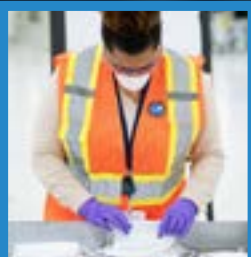


AUGUST 2020

MICHIGAN'S ARSENAL OF INNOVATION

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**MICHIGAN ECONOMIC
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↑ Matt Bulloch, president of
TentCraft Inc., in Traverse City.



“It seems like the most successful businesses that pivoted during this crisis did so very quickly, and with customer concerns in mind.”

— Bobby Chasnis, director, Pure Michigan Business Connect

Where There’s Chaos, There’s Opportunity: Successful Strategies for Pivoting in the Pandemic

Michigan is at its best when entrepreneurs see a need and create a solution.

When the demand for automobiles arose in the early 1900s, Ford Motor Co. pioneered mass production to supply buyers with personal vehicles.

When World War II erupted, the need for military hardware mushroomed. The auto industry stepped up once again — this time to assist the war effort by manufacturing weapons, planes, trucks, ships and tanks, securing Detroit’s nickname as the Arsenal of Democracy.

Michigan continues this pattern, stepping forward again to leverage its high-tech talent and culture — an Arsenal of Innovation — to help flatten the COVID-19 curve and move the state toward recovery.

If entrepreneurs have learned anything studying Michigan history, it’s that crises create opportunities. And this crisis has created an opportunity to learn. Business leaders attacking the coronavirus pandemic have mastered multiple lessons as they’ve steered their companies through a COVID-19 obstacle course. In a “We’re in this together” spirit, they’ve risen to the challenges of this health crisis, and now they’re sharing what they’ve learned.

Their wisdom is valuable. And rare. According to an April 2020 survey by the National Federation of Independent

Business, the voice of small and independent business owners for 75 years, only 3 percent of companies were positively affected by the coronavirus outbreak.

How did they manage to thrive against the odds? Read on for insider tips from those who were able to pivot — and succeed.

DETROIT'S AUTOMAKERS

As the birthplace of the automotive industry, Michigan has the drive to succeed. Innovation and adaptation are embedded in the industry's DNA, and these qualities enabled the Detroit Three — Ford Motor Co., General Motors and Fiat Chrysler Automobiles — to pivot quickly in response to the pandemic.

They wanted to help. Community outreach is a part of their corporate culture. They knew the nation had needs — for masks, personal protective equipment (PPE) and more — and their workforce volunteered to get to work.

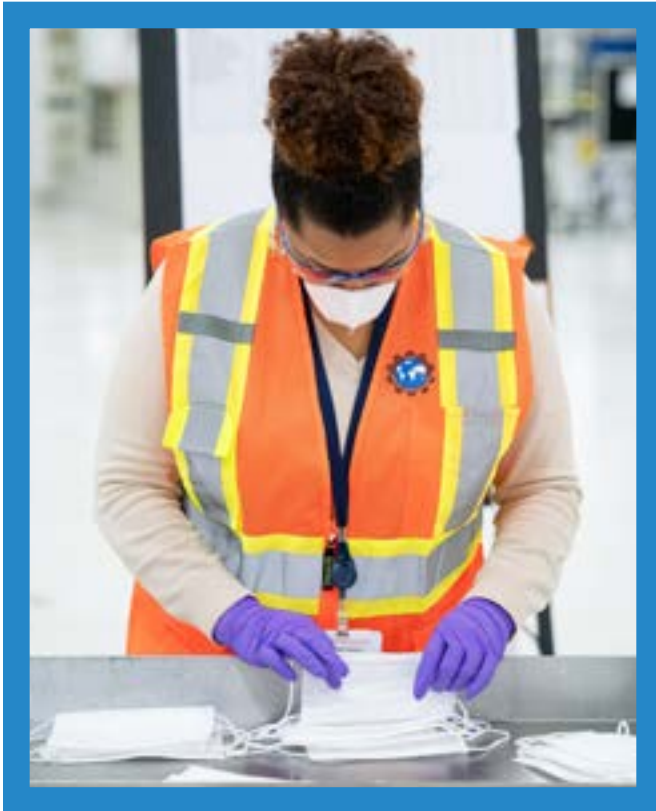
Economics played a role. The auto sector accounts for 6 percent of U.S. economic output. About 835,000 Americans are employed in vehicle production. Nearly 117,000 engineers work in Michigan. In other words, a lot of livelihoods depend on the Detroit Three. Underscoring that, in April 2020, the U.S. Department of Labor reported the nation's unemployment rate climbed to 14.7 percent, up from a record low of 3.5 percent in February. The numbers might have paralyzed decision-makers; in Detroit, they became motivators.

The pandemic was a huge shock to the economic system, says Steven B. Wilson, associate director of the Economic Growth Institute (EGI) at the University of Michigan. He works with small and medium-sized enterprises to help them innovate — to pivot — by approaching obstacles with an economic development lens. Created to help companies weather the 1974 Trade Act, which saw businesses opening factories in China and Mexico to cut costs, the EGI's resources have been in high demand since COVID-19 hit Michigan. EGI itself has actually pivoted to help companies weather big and small hiccups, going back to the 9/11 terrorist attacks and the Great Recession.

MICHIGAN UNEMPLOYMENT HISTORY

Month	National Unemployment Rate	Michigan Unemployment Rate	Michigan Unemployed
June 2020	11.1%	14.8%	732,038
May 2020	13.3%	21.3%	1,012,746
April 2020	14.7%	24.0%	1,102,500
March 2020	4.4%	4.3%	208,831
February 2020	3.5%	3.6%	180,318
January 2020	3.6%	3.8%	187,209

U.S. Bureau of Labor Statistics (departmentofnumbers.com)



“The pandemic is a more difficult situation than previous economic shocks for manufacturers,” Wilson says. “There’s a lot of uncertainty with the supply chain.”

At Ford, however, certainty was instrumental in driving the automaker to act quickly. Ford knew its strengths, says Jim Baumbick, vice president, Enterprise Product Line Management for Ford. “We knew what we bring to the table,” he says, “which is scale and how to scale complex machinery.”

Original equipment manufacturers (OEMs) benefit from a deep supply chain, making it easier for them to get their hands on materials and parts that are crucial to the pivoting process.

“It seems like the most successful businesses that pivoted during this crisis did so very quickly, and with customer concerns in mind,” says Bobby Chasnis, director of Pure Michigan Business Connect (PMBC), a free service through the Michigan Economic Development Corporation (MEDC) that matches small to medium-sized Michigan businesses with

local, national and global companies for supply chain sourcing opportunities.

Chasnis’ expertise was in high demand when COVID-19 first hit. He personally received about five calls per day, while the MEDC call center took hundreds more. He found himself having discussions that went in atypical directions — and is glad he did.

“A few of the most important conversations I had were from what seemed like irrelevant sources,” he says. “A quick example of a few conversations I had that I didn’t realize the value of at the time would’ve been my early conversations with the distilleries and plexiglass manufacturers.”

Chasnis knew PPE, such as face masks and coverings, was going to be important, but he hadn’t given much thought to the expanding need for clear protective coverings in service industries, including at restaurants, golf courses, banks and others companies doing in-person business, until he conversed with plexiglass manufacturers. Talks with distillery staff, including Michael Forsyth, co-owner of Detroit City Distillery, highlighted their potential to fill the demand for hand sanitizer.

General Motors acted quickly, concentrating on stimulating raw material supplies so anybody who needed materials — not just GM — could find them during a period of high demand, explains Karsten Garbe, GM plant director, Global Pre-Production Operations, which took charge of face mask production.

“We worked with some of our local suppliers who normally deliver us insulation material, and we converted their processes so they (could) actually produce the necessary raw material,” Garbe says.

GM, Ford and FCA all focused their pivots on addressing the needs of the pandemic. As part of its Arsenal of Innovation to-do list, Ford did the following:

- Designed, tested and produced a new powered air-purifying respirator (PAPR) at its Vreeland facility near Flat Rock. It consulted with 3M and the Centers for Disease Control and Prevention’s National Institute for Occupational Safety and Health (NIOSH).



- Collaborated with GE Healthcare to expand production of a simplified version of GE Healthcare’s existing ventilator design to support patients with respiratory failure.
- Produced face masks at its Van Dyke Transmission Plant in Sterling Heights for internal use globally while pursuing certification for medical use, which it obtained.
- Manufactured reusable gowns from airbag materials with supplier Joyson Safety Systems.
- Assisted Thermo Fisher Scientific to expand production of COVID-19 collection kits for patient testing.
- Used in-house 3D printers to produce components for personal PPE.

FCA concentrated on face masks and community outreach. Among its initiatives:

- It began face mask production in Brazil, China and Michigan to outfit its workforce and donated millions of face masks to first responders and health care workers across North America.

GM’s work included:

- Testing and producing critical-care ventilators at its Kokomo, Ind., plant, with the potential to make a minimum batch of 30,000. GM worked with Ventec Life Systems, using the ventilator company’s preexisting design.

- Manufacturing FDA-approved surgical masks at its factory in Warren, producing 150,000 masks per day.
- Expanding mask capabilities by adding N95s, which have a filtering face-piece respirator that requires welding to produce it, to its Warren production line. The design required approval by NIOSH.
- Making latex-free face shields and protective medical gowns.
- Sharing its manufacturing plans with its suppliers and with the Original Equipment Suppliers Association and the Michigan Manufacturers Association.

“When you have a common target, you can engage and motivate resources tremendously,” GM’s Garbe says. “It was really amazing to see how fast we have been able to go from nothing — you know, not even knowing what a flat face mask was, because, I have to admit, I had to Google it — to coming together to do a webinar to inform 300 companies” how to create them. It took his team six days.

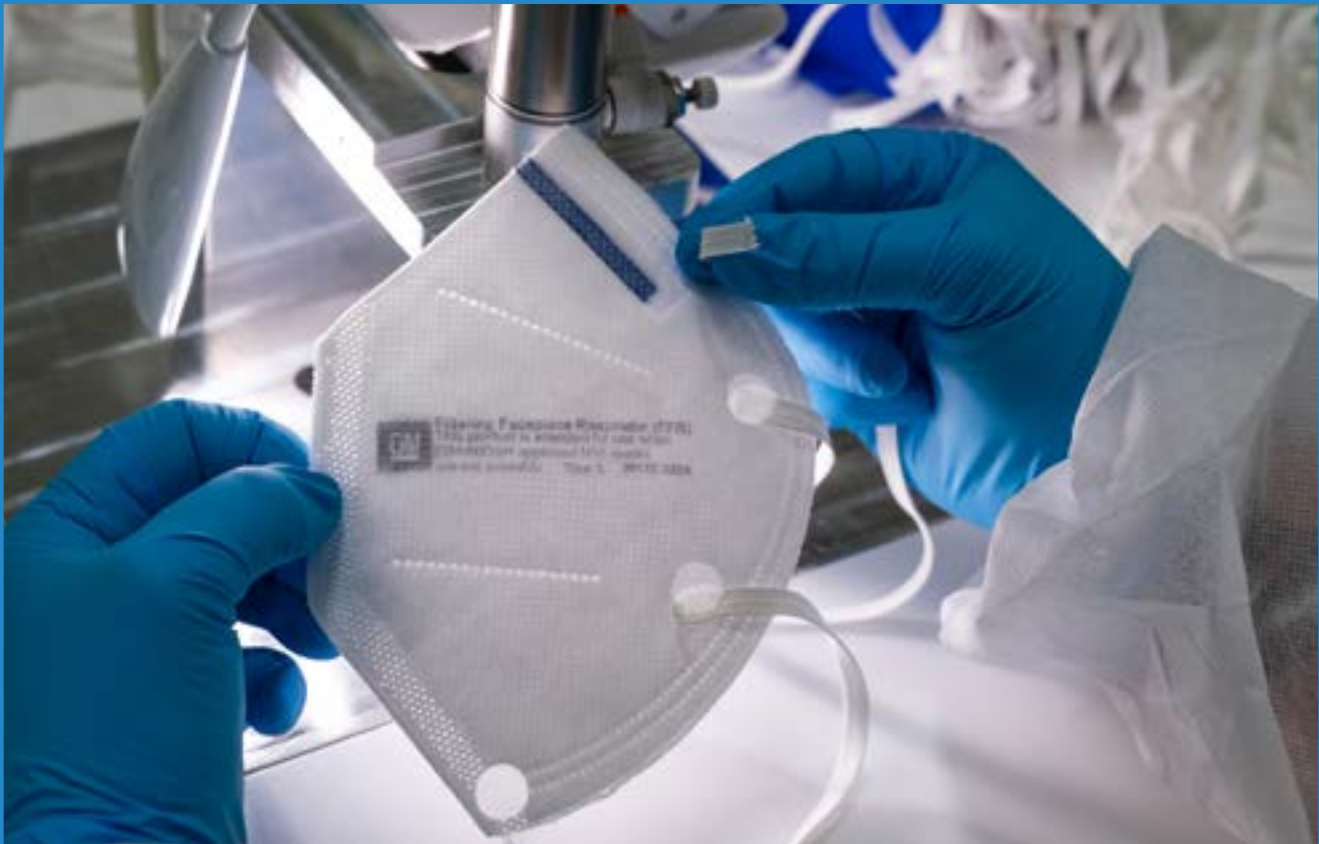
Ingenuity. Speed. And precedence. It all comes back to history.

“Because of our history, that dialogue to help started so quickly,” Ford’s Baumbick adds. “We were given the authority to go with speed independent of cost to get it done. That is testament to what I think Ford is all about. It’s wired into our DNA, so we just couldn’t sit and be idle.”

AUTOMAKERS’ 7 STRATEGIES:

1 Understand your strengths. Know what your business can bring to the table. Ford recognized that its size and its ability to scale complex machinery would benefit the cause.

2 Talk to others. But more importantly, listen. Identify each customer’s unique needs before making a single item. Ford had conversations with Mayo Clinic staff, front-line workers and other medical industry professionals to understand the depth and breadth of their pandemic roadblocks. Ford asked the experts.



3 Form partnerships before you need them. Networking should never end. All of the automakers reached out to already established partners to expedite their pivot — including globally. General Motors found it easier to gather raw material because of local and global partnerships.

4 Practice transformative innovation. When things don't go as planned, don't shy away. Turn that into a lesson. Take that failure and transform it into something better. Automotive engineers follow this creed closely.

5 Build a cross-functional, multidisciplinary team. Every person's brain brings some knowledge and some skill that will help the pivot process in an unexpected fashion. When looking for a "clean room" to make masks, a GM team

member thought of the clean site where they built transmissions for the Chevrolet Volt. It turned out to be a perfect fit.

6 Motivate and empower. Often. Engaging, empowering and motivating the team with a common target helps achieve results quickly and build enthusiasm.

7 Eliminate communication barriers. Since time is crucial, each team member should have cell numbers up the chain of command and be empowered to reach out in real time. Getting quick answers to urgent questions is critical for a pivot to be successful.



TENTCRAFT INC., TRAVERSE CITY

Matt Bulloch, president of TentCraft Inc., had a personal interest in watching COVID-19 unfold across the pond; he had a Disney cruise booked and wondered if the coronavirus would mean cancellation. While the pandemic did mean his family's vacation was called off, it started a new focus for his 15-year-old business, an event marketing firm specializing in corporate-branded, custom-printed tents and pop-up structures.

The coronavirus was causing his business to grind to a halt. Every customer that had lined up tent orders had canceled, including the SXSW Festival, cutting \$600,000 from TentCraft's anticipated March income.

Then seeing television footage of COVID-19 testing in South Korea prompted an idea. Bulloch realized TentCraft could pivot into the health care industry to make medical tents, cots and partitions that were so desperately needed

for the United States' response to the pandemic. He announced the plan to his team on March 15, 2020 — almost simultaneous to Michigan Gov. Gretchen Whitmer issuing an order closing most public places including bars, dine-in restaurants, gyms and coffee houses, as the number of coronavirus cases was growing in Michigan.

PMBC GRANTS HELP

Detroit Sewn and TentCraft were among a dozen small businesses that received a total of \$1 million in grants through the Pure Michigan Business Connect (PMBC) COVID-19 Emergency Access and Retooling Grants program. View the complete list [here](#).

PMBC, a program of the MEDC, can help grow your small to medium-sized Michigan business by connecting you with local, national and global companies for supply chain sourcing opportunities. [Connect with PMBC today](#) and grow your business.

“I realized pretty quickly that that was something that not only we could do,” Bulloch says, “but that we had to do to stay alive because our core business was not going to be there for an indefinite period.”

Bulloch found hope in an email blast about the PMBC COVID-19 Emergency Access and Retooling Grants program that provided free funds to small manufacturers looking to retool to produce critical health care supplies in response to the pandemic. After applying, TentCraft received a \$75,000 grant.

“The PMBC grant was a huge relief to me as a business owner,” he says. “It gave me the confidence to say, you know what, we are going to spend some money. We are going to invest in the future, and we’re going to try to create some new products because we think we can help.”

TENTCRAFT'S 7 STRATEGIES:

1 Be a voracious media consumer. Whether it’s watching the morning news or reading your email inbox, know what is going on in the world. Had Bulloch not seen South Korea’s medical tents on television or an email from his local chamber of commerce about the PMBC grant money, TentCraft may have missed the opportunity to pivot.

2 Prepare, prepare, prepare. Even before the depth and breadth of the pandemic became apparent, Bulloch’s gears were turning in January and February. Studying other countries prepared him to make decisions about his company when the time was right.

3 Inaction equals death. The pandemic killed TentCraft’s business, as events across the globe were canceled. Doing nothing to replace that income stream would have gutted his company, he says.

4 Accept ambiguity. Don’t let perfect be the enemy of better, Bulloch says. You are going

to make mistakes as you try going down some new roads. Be OK with ambiguity while trying new things because that leads to ingenuity.

5 Keep innovating. It was easy to be distracted during the pivot, but TentCraft stayed the course while focusing on its innovation efforts.

6 Hold each team member accountable. To keep COVID-19 out of the factory, Bulloch kept each person accountable with a simple trick borrowed from a kindergarten class. Upon entry to the factory, each employee’s hand was inscribed with a marker. If colleagues could see the mark the next day, they knew that coworker was not hand-washing enough.

7 Channel Winston Churchill. He said, “If you’re going through hell, keep going.” It’s a mantra to help stay the course even when doubt creeps in, Bulloch says.



DETROIT SEWN, PONTIAC

In 2015, Karen Buscemi started a sewing factory in Pontiac even though she does not sew. After receiving multiple requests daily from people seeking a Michigan-based sewing factory, Buscemi, who had owned the nonprofit Detroit Garment Group, listened to her gut. Detroit Sewn, a cut-and-sew manufacturer, was born.

“You know, I saw that need in the market, and I knew the right people,” Buscemi says. “I just felt it was something that I really needed to do. And so, I started the company with one sewer, one client and one product, and I didn’t even have a cutting table back then.”

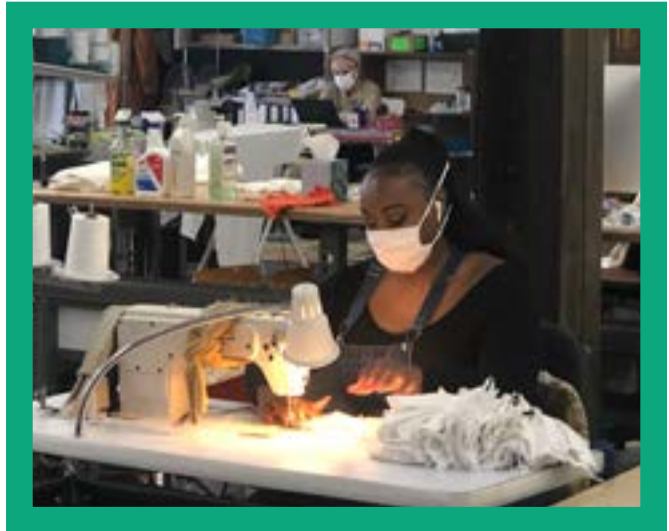
When COVID-19 hit Michigan, Buscemi went with her gut again. She completely restructured her business — normally a maker of home goods and apparel — to assist a client in an industry she had never helped before: the medical field.

A hospital system emailed when the first patients in Michigan were diagnosed. It was desperate for PPE including masks, one-size isolation gowns and, eventually, hair bonnets and surgical caps — all made in Michigan, all washable and reusable. This system had hospitals in 22 states, so it was a significant order.

Two grants helped Buscemi retool: \$25,000 from Oakland County to manufacture PPE and \$50,000 from the PMBC’s Emergency Access and Retooling Grants program. The money made it possible to buy state-of-the-art machines to offer better service at a faster rate.

“You can never find grants to purchase machinery. It’s not out there, and I know that because I’ve been asking for such a grant for years,” she says.

It completely transformed her company. In fact, COVID-19, as weird as it sounds to her, has been a blessing for Buscemi’s business. She’s been able to hire people who were out of work — Detroit Sewn’s roster is now 25 people strong compared to 10 before COVID-19. She created a safe haven for many, especially at the beginning of the pandemic, as she pivoted.



“It was this incredible feel-good situation where you just felt good to be in the building,” she says. “Everybody talked about that.”

DETROIT SEWN’S 7 STRATEGIES:

1 Speed is crucial. Answer the phone when it rings. Respond to emails within minutes. Turn around a cost estimate within a day. That is how Detroit Sewn landed its first hospital system client. From query to production, they pivoted in three days.

2 Trust your team. You vetted them during the onboarding process. Now let them fly. Their sharpness can be a game changer, so do not be thick-headed when it comes time to trust their solutions.

3 Do not be paralyzed by fear. The “what ifs” can be scary, but there is no time to delay a decision when it comes to an emergency pivot. Buscemi readily admits that she had applied for grants unsuccessfully before COVID-19 hit. Had fear of failure kept her from trying again, she would not have been able to tap \$75,000 in free money.

4 Refine constantly. Relentlessly seek process improvements to contain costs and improve product quality. Never rest on your laurels. The process can also lead to new product capabilities and discovering a new customer segment.

5 Ask for help. As a small company, Detroit Sewn was often overlooked in the supply chain. Buscemi leveraged relationships with larger companies she had worked with previously to help source items like elastic and fabric. She also tapped sources she had never heard of before that were able to locate difficult-to-find items.

6 Use the media to tell your story. The window is small to let the world know about your company. Make yourself known to local media and your client base will grow. Buscemi said larger sewing manufacturers that shut down after being deemed nonessential saw Detroit Sewn's story and offered some difficult-to-find materials to her.

7 Upgrade your work toys. "If there's one thing that I've learned from this whole thing, it's investing in new machinery is the greatest thing you can do for your company," Buscemi says. Her old machines are workhorses, but the capabilities of updated technology transformed the company by changing both speed and quality. Says Buscemi, "It just changed everything."

NXGEN MDX, GRAND RAPIDS

Timing is everything. Seven months before COVID-19 rocked Michigan, NxGEN MDx inched into the world of 24-hour pathogen tests to screen for urinary tract infections, vaginosis and group B streptococcus. The 8-year-old company had originally made its mark as a

women's health company that offered preconception genetic screening and hereditary cancer testing to help couples plan their families.

However, NxGEN's foray into pathogens proved fortuitous when COVID-19 testing overwhelmed the United States.

The team had been monitoring the situation beginning in January. By March 2020, Jacqueline Peacock, director of laboratory operations, was primed to dive into the pandemic. Could they apply what they knew about pathogen tests to create a COVID-19 test? A small team went to work.



Having already followed ever-changing Food and Drug Administration (FDA) authorization and validation guidelines, the company took only seven days to create a test for COVID-19.

"We already had equipment on-site," Peacock says. "We already have highly trained technologists who can run tests like this. It was certainly an effort by us, but it was relatively straightforward."

And they pivoted without a grant or loan.

It was enough to catch the attention of Gov. Whitmer,



who mentioned the company in an opinion piece that ran nationwide. Suddenly, the company went from running one shift five days a week to three shifts, working seven days straight while processing 20,000 pathogen tests a week.

“I don’t think we’re at the peak of the demand yet,” Peacock said in July.

Inaction was never an option.

“No one has ever needed so many of the same thing at the same time in the history of modern American clinical laboratory testing,” Peacock says. “Every lab that has technical expertise — even if it wasn’t the subject matter expertise — really had to step up.

“And we do that in Michigan.”

NXGEN'S 7 STRATEGIES:

1 Take your team’s temperature — literally and figuratively. The pandemic news overwhelmed the nation. NxGEN employees were no different, yet there was no escaping it as they were immersed in COVID-19 testing at work, too.

The stress was great, so it was critical to make sure each employee was doing OK.

2 Embrace surprises. The FDA frequently changed its guidelines for what it needed labs like NxGEN to adopt for COVID-19 testing, so rolling with the shifting targets was necessary.

3 Supersize your dreams. No one predicted the pandemic or that NxGEN’s business could grow exponentially, but it did. Dreams do come true.

4 Build efficiency through automation. NxGEN wished it had taken more time getting its data entry in place before COVID-19 hit, because writing things by hand slowed the testing ramp-up. Take extra time to do it right from the beginning to help enhance your company’s ability to pivot and respond to sudden opportunities and challenges, Peacock says.

5 Skip the layers. Decisions need to be made quickly. The lean NxGEN team had direct access to the CEO, speeding up its ability to assemble and implement an action plan.

6 Do whatever it takes to get a headstart. NxGen absorbed the knowledge “competing” laboratory scientists had learned on their journeys to create COVID tests and picked up from there rather than starting from scratch. This saved time, energy and frustration.

7 Do not ignore your pre-pivot customer base. Before there was COVID, there were couples hoping to conceive, needing the genetic testing that is NxGen’s specialty. Those couples still needed that information — even during the pandemic. Despite being busy with coronavirus testing, NxGen has continued to serve its foundational customer base in a timely fashion.



CONCLUSION

Adversity can make or break a company. For several Michigan entrepreneurs, COVID-19 was the catalyst to conquer a new horizon. What was at the heart of their success? Sure, there was no sleep for a month, many confessed. But what it came down to was that familiar expression: Where there's a will, there's a way.

To start building a foundation to help your business weather the next storm, reach out to the MEDC, which acted as a lifeline to many during the pandemic. Dial 888-522-0103 or visit michiganbusiness.org/pure-partnership.

Photos courtesy of General Motors (by John F. Martin); TentCraft Inc.; Detroit Sewn; and NxGEN MDx.

ABOUT THE MEDC

The Michigan Economic Development Corporation can help businesses connect to new resources, meet new partners and access the additional capital they needed from the start. If your business needs support to reach its new potential, the MEDC is available to help in any way that we can. Find out more by [clicking here](#).

To sign up for the MEDC's e-newsletter providing updates relating to COVID-19 small business programs, [click here](#).

For personalized support, reach a member of the team by making [contact here](#).