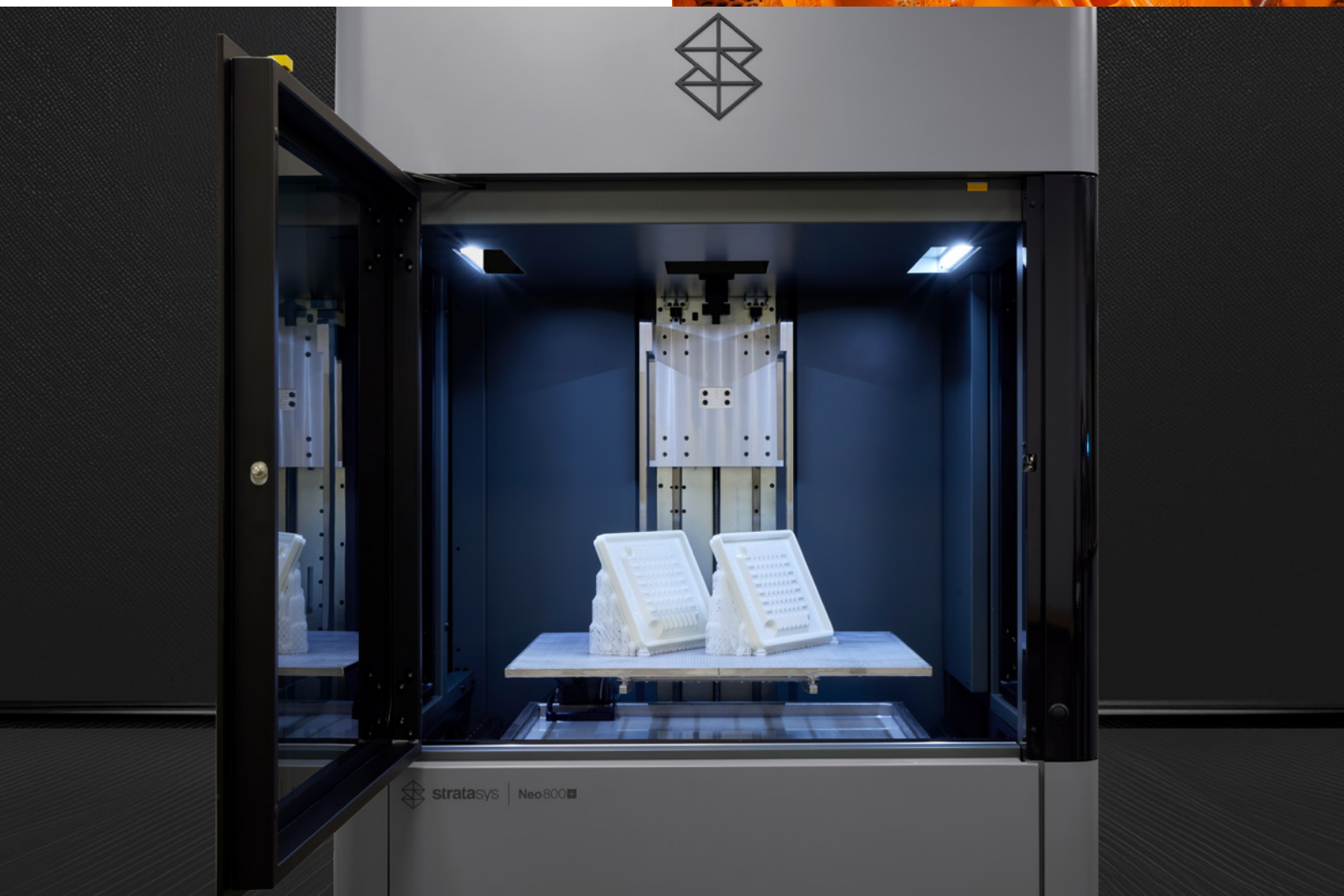
stratasys

BROCHURE
SLA

Neo®800+ Industrial SLA Printer

The new benchmark for high-speed, large-format stereolithography.

Build accurate, industrial-grade parts up to 50%* faster than before.



Where Precision Meets Speed.

Neo®800+

The Neo800+ 3D printer sets a new benchmark for **large-format stereolithography (SLA).** Built on proven technology and engineered with new hardware, updated software, and a cutting-edge scanning system, it delivers faster throughput, unmatched reliability and precision that meets the highest standards for stereolithography.

At the heart of the Neo®800+ 3D printer is **ScanControl+™**, an advanced technology which boosts print productivity and sharpness by fine-tuning laser power, movement, and focus.

The capabilities that drive speed and precision in the Neo®800+ 3D printer include:

ScanControl+

By combining the redesigned scanning system and ScanControl+, the Neo®800+ 3D printer achieves average scan speeds **up to 50%* faster** than its predecessor.

Fast HD Mode for Finer Details

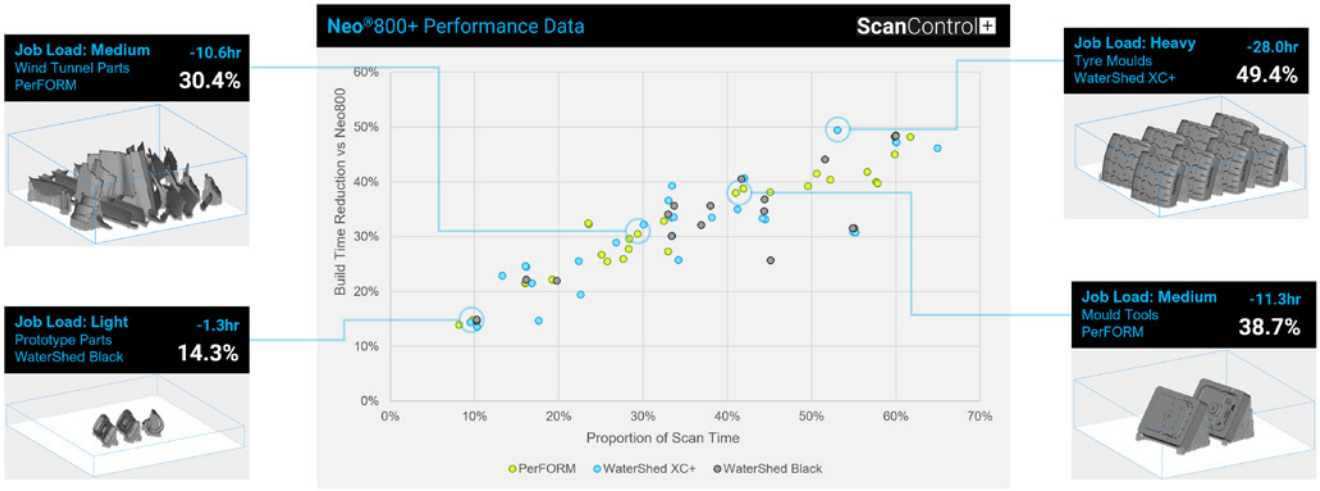
High Detail (HD) mode on the Neo®800+ 3D printer offers finer detail reproduction at **61.6%*** faster speeds than its predecessor while adding **only 6.7%*** to print time compared to Standard Detail (SD) mode. Automated adjustments to border beam size ensure consistent energy delivery and optimal productivity.

	Neo®800 3D printer				Neo®800+ 3D printer			
Benchmark	Build Time		HD Time Penalty		Build Time		HD Time Penalty	
	SD	HD	Hours	%	SD	HD	Hours	%
Wind Tunnel	34.83	55.14	20.31	58.3%	24.26	25.73	1.47	6.1%
Service Bureau	42.22	64.22	22.00	52.1%	28.40	29.73	1.33	4.7%
Mold Tool	40.27	70.18	29.91	74.3%	23.99	26.22	2.23	9.3%
Average				**61.6%**				**6.7%**

Comparing print speeds in HD and SD modes for three different benchmarks across both the Neo®800 and the Neo®800+ 3D printers.

Redesigned Scanning System

Powered by a high-performance **4W laser** and an enhanced optics system, the Neo®800+ 3D printer offers a broader beam size range, enabling both faster scanning speed and exceptional fine detail reproduction. It supports high-energy materials, boosting productivity, and the Neo®800+ 3D printer ensures reliable, high-precision part production.



Build time study comparing the Neo800 and Neo800+.

Enhanced Border Control

The Neo series is renowned for its exceptional surface quality. The Neo®800+ 3D printer goes further, achieving a new standard. Superior detail reproduction, sharper corners and smoother surfaces enabled by an enhanced beam size range and optimized energy delivery.

ScanControl+ Ready Materials

To match faster build speeds, the Neo®800+ 3D printer uses **certified ScanControl+ ready materials** from Somos®, rigorously tested to ensure exceptional part accuracy, first-time print success and reliable performance.

Reliability
You Can Count On.

Industrial manufacturing demands repeatable performance. The Neo®800+ 3D printer meets production floor needs with advanced design features to enhance reliability while minimizing downtime.

Features like **Vacuum System Protection, Z-Stage Collision Detection,** and **real-time environmental monitoring** ensure consistent results and streamlined maintenance, keeping your production on track with confidence.

These are the capabilities of the Neo®800+ 3D printer that help achieve its renowned reliability:

Laser Power

The **4W laser** on the Neo®800+ 3D printer enables faster scanning and provides ample overhead. The latest laser technology delivers cutting-edge performance, ensuring reliability and future-proofing for new high-energy materials.

Vacuum System Protection

Proactive **built-in intervention** prevents resin from entering the vacuum system, continuously tracking conditions for peace-of-mind printing.

Optimized Optics Performance

The design enhancements in the Neo®800+ 3D printer (inspired by satellite engineering) **maintain performance** and **minimize optical degradation** over time, ensuring consistent results with reduced maintenance.

Air Temperature & Humidity Logging

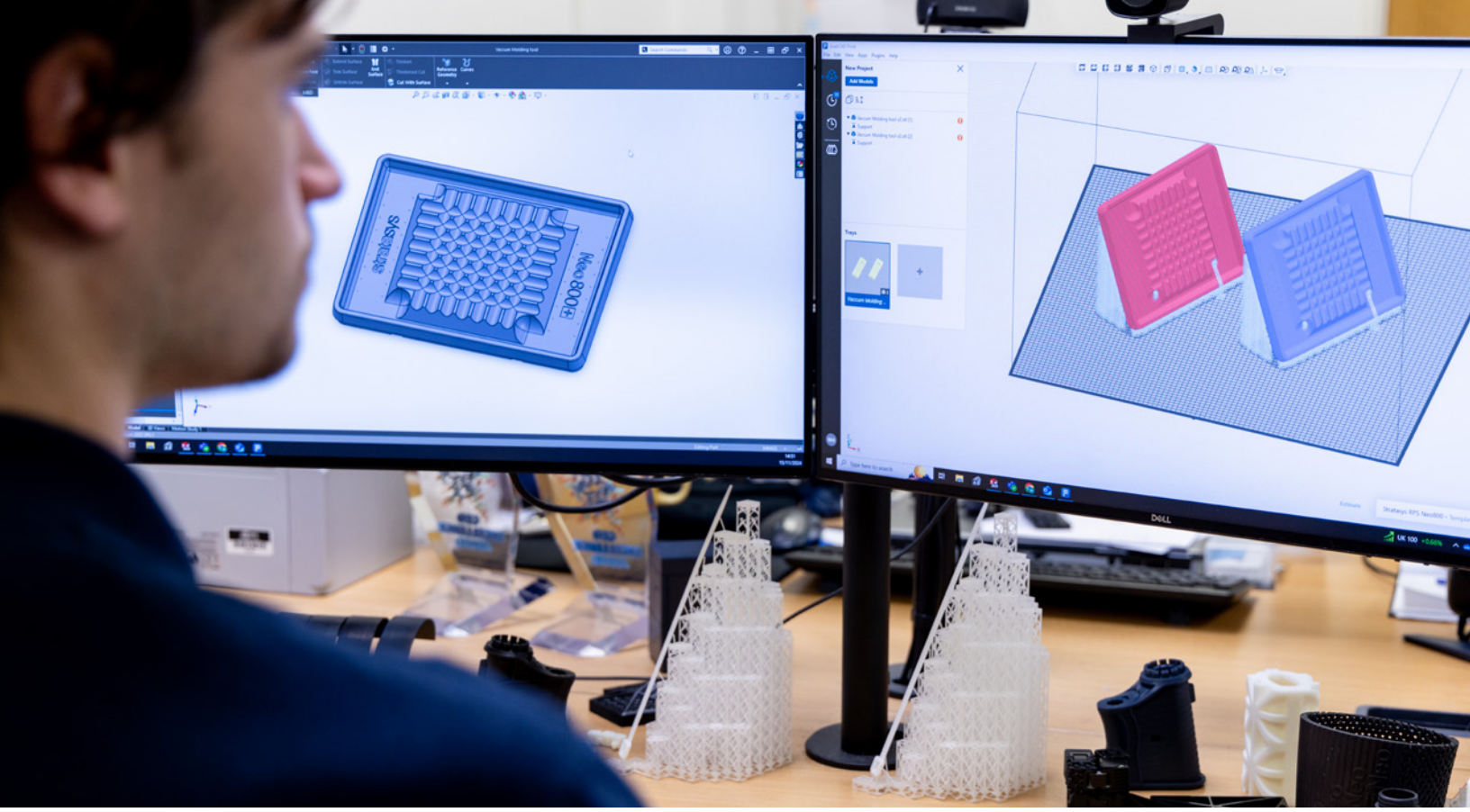
Real-time **temperature** and **humidity monitoring** within the build chamber ensures optimal resin curing and print quality, providing alerts when conditions deviate from optimal ranges.

Z-Stage Drive & Collision Detection

The **upgraded** Z-stage drive system reduces potential points of failure with fewer components, enhancing the overall durability. The **collision detection system** detects obstructions or excessive force, safeguarding the system.

Titanium Software

Our Titanium software can be integrated into an **Industry 4.0 system**, logging build history, machine use, and resin health. Powerful diagnostics means engineers can prepare for site visits for efficient service and minimal downtime.



Increase Your Throughput, Lower Your Cost-Per-Part.

The Neo®800+ 3D printer reduces production time while delivering superior-quality parts with enhanced fidelity.

Maximize Your Investment

The Neo®800+ 3D printer delivers superior throughput and part quality, outperforming other stereolithography systems. Total cost of ownership per part is reduced by up to **15%, accelerating return on investment by up to one year**.** It offers **greater value** than multi-laser systems that can have increased maintenance costs.

Reduce Labor Costs

The superior print quality of the Neo®800+ 3D printer significantly reduces or **eliminates** post-processing labor, lowering your cost per part and freeing up valuable time and resources.

39% More Parts**

With the optimized scanning system, ScanControl+, the Neo®800+ 3D printer increases average part yield by **39%** and tooling mold yield by an impressive **44%,** offering faster output and greater savings.**

* Compared to the Neo800 3D printer

** Results may vary based on the material, part geometry, print parameters, the pre- and post-processing methods. The internal study was conducted by using a variety of sample builds simulating 70% utilization rate over 1 year span, comparing to other SLA printers.

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PRODUCT SPEC SHEET
SLA

Neo®800+ 3D printer

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

Designed by Engineers, for Engineers.

The Neo®800+ 3D printer combines cutting-edge software and advanced technology to deliver up to **50% faster performance** than its predecessor. With enhanced part fidelity and reliability, it minimizes downtime and service needs, setting a new standard for large-format SLA printing with the **lowest total cost of ownership**.

System 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

System Specifications

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, 1,900 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 (s)**	53.2 x 64.2 x 90.6 in. (1,350 x 1630 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**	2646 lb (1200 Kg)
Warranty	**System**	12 months on-site service and support, as per Stratasys conditions of sale
Accessories	**Vat**	960 lb (435 Kg)
	UV800	1,058 lb (480 Kg)
	Unload Cart	463 lb (210 Kg)
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 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.

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

Specification can be subject to change without prior notice.

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