (Optional)
Connectivity	Ethernet	Fully compliant with IEE 802.3, IEEE 802.3u, IEEE 802.3ab
	USB Port	USB 3.1
Features & Build Options	Build validation / Build time estimator / Material usage estimator / Open build parameters enabling any material to be processed / On-the-fly parameter adjustment & part deletion / Upper surface build quality optimization / Bubble remover with automated option / Scheduled start	
Advanced Services & Reporting Tools	Industry 4.0 compliant / Full part traceability / Logging of machine utilization; build history; parameters; material usage; formatted data export / System & build status email notification§ / Onboard camera / Resin viscosity tracking / User level access control / Scheduled lighting	
Support	1-click "snapshot" job diagnostic pack for remote support / Remote diagnostics§	
Electrical Requirements	110 ~ 120 Volt, 50/60 Hz	300 W Typical operation, 550 W Max
	220 ~ 240 Volt, 50/60 Hz	700 W Typical operation, 1,300 W Max
UPS	20 – 40 mins of system up-time with intelligent UPS control**	
Environmental Requirements	Temperature range: 68-74 °F (20-23 °C), max rate change ±2 °F/hr (±1 °C/hr) Relative humidity 20-50% non-condensing	
Dimensions (WxDxH)	41.3 x 48.2 x 74.8 in. (1,050 x 1,225 x 1,900 mm)	
Weight	Printer	1,323 lb (600 kg)
	Vat (empty)	221 lb (100 kg)
Warranty	System	12 months on-site service and support, as per Stratasys conditions of sale
Regulatory Conformity		

* 100µm layer parameters are supplied for Stratasys certified materials. Parameters for alternative thicknesses may be available. Layer thickness range is material dependant. Contact Stratasys for more details.

† Accuracy & minimum feature size will vary depending on material, parameters, part geometry and size, pre- & post-processing methods and environment.

‡ Based on typical material density 2.47 lb/0.3 gal @ 78.8 °F. (1.12kg/ltr @ 26 °C).

§ Internet connection is required for full or partial functionality.

** When connected to a Stratasys Certified UPS, not sold with the Neo450s 3D printer, please contact Stratasys for further details.

†† Specification can be subject to change without prior notice.

Neo® Software Suite

Smarter Control, Faster Builds

GrabCAD Print for Neo®

Smart, Simple SLA Preparation Management

Streamline your SLA workflow with our intuitive software platform that grows with your needs.

- **Standard:** Essential build preparation tools for reliable. consistent results
- **Pro:** Advanced capabilities for maximum efficiency, control, and production optimization
- Seamlessly manage all your Stratasys technologies from one powerful, easy-to-use platform.

Titanium™ Software

Smart, user-driven build management

Neo Titanium software offers fast, efficient SLA build control with a user-friendly interface and powerful reporting tools, continuously improved through customer feedback.

What can you do with Titanium software?

Titanium software offers easy, click-and-print operation, allowing you to start builds quickly with user-defined defaults and make on-the-fly adjustments during the process.

The software features automated communications, sending build progress notifications via email to keep users informed and help optimize machine use.
It provides comprehensive reporting tools, so you have detailed records of build history, hardware usage, and part traceability for better insight and analysis.

Key features:

- **Build Options & Features:** Validation, time and material estimates, on-the-fly adjustments, surface quality optimization, bubble remover, and scheduled starts.
- **Status Notifications:** Automatic email alerts for build start, pause, completion, or issues.
- **Onboard Camera:** Built-in camera for real-time, remote build monitoring.
- **Industry 4.0 Ready:** Integrates via RESTful API and shared file access, supporting JSON and XML formats for real-time progress tracking.
- **Advanced Reporting Tools:** Export detailed reports, including build summaries and hardware usage, in customizable timeframes.
- **Part Traceability:** Tracks part history with complete parameter records for improved hardware utilization insights.

Titanium Assistant™

Remote build preparation, previews, and scheduling

Titanium Assistant is a standalone software application that allows you to preview build files, schedule planning and prepare builds on multiple Neo systems from any PC on a network.

Designed to optimize workflow, Titanium Assistant can run on a local workstation for remote access to operational alerts and status updates on multiple Neo printers used within a facility.

- **Prepare:** Remotely adjust build parameters once slice files are ready.
- **Preview:** Quickly validate slice files and check integrity before printing.
- **Plan:** Get accurate build time estimates to optimize scheduling and machine utilization.
- **Print:** Send build files directly to Neo printers, eliminating the need for memory sticks.

ScanControl+™

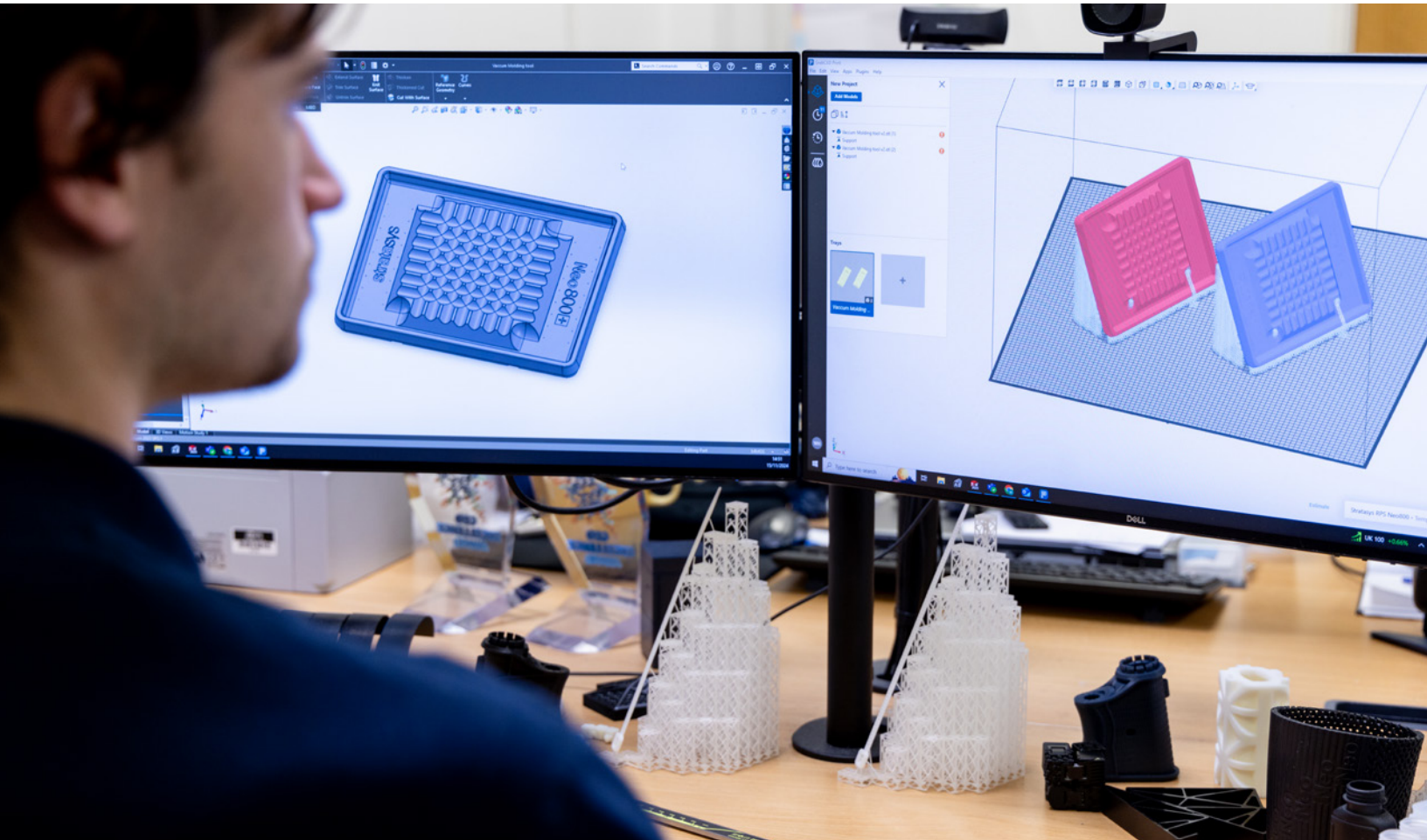
Optimized speed and precision for the Neo800+ 3D printer

If you're looking for higher throughput, ScanControl+ on the Neo800+ 3D printer means you can achieve up to 50%[6] faster builds than with the Neo800 3D printer, reducing lead times and accelerating production without compromising quality.

Key features:

- **Optimized Scanning:** Minimizes laser travel for faster builds without compromising accuracy.
- **Intelligent Energy Management:** Adjusts laser power for consistent curing and superior surface finish.
- **Dynamic Border Scanning:** Improves fine detail with precise edge energy delivery.
- **Multi-Zone Layer Processing:** Processes large builds faster with simultaneous scanning zones.
- **Titanium Software Integration:** Allows users to preview and adjust settings for optimal build performance.

Users can define many options as defaults, enabling simple click-and-print operation. Excellent reporting capabilities facilitate part traceability and hardware utilization.



From print to production-ready parts

A range of materials, accessories and third-party products are a vailable for an end-to-end 3D printing solution.

Materials for innovation

Designed with an open resin system, the Neo series of 3D printers can run the most technically advanced stereolithography materials, including the Somos® resins range.

Somos resins are available for standard use to run on the Neo800 3D printer and Neo450s 3D printer. The Neo800+ 3D printer has parameters set to run both Standard Materials and ScanControl+ ready materials, compatible with the faster build speeds.

The Neo 3D printer is designed with an open materials system which means you have complete flexibility. Run any commercially available 355 nm resin, allowing you to tailor each print to your exact needs without being locked into proprietary options.

Speed up your workflow

The Neo series delivers precision, reliability, and efficiency throughout the entire stereolithography (SLA) workflow.

From pre-print preparation to post-processing, every step is designed for seamless, scalable production - with solutions like **PostProcess® DEMI™ systems** for washing and resin removal, followed by the **UV800** for curing.

SLA workflow steps

1. Build Preparation & Printing

GrabCAD Print handles build preparation and slicing, while Titanium software and ScanControl+[7] manage printing and energy delivery, ensuring high-precision prints. The Neo800+ 3D printer and Neo450s 3D printer use a high-power laser and an open resin system for maximum material flexibility.

2. Support & Resin Removal (DEMI™ 4100 or DEMI™ 830)

Use the Unload Trolley[8] accessory to move completed build platforms from the Neo 3D printer to the part cleanup area. Printed parts undergo support removal before automated cleaning with the recommended DEMI 4100 for Neo800 3D printer or Neo800+ 3D printer builds, or DEMI 830 for Neo450s 3D printer builds or individual parts that fit the DEMI 830 volume. Remove resin in 10 minutes or less, using a safe, non-flammable detergent that reduces waste by 75%.

3. Post-Curing (UV800)

A quick rinse ensures parts are clean before UV800 post-curing fully polymerizes the material, enhancing strength and surface quality. The integrated heated resin storage maintains optimal conditions for consistent results.

4. Final Processing & Validation

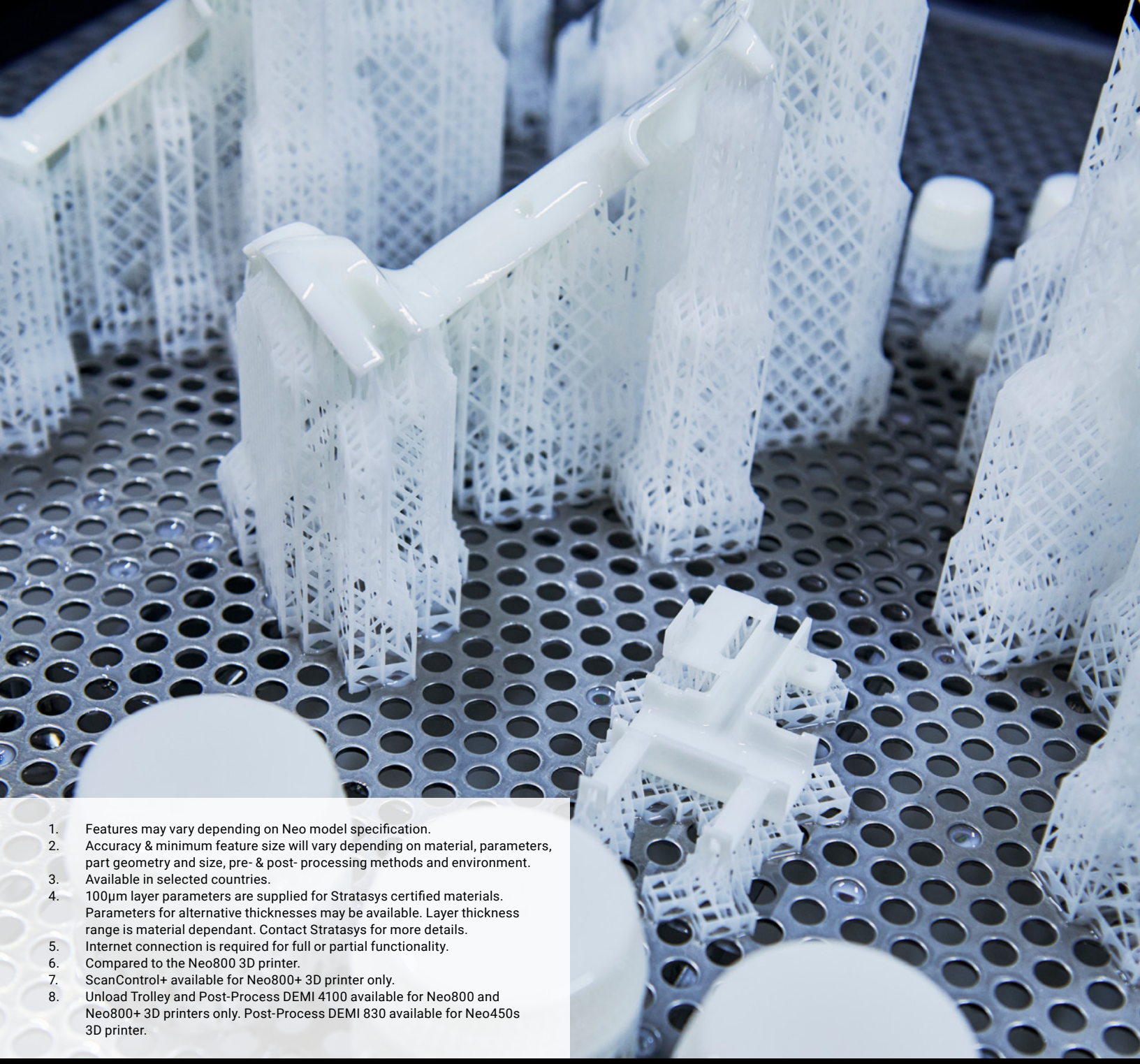
Minimal sanding or finishing may be required, thanks to precise scanning technology. Parts then undergo final quality checks to ensure they meet industrial standards.

With Neo 3D printer SLA, PostProcess DEMI systems[8], and UV800, you get a fully optimized, scalable workflow - delivering high-quality parts faster than ever.

Support

The highly reliable Neo range has a proven track record of reliability, productivity and performance. For further support or maintenance, Stratasys' dedicated team of highly skilled and knowledgeable service engineers are ready to assist when needed. Service support is available via remove system access and telephone assistance or, when needed, we provide in-person repairs, parts and service the next business day.[3]

The Neo450s 3D printer has been carefully designed and engineered, using premium components, parts and finishes.



1. Features may vary depending on Neo model specification.
2. Accuracy & minimum feature size will vary depending on material, parameters, part geometry and size, pre- & post- processing methods and environment.
3. Available in selected countries.
4. 100µm layer parameters are supplied for Stratasys certified materials. Parameters for alternative thicknesses may be available. Layer thickness range is material dependant. Contact Stratasys for more details.
5. Internet connection is required for full or partial functionality.
6. Compared to the Neo800 3D printer.
7. ScanControl+ available for Neo800+ 3D printer only.
8. Unload Trolley and Post-Process DEMI 4100 available for Neo800 and Neo800+ 3D printers only. Post-Process DEMI 830 available for Neo450s 3D printer.

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