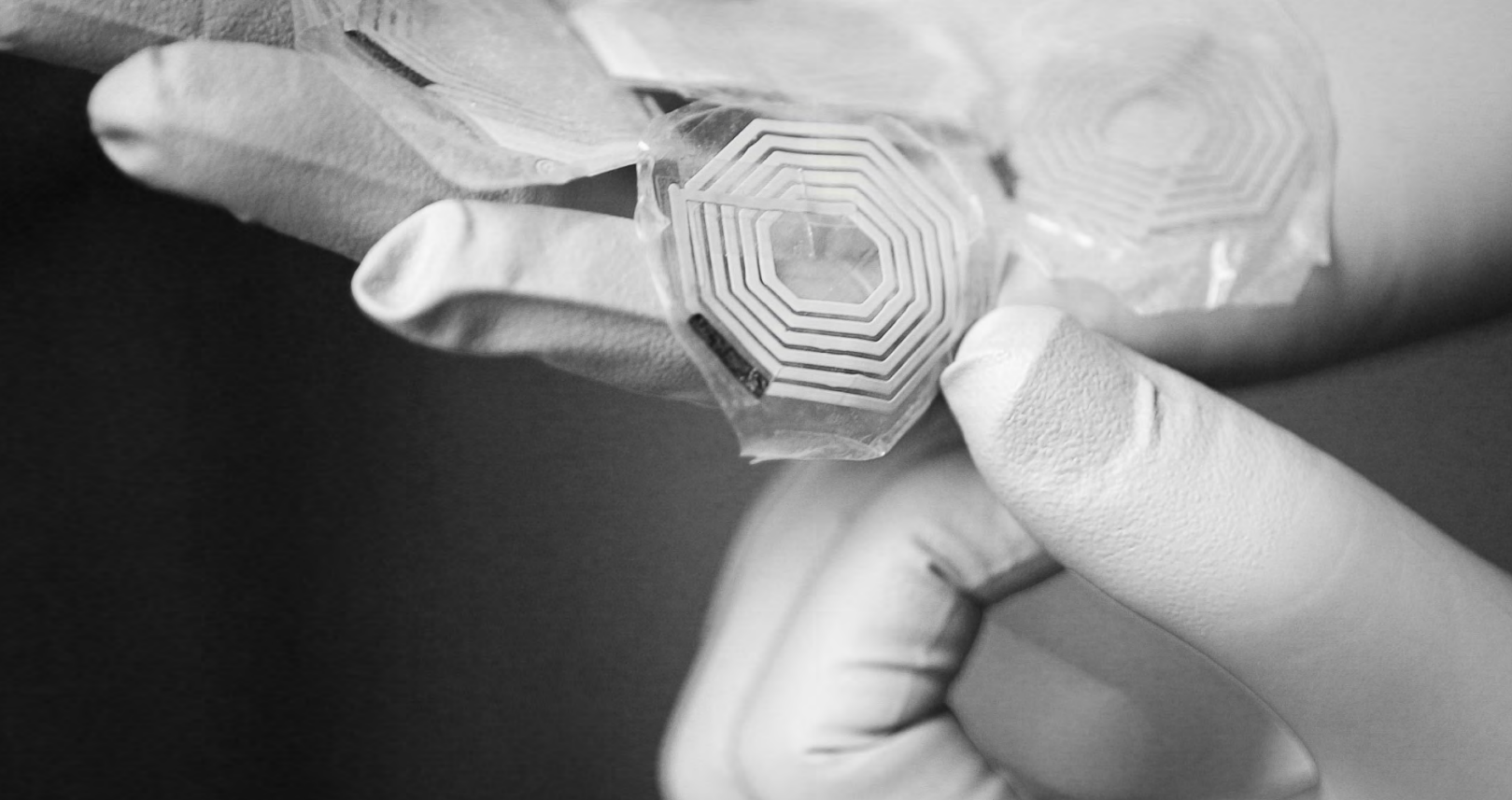
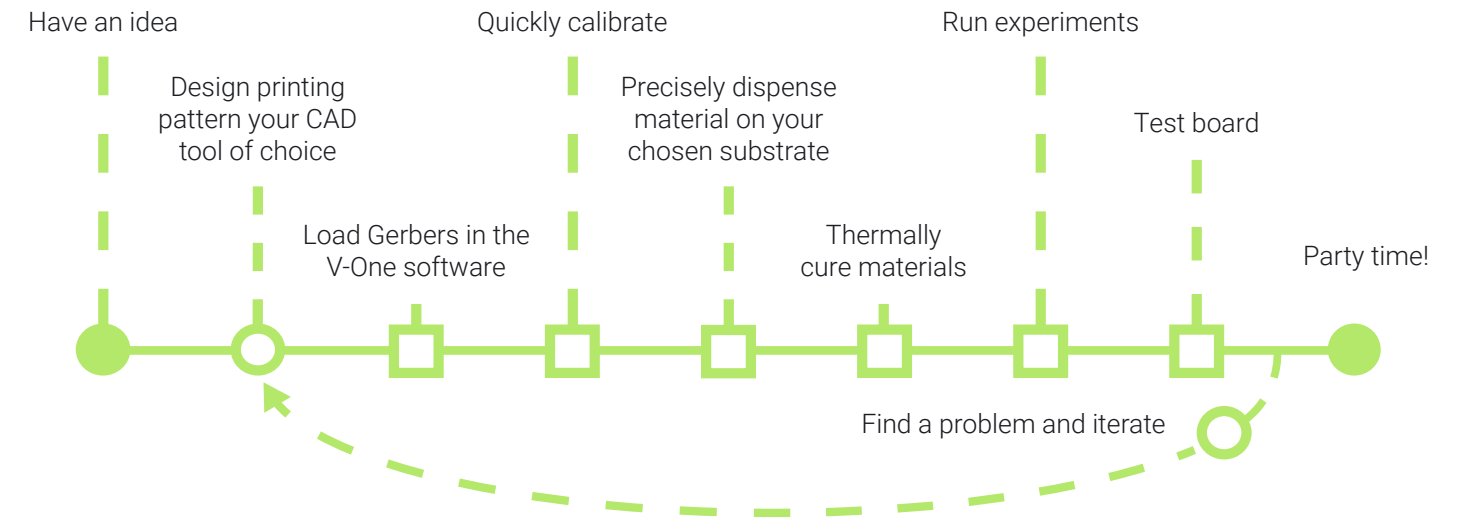


VOLTERA FOR
RESEARCHERS



Experimentation with the Voltera V-One.



The V-One supports fundamental research without breaking the bank.

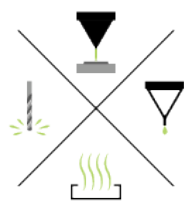
The V-One is a platform for turning your “what-ifs” into reality.

The Voltera V-One is a modular, G-Code customizable platform with standardized ink cartridges that can dispense any ink, paste or viscous fluid with ± 10 micron accuracy on fiberglass resins, ceramics and plastics. The possibilities are endless.

Curious about the kind of fundamental, curiosity-driven research is possible on the Voltera V-One? Just browse

the dozens of research citations the V-One has on Google Scholar from institutions like Stanford, the IEEE, McGill & Duke Universities.

Novel sensor applications, RFID antennas, IoT, e-textile, robotic & mesh technologies... these are just some of the applications flexible and stretchable substrates make possible with advances in conductive ink technology.



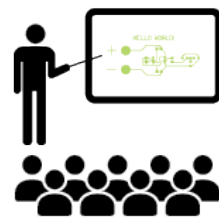
All-in-one platform

Precision material dispensing, CNC drilling and a heated bed that allows for custom curing profiles up to 240°C, all on your benchtop.



Easy experience

Using the V-One is a breeze. From simple software with in-app video instructions to magnetic attachments, it's as easy to use as an iPad app.



Collaborative relationship

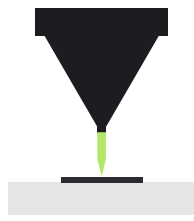
The Voltera team is always available to help with material testing & fine tuning rheological parameters. Materials science is half of what we do!

Teams at leading institutions like Princeton, Stanford, Harvard, Oxford, Apple, NASA and Intel use the V-One for research.



Design. Print. Test. Repeat.

The Voltera V-One is a “compile” button for hardware designers and engineers.



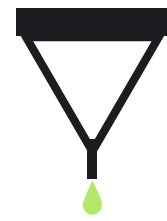
Align

Align quickly using Voltera's smart height probe and existing board features as fiducials for XY alignment.



Drill

Designed to be compact, the V-One drills through-holes and vias at 13,000 RPM with a 3 mil runout.



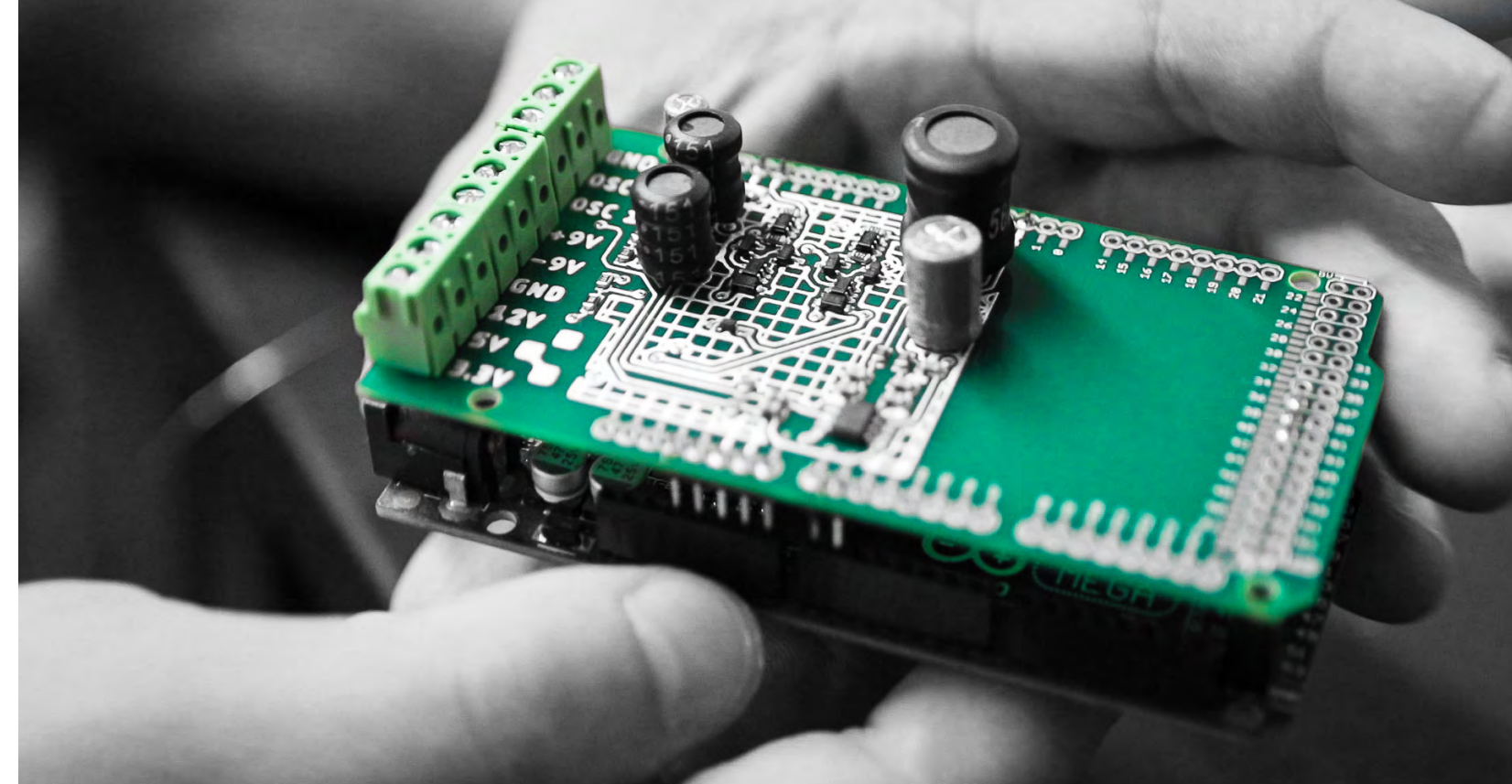
Dispense

Deposit ink and solder paste on printed or factory-fabbed boards with a 0.65mm pin-to-pin pitch.



Reflow

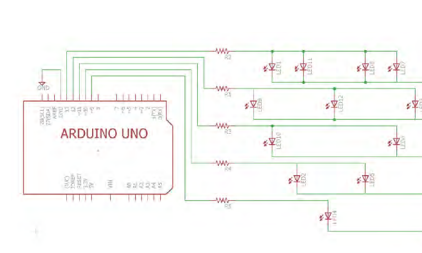
Cure ink and reflow with one click using pre-registered heating profiles on the 550W heater.



The V-One lets you use your own inks & substrates, and set the temperature profile to cure all sorts of materials up to 240°C.

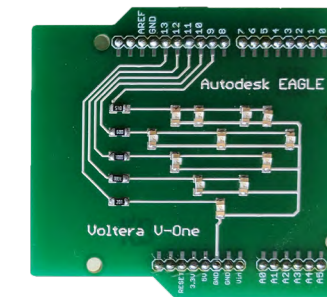
Template shields for Arduino, Raspberry Pi and more.

Validate quickly with templates for popular open source microcontrollers.



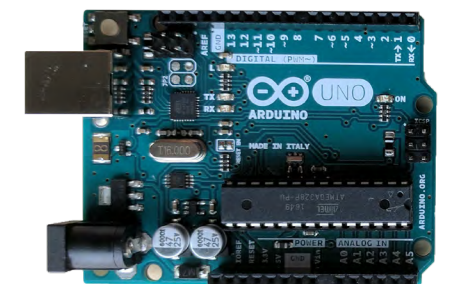
Design

Design your schematic and layout in Eagle, Altium, KiCad, or any other design software with Gerber output. Then, load your design to the V-One software and you're ready to print.



Print & populate

Print and cure your circuit design on template boards specifically designed by Voltera to work with open source microcontrollers. Then dispense solder paste, populate & reflow.



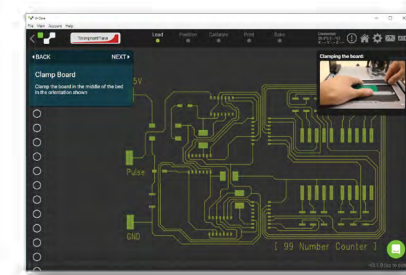
Watch it work

Once the circuit is finished, mount it onto the Arduino and program your prototype. All in all, the above project took less than 2.5 hours from start to finished, functioning device.





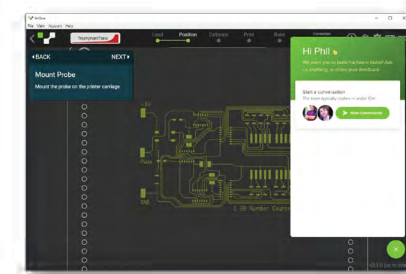
Simple and elegant design.



Step-by-step video instructions.



Smart alerts prevent printing issues.



In-app support chat.

Software that teaches every step of the way

Lab software that's as easy and intuitive as a smartphone app.

Sick of using software that was created in the days of dial-up internet and beepers? We are too.

Our software is also completely free: no recurring licenses or big up-front payments required.

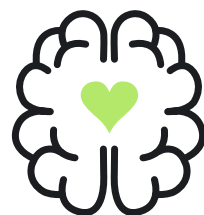
Our software is simple and straightforward, with instructional videos to guide you every step of the way. Support chat is built right into the app, and a playlist of detailed support videos will make sure you never get stuck.

You can get started with electronics prototyping moments after your download the software from our website. Download it now for free and upload a few designs to see how easy it is to use.



In-app chat

The V-One was designed to be used by everyone. Even with no experience, you can sit down and print your first circuit in minutes.



Intuitive

Our software is part of what makes the V-One so intuitive. Follow our workflow and you'll go from a blank board to a finished circuit in an hour or two.



Free

Our goal is to help the world build hardware faster, and completely free software is a part of that. No upfront costs or recurring license fees required.

A precision dispensing system tailored for screen printable materials, use the V-One to experiment and validate your patterns on rigid, flexible or stretchable substrates.





The V-One Spec

DRILLING	METRIC	IMPERIAL
Spindle Speed (Max.)	13,000 RPM	13,000 RPM
Power	12V, 25W	12V, 25W
Runout (TIR)	0.076mm	0.003"
Shank Diameter	3.175mm	1/8"
Supplied Substrate Material	FR1	FR1
Bit Diameter (Max.)	2mm	0.078"
Bit Length (Max.)	38.1mm	1.5"

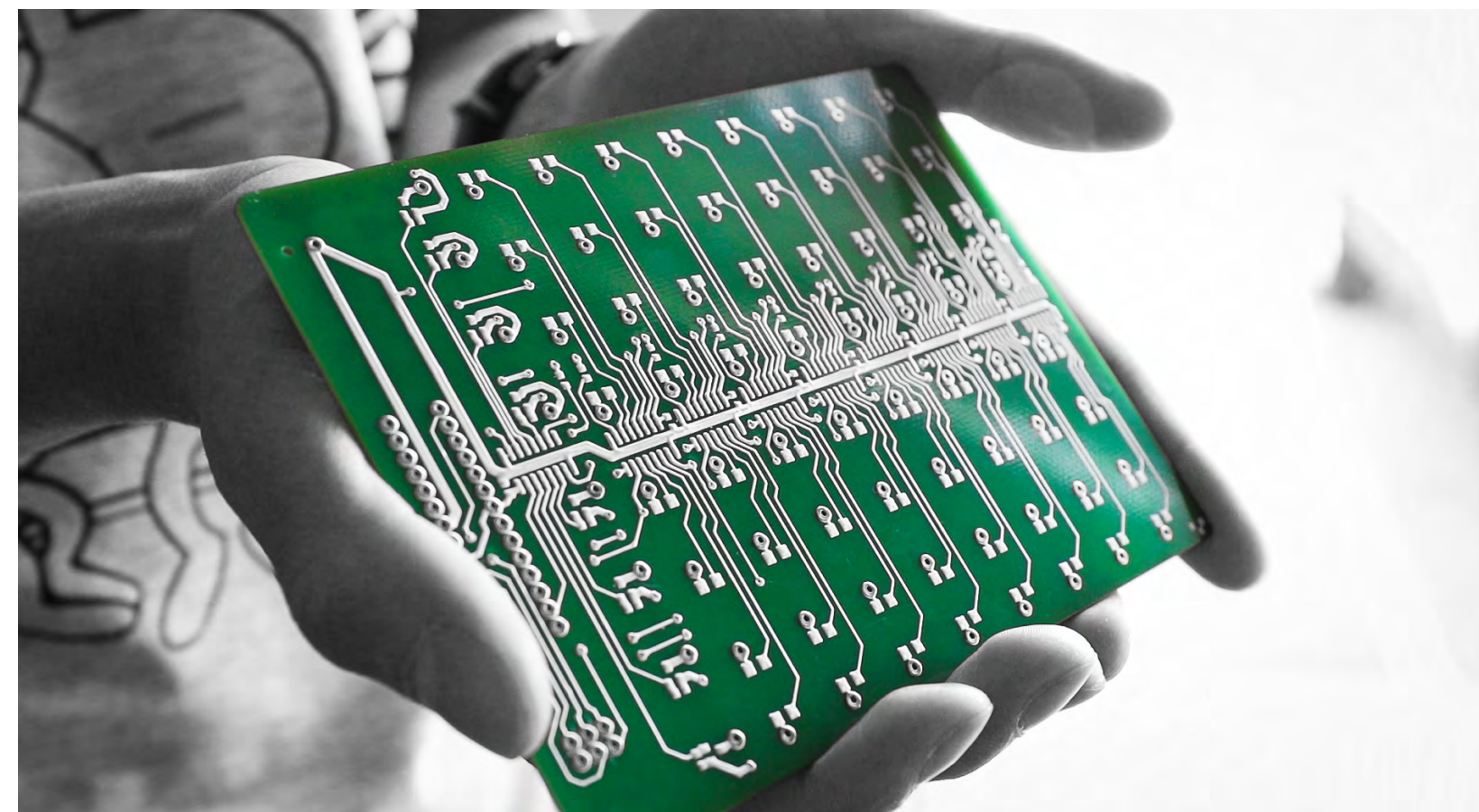
SOLDER COMPATIBILITY	Sn42/Bi57.6/Ag0.4 Solder	Sn63/Pb37 Solder
Standard Ink	✓	X
Flexible Ink	✓	X
Copper PCBs	✓	✓
HASL PCBs	X	✓

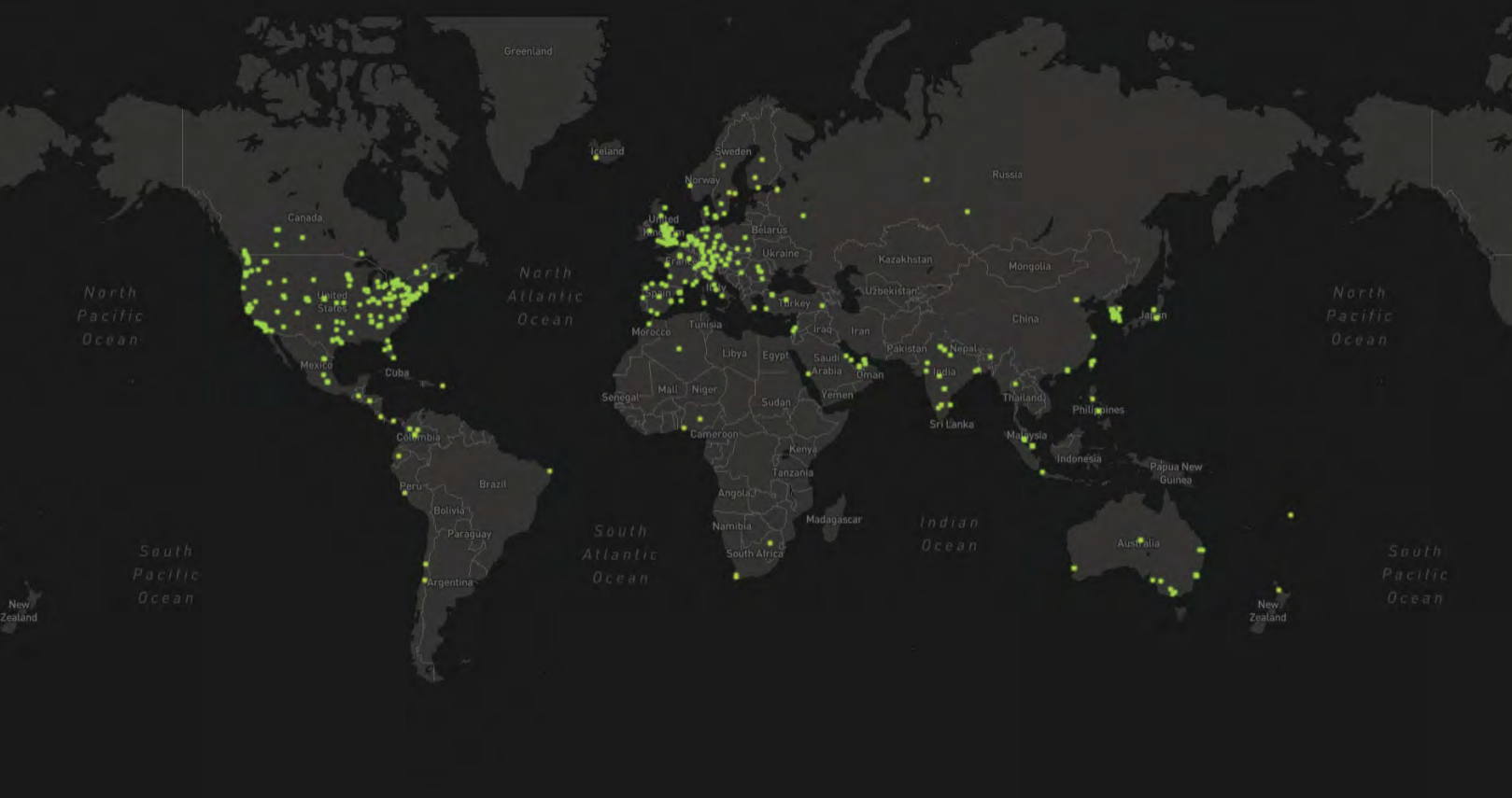
SOFTWARE REQUIREMENTS	
Operating Systems	Windows 7, 8, 10 (64bit), OSX 10.11+
Compatible File Format	Gerber
Connection Type	Wired USB 2.0

PRINTING	METRIC	IMPERIAL
Minimum Trace Width	0.2mm	8mil
Minimum Passive Size	1005	0402
Minimum Pin-to-Pin Pitch	0.65mm	26mil
Resistivity	12mΩ/Sq @ 70um Height	12mΩ/Sq @ 3mil Height
Supplied Substrate Material	FR4	FR4
Maximum Board Thickness	3mm	0.125"

SOLDERING		
Minimum Passive Size	1005	0402
Minimum Pin-to-Pin Pitch	0.5mm	20mil
Solder Paste Alloy	Sn42/Bi57.6/Ag0.4	Sn42/Bi57.6/Ag0.4
Solder Wire Alloy	SnBiAg1	SnBiAg1
Soldering Iron Temperature	180-200°C	355-390°F

FOOTPRINT AND PRINT BED		
Dimensions (L x W x H)	390mm x 257mm x 207mm	15.4" x 10.1" x 8.2"
Weight	7kg	15.4lbs
Print Area	128mm x 116mm	5" x 4.5"
Max. Heated Bed Temperature	240°C	464°F





A global community of users.

Join the researchers, educators and engineers around the world innovating with the V-One.

We have shipped thousands V-One's to over 60 countries and counting. With over a dozen resellers on nearly every continent, it's easy to purchase, restock or find support for your V-One in your native language.

Academic reserachers creating exotic printed electronics, high school teachers helping students learn the fundamentals of electronics design and product developers at the world's top tech companies are using the V-One to push the boundaries of what's possible.

"We use the Voltera V-One to dispense various pastes for printed electronics onto a number of different substrates ranging from FR4 to 3D printed objects to carbon fiber composites. The V-One is one of the workhorses in our lab because of how easy it is to get started printing. A major advantage is the customer service, which has always been very responsive and helped us to quickly solve any problems."

—Dr. Gerd Grau, Assistant Professor, York University



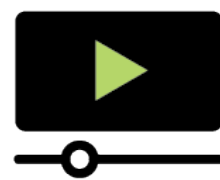
Save money

The V-One lets you create working prototypes without the hassle or cost of outsourcing rigid PCB fabrication overseas.



o-day lead time

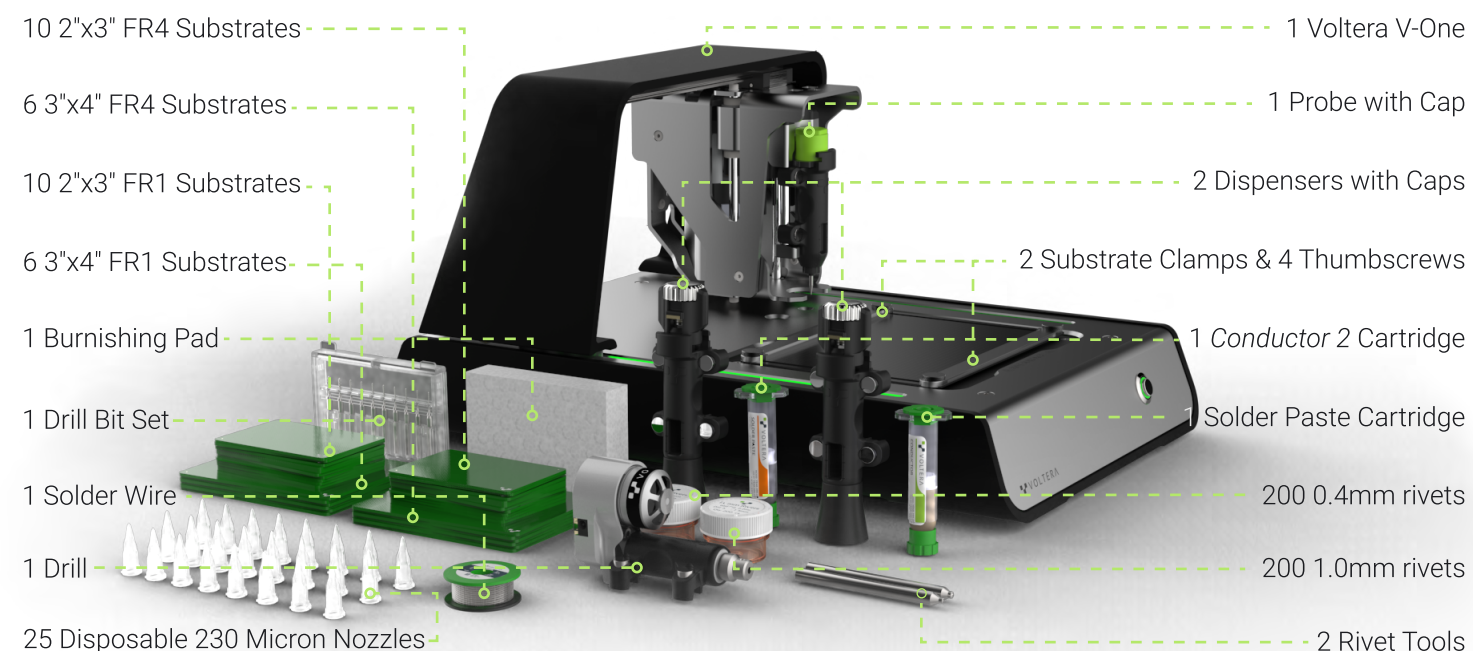
Accelerate your research by prototyping and iterating faster. The V-One allows you to experiment with novel substrates and in-mold electronics easily.



Online help center

Searchable guides, safety data sheets, getting started projects, video tutorials & educational content. All with technical support staff a message away.

What's in the box?

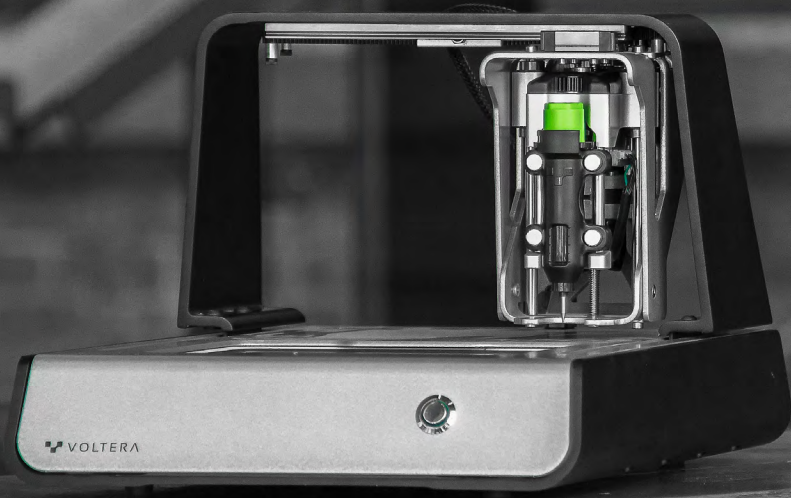


(Not pictured) 1 Sacrificial Layer 1 Hello World Starter Kit 1 Punk Console Starter Kit 1 Voltera Anti-Static Tweezers 1 Set of Safety Glasses

"The V-One has really been a game changer for us. We are experimenting with concepts we never thought were possible before. This little machine has opened up a portal of possibilities in our research."

— Anonymous In-App Feedback





voltera.io

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BUILD HARDWARE FASTER