

# UNLEASHING DIGITAL TRANSFORMATION:

2023 MAKEMORE MANUFACTURING  
SUMMIT SUMMARY REPORT



**MARCH 2024**





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Exec. VP & General Counsel,  
Acting President and Chief Executive Officer

## Dear Fellow Taxpayer,

Florida TaxWatch has long recognized the importance of Manufacturing as one of Florida's leading industries, and as a key driver of future job growth and economic strength. With more than 24,000 manufacturers, Florida's Manufacturing sector provides high-wage, high value jobs to more than 426,000 Floridians, with average salaries in excess of \$70,000.

As part of our continued focus on this industry, Florida TaxWatch was honored to be asked again this year to participate in, and summarize, the discussions at the fifth annual MakeMore Manufacturing Summit, held October 25-26, 2023, at the Dr. Phillips Center of Performing Arts in Orlando. This report summarizes the challenges facing Florida manufacturers as they look to develop new products and new Manufacturing processes and, most importantly, new markets and new customers.

Florida TaxWatch is proud to present this summary of the Summit and we look forward to discussing the challenges and opportunities facing Florida's Manufacturing sector.

Sincerely,

A handwritten signature in blue ink that reads "Jeff Kottkamp".

The Hon. Jeff Kottkamp, Esq.  
Executive VP & General Counsel,  
Acting President & Chief Executive Officer

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## Introduction

FloridaMakes is a statewide, industry-led, public-private partnership operated by an alliance of Florida's regional manufacturers associations and partner organizations with the sole mission of strengthening and advancing Florida's economy by improving the competitiveness, productivity, and technological performance of its manufacturing sector, with an emphasis on small and medium-sized firms. It accomplishes this by providing services focused on three principal value streams: technology adoption, talent development, and business growth. FloridaMakes is the representative of the Manufacturing Extension Partnership (MEP) National Network in the state of Florida, a program of the National Institute of Standards and Technology, an agency of the U.S. Department of Commerce.

Each year since 2018, FloridaMakes, along with its partners Associated Industries of Florida, Florida Commerce, CareerSource Florida, and the Florida Chamber of Commerce, have hosted the MakeMore Manufacturing Summit. The Summit represents an annual platform to share best practices and exchange ideas about how our state resources are addressing the impacts of market dynamics, economic trends and policies, and new technologies available for manufacturers. The Summit brings together thought leaders from all segments of Florida's Manufacturing industry to facilitate a conversation around industry challenges and to offer solutions that will strengthen and advance Florida's manufacturers by improving competitiveness, productivity, and technological performance.

The theme for the 2023 Make More Manufacturing Summit, held October 25-26, 2023, at the Dr. Philips Center of Performing Arts in Orlando, was *"Unleashing Digital Transformation."* The focus of the Summit was on how Florida's Manufacturing industry can create greater value and profitability by continuously deploying new technologies (new products and processes) at scale.

The collective goal for the MakeMore initiative is to elevate the state's Manufacturing industry and demonstrate its impact to Florida's economy. The partners recognize the importance of diversifying the economy and prioritizing the growth of an industry that provides high-wage and high-value jobs to enhance the lives of Floridians. The MakeMore initiative is a platform to share best practices and exchange ideas about how state resources are addressing the impact of market dynamics, economic trends and policies, and new technologies available for the Manufacturing sector.

The winners of this year's Florida Advanced Technology Education (FLATE) Awards, GrowFL's Florida Companies to Watch Honorees, FloridaMakes Apprentices of the Year Award, Florida Manufacturing Employer of Choice Recognition Awards, and the Bob Provitola Manufacturing Leadership Award are identified in Appendix A.

## Summit Kick Off

Zoraida Velasco, Executive Vice President, FloridaMakes

FloridaMakes has been running the MEP for the state of Florida since 2015. Florida has a lot of Manufacturing assets; however, these assets were not talking to each other. For Manufacturing to thrive in Florida, it was important that these assets communicate with each other. FloridaMakes enhanced the dialogue and began brainstorming solutions to correct what wasn't working and amplifying what was working in partnership with Associated Industries of Florida, CareerSource Florida, Enterprise Florida (now Florida Commerce), and the Florida Chamber of Commerce. The goal of this partnership is to focus on what needs to be done to make sure Manufacturing continues to thrive and grow.

*"Ultimately, we want to elevate the state's Manufacturing sector and demonstrate its impact on the economy."*

After the 2022 Summit, with generous financial support from Duke Energy and Florida Power & Light, FloridaMakes took the results of this conversation on the road to make sure that those who were unable to attend the Summit had an opportunity to contribute and customize the conversation to address the needs of their individual regions. There were nine different events in seven different regions, each hosted by a Regional Manufacturing Association (RMA) and each of which has unique talent challenges. The intent to take the results of this Summit on the road was expressed.

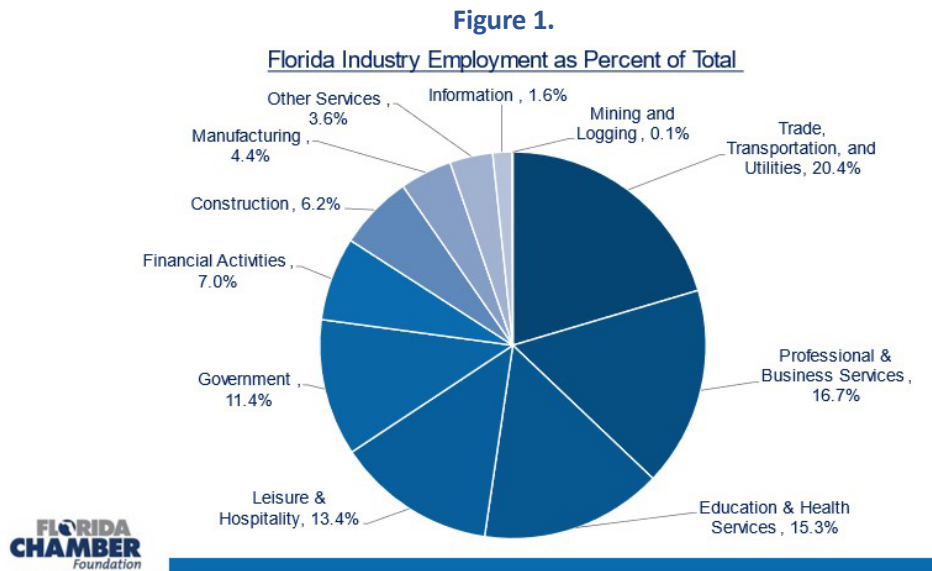
## The State of Florida Manufacturing

Kevin Carr, Chief Executive Officer, FloridaMakes

### Florida Manufacturing 2023

Florida has recently passed the 25,000 threshold in the number of manufacturers, most of which are small, and that makes Florida a Manufacturing state. The average number of employees for each Manufacturing company is 17. These are the “foundation” (supplier) companies that support the big companies and keep them moving.

Florida manufacturers support more than 426,000 high-wage jobs,<sup>1</sup> with average wages of \$74,575.<sup>2</sup> As shown in Figure 1, Florida manufacturers employ about 4.4 percent of the state’s workforce. The most recent employment data show that Florida has now climbed into the top-10 states in the nation for Manufacturing employment.<sup>3</sup> Florida manufacturers produce a variety of goods including aerospace products, food and beverages, communications equipment, pharmaceuticals, medical devices, semiconductors, boats, and more.



Source: [www.flchamber.com/florida-now-top-10-in-the-nation-for-manufacturing-jobs-surpassing-new-york/](https://www.flchamber.com/florida-now-top-10-in-the-nation-for-manufacturing-jobs-surpassing-new-york/)

Manufacturing helps to drive Florida’s economy. Florida’s current gross domestic product (GDP)<sup>4</sup> is roughly \$1.5 trillion. As shown in Figure 2, Manufacturing makes up about five percent of the state’s annual total economic output.

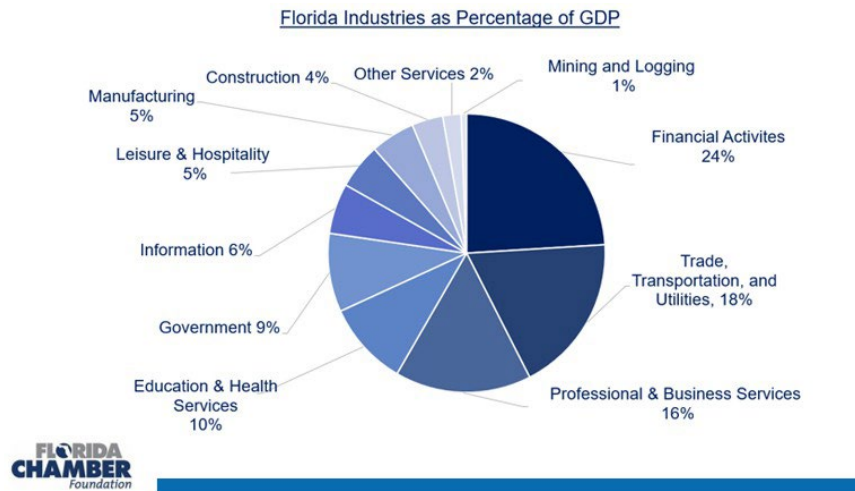
<sup>1</sup> Florida Chamber of Commerce, “Florida Now Top 10 in the Nation for Manufacturing Jobs, Surpassing New York,” retrieved from <https://www.flchamber.com/florida-now-top-10-in-the-nation-for-manufacturing-jobs-surpassing-new-york/>, October 31, 2023.

<sup>2</sup> FloridaMakes, “Florida Manufacts,” retrieved from <https://www.floridamakes.com/home>, October 31, 2023.

<sup>3</sup> Supra, see footnote 1.

<sup>4</sup> Gross domestic product is the total value of goods produced and services provided in the state for one year.

**Figure 2.**



Source: [www.flchamber.com/florida-now-top-10-in-the-nation-for-manufacturing-jobs-surpassing-new-york/](http://www.flchamber.com/florida-now-top-10-in-the-nation-for-manufacturing-jobs-surpassing-new-york/)

It is also important to look at Manufacturing in Florida not only in terms of Gross Domestic Product (GDP), but also in terms of productivity. “Productivity” is defined as gross revenue per employee and tells us how well Florida is performing relative to other states. In 2022, Florida ranked 12th among the states for Manufacturing GDP; however, Florida ranked 31st among the states in terms of productivity with an average of \$178,367 in economic output per employee. This is roughly \$40,000 below the U.S. average of \$218,271 per employee.

Each year that Florida operates below the U.S. average negatively impacts the state economy by about \$16.3 billion (see Figure 3). There are three ways to reduce the negative impact to Florida’s economy identified in Figure 3: (1) upskilling the Manufacturing workforce; (2) increasing the value of what we produce; and (3) accelerating the use of technology.

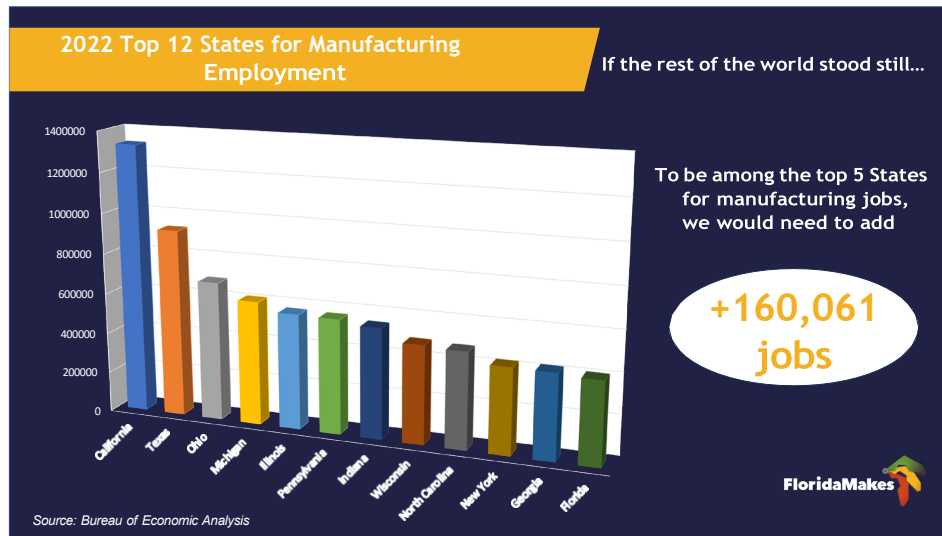
### Florida Manufacturing 2030

One of the key targets and strategies contained in the Florida Chamber Foundation’s “*Florida 2030: The Blueprint to Secure Florida’s Future*” is surpassing Pennsylvania and establishing Florida as a top-5 state for Manufacturing by the year 2030. This will require 160,061 new Manufacturing jobs (see Figure 4).

**Figure 3.**



Figure 4.



A major challenge facing Manufacturing is the education of policy makers and getting them to see that Florida has a vibrant Manufacturing industry and ecosystem --- Florida does not have an identity as a Manufacturing state.

*"I can tell you that there is nobody, really, in the legislature that knows what to do next for Manufacturing...that has to be given to them...we have to lead that conversation."*

## Disrupt or Be Disrupted

Craig Stepien, Executive Director, Strategic Transformation, NextEra Energy

Great companies out-innovate and out-execute their competitors through the process of "disruption." Disruption reflects change, and change is inevitable. Rapid advancements in technology and globalization are major causes of disruption --- they permit the introduction of new business models at ever-increasing speed and with rapidly declining costs. Having the capability to out-execute and disrupt has become a critical competitive advantage for modern companies.<sup>5</sup>

Where disruption exists, a business' external environment is changing rapidly. One way to avoid being a "disrupted victim" is to become a "self-disruptor" --- this requires accelerating a business' speed of execution while (concurrently) innovating at a faster rate. Self-disruptors are optimists; they choose offensive strategies over defensive strategies; they analyze potential options; and they have the courage to act.

Twenty years ago, the best self-disruptors were not technology companies (see Figure 5). In 2001, Microsoft was the only technology company to make the list of top-5 self-disruptors. In 2023, each company within the top-5 self-disruptors is a technology company.

<sup>5</sup> Forbes, "Disrupt or Be Disrupted," April 3, 2013, retrieved from <https://www.forbes.com/sites/johnkotter/2013/04/03/how-to-lead-through-business-disruption/?sh=452691202644>, November 23, 2023.

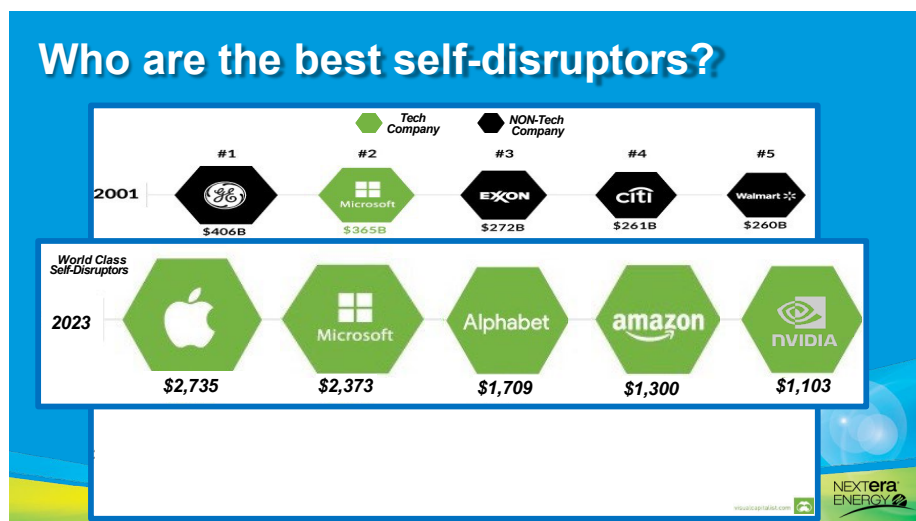
Figure 5.



*“A convergence of technology is upon us today.”*

Figure 6 illustrates where disruption has already occurred (e.g., tourism, media, telecommunications, and retail banking); where disruption is occurring now (e.g., retail; distribution, automotive, high tech, assembly, and energy companies); and where disruption will occur next (e.g., public sector, health, oil and gas, and chemicals and agriculture).

Figure 6.



To better understand self-disruption, consider Netflix, an American subscription video-on-demand streaming service. Netflix began as a competitor to video rental stores. Netflix would mail a digital video disc (DVD) of a movie to a customer who could keep the DVD as long as they wanted and return it when they were finished. Even though Netflix was taking market share from

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the incumbents, Netflix realized the need to revise its business model. Two disruptions occurred --- first, Netflix stopped shipping DVDs and started streaming video over the internet. Second, Netflix began developing and streaming its own content.

One essential skill for self-disruptors is the ability to unlearn what they have learned, and then relearn. This promotes innovation. Whereas the innovator's traditional mindset encourages perfect low-risk solutions which take considerable time and resources, the innovative approach encourages greater creativity and learning, with limited time and resources. It is important to recognize that what got you here today will not get you there tomorrow. One barrier that innovative self-disruptors must often clear is acknowledging that "the thing that made them successful is the thing that they have to change."

## Unleashing Digital Transformation: OEM Insights on Challenges, Imperatives, and Supply Chain Impact

A panel of distinguished thought leaders was convened to discuss a national perspective on the challenges and impacts of digital transformation.<sup>6</sup> Distinguished speakers and panelists for this session include:

- Luis Gonzalez-Mendez, Executive Director of Process & Engineering, Trividia Health, Inc. (Moderator)
- Robert Linder, Senior Operations Manager, GE Vernova
- Allen Sherwin, Enterprise Strategic IT Manager, Global Supply Chain Operations, Lockheed Martin Corporation

Panelists discussed their experiences as their companies transformed digitally. Lockheed Martin is currently undergoing a large-scale digital transformation. Lockheed's approach is to "reverse engineer" the process, beginning at where one wants to be and work backwards from there. For GE Vernova, which manufactures wind turbines, the focus is on reliability.

The panelists emphasized the need to be "digitally ready" --- to have a strategy that identifies new opportunities for innovation and automation. Successfully implementing that digital strategy requires technology that is aligned to the strategy, as well as the ability to effectively manage the ensuing change.

If done properly, digital transformation can greatly increase a business' operating efficiency and productivity. The new digital technology permits businesses to automate more tasks and streamline core business processes. This reduces labor costs and the time required to complete routine tasks. If, on the other hand, the digital transformation strategy is too complicated, it may breed resentment on the assembly line.

Leveraging the new digital technology provides insight into customer behavior and buying preferences. This allows businesses to tailor their products to the needs and expectations of their customers. Leveraging the new digital technology also allows businesses to more quickly adapt to changing market trends and the needs of their customers, and to pursue new business models and revenue streams.

***"Digital transformation is going to push you through or pull you through, so be ready."***

***- Allen Sherwin***

<sup>6</sup> Digital transformation is the process of adoption and implementation of digital technology by an organization to create new or modify existing products, services and operations by the means of translating business processes into a digital format.

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## Transforming Small and Medium Sized Manufacturing: Lessons From the Digital Frontier

A panel of distinguished thought leaders was convened to discuss the lessons learned by businesses that have undergone a digital transformation. Distinguished speakers and panelists for this session include:

- Mark Madore, Director of Client Operations, FloridaMakes (Moderator)
- Andrew Kossowski, Owner & President, Veterans Metal
- Mike Suarez, General Manager for Repair & Manufacturing Factories, Mitsubishi Power Americas
- Matthew Testa, Senior Operations Plant Manager, CAE Healthcare

Deciding whether to transform digitally depends on two important questions: (1) where do you want your business to be in five to ten years?; and (2) is there opportunity for growth? Answering the second question requires asking your customers about their growth plans. Digital transformation makes data more available, which leads to better and faster decision making. Automation and robotics help to make the processes better and faster.

*"Culture eats strategy for breakfast."*

*- Mike Suarez*

The need for a strong culture was emphasized --- a culture with strong collaboration and transparency.

Without it, small and medium-sized manufacturers will encounter roadblocks when trying to transform digitally. The guys in the trenches are the subject matter experts. If they are not brought to the table and involved in discussions about new technology and given the opportunity to provide input and “buy into” and support the new technology, the new digital technology will not be as successful as it could be.

It is important to consider not only the capital investment, but also the supporting infrastructure that is required. Moving forward in the product development stage requires carefully developed specifications and often requires the use of outside consultants. The need for references by non-competitors was discussed, and participants discussed their visits to similar-sized operations in other states to observe and gather their feedback. Prospective vendors who provided references and proposed budgets were permitted to stay on the list those who did not were removed from consideration. One thing that was not anticipated was the Prime Rate going up 11 times in 18 months; this volatility adversely affects small and medium-sized businesses.

It is important that decisions made are data-driven. The use of strategy teams and strategy leaders helps get people (vendors) in the door to demonstrate new technologies and to help ease implementation. Deployment of new technology often requires the replacement of legacy systems and upskilling the workforce. Commercial off-the-shelf (COTS) technology, coupled with standardized business processes, reduces the need for customization. When implementing new technology, it is critical to have the new standards and performance metrics established. This permits comparisons of actual to planned performance.

Digital transformation allows businesses to go paperless. Employees with laptops, QR code scanners, and tablets have more time to think and recommend process improvements. This helps employees feel like they are part of the businesses’ growth.

Getting the customer involved early and often will help to make things easier and better. Meeting with the top customers to discuss plans and intentions, what the business can do to provide additional value and new products and services, inviting customers to be part of the new design, and soliciting their feedback, pays dividends in the long run. Continuous improvement is a never-ending journey.

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## Words From the Manufacturing Supply Chain Caucus of the Florida Legislature

The Honorable David Smith, Florida State Representative, District 38

Representative Smith, the incoming Chair of the Manufacturing Supply Chain Caucus of the Florida Legislature, discussed the role of the Caucus in the success of Florida Manufacturing. The 16-member Caucus is made up of the following members of the Florida legislature:

Senator Tom Wright, Co-Chair  
Senator Debbie Mayfield  
Senator Keith Perry  
Senator Geraldine Thompson  
Senator Victor Torres  
Senator Clay Yarborough

Representative Tommy Gregory, Co-Chair  
Representative Thad Altman  
Representative Robin Bartleman  
Representative Linda Chaney  
Representative Chip LaMarca  
Representative Stan McClain  
Representative Juan Carlos Porras  
Representative David Smith  
Representative Cyndi Stevenson  
Representative Allison Tant

Representative Smith discussed the need for manufacturers to develop and maintain a personal relationship with their elected officials. It is important that manufacturers invite legislators to visit and tour Manufacturing facilities to meet with their constituents and to see firsthand how their constituents are affected by the decisions made in Tallahassee. These tours have proven to be one of the Manufacturing' industry's best grassroots lobbying tools.

*"Manufacturing is the cornerstone of building Florida's future economy."*

Representative Smith offered yet another good reason for manufacturers to develop personal relationships with their elected officials ---

*"...if you just leave us on our own...we will hurt you."*

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## The Digital Workforce: A Fireside Chat with Roots Education

Kevin Carr, Chief Executive Officer, FloridaMakes | Jeffrey Kondel, Owner, Roots Education Company

The focus of this presentation was on the digital transformations occurring in education. The myth that small businesses are too small for robotics has largely been dispelled. The technology looks basically the same as it did 20 years ago; however, the software has evolved considerably, and it is not as challenging to adopt as it was 20 years ago. Within a few weeks, even persons with high school educations can develop the confidence to work with robotics.

One of the stigmas we have been dealing with over the past 30 years is getting people into advanced Manufacturing. When different terminology is used, referring instead to “robotics” and “megatronics,” which are “sexier,” the response of younger people is better. Robotics is a magnet for the next generation in terms of occupations. Manufacturing is no longer “dull, dirty, and dangerous” as education is following what we are doing. The aging and retirement of today’s Manufacturing workforce provides opportunities for robotics tomorrow.

Valencia College has recently received state certification for its robotics and semiconductor technician program. This affords students the opportunity to, after 22 weeks in this program and 15 additional credit hours, walk out with an Associate’s degree.

*"If you're not evaluating that as far as what matches your product portfolio, you could be at risk. Robotics is not for everybody, and it can come with pain and work, but you have a workforce here in Florida that is being optimized for that."*

*- Jeffrey Kondel*

## The Implications of Industry 4.0 in Engineering Technology Education

A panel of distinguished thought leaders was convened to discuss the implications of Industry 4.0 in engineering technology education. Distinguished speakers and panelists for this session include:

- Ernie Friend, Executive Director, FLATE (Moderator)
- Shirley Dobbins, Engineering Technology Assistant Professor, Hillsborough Community College
- Jeffrey Kondel, Owner, Roots Education Company
- Cecilia Larsson, Program Manager / Professor of Engineering Technology, Seminole State College
- Rod Jaeger, President, D.C. Jaeger Corporation

Panelists were asked how Industry 4.0 was impacting educational vendors and educators. From a vendor’s perspective, there has been a significant uptick in the number of schools adopting Industry 4.0 technology. Through increased state grants, local colleges are better able to teach more of the core concepts that lead up to Industry 4.0. It is critical to find out what the manufacturers need. Over time, the equipment and the education system will begin to become customized to meet the needs of Florida manufacturers. Educators have had to accelerate their training and their learning and expand their curricula and courses.

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*"We're having to add courses, which is a little strange because we are relegated to having only 60 credits, so we're having to find space to add additional courses."*

*- Shirley Dobbins*

Panelists were asked how they determined which technology manufacturers need in the regions. Florida College System advisory boards and students tell the colleagues what they are seeing, what their needs are, and what is coming. Some manufacturers are allowing instructors to visit their facilities to see firsthand what they are doing and how it translates to new courses being developed. Attendees were encouraged to engage with colleges and technical schools to get on their advisory boards. This gives manufacturers a "first choice" of students. Joining the regional manufacturing associations was also encouraged.

*"If you're connected with the schools, if you're connected to the teachers, you're connected to the students."*

*- Ernie Friend*

Panelists were asked about the challenges facing the colleges and schools as they recruit and try to retain new instructors. The biggest challenge is compensation. Colleges and technical schools cannot compete with the salaries one can earn as an engineer or technician outside of academia.

*"One way to get around this is we are very flexible with our hours."*

*- Cecilia Larsson*

Another opportunity is those engineers and technicians who, after years in the private sector, want to return to teaching and contribute to incoming students. The availability of advanced technology in the classroom also makes it easier to retain qualified instructors.

Manatee County's public school system was cited as perhaps being in the top 100 school systems nationally when it comes to promoting Manufacturing, technology, and innovation in elementary schools.

*"When these elementary school students reach middle school, the technology must be better for them, and when they reach high school, it has to be better still."*

*- Jeffrey Kondel*

*"Just a small introduction will give them a long-term desire to investigate and do more."*

*- Shirley Dobbins*

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## Engaging National Assets for Technology Adoption

A panel of distinguished thought leaders was convened to discuss how to engage national Manufacturing assets to adopt advanced technology. Distinguished speakers and panelists for this session include:

- Kevin Carr, Chief Executive Officer, FloridaMakes (Moderator)
- John Christensen, Principal Investigator, NSF Engine Development Grant: Advancing Additive Manufacturing Technologies, ASTRO America
- Kevin Kerrigan, Vice President, Business Development, LIFT
- Suzy Teele, Chief Strategy Officer, ARM Institute
- Joe Veranese, Vice President & CIO, National Center for Defense Manufacturing and Machining

The ARM Institute<sup>7</sup> is the nation's leading robotics and AI manufacturing innovation institute. Created in 2017, the ARM Institute was created to work nationwide to increase the use of advanced technology, robotics, and AI across Manufacturing. The number one challenge both in Florida and across the country is workforce --- both skilled workforce and people, period. The ARM Institute was formed to create a public-private partnership to address skilled workforce challenges through technology, with more than 400 consortium members. The consortium's mission is to advance the state of manufacturing technology and to train and empower the workforce. This is accomplished through ecosystem development, technology development, and education and workforce development.

*"As we move forward, Manufacturing success and growth in the state can't be measured by headcount anymore. We're probably in a permanent labor shortage."*

*- Suzy Teele*

LIFT<sup>8</sup> is another of the national Manufacturing innovation institutes. Headquartered in Detroit, LIFT has 100,000 square feet of space to showcase advanced manufacturing technology and materials. LIFT helps to connect government, industry, and academia in the fields of advanced materials, manufacturing processes, systems engineering, and talent development to enhance economic competitiveness and national security. Everything LIFT does begins with a digital thread --- from concept to building and testing, and then to its members for scale-up and commercialization. Concurrent with start-up, LIFT began developing workforce curricula. LIFT programs include:

- **Ignite** — a three-year foundational high school curriculum<sup>9</sup> designed to develop the "multi-skilled technician" needed in today's workplace.
- **Operation NEXT** — an innovative credentialing program for active-duty military service members, veterans, reservists, National Guard, and civilians in high-demand Manufacturing fields.
- **LIFT Learning Lab** — a state-of-the-art interactive learning facility that features six unique labs to prepare students for high-demand Manufacturing careers.

ASTRO<sup>10</sup> America is a research institute and think tank dedicated to advancing the public interest through manufacturing technology by convening key segments of the defense industry base to advance qualification of necessary production tools. ASTRO America's stakeholders represent every tier of the supply chain, accelerating the adoption of "cutting-edge" manufacturing capabilities. America's casting and forging foundries are in decline.

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7 ARM is an acronym for "Advanced Robotics for Manufacturing."

8 LIFT is an acronym for "Leading Innovations For Tomorrow."

9 Year 1: Materials and Introduction to Manufacturing; Year 2: Advanced Manufacturing Systems 1; and Year 3: Advanced Manufacturing Systems 2.

10 ASTRO is an acronym for "Applied Science & Technology Research Organization."

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So many of the parts that we make are caught in supply chain bottlenecks. There is, however, a technical solution --- accelerating the adoption of additive manufacturing (replacing a foundry with 3-D printing) will help to increase supply chain resiliency. There are three “pillars” necessary to make this work: (1) access to the capital (\$3 million - \$5 million) necessary to invest in 3-D printing equipment; (2) qualification of additive Manufacturing processes; and (3) developing the workforce. The largest barrier to additive Manufacturing adoption is identifying a common qualification approach.

The mission of the America Makes consortium is to drive additive manufacturing processes into the Manufacturing base. America Makes receives funding through the Department of Defense to bring all the competitors into the same room to solve additive manufacturing problems that are common to everyone. America Makes builds a national strategy for additive manufacturing with a

regional focus. At any given time, America Makes has between 65 and 100 active projects going on, the results of which are then shared within the ecosystem.

When asked what Florida could do to secure one or more national Manufacturing institutes, panelists encouraged Florida’s small and medium-sized manufacturers to

*“Manufacturing is growing in this state, but we’re playing catch up when it comes to things that are happening on a national scale.”*

*- Kevin Carr*

get into additive manufacturing. The user base needs to “step up” and let it be known that they want to be part of this ecosystem. Making the most of these opportunities will require: (1) a great education system; (2) a greater commitment on the part of state and local governments; (3) an advanced technical entrepreneurial ecosystem; (4) economic incentives and financial assistance (capital); and (5) most importantly, talent.

## **MakeMore 2022 Success Story: Producing More Manufacturing Talent Manufacturing Success Stories with Tech Providers**

Darren Hohensee, Director of Business Development - Central Florida, Veryable |  
Megan Taylor, HR Director, Octex Holdings LLC

**O**ctex is a certified contract manufacturer of complex components and assemblies. Octex utilizes injection molding capabilities, in-house tool shop, and advanced metrology services to help bring better products to market more quickly. Veryable connects businesses and workers through its online marketplace, enabling a real-time approach to production. Veryable provides businesses a seamless way to build their labor pool in response to challenges and changes in demand.

Octex connected with Veryable at last year’s Summit, with the intent of finding good people who could come in for a couple of days or a week to do work. This is a perpetual challenge for HR Directors, especially in a post-COVID 19 environment.

Bringing “outsiders” to work on the factory floor poses several challenges, including ensuring their training and their safety. This was a positive experience to the point that it changed the way Octex brings in new talent.

With this labor pool, Octex has been able to grow the number of people that come back week after week, and Octex can now post openings just to those people who have already been at Octex.

Octex has been able to hire, on a full-time basis, employees who came to Octex through Veryable.

*“It’s been a really nice way to connect to people in the community who had no idea who we were, who had no idea there was a manufacturing facility where we are.”*

*- Megan Taylor*

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## Case Studies from the Field

A panel of distinguished thought leaders was convened to review case studies of companies that have made the digital transformation. Distinguished speakers and panelists for this session include:

- Fernando Mendoza, Business Advisor, FloridaMakes (Moderator)
- Jeff Willinger, Digital Experience Director, Withum
- Deveren Werne, Partner & Consultant, TSV Map
- Phil Reinke, Founder, The Continuous Improvement Institute

A primary concern of small and medium-sized businesses contemplating a digital transformation is how to get out of what they are doing now. Developing a “roadmap” and costing out the transformation or transition are critical first steps. The transformation starts with the culture of the organization. It is important to talk to the company’s employees to better understand what they want. Panelists identified three types of employees: early adopters; those who will never adopt; and the fence sitters who are trying to figure out what is in it for them. It is important to find the “influencers” in every organization --- those who are the super users and change agents --- and figure out what they are looking for.

***"If it doesn't pay for itself, it's probably not worth it... take that quantum level and say 'OK, I made this much money with that and fund the next one. Don't try to make a profit, self-fund digital transformation."***

**- Phil Reinke**

Everybody is looking for the “silver bullet” that will make everything better. It is important to try to get as much out of your current technology before buying something new. Panelists recommended a “crawl, walk, run” approach. Small applications are capable of improving business processes quickly, and at a reasonable cost. This is particularly true when there are budget and other limitations. Specific, repetitive tasks (e.g., bill sorting, paper shuffling, etc.) can be

***"If employees don't see value in doing whatever the new thing is, or trying to get them to adopt, they're never going to do it."***

**- Jeff Willinger**

eliminated by digitizing them and letting the computers take care of the routing. This permits dramatic increases in capacity without increasing the size of the workforce and frees up employee time to focus on solving other problems.

Great change management leaders spend a lot more time listening than they do talking.

Panelists closed by identifying the top four things **NOT** to do when in digital transformation: (1) do not fail to have a long-term plan; (2) do not fail to connect with the company’s employees; (3) do not fail to “custom fit” and listen; and (4) do not fail to hire slow and fire fast.

***"People do not resist change, they fear loss... Great leaders do not spend a lot of time trying to sell the change. If they do, they've missed the entire message."***

**- Phil Reinke**

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## Making Florida a Leader in Space

A panel of distinguished thought leaders was convened to discuss what it would take to take advantage of the Manufacturing opportunities to build close to where we launch. Distinguished speakers and panelists for this session include:

- Michael Miller, Vice President for External Affairs & Workforce Integration, Space Florida
- Rod Jaeger, President, D.C. Jaeger Corporation
- Brian Baluta, Director of Governmental Affairs, Lockheed Martin Corporation
- Tiffany Barnes, Senior Director of Advanced Manufacturing, Valencia College

Florida has a great track record when it comes to launching rockets into space and putting men on the moon, but what Florida has not done well is take advantage of the Manufacturing opportunities to build close to where we launch. Florida has a unique opportunity to assume Manufacturing activities that have, until now, been performed in other states. There is great demand for “touch labor” --- not everyone working in the space program has to be a rocket scientist or engineer.

In 2016, Valencia College started a program of accelerated skills training. Valencia now offers more than 20 programs, including eight advanced manufacturing and supply chain and logistics programs. Lockheed Martin was a key partner in the establishment of Valencia’s electronic board assembly program. Within a period of ten weeks, students take 23 exams and are earning

six nationally and internationally recognized credentials. “Soft skills” training is also available.

Space Florida has been working with the Executive Office of the Governor to implement the Reimagining Education and Career Help (REACH) Act through a series of initiatives designed to improve education and workforce development alignment, consistence, and outcomes. This has

*“One of the things I think, you know, the space industry working with Space Florida can accomplish for other manufacturers, both large and small, is changing the perceptions around Manufacturing work and career and technical education.”*

*- Brian Baluta*

opened a number of different paths for people are teachable, who can complete a task, and who have a working knowledge of electrical and mechanical fundamentals.

## Capital Access for Manufacturers

A panel of distinguished thought leaders was convened to discuss how to access the financial capital needed to purchase and implement the new technologies. Distinguished speakers and panelists for this session include:

- Ruth Buchanan, Vice President of Business Development, GrowFL (Moderator)
- Mark Kruse, Executive Vice President & General Counsel, Florida First Capital Finance Corporation (FFCFC)
- Greg Britton, State Director, Florida Small Business Development Center (SBDC) Network
- Mason Alford, Program Manager, State Small Business Credit Initiative (SSBCI), Florida Commerce

Panelists discussed the need for access to financial capital, a serious concern for Florida manufacturers. Manufacturers have to be able to tell their financial story to financial institutions when borrowing money. Manufacturers need to have readily available their credit scores, cash flows and projections, profit and loss (P&L) statements, and balance sheets.

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One major source of capital for manufacturers is the U.S. Small Business Administration's (SBA's) 504 loan program. SBA 504 loans provide long-term, fixed rate financing for major fixed assets (e.g., real estate, machinery, etc.) that promote economic growth and the creation of jobs. The 504 Loan Program is a partnership program between Florida First Capital/First Capital Finance – a nonprofit SBA licensed and regulated Certified Development Company – and a commercial lender. Working with participating lenders, Florida First Capital/First Capital Finance provides up to 90 percent financing at below-market, fixed interest rates and long amortization terms for eligible fixed asset purchases. The small down payment (10 percent) protects the manufacturer's cash flow, and the below-market interest rate is good for fixed assets and real estate.

Typically, a commercial lender provides financing for 50 percent of the 504 loan project and takes a first lien position. This lowers the lender's risk profile. Florida First Capital/First Capital Finance/SBA provides 40 percent of the project financing and takes a second lien position. This leaves 10 percent, which represents the borrower's down payment. Bridge loans may be offered by SSBCI/Florida Commerce --- through which SSBCI/Florida Commerce fronts the 40 percent --- until the SBA 504 loans are made available. SSBCI/Florida Commerce can also cover shortfalls in collateral in those instances where the lender cannot cover the loan with the manufacturer's assets.

## Developing and Utilizing Digital Twins

Dr. Carolina Cruz-Niera, Agere Chair Professor, Department of Computer Science,  
University of Central Florida

A "digital twin" is a "virtual representation of an object or system that spans its lifecycle, is updated from real-time data, and uses simulation, machine learning, and reasoning to help decision making."<sup>11</sup> Essentially, a digital twin is a virtual model of something that happens in the real world. For manufacturers, developing and utilizing digital twins have several advantages:

- **Centralized data/information** — a lot of industries waste a tremendous amount of resources by having data in pieces across the enterprise. Digital twins will force more centralization of data.
- **Increased speed and agility** — digital twins will permit us to move fast without cutting corners, and to adapt more readily to changing market conditions.
- **Increased effectiveness/efficiency** — digital twins allow us to leverage large amounts of real-time and historical data to make more accurate forecasts, allowing manufacturers to better predict and forecast future outcomes.
- **Personalization** — not everyone in the same company/industry needs to see the same information in the same format. Digital twins allow for greater personalization of information in ways that are better for them.
- **Standardization** — digital twins will help solve the problem of trying to integrate all of the different tools and systems and make them interoperable.
- **Risk reduction** — digital twins help create different scenarios that will permit a better understanding of long-term risk, and ways to mitigate that risk.

Developing and utilizing digital twins also present several challenges:

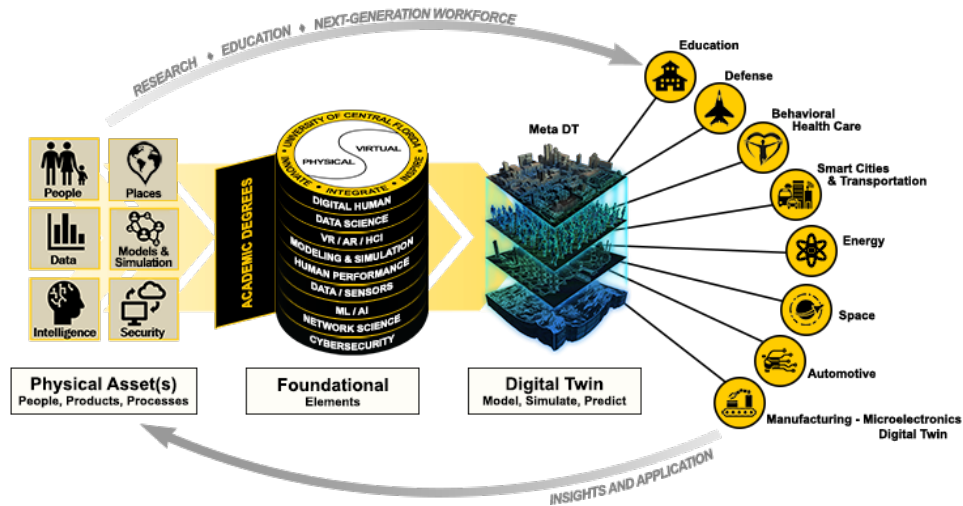
- **Data availability** — are open, real-time, and quality data available in a format that is usable and that can easily be integrated into the data platform of the digital twin?
- **Cybersecurity** — can critical information (e.g., product lifecycle, personal information, industry processes, etc.) be kept secure?
- **Interoperability** — can best practices be shared, leveraged, and integrated across multiple industries?
- **Data ownership** — can the risk of misrepresenting the system or object you want to replicate be effectively managed?

<sup>11</sup> IBM, "What is a Digital Twin," retrieved from <https://www.ibm.com/topics/what-is-a-digital-twin>, November 3, 2023.

- **Scale and fidelity** — can the information be scaled to more complex systems over time?
- **Intellectual property** — can we manage intellectual property and keep pace with the rapidly changing tools and technology?

Through the UCF Knights Digital Twin Initiative (see Figure 7), UCF is poised to take a leadership role in leveraging the U.S.' global competitive advantage of digital transformation by developing an integrated ecosystem of digital/physical twins, data, models, simulation, and analysis of systems' life cycle in a multi-domain environment. This initiative will enable UCF to intersect research and academics with industry and government partnerships to create transformative ventures with real-world and real-time impact.<sup>12</sup>

Figure 7.



## Charting the Path Forward

Kevin Carr, Chief Executive Officer, FloridaMakes

Two key questions going forward are “how do we bring more visibility to Manufacturing?” and “how do we pay for it?”

Reference was made to a manufacturing study currently being done by Florida Commerce. The General Appropriations Act for fiscal year 2023-24 directs Florida Commerce (then the Department of Economic Opportunity) to coordinate with the state’s Manufacturing industry to study Manufacturing in Florida. Florida Commerce is encouraged to “evaluate existing resources and partnerships that facilitate the growth and advancement of manufacturing in this state and enhance the competitive position of Florida in the national and international economy.”

*“Advanced manufacturing is where we're going to make a difference.”*

*- Kevin Carr, CEO, FloridaMakes*

The findings of this study may then be used in the development of plans to: (1) grow high-tech jobs; (2) provide necessary workforce training; (3) strengthen supply chain and logistics resiliency; (4) promote new technologies and innovations; (5) or incentivize the onshoring of Manufacturing to Florida. This study, which was prepared with the support of FloridaMakes, has been made available to the Governor, the President of the Senate, and the Speaker of the House of Representatives.<sup>13</sup>

<sup>12</sup> University of Central Florida, “Knights Digital Twin Initiative,” retrieved from <https://www.ist.ucf.edu/labs/knights-digital-twin-initiative/>, December 28, 2023.

<sup>13</sup> Florida Legislature, “Conference Report on Senate Bill 2500,” retrieved from <http://floridafiscalportal.state.fl.us/Document.aspx?D=25732&DocType=PDF>, November 3, 2023.

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## Conclusions and Recommendations

To position Florida among the top-5 Manufacturing states by 2030, Florida manufacturers will have to create an average of about 20,000 new Manufacturing jobs each year for the next eight years. This assumes that states currently ahead of Florida do not significantly increase their Manufacturing jobs.

From September 2013 to September 2023, the number of Manufacturing jobs in Florida increased from about 326,300 to about 422,800,<sup>14</sup> an average of about 9,600 new jobs each year. At this rate, Florida would be more than 60,000 jobs short of the number required to move into the top-5 Manufacturing states by 2030. This will be an extremely “heavy lift” for a state that has no identity as a Manufacturing state and that offers little in the way of economic incentives to attract large manufacturers.

Florida TaxWatch agrees with FloridaMakes CEO Kevin Carr when he describes the need for a comprehensive campaign to better establish Florida’s identity as a Manufacturing state. Such a campaign must, to be successful, focus on the increased use of advanced Manufacturing technology, increased growth in high-value business markets, and increased technical skills of the Manufacturing workforce. These strategies, which are discussed in greater detail below, will lead to new products, new manufacturing processes, new markets, and (most importantly) new customers.

Florida TaxWatch has enjoyed the privilege of preparing summary reports for the MakeMore Manufacturing Summit since 2019 (excluding 2020 when the COVID-19 pandemic cancelled the event). In an attempt to “frame” the kind of comprehensive campaign FloridaMakes CEO Carr deems necessary, Florida TaxWatch has gone back through its previous Summit summary reports to identify those strategies that, if implemented, will go a long way toward identifying Florida as a Manufacturing state.

**1.0 Manufacturers need to step up their marketing and messaging efforts.** Manufacturing is still viewed as a dirty job with factory work. Better “branding” is necessary to help the community understand what Manufacturing is and what it offers. It is important to change workforce perceptions about the Manufacturing industry and get people understand that Manufacturing can be a true career and “not just a job,” even without a college degree. Career opportunities presented by the Manufacturing sector are not very well-known.

**1.1 There is a need to “get the word out” about career opportunities in Manufacturing.**

Manufacturers need to do a better job educating parents, high schools, colleges and universities, and workforce agencies about job and career opportunities in Manufacturing. Middle- and high-school students need to better understand what Manufacturing is and, just as important, what it is not.

**1.2 Manufacturers must work on changing the perception that a college degree is required to have a good life.** One critical message is that college “isn’t the only career choice” and that Manufacturing is another option where one can make a good career without a four-year degree.

**1.3 Manufacturers must promote the fact that there is a lot of Manufacturing that is not thought of as being “Manufacturing.”** Not a lot of people, for example, think of brewing beer as Manufacturing.

**1.4 Manufacturers must enlighten today’s youth about high-tech Manufacturing and its contribution to innovation, productivity, economic growth, and high-quality Manufacturing.** Late elementary school years is a critical point for students to see how and why science and math classes lead to real-world possibilities, especially for young girls.

**1.5 Manufacturers must change the dialogue that we have with our children about Manufacturing.** Manufacturers need to refocus the narrative away from Manufacturing as a job and toward Manufacturing as a career, and as a way for people to lead an enjoyable and uncomplicated lifestyle that pays well. Manufacturers need to help parents understand that it is OK for their children to pursue a career in Manufacturing and that Manufacturing careers are stable careers.

<sup>14</sup> U.S. Bureau of Labor Statistics, “Databases, Tables & Calculators by Subject,” retrieved from [https://data.bls.gov/timeseries/SMS12000003000000001?amp%253bdata\\_tool=XGtable&output\\_view=data&include\\_graphs=true](https://data.bls.gov/timeseries/SMS12000003000000001?amp%253bdata_tool=XGtable&output_view=data&include_graphs=true), November 1, 2023.

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**1.6 Make better use of the existing 14 Regional Manufacturers Associations.** Florida’s 14 Regional Manufacturers Associations (RMAs) act as a conduit between the small (20 or fewer employees) Manufacturing businesses and educational and informational support, CEO roundtable discussions, networking events, public relations tools, human resource needs, grants, and awards and recognition at a regional and state level. Florida has more than 24,000 manufacturers; however, only three percent are represented by RMAs. As a result, many Florida manufacturers are simply unaware of the resources that are available to them. The role of the RMAs may thus be characterized as “the greatest story never told.”

**2.0 Utilize more “nontraditional” methods of building a robust and sustainable talent pipeline.** At the end of the day, Florida manufacturers are all competing for the same talent. As Florida’s Manufacturing industry continues to gain momentum, Florida manufacturers are having a hard time filling vacant positions because the skills needed are not available in the labor market. Manufacturing executives attribute the skills shortages to shifting skill set due to the introduction of new advanced technology and automation; negative perception of students and their parents toward the manufacturing industry; and baby boomer retirements.<sup>15</sup> The hiring process today is a lot different than it was a few years ago and the traditional ways to recruit Manufacturing talent have not provided a robust pipeline of talent to meet the needs of Florida manufacturers.

**2.1 Manufacturers need to understand that today’s rules for “how work works” have changed.** In 2013, Baby Boomers and Veterans made up 43.3 percent of the workforce; in today’s workforce, Baby Boomers and Veterans make up only 14 percent of the workforce. In today’s workforce, the largest segment is the Millennials (41.0 percent), followed by Generation X (35.0 percent), Baby Boomers (13.0 percent), Generation Z (9.0 percent), and Veterans (1.0 percent).<sup>16</sup>

Today’s rules for how work works have been made in large part by the Millennials and Generation X, who make up 76 percent of today’s workforce. These work rules focus on the continued development and learning and understanding “why” things are done the way they are. Work-life balance is important as today’s workers seek the flexibility to experience life and find a path toward something greater than just the work.

Today’s workers see themselves as a commodity that they will sell to the highest bidder. Consequently, they are twice as likely to leave a job today than they were in 2010, and they do so because the new work rules permit it. Employees want to be paid for their value and skill, not for how long they have worked there. Pay that is influenced by seniority; performance evaluations that rank employees by numbers; policies that are just “stupid”; and other leadership ideologies and skills designed for the Veteran and Baby Boomer generations will not meet the needs of Millennial, Generation X, and Generation Z employees.

**2.2 Make better use of untapped and/or underutilized resources.** Resources that have traditionally been untapped or (at best) underutilized include:

- Military veterans making the transition to civilian life.
- Floridians with disabilities.
- Inmates with “real world” job skills transitioning into the job market upon completion of their sentences.
- The 1.4 million adults without a high school education.
- The nearly four million barely literate<sup>17</sup> adults.

<sup>15</sup> Deloitte, “2018 Deloitte and the Manufacturing Institute Skills Gap and Future of Work Study.”

<sup>16</sup> U.S. Bureau of Labor Statistics.

<sup>17</sup> Roughly one-in-four (24 percent) of Florida’s 14 million adults is barely literate, meaning they cannot do basic arithmetic and are functioning at or below Level 1 literacy, (cannot read past 3rd grade reading level).

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**2.3 Hire selectively and invest in training.** Manufacturers are hiring bright, motivated people who are capable of learning and then bringing them up to speed very quickly. This “fast track” accelerated training approach has emerged as one of the more-promising ways to meet short-term industry needs for skilled and experienced employees.

**2.4 Many manufacturers are “growing their own” talent pool through apprenticeships, internships, and “boot camps.”** Exposure to a skilled trade through an apprenticeship or internship has shown to be a promising pathway for filling many of the skilled jobs that are hard to fill in the Manufacturing industry. These “learn as you earn” models combine on-the-job training and classroom instruction with mentorship and wage increases as an employee’s skills and knowledge increase. Participants earn nationally recognized certification, and the employer gets a dedicated and skilled employee.

**2.5 Recruit employees in “feeder industries” such as Leisure and Hospitality.** Leisure and Hospitality industry employees have many of the soft skills that Manufacturing employers report as missing from applicants applying for vacancies. Soft skills feed into meaningful career paths. Manufacturing affords employees in these feeder industries who have the requisite soft skills (e.g., communications and leadership) an opportunity for higher wages and a career in Manufacturing.

**2.6 It is important to “cast a wider net.”** How people recruit employees is changing, and the same is true for the Manufacturing industry. When recruiting talent, especially from other companies, it is important to promote the company as more than just a job and describe the pathway to company and employee growth. Creating an environment that focuses on the employees (e.g., good benefits, work/life balance, company/family events, etc.) helps with retention and attendance and makes people want to come in and do their best.

**2.7 Sector strategies have proven to be an effective way to align public and private resources to address talent needs of Florida manufacturers.** Sector strategies are regional industry-focused approaches to building skilled talent. The six key elements to an effective sector strategy are: (1) they are built on and around great data; (2) they are founded on a shared regional vision; (3) they are guided by the industry; (4) they lead to strategic alignment; (5) they transform how employer and job-seeker services are delivered; and (6) they measure, improve, and sustain outcomes of local workforce partnerships.

**3.0 Getting local Manufacturing companies involved in the schools is key.** Manufacturers cannot afford to wait until students reach the university level to teach them technological concepts. If we do not start early, we will not be able to develop the pipeline by the time they get to the college level. It is up to the Manufacturing industry to go into the schools to educate school guidance counselors, administrators, students, and parents that Manufacturing jobs are widely available and a lucrative career choice. It is also important to get teachers and school administrators to visit local Manufacturing industries to see technology in the workplace. These field trips and tours give school officials a broader perspective on how technology is used so they can better teach it in the classrooms.

**3.1 Construct a pathway from high school directly to Manufacturing.** A four-year college education is not for everyone. There is the need to show people what their earnings will be when they get their high school diploma and go into a Manufacturing career. There needs to be one or more incentives to get high school students to start thinking about Manufacturing careers.

**3.2 Adopt a school.** Manufacturers can participate in activities such as hosting students on tours of their facilities; visiting schools to give talks offering insight into their industry; mentoring interested students; and promoting valuable internships. Adopted schools can provide their students an insightful look at careers in growing Manufacturing industries and offer them exciting learning opportunities outside the traditional brick and mortar walls.

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**3.3 Manufacturing must improve collaboration between educational institutions and industry stakeholders.** The Florida Federation for Advanced Manufacturing Education (Florida FAME) is a good example of a program designed to help bridge the gap between educational institutions and Manufacturing. Based on Toyota’s Advanced Manufacturing Technician (AMT) program, this “earn-while-you-learn” model provides students a pathway to earn an industry recognized degree while gaining valuable experience at a sponsoring company.

**4.0 Develop resilient and sustainable supply chains – interactive, dynamic, networks of people, processes, and technologies.** Global disruptions (e.g., pandemics, wars, etc.) and greater customer expectations are placing greater burdens and pressures on Manufacturing supply chains. As these disruptions become more frequent and more severe, manufacturers must take steps to ensure that supply chains are resilient and sustainable enough to withstand this pressure.

**4.1 Use platforms such as the national Connex Marketplace database to connect manufacturers and suppliers to purchasers.** These platforms will help manufacturers across the state better compete for business by connecting them to other Florida businesses in need of their materials and supplies.

**4.2 Source locally.** In today’s global Manufacturing landscape, it is common for supply chains to stretch around the world. Local suppliers are typically more responsive and less expensive than suppliers who are further away and can deliver products sooner.

**4.3 Decrease the risk in deploying advanced technology.** Companies are looking to leverage their supply chain by modernizing systems and tools; reducing complexity by consolidating and simplifying technologies; and by re-thinking how supply chain success should be measured. Digital supply networks need to move away from linear supply chain models and one discreet process to an integrated network, which is where the future of supply chain models is heading.

**5.0 Accelerate the adoption and implementation of Industry 4.0 technologies.** Advanced microelectronics are changing human interaction with the world. The growing demand for integrated devices that require advanced technology is rapidly multiplying, powering a new era known as *Industry 4.0*, which represents the fourth iteration of modern Manufacturing.

**5.1 Increase the use of automation to reduce labor costs and improve operating efficiency.** Automation, for example, can eliminate non-value added and repetitive tasks otherwise performed by employees; however, automation will not solve the problem of too few skilled and experienced employees.

**5.2 The Manufacturing industry should continue to explore public-private partnerships like NeoCity and BRIDG in Osceola County to provide more flexible multi-party contracts to account for new cooperative commercial relationships.** NeoCity is a 500-acre technology district that is becoming a global leader for smart sensor, photonics, and nano-technology research and development. BRIDG (Bridging the Innovation Development Gap) is a state-of-the-art microelectronics fabrication facility that will be used to develop the tools and processes to manufacture sensors that connect people and their devices to the Internet of Things (IoT) and that will allow electronic devices of all kinds to communicate.

**5.3 Invest in new and emerging technologies to train and develop employees.** Investments in augmented reality, virtual reality, and mixed reality permits students to apply what they learn in an extended reality (XR)<sup>18</sup> environment before stepping foot on a manufacturing floor. This promotes a faster time to competency.

**5.4 Manufacturers need to get an early start building connections between teachers, students, and workforce technology practices.** It is critical to get teachers and students over the fear of using technology. It is important to get teachers to visit local Manufacturing industries to see technology (e.g., sensors and probes) in the workplace. These field trips give teachers a

<sup>18</sup> Extended reality includes augmented reality, virtual reality, mixed reality, and everything in between.

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broader perspective on how technology is used so they can better teach it in the classroom. The surrounding ecosystem for innovation must include nearby colleges and universities, government and non-government organizations, and investment and funding.

**5.5 Modernize workforce practices in the classroom.** If Industry 4.0 equipment and tools are not available in the schools, it will be hard for students to develop the skills. This lack of access applies not only to the tools, but to the infrastructure required to run the tools.

**6.0 Make more effective use of the Florida Manufacturing & Supply Chain Caucus.** The Caucus was created during the 2020-21 legislative session. It is the first of its kind in the Florida legislature and it is comprised of 16 legislators committed to support the state's investment in Manufacturing, supply chains, and logistics. It is important that manufacturers invite legislators to visit and tour Manufacturing facilities to meet with their constituents and to see firsthand how their constituents are affected by the decisions made in Tallahassee.

**6.1 Continue investments in programs like FloridaMakes and GrowFL.** Programs like FloridaMakes and GrowFL generate thousands of high-paying jobs while growing Florida's Manufacturing sector. As the official representative for the National Institute of Standards and Technology Manufacturing Extension Partnership (NIST/MEP) program, FloridaMakes connects statewide business associations and local providers to help small- and medium-sized manufacturers grow their businesses through technology adoption, business growth, and talent development.

GrowFL is Florida's only organization exclusively dedicated to support and accelerate the growth of second-stage companies,<sup>19</sup> by providing their leaders with connections with other second-stage company leaders, resources, and organizations whose expertise, experience, and products lead to the second-stage company's continued growth and prosperity.<sup>20</sup>

**6.2 Keep taxes low and minimize regulations that stifle Manufacturing job creation.** Taxes matter to businesses. Business taxes affect business decisions, job creation and retention, plant location, competitiveness, and the long-term health of a state's economy. Plus, taxes diminish profits. A state with lower tax costs will be more attractive to business investment and more likely to experience economic growth.

**6.3 Reduce and eventually rescind the business rent tax.** Florida is the only state that charges a sales tax on commercial leases. The tax is imposed on the base rent, plus any additional rent or consideration, and any local government surtaxes the tenant is required to pay. This "business rent tax" negatively affects any business that leases real property.

**6.4 Maintain the sales tax exemption for Manufacturing equipment and machinery.** Effective April 30, 2014, the purchase of Manufacturing equipment and machinery by an eligible manufacturer became exempt from Florida sales tax.

**6.5 Targeted investments in Florida's infrastructure must be a high priority.** Florida's infrastructure is the backbone of its economy, moving people and goods from one part of the state to another. Targeted investments in infrastructure necessary to increase Manufacturing are consistent with the Florida Council of 100's "Project Sunshine," which outlines strategies to promote economic competitiveness and improve Florida's business climate. The "2021 Report Card for Florida's Infrastructure," prepared by the Florida Section of the American Society of Civil Engineers, rates Florida's overall infrastructure as a "C."

**6.6 Increase the availability of affordable housing.** Florida has an affordable housing crisis. The availability of adequate and affordable housing has significant implications for Manufacturing productivity and profits. Manufacturers located in areas where housing costs exceed wages will have difficulty attracting and keeping qualified employees.

<sup>19</sup> Second-stage growth companies have at least six employees and \$750,000 in revenue and possess the intent and desire to grow beyond second-stage. They are a small, but mighty, group of entrepreneurial leaders in Florida, accounting for just 10 percent of the companies but generating more than 30 percent of the jobs.

<sup>20</sup> Florida TaxWatch, "Florida TaxWatch Statement About Renewal of FloridaMakes Funding," retrieved from <https://floridatxwatch.org/Press-Room/ArtMID/35144/ArticleID/18705/Florida-TaxWatch-Statement-About-Renewal-Of-FloridaMakes-Funding>, July 5, 2019.

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## Appendix A: 2023 Award Winners

### 2023 Bob Provitola Manufacturing Leadership Award

**B**ob Provitola's contribution to state and local educational and economic development initiatives directed at improving our manufacturing economy and creating high-wage, high-skills jobs is legendary. Each year, the FloridaMakes Network asks manufacturers and others within the manufacturing industry to nominate people for the Bob Provitola Manufacturing Leadership Award. Nominees include those who have demonstrated outstanding leadership, advocacy, mentorship, and/or volunteerism in Manufacturing. This year's winner is:

**Roy Sweatman, President**  
**Southern Manufacturing Technologies, Inc.**

### 2023 FLATE Distinguished Manufacturing Education Awards

The sixteenth annual FLATE Awards recognize those who advocate on behalf of Manufacturing education. This year's winners are:

**Distinguished Manufacturing Secondary Educator-of-the-Year – Kevin M. Davenport, Creekside High School, St. Johns County;**

**Distinguished Manufacturing Post-Secondary Educator-of-the-Year – Greg A. Lewis, St. Petersburg College, Clearwater;**

**Distinguished Manufacturing Partner Service Award – Orville (Orv) L. Dothage, III, Northrop Grumman Corporation, St. Augustine; and**

**Most Innovative Manufacturing Month Student Event Award – 2022 Made in Central Florida Expo & Student Design & Build Competition, Donnie Casey, Executive Director, Christian Davison, Chief Operating Officer.**

### 2023 Florida Manufacturing Employer of Choice Recognition

The Florida Manufacturing Employer of Choice Recognition Program uses data from surveys of Florida manufacturers by Personnel Dynamics to identify and recognize the best Manufacturing employers in Florida. Data are collected through a 40-question survey designed to educate employers how to improve their workplace. Employers are measured against their peers on 37 different measurements, including turnover rates, growth percentages, employee development spending, promotion percentages, insurance packages and retirement plans. Each participating manufacturer receives a 27-page analytics report that provides valuable baselines and market intelligence that can be used to improve and implement best practices. The following Florida manufacturers were Florida Manufacturing Employer of Choice award winners for 2023:

**Medtronic** — a leader in the application of biomedical engineering in the research, design, manufacture, and sale of instruments that alleviate pain, restore health, and extend life that has been revolutionizing healthcare technology since 1949.

**CAE Healthcare** — develops simulation-based education technologies that enable smarter learning and training across the healthcare continuum.

**Anika Therapeutics** — a global joint preservation company committed to delivering meaningful advancements in early intervention orthopedic care.

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**Century Metals & Supplies** — provides a broad mix of industrial products to the Manufacturing industry including aluminum, steel, stainless steel, copper, brass, and hot rolled, cold rolled, pre-painted and coated steel such as galvalume, galvalume and galvanized.

**Q4 Services** — an independent manufacturer and provider of innovative visual display systems and related services that support the global training and simulation industry.

**Ergotronix** — makes it easier and safer for workers to handle Manufacturing and assembly jobs with smart, integrated, positioning solutions.

**Air Products** — a world leader in industrial gases, related equipment, and applications.

**Nautique** — an American boat manufacturer that produces boats primarily for waterskiing, wakeboarding and wakesurfing.

## 2023 FloridaMakes Apprentices of the Year Award

**Tyler Westlake, Knight's Armament Company**

**Keigan MacBeth, Stellar Energy**

**William Merriman, PGT Innovations**

**Tyler Morrow, Sun Hydraulics**

**Douglas Silva, Southern Manufacturing Technologies**

**Tarun Kumaravel, Airbus OneWeb Satellites**

## 2023 GrowFL Companies to Watch Winners

The 13th annual GrowFL “Companies to Watch” competition was developed by the Edward Lowe Foundation to recognize and honor second-stage companies that demonstrate high performance in the marketplace with innovative strategies and processes. For 2023, the following companies were chosen as winners:

**BlueWind Technology, LLC**

**DACKOR**

**Data Graphics, Inc.**

**Delemere Industries, Inc.**

**Fort Myers Brewing Company**

**GRACE Aerospace, LLC**

**Hollywood Woodwork**

**Intellitec Products, LLC**

**International Insulation Products**

**MacroCap Labs**

**Mainstream Engineering Corporation**

**Pem-Air Turbine Engine Services**

**SSM Enterprises**

**Thompson Pump**

**Volt Lightning**

**Weedoo Greenboat, Inc.**

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## ABOUT FLORIDA TAXWATCH

As an independent, nonpartisan, nonprofit taxpayer research institute and government watchdog, it is the mission of Florida TaxWatch to provide the taxpayers of Florida and public officials with high quality, independent research and analysis of issues related to state and local government taxation, expenditures, policies, and programs. Florida TaxWatch works to improve the productivity and accountability of Florida government. Its research recommends productivity enhancements and explains the statewide impact of fiscal and economic policies and practices on taxpayers and businesses.

Florida TaxWatch is supported by voluntary, tax-deductible donations and private grants. Donations provide a solid, lasting foundation that has enabled Florida TaxWatch to bring about a more effective, responsive government that is accountable to the taxpayers it serves since 1979.

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### FLORIDA TAXWATCH RESEARCH LEADERSHIP

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Kurt Wenner	Sr. VP of Research
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All Florida TaxWatch research is done under the direction of Dominic M. Calabro, President, CEO, Publisher & Editor.

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