FIRST STAGE INVESTOR

New Pick: An Affordable Super Material With Hundreds of Potential Uses

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DATE June 2, 2022

IN THE ARTICLE

Avadain

Valuation	$20,360,000.00
Daily Raise	$6,571.25

There will never be a “next” Facebook or Google or Airbnb. Companies are a product of a specific time, place, technology know-how and need. It’s as if the universe wills them into existence.

Of course, founders play an important role. But there are a lot of Zuckerbergs — tech geniuses who learn how to play the entrepreneurial game — out there. Or entrepreneurial mavens who are also tech savvy (Elon Musk is a good example). If Mark Zuckerberg hadn’t created Facebook, another person would have.

And that means that as investors, we don’t get second chances. Whatever companies come after Facebook, Google, Airbnb and other companies that are now global giants won’t look or feel like their predecessors. And chances are extremely slim that they will grow as large. Once these investment opportunities are gone, they’re gone for good.

These are “one of a kind” companies. They produce not just wealth but *generational* wealth. And they’re hard to identify — especially early on. If somebody had told you they knew Airbnb, Uber or Amazon — or, going back further to the 1990s, Nvidia, eBay, Alibaba or Netflix — were going to turn into global dominators, they would have been lying.

But as early investors, we need to try to identify these one-of-a-kind opportunities. We can start by looking for companies with audaciously big visions and asking if they can turn their visions into reality.

Most of the time, the answer is either *no way* or *not likely*.

But every now and then, you get a *maybe* or *quite possibly*. When that happens, you owe it to your portfolio to dig deeper into the risk and reward. Is the risk manageable? More to the point, does the company have a pathway to lower or largely remove the risk? Is the reward as big as the company says it is? And how far off is it? The further down the road the reward is, the bigger it needs to be.

These are some of the questions I asked myself when looking at one of the most ambitious companies I've ever come across — **Avadain**. Avadain makes nearly flawless graphene flakes. The flakes are 200 times stronger than steel and 1 million times thinner than a sheet of paper. Graphene's tensile strength is off the charts, meaning it can withstand tremendous amounts of stress without breaking. And it's nearly a perfect electrical conductor.

And importantly, it's incredibly affordable. That's because, as co-founder and CEO Brad Larschan says, very little graphene goes a long way. To prove his point, he showed me an experiment. Using Avadain's graphene flakes in a supercapacitor, we found the discharge current increased. But when using reduced graphene oxide or activated carbon (the clearly inferior materials Avadain's graphene flakes would be replacing), the current plunged.

The cost? Only $6. Only a little more than one-twentieth of a gram is needed to boost the performance of supercapacitors. A little graphene does indeed go a long way.

Supercapacitors are used in electric vehicles, buses, trams and grid buffering. But that barely scratches the surface of graphene flakes' long-term potential. They're expected to have hundreds of use cases across aerospace, clean tech, sensors, batteries, defense, life sciences, renewable energy, medicine and manufacturing and industrial companies. The global market — estimated to be

in the tens of billions of dollars — is expected to experience rapid growth over the next three to six years.

Graphene could be the material that propels dozens of industries across the board moving forward. With so many use cases, it could become the material that defines a new age of innovation and possibility. We're just at the beginning of discovering uses.

When plastic was invented in the 1860s, nobody had a clue about the many ways it would be used. Whatever uses for graphene we think are possible now will be dwarfed by the number of applications that will be discovered over time.

Aerospace alone should generate a host of use cases. Spacecraft, for example, are vulnerable to space debris thanks to their thin hulls. Graphene can act like a diamond shell around spacecraft without adding weight. Because graphene is incredibly light, it could also make drones lighter and possibly have stealth applications for autonomous military aircraft. It reduces drag and increases impact resistance. It shows resistance to lightning. Graphene skin also distributes heat evenly across an aircraft, which can prevent ice buildup.

The Last Obstacle: Making More

For graphene to realize its vast potential, one remaining obstacle needs to be addressed. Right now, flawless graphene flakes can only be made in small batches — about one gram a day. While a little goes a long way, that's simply not enough. Current demand extends into the thousands of tons. Scores of companies would love to get their hands on affordable, high-quality, defect-free graphene right now.

Avadain thinks it has solved this problem. It is developing a manufacturing process to make 2 metric tons a year per production line. That comes to about 6,000 or 7,000 grams per day. Partnering with a nonprofit engineering organization, Avadain is building the first scaled production line for graphene flakes. By the third quarter of next year, it should be producing the first graphene flakes from a mass production line. If the samples are as flawless as the batch-produced ones, the technology will be ready to be licensed out in 2024.

The Department of Defense has shown strong interest in Avadain's technology and could well be its first customer. At $100 per gram, a 2 metric ton production line will generate $200 million of graphene flakes. Avadain is aiming for 10% royalties on its flakes. That would give the company $20 million in royalties for each fully operating production line.

In 2025, Avadain is planning to offer four more licenses. That's another $80 million. Its royalty revenues increase significantly in the following years. And as new uses and new formulas of graphene are deployed (think of the many forms of plastics), Avadain will enter into more and more licenses.

That's the plan. And it's a damn exciting one. So what bad news am I keeping from you?

Sorry, can't help you. The demand should be huge and immediate. According to Brad, selling 100 licenses for 100 manufacturing lines is not a big ask. Demand should easily absorb that number and much more. The company's intellectual property portfolio is strong and increasingly global. And while the government should be the first buyer and will continue to be a major user, the company won't be overly reliant on government contracts. The private sector will be the primary driver of demand.

At this point, the risk is mostly technological. Avadain is developing a blueprint for a mass production line. But the company still needs to prove that it works. The team is confident they're on the right track. And they believe they can have a proven technology ready for licensing (and the start of massive revenue generation) in 2024.

But other scenarios are possible. Avadain's timeline could encounter delays. And that could conceivably unleash a cascade of problems and lead to funding shortfalls — opening the door to more delays in a downward spiral of unmet deadlines.

That is one of the worst-case scenarios. Frankly, I don't think it will happen. But it exposes an existing funding risk and shouldn't be dismissed. That said, the funding risk is manageable. Avadain will begin selling $100/gram samples beginning late this fall, and the company has won a generous $3.77 million grant from the government to upscale its technology. If Avadain raises just $750,000 from its current campaign on Netcapital, it will tide the company over until the third quarter of next year.

By that point, we'll know a lot more than we do now. Many more samples will be in the hands of users. And the scaled production facility will be up and delivering samples to an increasing number of interested users. The company should have a more definite idea of whether the technology works at scale… the number of customers ready to sign a licensing deal… and the timing of closing those deals.

Clarity is always a good thing. But it will come too late for early investors. By then, the valuation will be much higher than the current $20 million. And the chance to invest will be long gone. Crowdfunders will be replaced by strategic investors, who will be lining up to invest once the technology is validated.

Once again, you're the smart money, taking advantage of an attractive price for an underappreciated investment opportunity with off-the-charts upside. Nothing wrong with that. You're getting a great deal here. It's not hard to imagine your friends and neighbors searching in vain for the "next" Avadain a few years from now.

But you have the opportunity to invest in the one and only Avadain. Lucky you.

Deal Details

Startup: Avadain

Security type: Common stock

Offering maximum: $5 million

Share price: $4.00

Valuation: $20,360,000

Minimum investment: $100

Investment portal: Netcapital

Deadline: June 30, 2022

How to Invest

Go to the Avadain investment page on Netcapital.com. If you don't have an account on Netcapital, you'll be prompted to create one. Then follow the steps and fill out the required information. It shouldn't take more than a few minutes.

Then click on the yellow “Invest” button. The minimum investment is $100 for this deal.

Now choose the payment method that works best for you to transfer the funds. Your money will be held by an escrow agent until the deal closes, when it will be transferred to Avadain, and you will officially own a piece of this exciting, innovative new age materials company.

Risks

This opportunity, like all early-stage investments, is risky. Early-stage investments often fail. Avadain might need to raise another round of funding in a year or two, if not sooner.

If it executes well, this shouldn’t be a problem. But that’s a risk worth considering when investing in early-stage companies. The investment you’re making is NOT liquid. However, Netcapital does allow secondary trading on its portal after a holding period of one year for retail investors. It might be less for accredited investors. Expect to hold your position for five to 10 years. An earlier exit is always possible but should not be expected.

All that said, I believe Avadain offers an attractive risk-reward ratio.

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