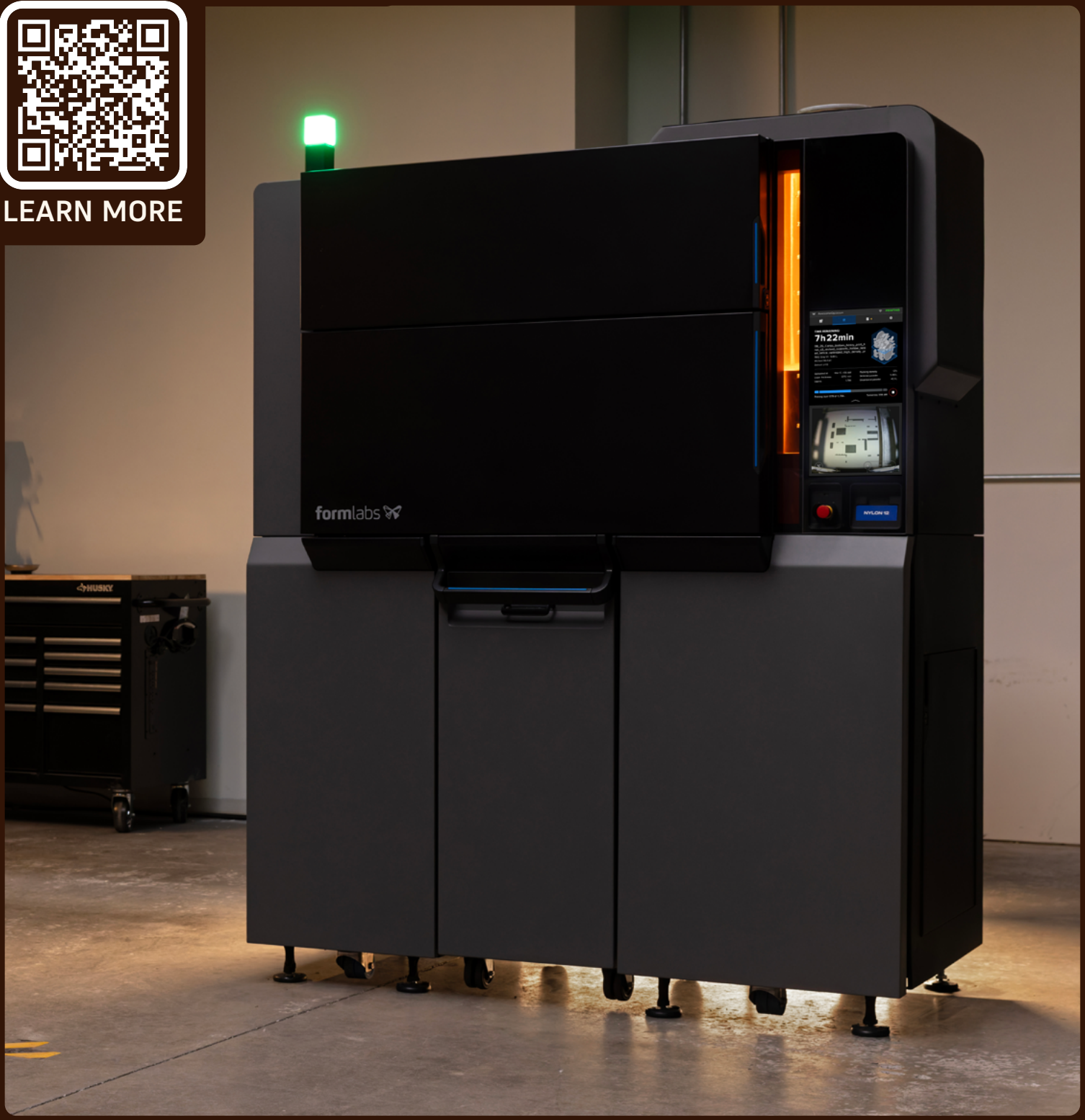
LEARN MORE



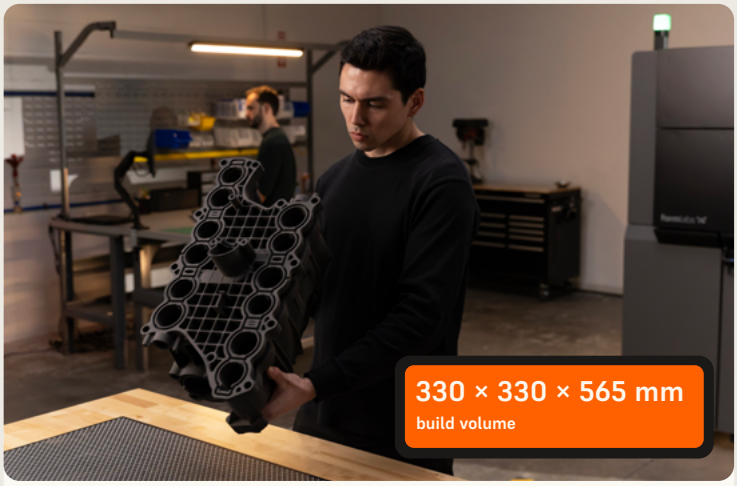
INDUSTRIAL SLS MADE ACCESSIBLE

formlabs

THE FUSE X1 SLS ECOSYSTEM

HARDWARE OVERVIEW

Production at the Press of a Button

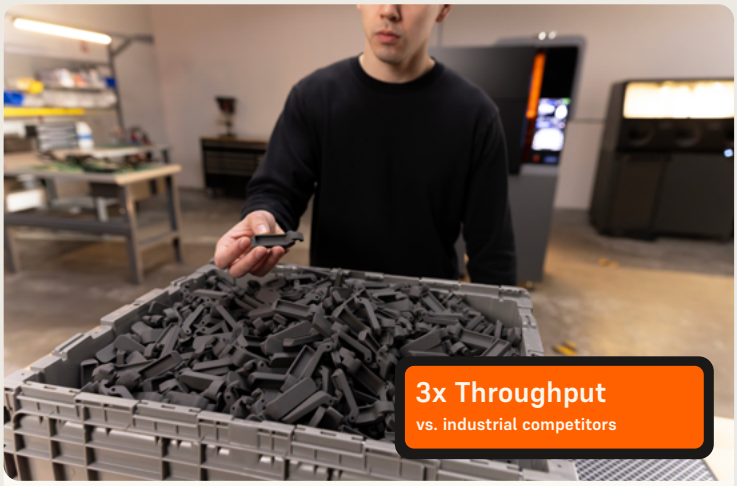


Build Big

Produce full-scale production-quality parts in a massive build volume or run production builds at over 30% packing density to manufacture thousands of end-use parts in days, not weeks.

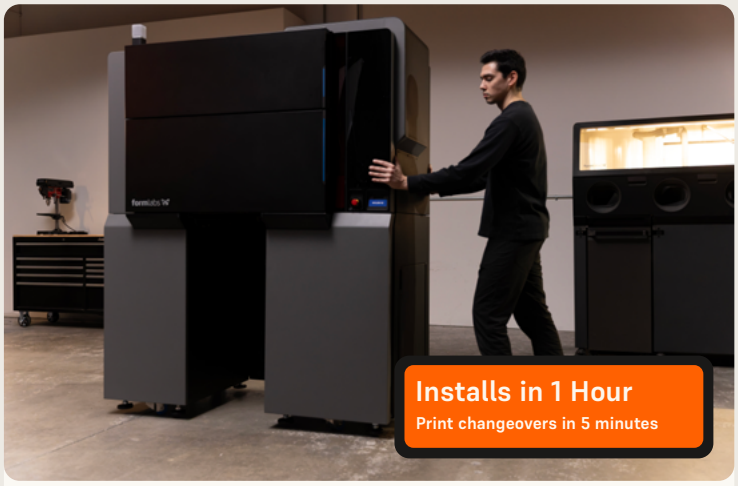
Low Part Cost

Fuse X1 delivers up to 50% lower part cost than legacy powder bed fusion systems in less than half the floorspace. Fuse X1 is cost-competitive with injection molding for tens of thousands of parts.



Productive

With 30%+ packing density and a 61.5L build volume, the Fuse X1 fits more parts in a single build than competing industrial SLS and MJF systems, adding up to thousands more parts per week.



Intuitive and Reliable

Fuse X1 fits through a standard door, doesn't require facility retrofit, and installs and prints on day one. An intuitive touchscreen guides you, while the build unit enables 5-minute changeovers.

Technology

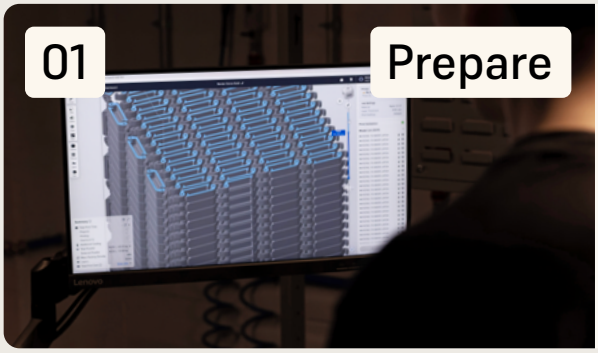
Adaptive Thermal Control enables unlimited packing freedom, and exceptional part quality by delivering, maintaining, and sintering powder at an incredibly stable temperature.

Print Intelligence uses AI-powered computer vision to isolate and prevent failures, maximizing uptime so you get great parts on time every time.

PRINT PROCESS

Large Format SLS, Simplified

An end-to-end industrial workflow you can install and run in one hour.
No dedicated operator required.



Auto-pack, optimize, and organize in PreForm

- Orient, hollow, or label models, estimate print times, and automatically pack parts for optimized density, reducing print time and limiting waste.
- Import STL, OBJ, 3MF, or models directly from a wide range of CAD applications.

Print large parts in hours, not days

- Most large builds complete under 24 hours, with same-day large parts in 5 hours.
- Print Intelligence detects and masks anomalies in real time to protect yield.

5-minute print changeovers with the Fuse X1 Build Unit

- Roll one build unit out, roll the next one in, with blind-mate power and data connectors.
- Insulation allows natural cooling inside the unit, so the printer can start the next job.

Hands-off powder recovery with Fuse Sift X1

- Integrated compressed air, sealed glovebox, and parts hatch keep breakout clean and fast.
- Capacity for 3 to 5 full builds of used powder, with automatic powder transport to the Mix Kit.

Clean and polish with Fuse Blast

- New 400 mm Fuse Blast Large Tumbler Basket fits 2-3× Fuse build volumes and 50% more parts per cycle.
- Optional Polishing System upgrade delivers smooth, semi-gloss, dye-ready surfaces.

Manufacturing
SERVICE BUREAU

AUTOTIVMFG

"The Fuse X1 has been a game-changer for Autotiv Manufacturing. The sheer speed of the platform allows us to deliver thousands of parts to customers in a matter of days. And thanks to SLS technology's lack of support material, our customers have geometric freedom. You can build walls down to about half a millimeter thick, parts up to 600 mm long, and it can run its entire massive build volume in 24 hours."

Evan Labelle,
CEO,
Autotiv Manufacturing

Prototyping
RAPID PRODUCT DEVELOPMENT

RADIO FLYER

"Our frame and accessories are totally custom and very intentionally designed to best serve families. We can do that by printing things in-house and not being restricted to off-the-shelf components or other limitations. With Fuse X1, we can now print an entire Flyer Loop cargo ebike overnight and be gluing it together the next day. So we went from two months to two weeks to a couple of days."

Agostino LoBello,
Product Development Engineer,
Radio Flyer

Tech Specs

FUSE X1

Technology	Selective laser sintering (SLS) | Class 1 Laser Product
Build Volume	330 × 330 × 565 mm | 13.0 × 13.0 × 22.2 in (61.5 L)
Layer thickness	110 microns | 0.004 in
Laser Type	Ytterbium Fiber, 120 W
Laser Spot Size	330 microns | 0.012 in
Throughput	0.330 sintered kg/hr
Max Packing Density	30%+ (volume), 48%+ (mass)
Material Refresh Rate	As low as 20%
Materials	Nylon 12, Nylon 11*, Nylon 12 GF**, TPU**, Open Material Mode
Print Intelligence	AI-powered real-time print failure prevention
Footprint	1.3 m^2 | 14.1 ft^2
Power Requirements	200-240VAC single phase, 50/60Hz, 50A rating
Warranty and Services	Production and Self-Service plans available.

**Available by the end of 2026*
***Available by June of 2027*

SEE IT IN ACTION

Book a Fuse X1 demo

Talk to a Formlabs SLS specialist about your application, request sample parts, or schedule a walkthrough of the Fuse X1 ecosystem:

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