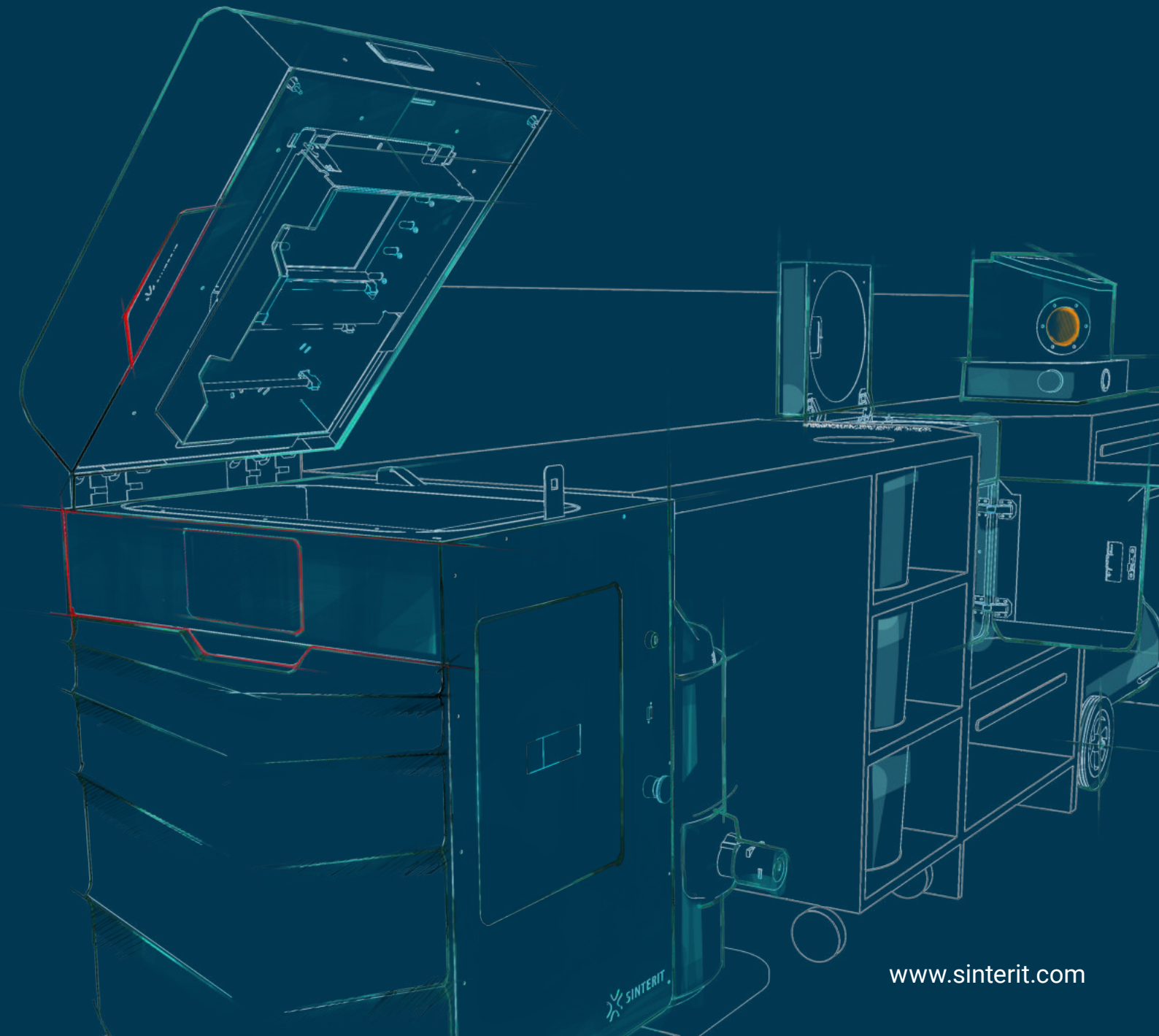
SINTERIT

The most accessible SLS solution

Top SLS quality ▪ Easy to use ▪ Affordable ▪ For all professionals



www.sinterit.com

Why SLS?

We started from scratch

Over the years, Additive Manufacturing excelled in product validation, prototyping and research. But until now it never was so accessible. Especially when we think about the most advanced rapid prototyping technologies.

When we created our first small SLS 3D printer, Sinterit Lisa in 2014, it was a great challenge, as desktop SLS 3D printers did not yet exist. And the game was afoot. After years we gathered the knowledge from Lisa users and the newly created market. That led us to introduce in 2018 the more advanced Lisa Pro.

The most available SLS 3D printing solution

Now, we know even more about the SLS technology, but mostly, about the user experience. This is why we see SLS as a whole end-to-end solution. Sinterit makes it one of the easiest and cleanest SLS 3D printing solutions on the market. Perfect for design validation or prototyping, as well as research and educational purposes. You get a solution suitable for your business, produced by a reliable company from EU.

SLS (selective laser sintering) may be one of the most advanced Additive Manufacturing techniques, but the idea behind it is simple. Laser beam sinters the preheated, thermoplastic powder layer by layer. The build is made in a closed environment. Unsintered powder stands as a natural support for over-hanging parts or open-frameworks and can be reused in another print job. The process is safe and reliable.

SLS makes it easy for designers and engineers to achieve their goals without too many compromises: no supports needed, smooth surfaces, sharp details and edges, movable parts in one print with complicated inner-geometries.

Validate and prototype with ease

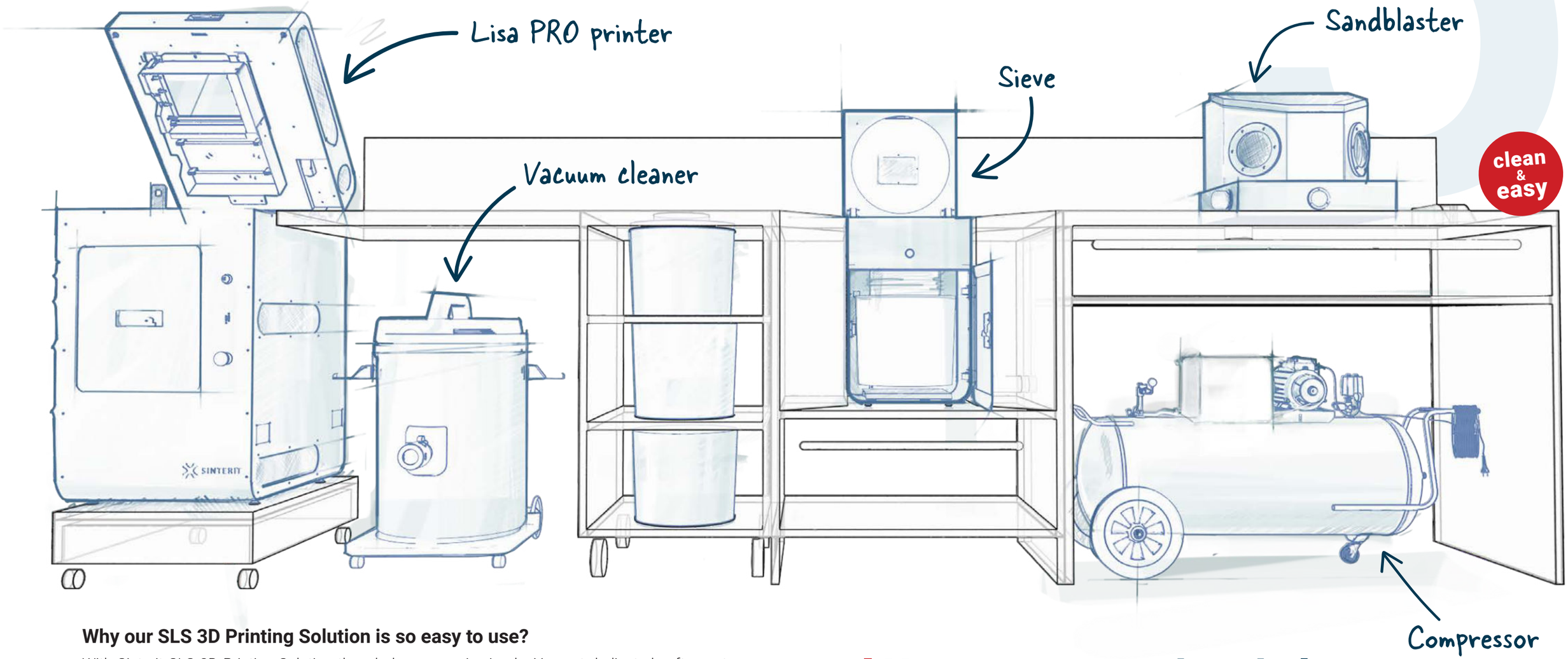
It is all about the user experience. The role of Additive Manufacturing is to give you freedom of design, a chance to validate your projects, as well as a fast and inexpensive way to print your prototypes, doing research or even small batches of parts.

SLS 3D Printing Solution

Small SLS 3D Printing Solution (SLS3DPS) gives you the opportunity to achieve your educational, prototyping and final production goals.

Achieve your goals in five simple steps

1. Prepare your models in Sinterit Studio, our own dedicated software
2. Fill the printer with powder
3. Print with either Lisa or Lisa PRO for the best quality, detailed prints
4. Take out your printouts, clean and post-process
5. Recover and reuse the powder for the next prints



Why our SLS 3D Printing Solution is so easy to use?

With Sinterit SLS 3D Printing Solution the whole process is simple. You get dedicated software to plan the workflow. With a variety of powders and two printers the possibilities of using SLS technology are expanding. The whole set of post-processing devices - Sandblaster to clean your printouts, a Vacuum Cleaner to manage the powder with ease, and Sieve to recover all of the unused powder and prepare it for the next printing job - makes your work clean and easy.

You can master the whole solution in just one hour.

SLS 3D Printing Solution at work

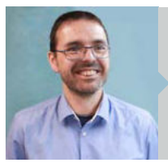
It works

Prototyping

Client: Sybet
Printer: Sinterit Lisa

Maciej Burzyński from Sybet prototyped with Sinterit Lisa a portable handheld receiver for KGHM, the world leader in copper and silver production.

Printing the whole set of radiotelephone parts with PA12 and Flexa Grey costs less than 600 USD and takes about four days. Comparing it to 40 000 USD for the molds used for prototyping purposes the ROI is achieved during the first project. In the end it is the fastest and the most cost-effective solution when precision, detail and surface quality matter.



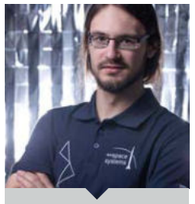
It takes about 24-28 hours to print the models we design. I just set the printer one day in the morning, and the next day, in the afternoon printouts are ready for the tests or for the client approval.
Maciej Burzyński, Sybet

Research

Client: AGH Space Systems
Printer: Sinterit Lisa Pro

Students from AGH Space Systems were developing a hybrid rocket, which is well recognized thanks to safety of the application, as fuel itself does not interact with an oxidizer prior the launch.

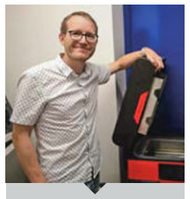
The concept of SLS printing was proposed for improvement of toughness, fracture toughness and stiffness of fuels from the paraffin family.



Due to resolution of Sinterit Lisa PRO SLS technology ranging 0.1 mm, dense network of filaments was printed, including such details as spherical contact points, preventing from stress intensification and brittle fracture of load-bearing filaments.
Dominik Zdybał, AGH Space Systems Team

Education

Client: Technical University of Liberec
Printer: Sinterit Lisa Pro



Lisa PRO is representing available SLS technology. It brings us the possibility to investigate nature-inspired shapes with students interested in biology. Such shapes are produced by SLS technology very well compared to the others. We use it for 3D printing of hand prosthesis, topology optimized objects.
Jan Koprnický, Zoltán Dolenský, Jakub Macháček

Researchers and academics from the Technical University of Liberec were among the first Lisa PRO users.

After more than a year they have used small SLS technology for a large number of different researches and projects.

TECHNICAL UNIVERSITY OF LIBEREC
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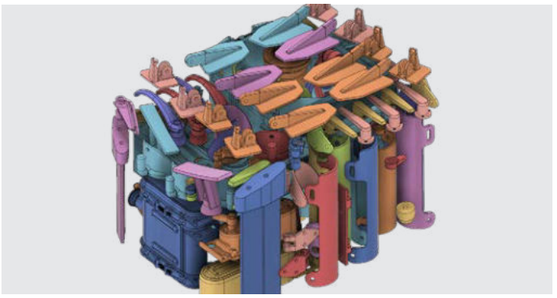
Prototyping & final parts production

Client: Scale Print
Printer: Sinterit Lisa



Stefan Radau was a managing director in a big interior outfitting company. After almost 30 years he left to start SCALE PRINT.

In his newly founded company, Stefan manufactures parts for models that cannot be purchased on the market. Most of them are printed with Lisa, and Stefan Radau is known for making the most of the small SLS 3D printer.

I have printed with Lisa for more than 1600 hours, filling the printing area to the limit 60 times. In the image, you can see how many elements could fit in Sinterit Lisa at once. And the printouts confirms the quality of it.
Stefan Radau

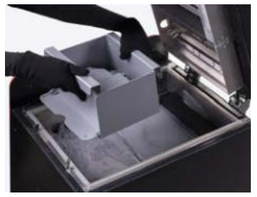
It was the best choice for me to fulfill all requirements: possibility to print complex structures, price, speed, reliability.

Professor Dr.Ing. Rigo Herold, Zwickau University in Germany

Lisa

Entry-level SLS 3D printer

Lisa revolutionized SLS technology becoming the first small and most affordable printer in that segment. It even opened an entirely new one called “desktop SLS”. Lisa is a printer that every small or medium company can afford. Outstanding precision and compact size makes it a choice for users who would like to print like a pro but don't have a dedicated space for an SLS 3D printer.



Print volume

PA - high accuracy max print volume	90 x 130 x 130 mm (3.5 x 5.1 x 5.1 in)
Flexa/TPE - high accuracy max print volume	110 x 150 x 150 mm (4.3 x 5.9 x 5.9 in)

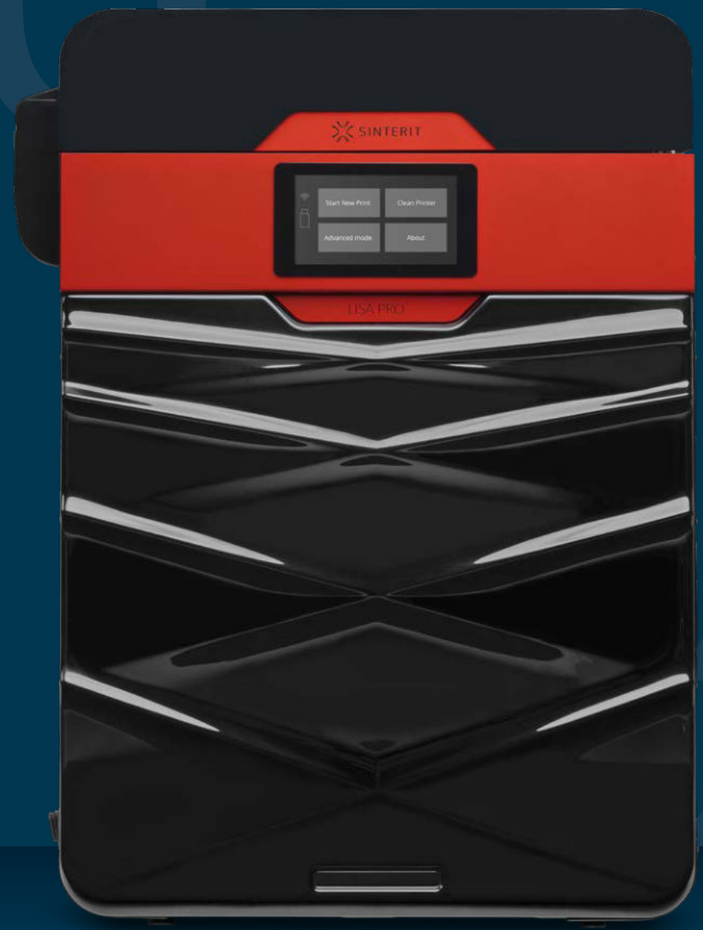
Parameters

Print bed size	150 x 200 x 150 mm (5.9 x 7.9 x 5.9 in)
XY accuracy	from 0,05 mm (0.002 in)
Layer height Z (min - max)	0.075 - 0.175 mm (0.003 - 0.007 in)
Nitrogen chamber	No
Laser system	IR Laser Diode 5 W ; λ =808 nm
Software included	Sinterit Studio
Dimensions	620 x 400 x 660 mm (24.4 x 15.8 x 26.0 in)
Weight	41.0 kg (90.4 lbs)
Power supply	220-240 V AC, 50/60 Hz, 7 A 100-130 V AC, 50/60 Hz, 15 A
Average power consumption	0.9 kW

Lisa PRO

Advanced SLS 3D printer

Lisa PRO is the heart of our SLS 3D Printing Solution. It is the most advanced and accessible small SLS 3D printer. Thanks to open parameters and built-in nitrogen chamber Lisa PRO attracts academics and researchers, giving them possibilities to blaze a trail. Together with large build volume it makes Lisa PRO a perfect choice for research, education, functional prototyping or even low volume production.



Print volume

PA - high accuracy max print volume	90 x 130 x 230 mm (3.5 x 5.1 x 9 in)
Flexa/TPE - high accuracy max print volume	110 x 150 x 250 mm (4.3 x 5.9 x 9.8 in)

Parameters

Print bed size	150 x 200 x 260 mm (5.9 x 7.9 x 10.2 in)
XY accuracy	from 0.05 mm (0.002 in)
Layer height Z (min - max)	0.075 - 0.175 mm (0.003 - 0.007 in)
Nitrogen chamber	Built-in
Laser system	IR Laser Diode 5 W ; λ =808 nm
Software included	Sinterit Studio Open
Dimensions	690 x 500 x 880 mm (27.1 x 19.7 x 34.6 in)
Weight	90.0 kg (198 lbs)
Power supply	220-240 V AC, 50/60 Hz, 7 A 100-130 V AC, 50/60 Hz, 15 A
Average power consumption	1 kW

Sinterit Lisa PRO is the most accessible device to produce precise constraint-free solutions to modern problems.

Maurice Briggs, Lazerthrust

3

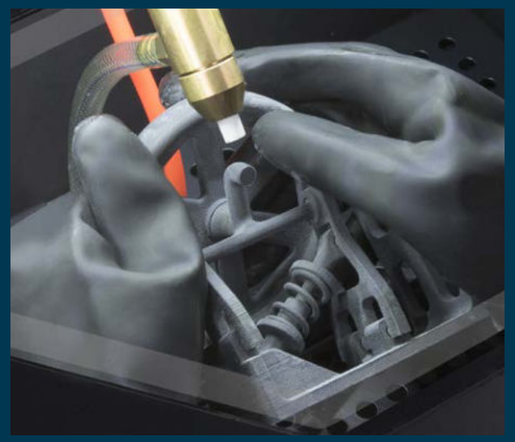
After putting your part in the machine, you slip your hands through a huge pair of heavy-duty gloves, step on the floor pedal, and abrasive material is whipped out of a special nozzle. This post-processing step helps remove additional loose powder and smoothes the part's surface.

Ludivine Cherdo,
Head of Content
Aniwaa

Sandblaster

Perfectly smooth surface

Post-processing of SLS printed parts is not a big deal. You don't need to remove any supports, neither mechanically nor chemically. All you need to do is to get rid of spare powder connected to your printed parts. The best and cleanest method is to use compressed air and a sandblaster. With this device you will clean and polish the surfaces.



Parameters

Type	Manual
Working area	410 x 310 x 200 mm (16.1 x 12.2 x 7.9 in)
Max. pressure	0.86 MPa / 8.6 bar / 125 psi
Coupling	DN 7.2
Max. abrasive material capacity	4.5 kg (9.9 lbs)
DImensions	480 x 370 x 360 mm (18.9 x 14.5 x 14.1 in)
Weight	15 kg (33 lbs)

Illumination

Power	6 W
Input voltage	230 V / 50 Hz or 120 V / 60 Hz

Abrasive material

Grain size	Glass balls 0.2 mm

Required compressor parameters

Air flow	300 L/min
Pressure	0.60 - 0.86 MPa / 6 - 8.6 bar / 87 - 125 psi

ATEX Vacuum Cleaner

Clean and easy

The maintenance of our printers is super easy and fast thanks to a vacuum cleaner. For safe and effective work with SLS printers you need a device with ATEX certificate. The one we put into our SLS 3D printing solution is not only clean, but also safe. You can use the vacuum cleaner as a cleaning device, but also to collect the powder for your next printing jobs.

Parameters

Suction inlet	50 mm
Noise level (EN ISO 3744)	74 dB (A)
Collection unit capacity	40 L
Air filter	CAT E10
Dimensions	440 x 420 x 780 mm (17.3x16.5x30.7 in)
Weight	25 kg

4

The most accessible SLS solution

Powder Sieve

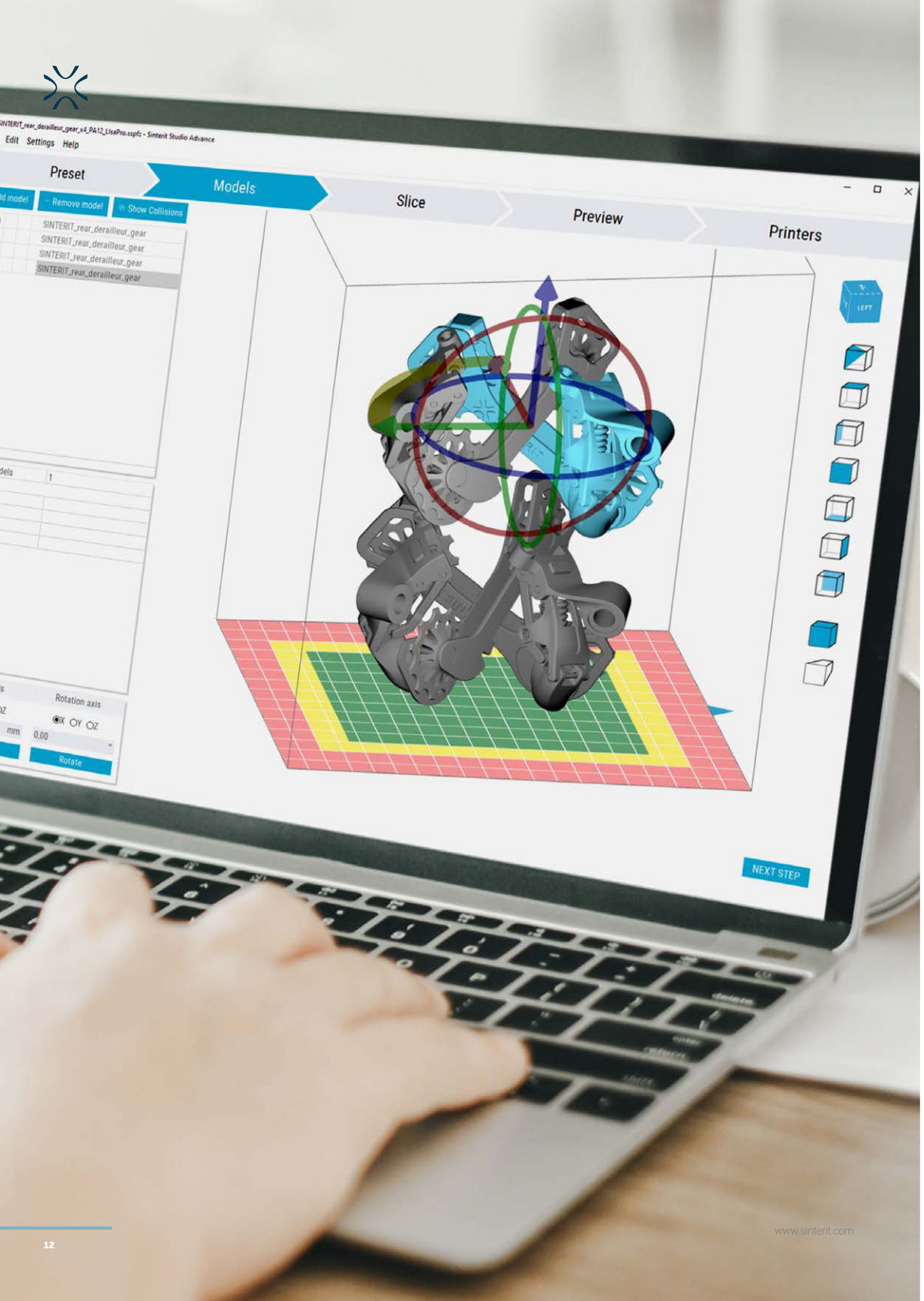
Easy reuse

Powder Sieve is a game-changer for powder maintenance. With this device you can sieve unsintered powder and prepare it for another print. It is fast, as typical sieving operation takes only 18 minutes and is easy to use. Just one button to press.

Parameters

Powder capacity	5 L
Sieving time	18 min
Dimensions	600 x 340 x 330 mm (23,6 x 13,4 x 13 in)
Weight	22,5 kg (48,5 lbs)
Power supply	12 V / 2 A
Powe consumption	24 W

5



Sinterit Studio

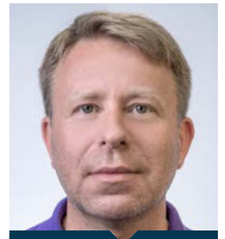
Dedicated software for all your needs

Sinterit Studio is an easy to use, intuitive software which takes users step by step through the whole SLS 3D printing process.

From choosing the printer, powder type, and layer height, to arranging models in the printing area, slicing them and finally, preparing a file that is ready to be printed.

Sinterit Studio makes it simple to monitor the printing process. While it is connected via WiFi with all of the user's printers, it is easy to check the surface temperature, or time to finish, and of course, there is a live view from the printer's camera.

Sinterit Studio is available in four versions, which gives a more advanced users a possibility to change parameters of the printer.



SLS technology gives you an opportunity to achieve the most detailed and smooth surfaces, but you need to know how to arrange models. Sinterit Studio is more than a tool. It helps me to array models, based on my knowledge and the possibilities of SLS 3D printing.

Andrzej Krzanowski, 3D Printing Specialist, Sinterit

Choose your version of Sinterit Studio:

Supported materials	Sinterit Studio	Sinterit Studio OPEN	Sinterit Studio PROFILES	Sinterit Studio ADVANCED
PA12 Smooth	✔	✔	✔	✔
PA11 Onyx	✔	✔	✔	✔
Flexa Grey	✔	✔	✔	✔
Flexa Soft	-	-	✔	✔
Flexa Bright	-	-	✔	✔
TPE	-	-	✔	✔
Open Parameters	-	✔	-	✔

Supported file types: STL, OBJ, 3DS, FBX, DAE, 3MF

Model arranging environment

Printer's status monitoring

Estimating the amount of needed powder

Model slicing

Powders

To address all possible applications

Our solution covers many kinds of applications, and offers a range of materials that you can print with.

The powders offer is designed to suit the needs of people who use 3D printing for prototyping, education, research, low volume production and in many other areas.

The nature of the additive manufacturing is important because it determines the geometry you can print. But it is the materials that determine what properties will printed elements have and in what applications they can be used - what kind of role they will play.

Konrad Kobus,
Mechanical engineer, Sinterit

01

PA12 Smooth

A rigid polyamide 12 powder (nylon based compound) with excellent surface resolution. Perfect for detailed objects.

Applications

Rapid prototyping, assembled models with interlocking components, mechanisms, functional parts of highest quality, detailed objects, low volume production of low stress parts, elements with sharp edges.

Features

- High precision
- Smooth surface
- High stiffness
- High chemical resistance
- 30% refresh ratio*

02

PA11 Onyx

Nylon powder with superior mechanical and thermal resistance.
Great for elements working in difficult conditions.

Applications

Final prototypes, all elements that need to work under load, spare parts, jigs, fixtures, snap-fit designs.

Features

- High mechanical, impact, wear and chemical resistance
- More elastic than PA12
- 50% refresh ratio*

03

TPE

Elastic and mechanically resistant multi-purpose material, also for air/watertight applications**

Applications

Elastic mechanical resistant elements, final prototypes, spare parts, low volume production of elastic parts, water/airtight elements, gaskets.

Features

- **Water/airtight after sealing
- Durable
- Elastic
- 10% refresh ratio*

04

Flexa Bright

A functional rubber material that can be dyed to other colors.

Applications

Prototyping colored elements, clothing parts, mockups, elastic printouts with higher mechanical resistance, vibration dampers and isolators, gaskets, pre-surgery printouts in the medical industry.

Features

- High mechanical resistance
- Dyeable
- Elastic
- 0% refresh ratio*

05

Flexa Soft

Low Shore-A material that could be used in design, art and simulation of highly soft materials.

Applications

Elastic elements that don't need high mechanical resistance, soft elements, housing elements that need to be soft to touch, fashion design, art.

Features

- Elastic
- Soft to touch
- Low Shore-A value
- 0% refresh ratio*

06

Flexa Grey

General purpose elastic TPU material for prototyping and final parts.

Applications

Washers, gaskets, elastic sleeves, vibration dampers and isolators, prototyping elastic parts.

Features

- Elasticity
- Adjustable hardness (set up in Sinterit Studio)
- 0% refresh ratio*

*refresh ratio is the amount of refreshing powder that is required to be mixed after the printing with unsintered material

Sinterit 20191106_EN_V01

All our printers are manufactured in Poland, since 2014

Find a distributor in your country:
www.sinterit.com/our-distributors/

If you have any questions, simply ask us at:
contact@sinterit.com or call +48 570 967 854

How it works?

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