

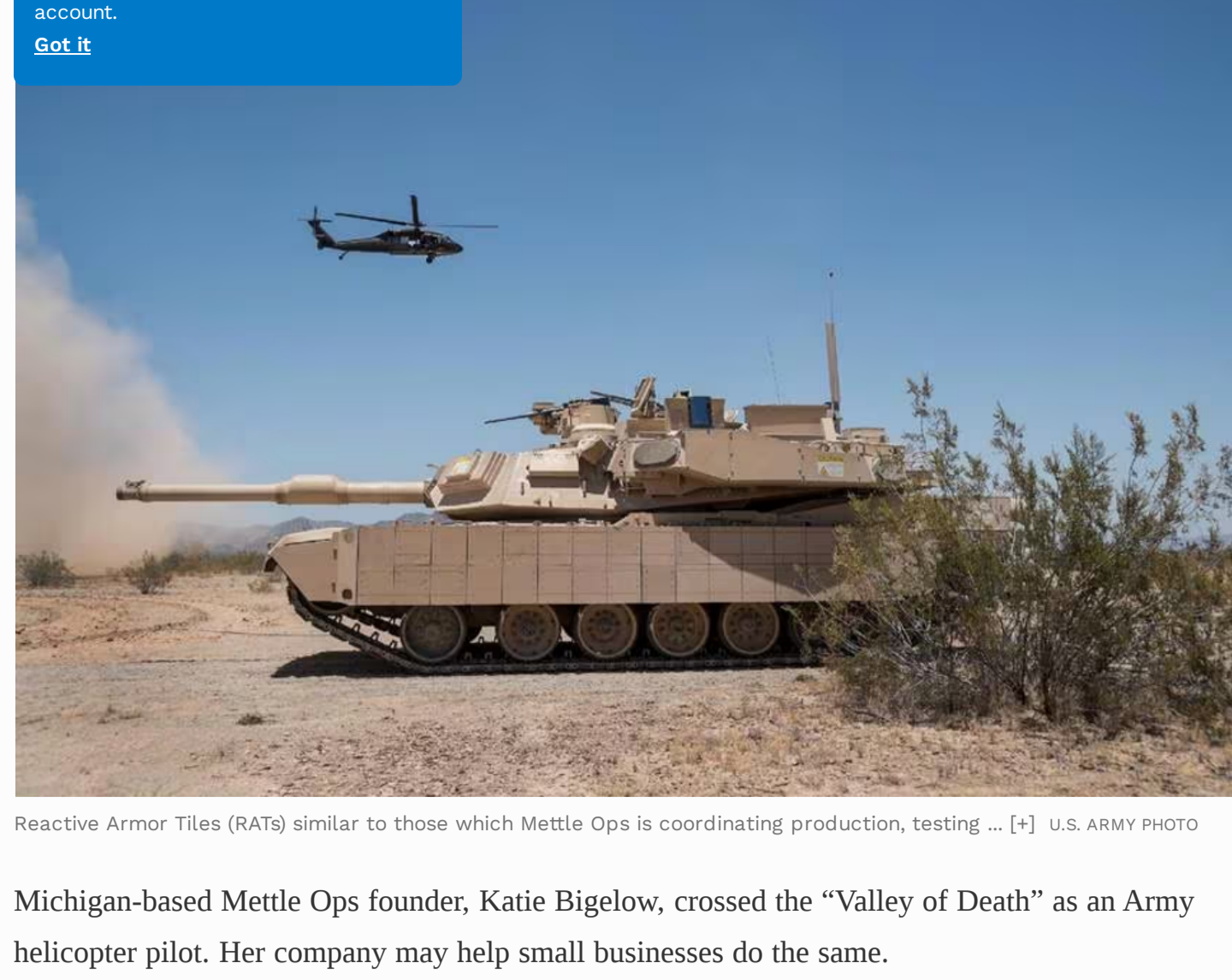
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# This Michigan Small Business Is A Conduit To Defense Work For Others

Eric Tegler Contributor

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Reactive Armor Tiles (RAT) similar to those which Mettle Ops is coordinating production, testing ... [1] U.S. ARMY PHOTO

Michigan-based Mettle Ops founder, Katie Bigelow, crossed the "Valley of Death" as an Army helicopter pilot. Her company may help small businesses do the same.

Mettle Ops manages program tasks and provides engineering services, including reverse engineering and vehicle design, for the Army, working with the Detroit Arsenal and Michigan-based Army program offices like its Program Executive Office for Ground Combat Systems (PEO GCS).

Providing program and engineering services is a standard role for many defense contractors but Mettle Ops does so with a direct staff of just 35. To execute, the company calls on a network of some 200 small and midsize vendors in the Michigan area to perform the manufacturing, fabrication and services work for which it holds contracts for with the Army.

You can think of Mettle Ops as a small business which acts somewhat like a defense prime. Its contracts and the task orders that come with them frequently require design, engineering and prototyping. Mettle Ops does these almost entirely in-house with its own engineers (15 of them). But the physical equipment that almost all of its work is focused on is actually produced, repaired or modified by partners which Mettle Ops oversees.

The company launched in 2013 and now holds over \$52 million in Army contracts that largely focus on materials and solutions for soldier survivability.

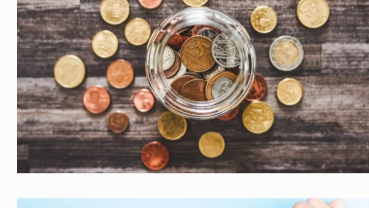
An example of its prime-like ambitions was its 2021 submission of a bid to design and produce the Army's Bradley-replacement Optionally Manned Fighting Vehicle (OMFV). The small company pitted itself against General Dynamics' Land Systems, BAE Systems, Rheinmetall North America, and Oshkosh Defense in the running for the OMFV.

In 2022, Mettle Ops was selected as one of 22 primes eligible to participate in a \$910 million multiple-award Indefinite Delivery Indefinite Quantity (IDIQ) contract for Equipment Related Services issued by U.S. Army Contracting Command (ACC). The company can compete for orders for repair/overhaul services for machines, systems, and vehicles under the contract.

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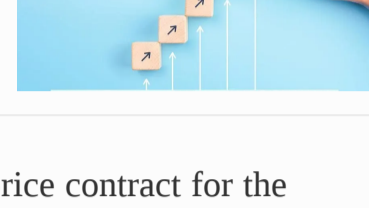
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In early February, ACC awarded Mettle Ops an \$87 million firm-fixed-price contract for the production, testing and delivery of Reactive Armor Tiles (RATs, vehicle protection tiles that "react" to anti-tank munitions by detonating inner explosives, that blunt the explosive or kinetic force of enemy fire) for tracked vehicles.

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ACC declined to offer specific answers to emailed questions about the RAT contract citing proprietary concerns but speaking on behalf of the Command, Lieutenant Colonel Christina Wright emphasized that, "A strong small business industrial base is essential to supporting the Warfighter and accomplishing the Army mission."

The contracts above are substantial wins for a decade-old veteran-owned small business. Bigelow launched Mettle Ops as a one-person operation, initially finding engineers to perform work for various Army programs and linking them with Army organizations.

"It was, find an engineer to do X, Y or Z," she told me in a phone interview. "We've just grown little by little and now we have a team of vendors [mostly in Michigan] on our list that we work with or have worked with over the years. We use that team to accomplish basically anything that [the defense primes] accomplish. We just don't do it all in-house."

Bigelow's service in and familiarity with the Army undoubtedly helped her progress. She served in combat in Iraq as a UH-60A Black Hawk MEDEVAC pilot. The experience provides her with extra motivation to make Mettle Ops a success she says.



Katie Bigelow founded Mettle Ops as a modest startup project following her exit from the Army as an ... [1] METTLE OPS

"I spent 10 years in the Army, my husband [Mark Bigelow, Mettle Ops vice president of growth and strategy] spent 23 and a half years in the Army. The chief end of business is profit but we're both in this for a greater reason. We're passionate about soldiers."

The Bigelow family motto is "never give up" Mark Bigelow explains in a company video. The mantra is inspired by the couple's military experience in general and by the son they lost at six years old to pre-birth complications. His strength in dealing with life, like that shown by those with whom the Bigelows served, is the "mettle" in Mettle Ops.

The company's Sterling Heights location north of Detroit has helped it as well. "We're kind of in the prime area for this," Katie Bigelow acknowledges. "The companies here have been fabricating, producing tool and die, and manufacturing for the automotive industry for decades. We leverage that for the defense industry."

Mettle Ops has successfully attracted and managed these diverse small businesses. Bigelow points out that her company's partner network resembles the supplier arrays that defense OEMs use but on a more concentrated, regional level.

"I think that we're kind of unique in the breadth of capability that we have as a small business. Often, other small businesses work with us because they don't have a [network of vendors] themselves. When they work with us, they get the power of all the businesses that we work with."

They also get something else - the opportunity to compete for and gain defense work without trying to go directly to the government.

If a small business or startup is good enough to meet the high standards Mettle Ops demands (the company is AS9100 certified and fits into 24 different North American Industry Classification System Codes), it has a pathway to defense work far shorter than the 2-3 years startups typically invest to obtain government contracts.

Bigelow points out that Mettle Ops was not founded with this in mind, but she recognizes the potential value that other small businesses can realize in terms of experience, reputation and network-building, and cash-flow from partnering with her company.

"That's one of our best selling points," she affirms. "If a small business, especially a commercially successful small business, wants to get defense work, that's a two year-plus investment of time and energy. We already have a full pipeline of opportunities that we're pursuing."

"There are quite a few local businesses that weren't really defense [providers]. But once they started working with us, they became defense oriented. They now have a large book of defense business from working on our contracts. Some now even have direct contracts with the government."

The small businesses that work with Mettle Ops and other companies like it have arguably stumbled across a bridge spanning the Valley of Death, a means of getting defense work while building their own firms and refining their core competencies.

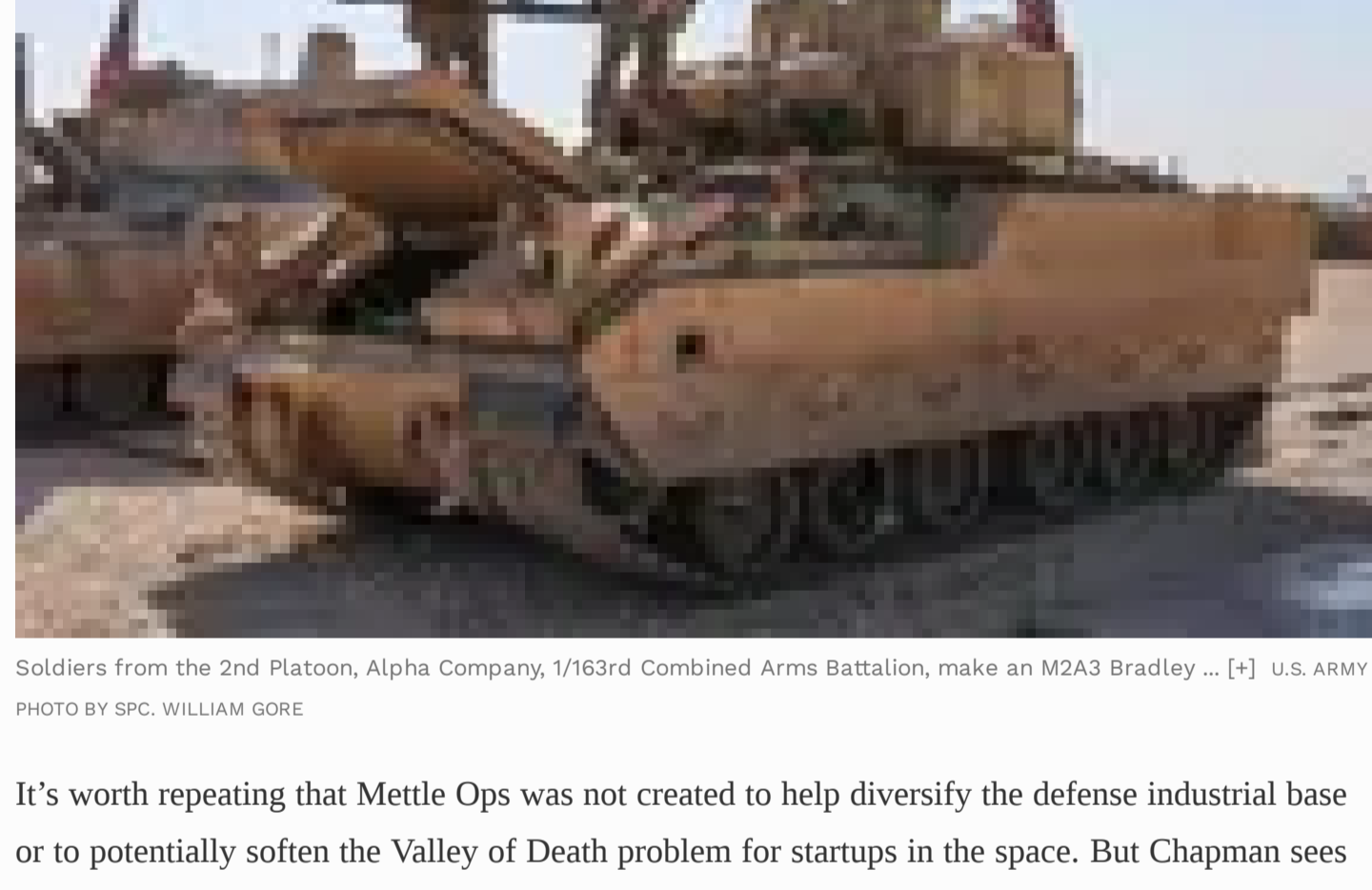
For a broader take on Mettle Ops' model and what it peripherally offers to small businesses seeking to get into the defense sector, I called Jake Chapman, managing director of San Francisco Bay area firm Marque Ventures, a defense-focused venture capital firm currently building a new \$100 million fund to follow its previous investment pools.

Chapman has seen other firms like Mettle Ops. He says he thinks it's a "phenomenal model", one that Marque Ventures has considered itself.

"This is one of the kinds of companies we've considered building. I think it's a great way to integrate new technology to the defense-industrial base. It's a great shortcut to landing early revenue for startups. We'd do it to support the other [startup] companies we're working with."

Chapman points out that the Pentagon doesn't buy components. It is not strictly looking for a better semiconductor, a particular sensor package, gimbal or drone that a given startup may offer. Rather, it seeks to buy answers to problems.

"Those answers are probably manufactured by 50 or 100 different [suppliers] and then integrated into some magic system. That's where the [traditional] primes shine. A small company like [Mettle Ops] doing this kind of work is super interesting."



Soldiers from the 2nd Platoon, Alpha Company, 1st Air Cavalry Brigade, make an M2A3 Bradley ... [1] U.S. ARMY PHOTO BY SFC WILLIAM GORE

It's worth repeating that Mettle Ops was not created to help diversify the defense industrial base or to potentially soften the Valley of Death problem for startups in the space. But Chapman sees the potential of companies like it to increase the number of candidates his firm might one day invest in by providing them with a pathway to participate in defense contracts.

He also points out the vein that Mettle Ops and others are tapping is often overlooked by tech-oriented startups.

Citing the just-released Fiscal 2025 defense budget and using the Navy as an example, he underlines the service's operations and maintenance budget (O&M, where it buys equipment and services such as Mettle Ops provides) which is proposed at \$70.2 billion. The Navy's FY'25 procurement budget (which buys technology) is \$63.3 billion.

"Almost nobody in our industry is thinking about the O&M side of the business. They're thinking about procurement. They're totally ignoring something that is at least as big in all the services. You don't have to be Anduril building flashy technology to move the needle for national security."

The most-focused businesses that work with Mettle Ops have an opportunity to fast-track into defense while remaining centered on a what inspired them in the first place Bigelow says. "They don't necessarily have to invest in a business development team that specializes in government because we can do that. They can do what they do best."

Among the things that Mettle Ops does best is finding such small businesses for its vendor network. The company has a well-developed "Rolodex" of partners but Bigelow admits that occasionally her staff resorts to a literal Google search when Mettle Ops is in need of a capability it doesn't have. Far more often, word-of-mouth referrals from the Detroit area business community put Mettle Ops and new partners together as do face to face contacts.

"If we have capabilities we need that are missing," she says, "we'll make that known at our [trade show] booth. 'Hey, we're looking for this and this. If this is what your company offers, then stop by and visit with our supply chain managers."

Identifying needed contractors is a task not unlike the one that the Defense Intelligence Unit (DIU) has embarked on for the Pentagon's highly publicized "Replicator" initiative. DIU and DoD have struggled in their efforts to source mass produced, relatively inexpensive small drones on a short timeline. When I mention this to Bigelow her reaction is spontaneous and genuine.

"They should call me, we can give them several drone companies that can do that."

In fact, Bigelow tells me that Mettle Ops is at work reverse-engineering and optimizing foreign made parts with a view to developing its own small drone motor which can be manufactured in the U.S. Mark Bigelow refers to the effort as one of Mettle Ops "Skunk Works" projects. The company has a team in place to begin manufacturing the small USAMK motors according to Katie Bigelow.

Bringing new vendors into projects with tight timelines is something that Mettle Ops has improved through years of experience she adds.

"We're able to rely on the strict processes we've developed over years of going to the school of hard knocks. Every time we make a mistake, we write it down, figure out how we'll never do it again and make steps to prevent it as part of every project going forward."



An artist's concept of a potential Optionally Manned Fighting Vehicle design that Mettle Ops ... [1] METTLE OPS

Going forward, Mettle Ops plans to keep executing. The company has acquired an integration facility, increased its team by over 20%, and won several impactful contracts for engineering services in the past year. The \$87 million RAT contract it landed should further enhance its reputation.

The mature RAT design is government-owned and production of the tiles is essentially a build-to-print job which the company is leveraging its vendors to execute, a frequent and familiar process for Mettle Ops. In so doing it has sought, as always, to select the best partner for the work rather than automatically defaulting to those it has worked with in the past.

"One of the best things we offer versus the OEMs is that we're not married to a particular vendor or a particular product that we offer," Bigelow affirms. "If we're designing vehicles, and we have several vehicle design projects, we don't pick a drivetrain that our company already makes - we pick the best drivetrain. We don't pick a hybrid-electric system that we already have in the works, we pick the best one."

The agile small business mentality that Mettle Ops brings to the Army contracts on which it works typically benefits its customers according to Bigelow. She offers the example of working on a survivability project for an Army program office which already has a supplier testing and providing foam for a protective component.

"But we know several other foam providers. We make sure that the customer gets to meet them and gets a look at their product. Then they can make their own judgments. It's maybe not the best way [for Mettle Ops] to make money, but it is a way to benefit the warfighter so we do it without batting an eyelash."

Bigelow appears to be similarly matter-of-fact in her ambition to further diversify Mettle Ops. The company has a team working to expand into specific areas of aerospace work, within and outside of Michigan.

Its model should transfer well to the sector and cultivating firms like Mettle Ops should arguably be a priority for government and private organizations looking to bolster America's defense-industrial base. Their success can be a conduit to success for others.

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