VOLTERA

Print anything. On everything.

2022 Media Kit

A little **about us**

Founded in 2013, Voltera is a rapidly scaling technology company that has been driving change in the additive electronics industry by making PCB prototyping easier. We make tools for every electronics project — whether it's teaching students the fundamentals of electronics, enabling product developers to design today's innovative solutions, or providing a platform for researchers to explore the materials and methods of the future. We enable iteration and innovation — quickly — at the desks and in the labs of organizations all over the globe.

Voltera's inaugural product, the **V-One desktop PCB printer**, was one of the first direct-ink write printers for traditional rigid electronics. In addition to printing traces with conductive ink, the V-One is also a solder paste dispenser with a built-in reflow bed. With volatile supply chains in the electronics industry and long lead times on PCBs from overseas, the V-One has cemented its status as a must-need machine on the desks of anyone developing rigid circuit boards.

Launched in 2015, it didn't take long for the V-One (and Voltera) to start racking up the accolades.

- THE JAMES DYSON AWARD — International winners
- POPULAR SCIENCE — Invention of the year
- TechCrunch HARDWARE BATTLEFIELD — International winners
- IDTechEx Show! — Best product – printed electronics
- CPES 2017 — Innovation award winners

In October 2022, Voltera launched its next additive electronics industry disruptor — **NOVA**. NOVA is the world's first printer designed for creating soft, stretchable, and conformable electronics. From printed on-skin sensors to clothing that can measure your heart rate (yet go through the gentle cycle in your washing machine), NOVA crosses the bridge between what we can do and what we wish we could do with electronics. It's a first-of-its-kind machine that provides materials freedom — the ability to experiment with innovative and custom inks and materials. Its applications are limitless.

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Voltera's products are in the labs and on the workbenches of some pretty heavy hitters — from multinational consumer electronics companies to space agencies and Ivy league universities. Voltera helps the world's most innovative minds solve problems. Our customers, across the board, are changing what we *think* we know about electronics applications.

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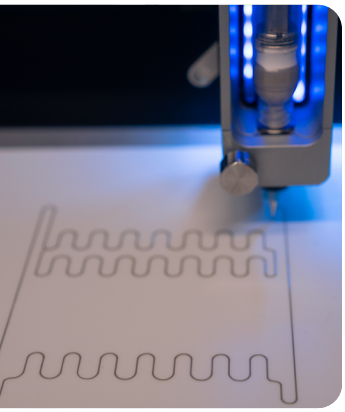
Case Study: Wearable Technology

NOVA is a direct-write, precision dispensing digital manufacturing platform that fits on your workbench. It's built to be modular to allow maximum flexibility — as new modules are designed, NOVA will grow with you. Your capacity to experiment, iterate, and improve is limitless.



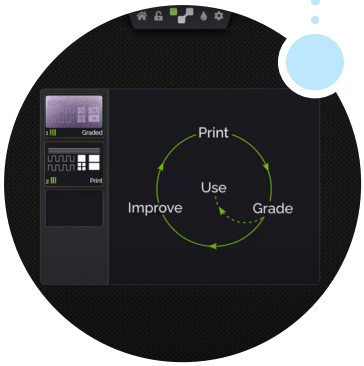
GOAL:

To create a wearable heater for a traditionally manufactured pair of jeans.

MATERIALS:

- DuPont Intexar (PE874) stretchable, silver conductive ink
- DuPont Intexar (TE-11C) Thermoplastic Polyurethane (TPU)
- T-Shirt Press
- Pair of jeans

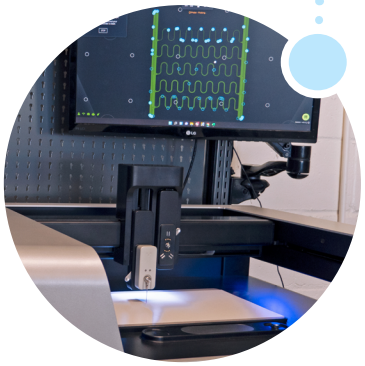
METHOD:



CALIBRATED NEW INK

with NOVA's semi-automated calibration routine.

Elapsed time: <5 minutes.



HEIGHT MAPPED SUBSTRATE SURFACE

with the ruby-tipped stylus for precision touch-probing, and the modular vacuum table to affix the substrate.

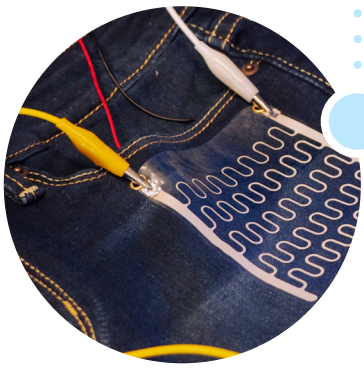
Elapsed time: <5 minutes.

PRINTED THE CIRCUIT ONTO TPU

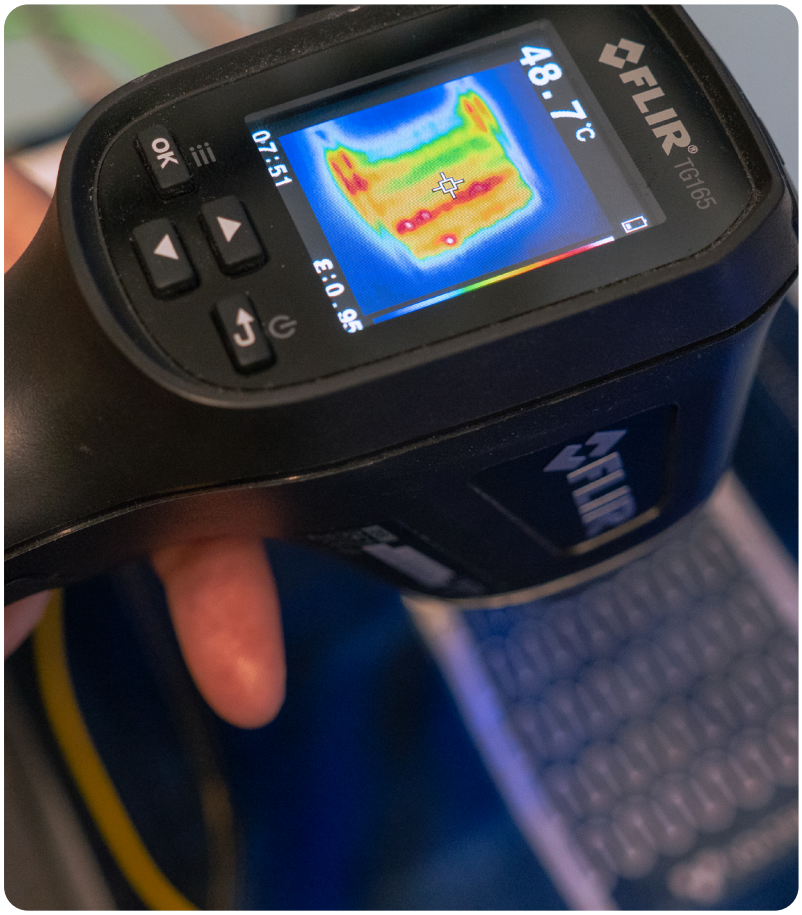
using NOVA's upgraded precision dispensing system with pressure-sensing technology and onboard heater to ensure material consistency.

Elapsed time: <15 minutes.

LAMINATED SUBSTRATE ONTO THE JEANS



CONNECTED PRINT TO POWER USING RIVETS



OUTCOME:

In three weeks, a chemical engineering student with no previous electronics or prototyping experience was able to go from idea to proof-of-concept on a basic, stretchable, flexible, and wearable heater with NOVA.

NOVA was designed with rapid prototyping in the flexible and wearable electronics industry in mind. Getting to proof of concept as quickly as possible with a fully functional prototype means maximizing your ROI and capitalizing on disrupting the electronics and wearable technology industry. Get there first, with NOVA.

Explore NOVA. Explore the possibilities.

Questions?

Reach out to sales@voltera.io.

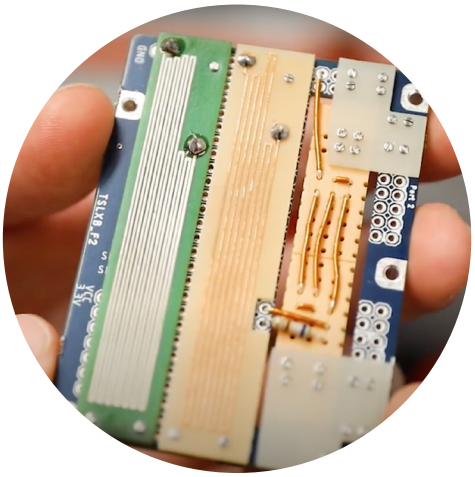
Case Study: Princeton Satellite

The V-One is a multi-functional circuit board printer that will completely change the way you think about teaching electronics. By optimizing R&D productivity in-house, you close the skill gap for your students and equip them with hands-on experience to propel them into fields like aeronautics, wearable technology, and more.

GOAL:

Enable students, using tools like the V-One, to design a satellite payload during their undergrad tenure, and to see that payload launched to the International Space Station during a resupply mission.

Mike Galvin
Sr. Technical Support,
Mechanical Engineering at
Princeton University



"I'm setting up our small spacecraft design lab with a strong focus on enabling our students to make every piece of a spacecraft in-house here. Before they graduate, they can see a small spacecraft through from conceptual design…to orbital launch."

"It's really one of the hardest projects that humans undertake — the design of an autonomous on-orbit spacecraft."

Shannen Prindle
Princeton University
class of 2022

"If we didn't have something like the V-One...I don't think I would have fully understood what goes into a circuit. Using it actually helped me a lot to understand what goes into a circuit and what components go where."

"I've always just liked space. Rather than seeing it as daunting, I see it as exciting."

"Deciding between majors, working on this project made me want to decide officially on aerospace."

OUTCOME:

The Princeton CubeSat launched into space on February 20, 2021. It went into free-flying orbit at Mach 20 and was in orbit around Earth for several days collecting data.

NASA was initially concerned that the conductive ink wouldn't react well to a vacuum environment but reported no continuity losses across any of the circuits printed with the V-One.

Questions?
Reach out to sales@voltera.io.
Watch the Princeton Case Study Video.

Our clients say it best.

Alex Kashkin
Graduate Researcher,
Velasquez Group at MIT

"Rapid iteration of our field emission electron sources has only been **possible because of NOVA**. Our electron sources are for neutralizing ionic thruster plumes in low earth orbit; making them require precise control of optical alignment and material deposition, especially with custom materials and substrates. We've been using NOVA in our lab and have found it to be **fully adept at making additively manufactured devices** with nanoscale functionality. We hope others will use NOVA to make their own strides in engineering."

"Some of the tools we utilize vary from everything from the basics, such as really good soldering irons, DC power supplies, and good microscopes. Some of the cutting-edge technology that we use is, for example, **the Voltera V-One**, which is our PCB printer. **It brings the development time down so low**. Like, being able to take a designed circuit board and within about an hour we could have it fully assembled."

Dan O'Mara
Chief Operating Officer,
Circuit Launch

More Voltera fans

NEXTFLEX® MIT NASA Stanford University UNDER ARMOUR

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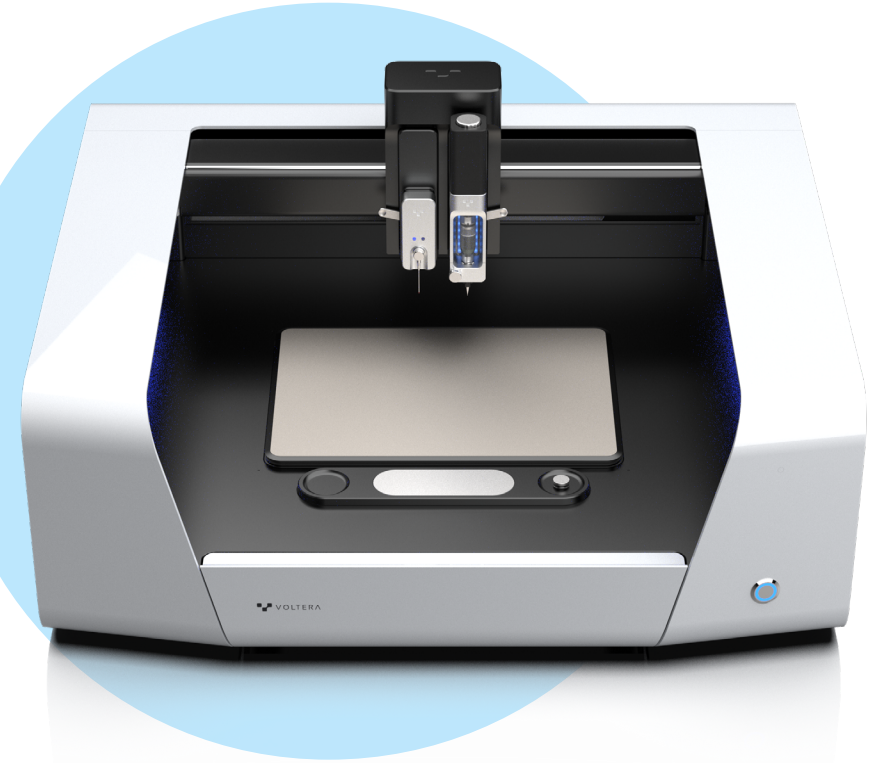
How researchers are **innovating with Voltera**

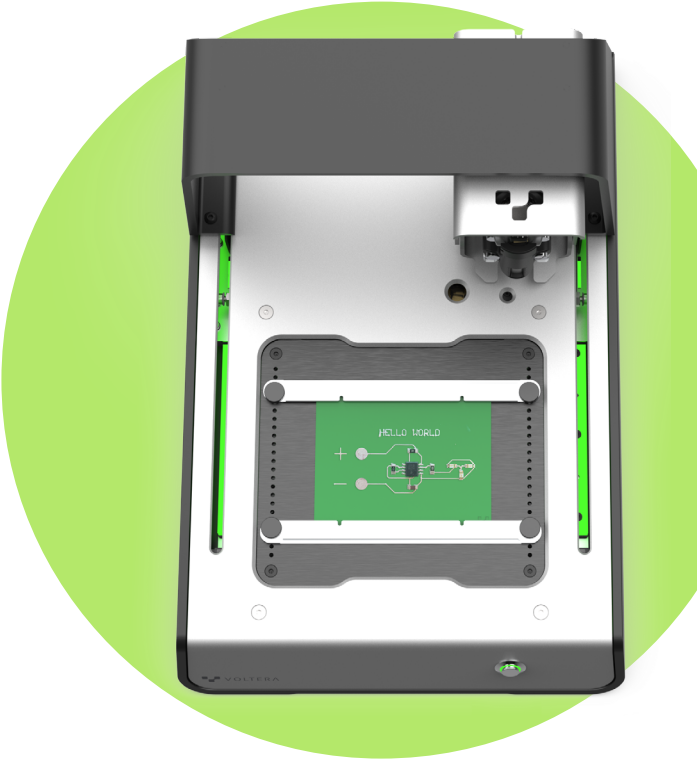


NOVA

- Inkjet and Extrusion Printed Silver Biomedical Tattoo Electrodes
- More to come after NOVA's release in October 2022

V-ONE

- Smart facemask for wireless CO2 monitoring
- Intelligent IoT Biomedical Bluetooth Data Acquisition System
- Direct Ink Writing as an Eco-Friendly PCB Manufacturing Technique for Rapid Prototyping
- Nozzle Shape Guided Filler Orientation in 3D Printed Photo-curable Nanocomposites



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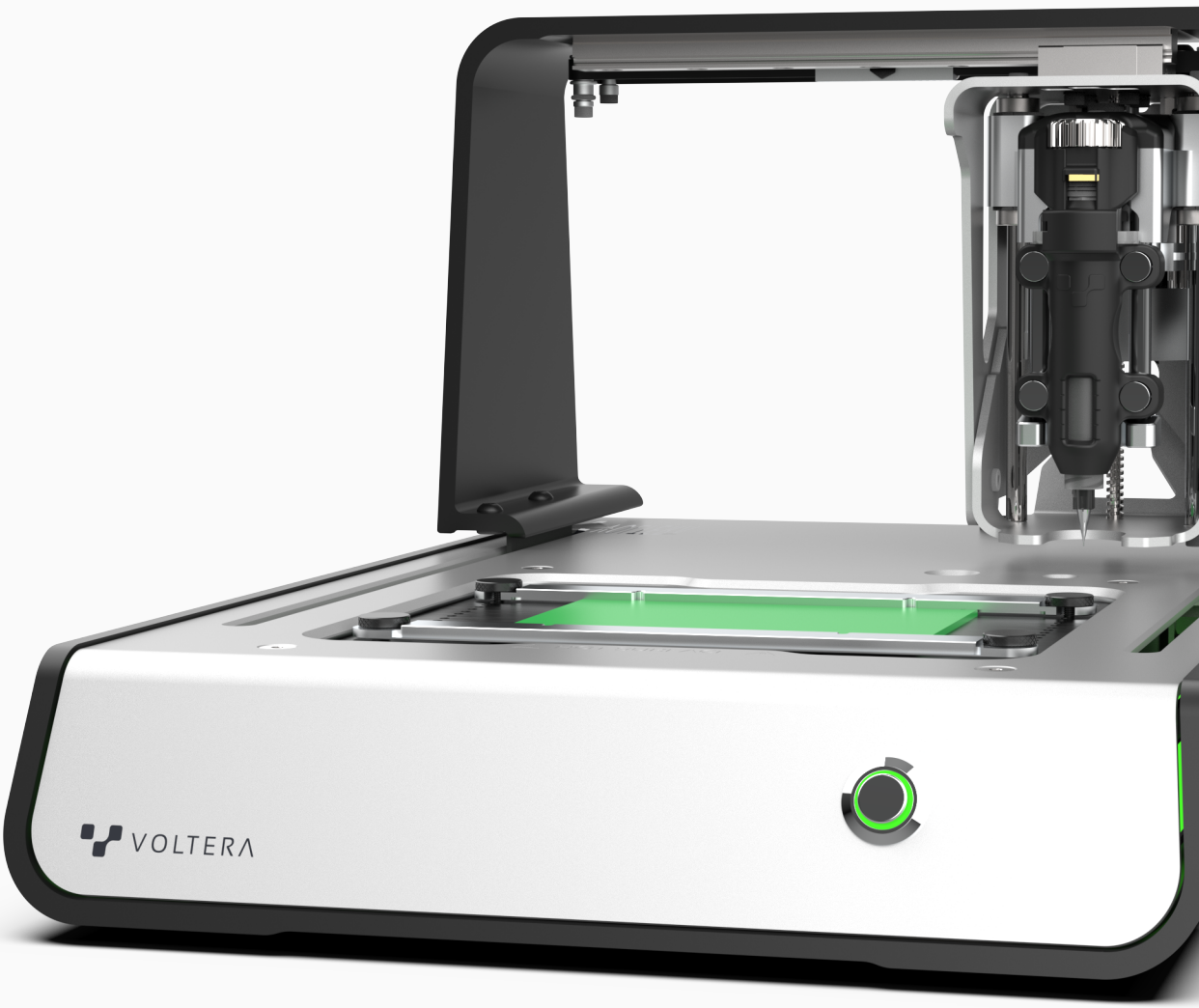

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