# PROJECT PITCH IT

## THE VIRTUAL FOUNDRY

**LEADERSHIP:**
Brad Woods

**ADDRESS:**
211 S. Water St., Stoughton

**WEBSITE:**
thevirtualfoundry.com

**WHAT IT DOES:**
Manufactures a special type of metal filament, which allow customers to 3D print any material.

**FOUNDED:**
2015

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## The Virtual Foundry's 'Filamet' allows customers to 3D print metal, glass and more

*By Ashley Smart, staff writer*

Stoughton-based startup The Virtual Foundry is making it possible to 3D print almost any material you can think of using the company's patented product, known as Filamet.

With the Filamet process, a 3D printer originally intended to print plastic can be converted to also print metal and other materials such as ceramics and glass.

Founder and chief executive officer Brad Woods began creating The Virtual Foundry almost two decades ago. He was previously a software architect at American Family Insurance.

While creating his sculptures as a personal hobby, Woods found himself trying to make metal parts. Without his own foundry, this proved to be an unrealistic task. So, he began looking into different ways metals can be manipulated by using chemicals, through methods like electroplating and electroforming. He eventually began working with metal powders. At around the same time, a friend gave him a 3D printer.

"It didn't take long to realize that I could merge the two concepts," said Woods. "We're working with metal powders that are held together by plastic. All our products work the same and it's fairly simple when you look at it that way."

Using Filamets to 3D print metals and other materials is cheaper compared to the commercialized methods being used today. Woods said most people can begin 3D printing using Filamets for about $10,000.

He garnered the initial funding to officially launch The Virtual Foundry in 2015 through a Kickstarter campaign, which raised $32,000. The money was enough to purchase the commercial equipment needed to begin manufacturing Filamet products.

Filamet is a combination of two words: filament and metal. The first two Filamet products launched were copper and bronze.

The Virtual Foundry's current materials catalog lists 13 stock Filamets, including aluminum, bronze, copper, high-carbon iron, stainless steel and tungsten.

The Kickstarter campaign, initially pitched as more of an art project, drew the attention of the Department of Defense and several aerospace companies and auto manufacturers. Engineers from Maryland-based Lockheed Martin even invited Woods to speak at the company's campus.

"They looked at it and realized if you can do that with a sculpture, you can do that with anything that's metal," said Woods.


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1. The Virtual Foundry's manufacturing area shown between runs. The shop has all custom-made equipment.
2. Metal blocks 3D printed using The Virtual Foundry's filamets.
3. Another metal part printed using The Virtual Foundry's filamets.

Today, the bulk of The Virtual Foundry's customers include different research organizations. Well-known organizations like SpaceX, Tesla and the United States National Lab System use Filamet for their research projects.

One of The Virtual Foundry's customers is working on spinal implants using titanium. Another, a subcontractor for NASA, tapped the company for a Filamet to create a material that simulates moon dust.

"It's unlike any other method of manufacturing that we've had before. What's happening with 3D printing is it's an opportunity to solve problems in a way that's never been available before," said Woods.

In the coming months, his most immediate goals are expanding marketing efforts and attracting new clients. ■