

FROM GREASE & GRIME TO TECHNOLOGY & TALENT

A SUMMARY OF THE 2019
FLORIDA MAKE MORE
MANUFACTURING SUMMIT

NOVEMBER 2019



Florida
TaxWatch

SPECIAL REPORT



Dear Attendees, Policymakers, Stakeholders, and Interested Parties,

On May 31, 2019, Associated Industries of Florida, CareerSource Florida, Inc., the Florida Chamber of Commerce, the Florida Manufacturing & Logistics Council, and FloridaMakes hosted the second annual “Make More Manufacturing Summit” in Orlando, Florida. The Summit brought together thought leaders from all segments of Florida’s Manufacturing industry to elevate the importance of the industry in Florida and to identify ways we can strengthen and advance Florida’s economy by improving the competitiveness, productivity, and technological performance of its Manufacturing sector.

The Summit explored a number of ways to close the skills gap and build a talent pipeline to make sure Florida manufacturers can fill vacant jobs with skilled employees. We are proud to present this summary of the Make More Manufacturing Summit, prepared by our friends at Florida TaxWatch, and we look forward to discussing the challenges and opportunities facing Florida’s Manufacturing sector with policymakers during the 2020 legislative session and beyond.

Sincerely,

Speaker Tom C. Feeney, President & CEO
Associated Industries of Florida

Mark Wilson, President & CEO
Florida Chamber of Commerce

Representative Lake Ray, President
Florida Manufacturing & Logistics Council

Kevin Carr, CEO
FloridaMakes

INTRODUCTION

The slogan “Made in America” has always meant jobs for Americans. Manufacturing is the transformation of raw materials into new products and it ranges from small, home-based businesses that make products by hand to the largest, most technologically sophisticated factories and plants. The Manufacturing sector is made up of 21 subsectors¹ which provide more than 12.5 million high-paying jobs. Manufacturing jobs pay an average of 12 percent more than other jobs. In 2017, persons employed in U.S. Manufacturing jobs earned an average of \$84,832 (includes benefits) annually.²

The importance of Manufacturing to the U.S. economy cannot be overstated. In 2018, Manufacturing added \$2.33 trillion to the nation’s gross domestic product (GDP), representing 11.6 percent of U.S. economic output.³ Every \$1 spent in Manufacturing adds \$1.89 in business growth in other supporting sectors.⁴ High labor costs, however, threaten the U.S.’s leadership position, giving low labor cost countries like China a competitive advantage.

After years of reduced output and a diminishing percentage of the labor force, the last few years have seen renewed U.S. Manufacturing growth. According to PriceWaterhouseCoopers, the catalysts for this revival include factors such as the strengthening economy, workforce quality, tax policies, the regulatory environment, and transportation and energy costs.⁵

A recent survey of FloridaMakes clients conducted by the National Institute of Standards & Technology (NIST) identified the most important strategic challenges facing Florida manufacturers. As shown in Figure 1, the recruitment and retention of a well-trained workforce, process improvements and lower production costs, opportunities to grow the Manufacturing sector, and product innovation and development were the most frequently-identified challenges.

1 Manufacturing subsectors include: Food Manufacturing; Beverage and Tobacco Product Manufacturing ; Textile Mills; Textile Product Mills; Apparel Manufacturing; Leather and Allied Product Manufacturing; Wood Product Manufacturing; Paper Manufacturing; Printing and Related Support Activities; Petroleum and Coal Products Manufacturing; Chemical Manufacturing; Plastics and Rubber Products Manufacturing; Nonmetallic Mineral Product Manufacturing; Primary Metal Manufacturing; Fabricated Metal Product Manufacturing; Machinery Manufacturing; Computer and Electronic Product Manufacturing; Electrical Equipment, Appliance, and Component Manufacturing; Transportation Equipment Manufacturing; Furniture and Related Product Manufacturing; and Miscellaneous Manufacturing.

2 The balance, “US Manufacturing, Statistics, and Outlook,” retrieved from www.thebalance.com/u-s-manufacturing-what-it-is-statistics-and-outlook-3305575, June 25, 2019.

3 Ibid.

4 Ibid.

5 PriceWaterhouseCoopers, “A Homecoming for U.S. Manufacturing,” July 2016.

FIGURE 1. CLIENT SURVEY: MOST IMPORTANT STRATEGIC CHALLENGES
FACING FLORIDA MANUFACTURERS



Source: National Institute of Standards & Technology, Survey of FloridaMakes Client Companies, graphic reproduced by Florida TaxWatch.

On May 31, 2019, Associated Industries of Florida, CareerSource Florida, Inc., the Florida Chamber of Commerce, the Florida Manufacturing & Logistics Council, and FloridaMakes hosted the second annual “Make More Manufacturing Summit” in Orlando, Florida. The Summit brought together thought leaders from all segments of Florida’s Manufacturing industry to discuss these challenges and offer solutions that will strengthen and advance Florida’s economy by improving the competitiveness, productivity, and technological performance of its Manufacturing sector.

The Summit included discussions of:

- The current status and future of Manufacturing in Florida;
- Strategies to develop Manufacturing talent and create a pipeline to close the skills gap;
- The impacts of technology on Manufacturing;
- Strategies to grow Florida’s Manufacturing sector;
- Strategies to improve Florida’s business climate; and
- Strategies to make Florida’s economy more competitive by increasing Manufacturing productivity.

The Agenda for the Summit is attached as Appendix A. Summit discussions are summarized in this Special Report.

MANUFACTURING IN FLORIDA

Florida is home to more than 20,000 Manufacturing companies.⁶ Manufacturers in Florida account for 5.36 percent of the total output in the state, employing 4.23 percent of the workforce. Total output from Manufacturing was \$51.86 billion in 2017. In June 2019, there were 381,800 Manufacturing jobs in Florida (seasonally adjusted), an increase of 10,500 jobs over the past year.⁷ Manufacturing provides Floridians with high-wage jobs, with average annual wages (2018) of \$61,735.⁸ Eighty percent of Florida manufacturers have 20 or fewer employees,⁹ and small businesses comprise 95 percent of all exporters in Florida.¹⁰ Florida manufacturers produce a variety of goods including aerospace products, batteries, food and beverages, communications equipment, pharmaceuticals, medical devices, semiconductors, boats, and more.

Manufacturing helps to drive Florida's economy, with \$52.69 billion in manufactured goods exported in 2018. Still, about half of the cargo containers --- ships, planes, and trucks --- leaving Florida are empty. This means Floridians pay more for inbound freight than they would have paid if these cargo containers left Florida filled with Florida-made goods,¹¹ which makes Florida less competitive overall.

Manufacturing is made up of two segments, durable goods and non-durable goods. Durable goods include the manufacturing of transportation equipment, computer and communications equipment, fabricated metal products, etc., and employ about two-thirds of Florida's Manufacturing employees. Non-durable goods include food and beverages, paper products, chemicals, etc., and employ about one-third of Florida's Manufacturing employees. Areas of Manufacturing clusters are highlighted in Figure 2.

6 FloridaMakes, "Florida ManuFacts," retrieved from www.floridamakes.com/florida-manufacts.stml, June 28, 2019.

7 Florida Department of Economic Opportunity, "Florida Manufacturing, June 2019 Labor Statistical Data," July 19, 2019.

8 Ibid.

9 Supra, see footnote 6.

10 National Association of Manufacturers, "2019 Florida Manufacturing Facts," retrieved from www.nam.org/state-manufacturing-data/2019-florida-manufacturing-facts/, June 28, 2019.

11 Summit comment by Dr. Jerry Parrish, Chief Economist, Florida Chamber Foundation

FIGURE 2. FLORIDA'S MANUFACTURING CLUSTER

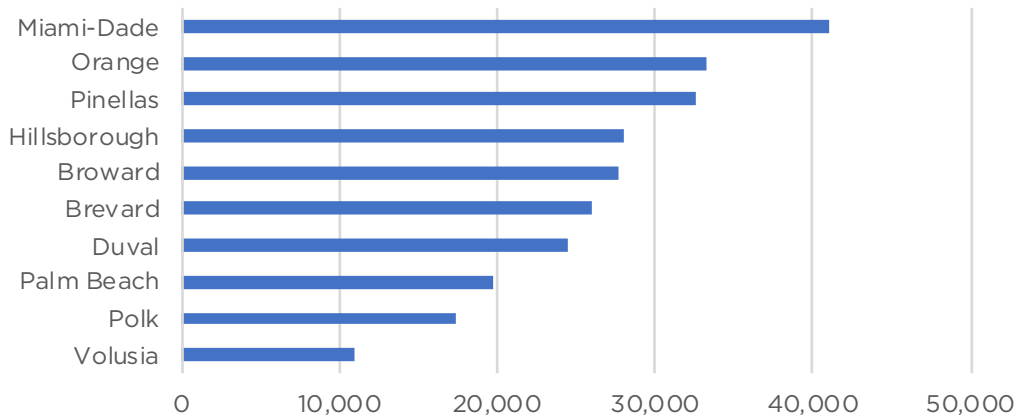


Source: www.floridamakes.com/florida-manufacts.shtml.

Employment in the Manufacturing industry is concentrated in the southeast, central, and northeast parts of the state. Miami-Dade, Pinellas, and Orange counties each contribute more than 30,000 Manufacturing jobs, while Hillsborough, Broward, Duval, and Brevard counties each contribute more than 20,000 jobs each. Together, these seven counties account for 56.9 percent of Florida Manufacturing jobs.¹² The top 10 Florida counties for Manufacturing jobs are shown in Figure 3.

¹² Florida Department of Economic Opportunity, Bureau of Workforce Statistics and Economic Research (WSER), Quarterly Census of Employment and Wages Program, in cooperation with the U.S. Department of Labor, Bureau of Labor Statistics, released June 2017.

FIGURE 3. TOP 10 FLORIDA COUNTIES FOR MANUFACTURING EMPLOYMENT



Source: Florida Chamber Foundation, Quarterly Census of Employment and Wages Q3 2018

As shown in Figure 4, the peak level of Manufacturing employment was 520,700 in January 1990. Manufacturing jobs made up 9.7 percent of total nonagricultural employment.¹³ For the next 20 years, the number of Manufacturing jobs declined steadily, reaching its nadir of just more than 300,000 jobs in 2010. After 20 years of declining Manufacturing employment, the number of Manufacturing jobs has increased steadily, reaching its current level of more than 381,000 jobs. Manufacturing jobs now make up about 4.2 percent of total nonagricultural employment.¹⁴

FIGURE 4. MANUFACTURING EMPLOYMENT IN FLORIDA 1990 - 2019

Source: U.S. Department of Labor, Bureau of Labor Statistics, Current Employment Statistics Program, released May 17, 2019.
Prepared by: Florida Department of Economic Opportunity, Bureau of Workforce Statistics and Economic Research.

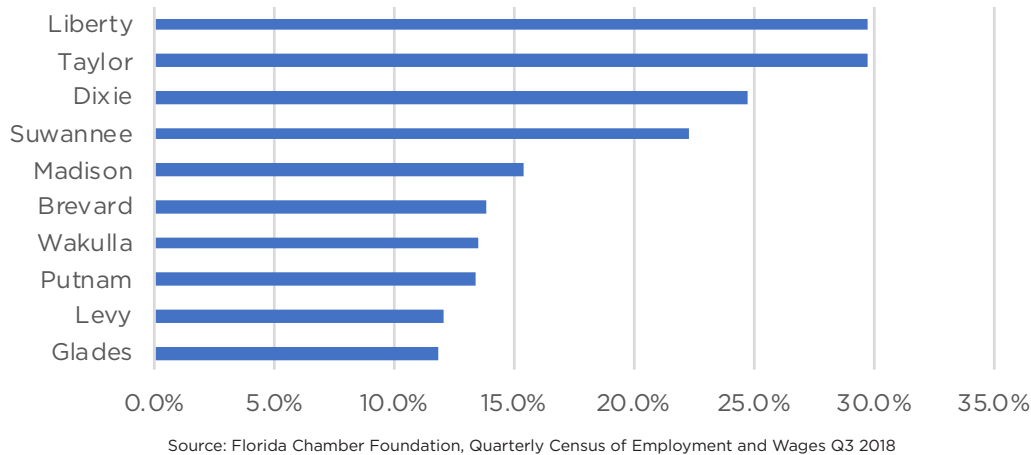
Manufacturing is especially important to the economies of Florida's rural counties. The counties in which the largest percentage of private sector jobs are provided by the Manufacturing sector, as shown in Figure 5, are predominantly rural counties. The 29 counties making up Florida's Rural Areas of Opportunity contribute 2.13 percent to Florida's gross domestic product (GDP).¹⁵ Manufacturing affords these rural counties an opportunity to dramatically grow their GDPs, since Manufacturing has the highest contribution to GDP per capita of any economic sector.

¹³ Florida Department of Economic Opportunity, "Florida Manufacturing: April 2019 Labor Statistical Data, May 17, 2019.

¹⁴ Ibid.

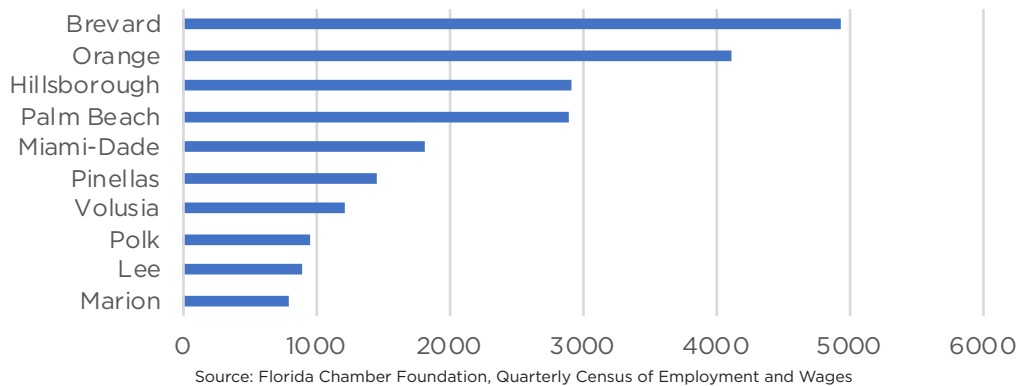
¹⁵ Summit comment by Dr. Jerry Parrish, Chief Economist, Florida Chamber Foundation.

FIGURE 5. MANUFACTURING SHARE OF PRIVATE JOBS BY FLORIDA COUNTY



Manufacturing has gained jobs over the year for 102 consecutive months, after losing jobs over the year for more than 48 months.¹⁶ The 10 Florida counties that have grown the most Manufacturing jobs over the past three years are identified in Figure 6.

FIGURE 6. TOP 10 FLORIDA COUNTIES FOR MANUFACTURING JOB GROWTH



Over the past three years:

- Florida added 28,270 Manufacturing jobs.
- Florida has grown Manufacturing jobs over the past three years at 2.8 times the U.S. rate (8.2 percent versus 2.9 percent). Only Idaho and Nevada have grown Manufacturing jobs at a higher rate.
- Florida's total quarterly wages grew 16.5 percent over the past three years, compared to 10.0 percent for U.S.
- The average Florida Manufacturing weekly wage grew at a rate higher than the U.S. rate. Florida's average weekly wage for Manufacturing is \$1,137 according to the Quarterly Census of Employment & Wages; and
- 14 Florida counties lost Manufacturing jobs.¹⁷

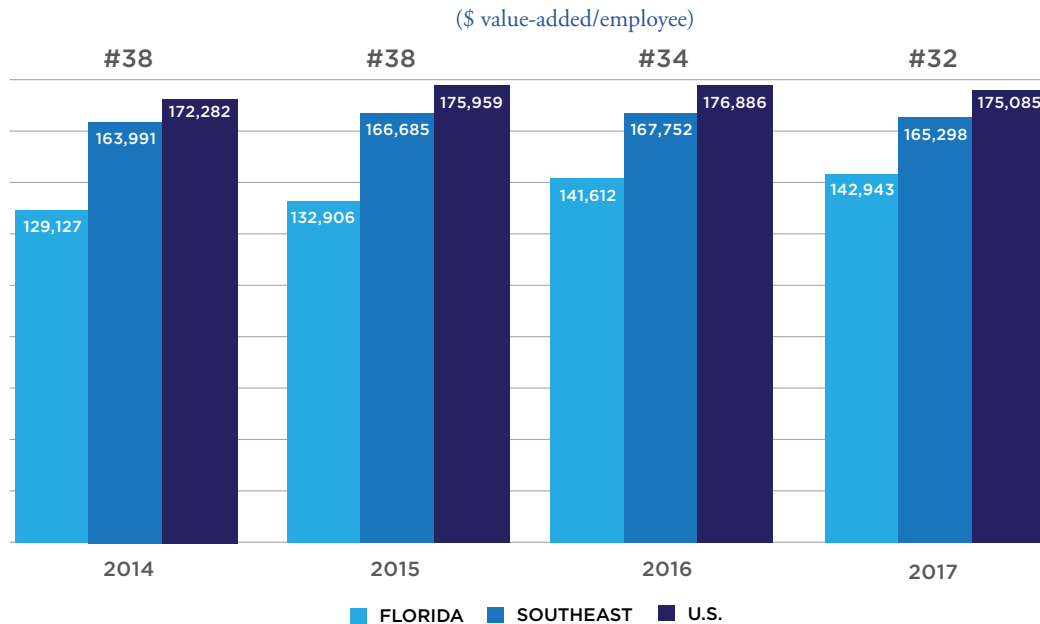
¹⁶ Florida Department of Economic Opportunity, "Florida Manufacturing: June 2019 Labor Statistical Data, July 19, 2019.

¹⁷ Summit comment by Dr. Jerry Parrish, Chief Economist, Florida Chamber Foundation.

PRODUCTIVITY

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. Florida currently ranks 32nd among the 50 states and District of Columbia in terms of productivity, up from 38th just a few years ago (Figure 7). Florida Manufacturing generates \$142,943 in gross revenue per employee. Although this represents a 10.6 percent increase over 2014, Florida still lags behind the other Southeastern states (\$165,298) and the U.S. (\$175,085) in terms of productivity.¹⁸

FIGURE 7. MANUFACTURING PRODUCTIVITY



Source Data: Bureau of Economic Analysis

Florida's efforts to build its Manufacturing workforce and increase gross revenue per employee are reflected in recent state-level productivity measures released by the U.S. Bureau of Labor Statistics, which show that, from 2007 to 2017, Florida's labor productivity increased at an annual rate of 0.6 percent.¹⁹ Of the 16 southern states, only Louisiana and Mississippi grew at a lower rate. If Florida did not add any additional Manufacturing jobs and increased productivity to the national average, Florida's economy would grow by \$11.7 billion.²⁰

Challenge --- Increasing Productivity

The challenge facing Florida manufacturers is how to continue to increase gross revenue per employee (productivity) and improve Florida's ranking. With a GDP in excess of \$1 trillion, Florida boasts the 17th largest economy in the world. The Florida Chamber Foundation has set a goal of having Florida become the world's 10th largest economy by the year 2030. Achieving this goal will require a concerted approach to increasing productivity.

¹⁸ Summit comment by Kevin Carr, President & CEO, FloridaMakes.

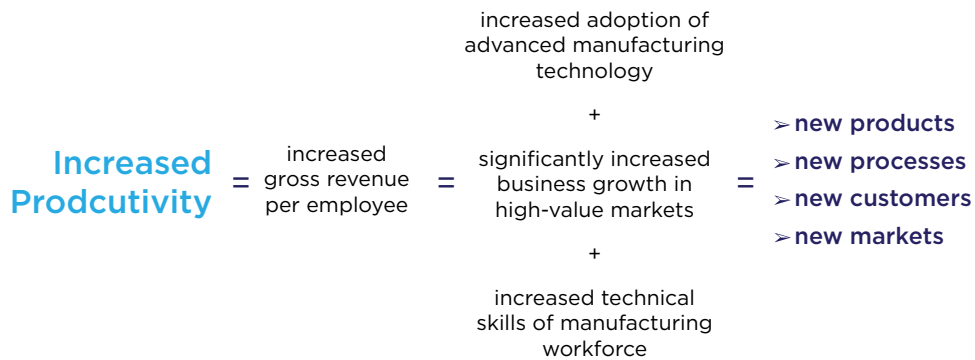
¹⁹ U.S. Bureau of Labor Statistics, "BLS Publishes Experimental State-Level Labor Productivity Measures," Monthly Labor Review, retrieved from www.bls.gov/opub/mlr/2019/article/bls-publishes-experimental-state-level-labor-productivity-measures.htm, July 26, 2019.

²⁰ Summit comment by Kevin Carr, President & CEO, FloridaMakes.

Strategy --- Three-Pronged Approach to Increasing Productivity

A three-pronged strategy (Figure 8), focusing on increased use of Advanced Manufacturing technology, increased growth in high-value business markets, and increased technical skills of the Manufacturing workforce, was outlined by FloridaMakes to increase productivity. These strategies, which will be discussed in greater detail in the remainder of this Special Report, will lead to new products and new Manufacturing processes and, most importantly, new markets and new customers.

FIGURE 8. THE THREE-PRONGED APPROACH



Source: FloridaMakes

“Manufacturing can create that wealth. We have the foundation, we have the state assets, we’ve got the state leadership...”

— Kevin Carr, President & CEO, FloridaMakes

ADVANCED MANUFACTURING TECHNOLOGY

Advanced Manufacturing is the integration of new technology and techniques to optimize product design and the Manufacturing process to create highly differentiated, cost effective, and competitive products.²¹ New digital technologies, increasing connectivity, the drive for innovation, a greater focus on services and changes in customer demands, are all factors that are behind a push towards more collaborative models.

The challenge facing manufacturers is “connection.” Driven by the *Internet of Things*,²² advanced microelectronics are transforming human interaction with the world. From cars and homes to medical and personal fitness equipment, the growing demand for integrated devices requiring advanced technology is rapidly multiplying, powering a new era known as *Industry 4.0*, the fourth major upheaval on modern Manufacturing. As this trend grows, new cutting-edge Manufacturing processes are necessary to keep up with the pace of the microelectronics-driven economy.²³

The smart factories of *Industry 4.0* will need to deliver better device security, ease of connectivity and common platforms. By bridging the gap between legacy and transformative technologies, manufacturers can gain access to existing data sets and new data streams.²⁴ Facilities like Osceola County’s BRIDG facility can play a critical role in establishing this connectivity.

Located in NeoCity, a 500-acre technology district in Osceola County that is becoming a global center 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* and that will enable electronic devices of all kinds to communicate.

As a public-private partnership, BRIDG receives funding from federal, state, local, and private sources. Osceola County, the University of Central Florida, the Florida High Tech Corridor Council, Enterprise Florida, and others have dedicated more than \$162 million to develop BRIDG.²⁵ Since 2016, BRIDG has received almost \$30 million in state funding. The state budget for fiscal year 2019-20 included a \$6.25 million state appropriation for BRIDG; however, this appropriation was vetoed by the Governor.

21 “Advanced Manufacturing,” Autodesk, retrieved from www.autodesk.com/industry/manufacturing/engineering-leadership/advanced-manufacturing, August 16, 2019.

22 The interconnection via the Internet of computing devices embedded in everyday objects, enabling them to send and receive data.

23 “Solutions,” BRIDG, retrieved from gobridg.com/solutions/, August 15, 2019.

24 Patrick Murphy, “The Manufacturing Side of Digital Transformation: Smart Factories,” IBM Think Blog, March 4, 2019, retrieved from www.ibm.com/blogs/think/2019/03/the-manufacturing-side-of-digital-transformation-smart-factories/, August 15, 2019.

25 Press release, “Florida Approves \$15 Million for ICAMR,” retrieved from www.icamr.net/documents/ICAMRbudgetreleaseFINALFINALFINALrev1.pdf, August 28, 2019.

TALENT DEVELOPMENT

A panel of distinguished thought leaders was convened to discuss strategies to close the skills gap and build a talent pipeline to make sure Florida manufacturers can fill vacant jobs with skilled employees. Panelists and speakers for the Talent Development session include:

- (Moderator) Nicole Gislason, Director, Office of Workforce and Industrial Innovation, Univ. of West Florida;
- Michelle Dennard, President and CEO, CareerSource Florida, Inc.;
- Marilyn Barger, Executive Director and Principal Investigator, Florida Advanced Technological Education Center;
- Dehryl McCall, Senior Director, Workforce and Business Development, CareerSource Florida, Inc.;
- Eric Owens, Senior Director of Career and Technical Education Programs, Florida Department of Education;
- Abe Alangadan, Senior Portfolio Manager, Johnson & Johnson Vision;
- Bayne Beecher, Production Control Manager, PGT[®] Custom Windows + Doors; and
- Bill Wydra, President and Owner, Ashland Technologies

Challenge --- Closing the Skills Gap

The challenge facing Florida's Manufacturing sector is closing the "skills gap." A skills gap exists when there is a difference between the skills required or desired by an employer and the actual skills and capabilities of the available workforce. As the Manufacturing industry continues to gain momentum across the U.S., manufacturers have an urgent need for talent. Job openings have been growing at double-digit rates since mid-2017 and are nearing the historical peak recorded in 2001.²⁶

A 2018 study²⁷ by Deloitte and the Manufacturing Institute highlights the widening gap between the jobs that need to be filled and the skilled talent pool capable of filling them. As of August 2018, there were 508,000 open jobs in U.S. Manufacturing. Deloitte predicts that the current skills gap could leave 2.4 million Manufacturing jobs vacant by 2028. The financial risk if qualified workers cannot be found to fill these openings is estimated at \$454 billion, about 17 percent of the total U.S. forecasted Manufacturing GDP of \$2.67 trillion.²⁸

Florida manufacturers are also having a hard time filling vacant positions because the skills needed are not available in the labor market. Florida has more than 10 million people in the labor force, and there are 281,000 open positions that need to be filled.²⁹ Panelists discussed the need to move away from addressing the talent needs of one particular business to addressing the talent needs an entire industry, and then creating a long-term and sustainable pipeline for that industry.

"We should be thinking more about skills rather than a specific degree or credentials."

— Michelle Dennard, President and CEO, CareerSource Florida, Inc.

²⁶ Bureau of Labor Statistics, "Job Openings and Labor Turnover Survey," August 7, 2018.

²⁷ Deloitte, "2018 Deloitte and The Manufacturing Institute Skills Gap and Future of Work Study."

²⁸ Ibid.

²⁹ Summit statement by Michelle Dennard, President and CEO, CareerSource Florida, Inc.

The top three causes of today's skill shortages, according to Manufacturing executives, are:

- 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.³⁰

The question facing Florida manufacturers is “how to address the mismatch between jobs and job seekers?” CareerSource Florida, Inc., partnered with the Department of Economic Opportunity's Bureau of Labor Statistics to collect information on the skills gaps and job vacancies, along with the attributes of vacancies. The final survey measured more than 247,000 vacancies reported by more than 54,000 private sector employers (respondents). Of this total, 2,749 respondents were in the Manufacturing sector, reporting on 6,966 vacancies.³¹

Employers reported skills gaps in applicants applying for vacancies from a list of four major soft skills groups (reliability and time management, communication, leadership, and problem-solving) and three major hard skills groups (math, information technology or research, and tool selection and use/safety). Among employers reporting skills gaps, soft skills gaps were reported twice as often as hard skills gaps.

Manufacturers reported their largest soft skills gap rate in the areas of communications (13.1 percent), followed by reliability and time management (12.9 percent), leadership (12.0 percent), and problem-solving (7.3 percent). Manufacturers reported their largest hard skills gap rate in information technology or research (12.9 percent), followed by tool selection and use/safety (8.9 percent), and math (8.2 percent).³²

Strategy --- Tap Into Feeder Industries for Talent

Florida's Leisure and Hospitality industry (1,257,900) and Retail industry (1,139,400) employ more than 2.4 million employees (seasonally adjusted).³³ These are relatively low-paying jobs. In fact, a recent Florida State University study shows that workers in Florida's hospitality and leisure industries are paid the lowest average wages compared to any other industry in the nation. And, most troubling, researchers found that workers in the hospitality sector — everyone from servers to housekeepers — see the smallest annual wage gains of every major industry studied.³⁴

Employees in these feeder industries have many of the soft skills that Manufacturing employers report as missing from applicants applying for vacancies. 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.

Strategy --- Expand Availability of Apprenticeships

One strategy for building Florida's future Manufacturing talent pool is through the expansion of apprenticeship programs. Exposure to a skilled trade through an apprenticeship has shown to be a promising pathway for filling many of the skilled jobs that are hard to fill in the Manufacturing industry. Many talent sourcing and workforce development

³⁰ Supra, see footnote 27.

³¹ CareerSource Florida, Inc., “Skills Gap and Job Vacancy Survey Statewide 2018.”

³² Ibid.

³³ Florida Department of Economic Opportunity, “Florida's August Employment Figures Released,” Press Release, retrieved from <http://lmsresources.labormarketinfo.com/library/press/release.pdf>, October 10, 2019.

³⁴ Tarik Dogru, Sean McGinley, Nathan Line, Peter Szende, “Employee Earnings Growth in the Leisure and Hospitality Industry,” *Tourism Management*, Volume 74, October 2019.

entities, including universities and colleges, are seeking new partnerships with the Manufacturing sector to address employer needs and expand opportunities for employees.

Apprenticeship Florida is a partnership that includes CareerSource Florida, Inc., the Florida Department of Economic Opportunity, and the Florida Department of Education. Apprenticeship Florida is funded by a \$1.5 million State Apprenticeship Expansion grant from the U.S. Department of Labor to advance Registered Apprenticeship as a talent pipeline in targeted sectors, driving economic development across the state.³⁵ For example, CareerSource Research Coast partnered with the Treasure Coast Manufacturers Association to develop an Industrial Manufacturing Technician apprenticeship program. Apprentices will be trained to set up, operate and monitor production equipment. As part of the 18-month apprenticeship, they will receive the Certified Production Technician certification once training and work-based learning are complete.³⁶

Apprenticeships provide a number of primary benefits, including:

- Transfer of knowledge and specific skillsets.
- Training is customized.
- Provides a stable pipeline to replace workers who will be retiring.
- Employees are motivated, since wage increases are tied to what employees learn.
- Emphasis on employee safety.³⁷

CareerSource Florida, Inc., has allocated \$3.5 million over two years for apprenticeship expansion facilitated by local workforce development boards. This funding is in addition to a \$10 million appropriation from the Florida Legislature, which was championed by Governor DeSantis, for career pathway grants to address skills development through work-based learning opportunities. CareerSource Florida, Inc., recently passed a statewide apprenticeship policy that supports and encourages the continued expansion of apprenticeship opportunities in Florida and reemphasizes the importance of market-driven skills development. Local businesses get to help define the skills and train the employee to those skills.

Strategy --- Training Grants

Another resource available to Florida manufacturers to help close the skills gap is training grants. Training grant opportunities that will reimburse businesses for a portion of their training costs include:

- Quick Response Training program --- funds businesses to implement flexible and customized training for new, full-time, permanent employees. Available only to new and expanding companies in Florida's booming business market, Quick Response Training provides funds to create specialized training specifically for high-skill industries. Grants are available on a first-come, first-served basis.³⁸
- Incumbent Worker Training program --- provides grants for continuing education and training of current full-time employees at Florida companies. With a focus on helping Florida's small businesses, the grants reimburse companies up to 75 percent for pre-approved training costs. Companies choose their training provider based on the skills needed.³⁹

³⁵ Apprenticeship Florida, "Filling Florida's Skills Gap Through Apprenticeships."

³⁶ Ibid.

³⁷ Statement by Summit participant Bayne Beecher, Production Control Manager, PGT Custom Windows & Doors.

³⁸ CareerSource Florida, Inc., "Grants to Train Your New, Specialized Employees," retrieved from careersourceflorida.com/qrt/, July 1, 2019.

³⁹ Ibid.

Strategy --- Make Florida the Number One State for Workforce Development

Workforce skills and workforce development continue to be ranked as the top issue facing chief executives looking to relocate and/or expand their businesses. In January 2019, Governor Ron DeSantis issued Executive Order 19-31, which outlines the Governor’s plan to make Florida the number one state in the nation for workforce education and to ensure that Florida students are prepared to fill high-demand, high-wage jobs.

Among the provisions included in the executive order are:

- A requirement to audit state Career and Technical Education (CTE) course offerings to make sure CTE courses offered by the state align with market demand for high-demand, high-wage jobs; and
- A requirement to secure funding to seed apprenticeships and other industry specific learning opportunities (\$10 million); to fund workforce programs within the Florida College System (\$26 million); and to establish a program for teacher professional development to earn educator certificates or industry certifications in computer science.

Consistent with the Governor’s executive order, speakers and panelists emphasized the need for Manufacturing businesses to “go to the schools and colleges” and get involved. Whereas certain subjects (e.g., math, science, etc.) are taught the same in all districts statewide, CTE programs taught in a district depend on the industries within that district, so every district offers CTE courses that align with the industries within the district. The Florida Department of Education (FLDOE) requires every CTE course and program to have industry advisors for input into what needs to be taught in any district.

Most of the CTE courses offered in Florida middle schools are “exploratory” programs. There are 4,500 middle school students statewide who have chosen Manufacturing occupations as a career path they want to explore.⁴⁰ In high school, students become more focused and their interest shifts to industries located within their district. There are 3,975 high school students in FLDOE’s Manufacturing career track.⁴¹ State and technical colleges are where industry will find the most appropriate programs for “upskilling” (teaching additional skills) employees.

Strategy --- Increase Opportunities for Military Veterans

Speakers and panelists discussed leveraging the talents of veterans and retirees. Roughly 30 percent of Florida’s Manufacturing employees are veterans of U.S. military service.⁴² The Department of Defense has a program that permits active military members who are within six months of retirement to serve an internship with a local business. The business has no obligation to hire the veteran upon leaving the military. Veterans provide a good match given their skill sets, which makes onboarding into the workforce much easier.

Strategy --- Changing the Dialogue

Speakers and panelists discussed the need to change the dialogue we have with our children about the opportunities they have that present wonderful ways of life and career pathways. Manufacturing is consistently recognized worldwide as one of the industries that contributes most to the economic prosperity of a nation and its citizens.

⁴⁰ Statement by Summit participant Eric Owens, Senior Director of Career and Technical Education Programs, Florida Department of Education.

⁴¹ Ibid.

⁴² Statement by Summit participant Abe Alangadan, Senior Project Portfolio Manager, Johnson & Johnson Vision.

A 2016 study by Deloitte, the National Association of Manufacturers, and the Manufacturing Institute found that, although Americans value a strong Manufacturing sector, they are reluctant to choose careers in Manufacturing.

Among the study's findings:

- 83 percent believe Manufacturing is important to America's economic prosperity;
- 70 percent believe the U.S. should invest more in Manufacturing;
- 80 percent believe Manufacturing is important to maintain America's standard of living;
- 64 percent believe Manufacturing is high-tech;
- 33 percent would not encourage their children to pursue a Manufacturing career;
- 77 percent are worried about the security and stability of Manufacturing;
- 70 percent do not believe Manufacturing provides a strong career path;
- 64 percent do not believe Manufacturing jobs pay enough; and
- Only 50 percent believe a career in Manufacturing provides good pay relative to other industries.⁴³

*"We want to dispel the myth among parents and thought leaders alike...
Manufacturing is no longer dirty, dark, and dangerous."*

*— Nicole Gislason, Director, Office of Workforce and Industrial Innovation,
University of West Florida*

These results demonstrate the need for Manufacturing to educate the educators and evangelize on behalf of the industry to help recruit young professionals into careers in Manufacturing. This will require refocusing 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.

*"You don't have to have a higher education in order to earn \$75,000 as a diesel
tech, or \$80,000 as a truck driver."*

— Ken Armstrong, President & CEO, Florida Trucking Association

Strategy --- Commitment to Career Pathways

It is one thing to recruit young professionals into careers in Manufacturing; however, retaining them requires a commitment to create meaningful career pathways that provide opportunities for advancement. In January 2019, there were 30,000 vacant Manufacturing jobs in Florida. At the same time, there were 15,000 unemployed Floridians whose last job was in Manufacturing.⁴⁴

⁴³ Deloitte, "Manufacturing Matters: The Public's View of US Manufacturing," retrieved from www.themanufacturinginstitute.org/Research/Public-Perception-of-Manufacturing/-/media/1002BE49730C493DADAC0F95D934A32B.ashx, July 10, 2019.

⁴⁴ Statement by Summit participant Bob Ward, President & CEO, Florida Council of 100.

As part of its “Upskilling 2025” program, Amazon is committing \$700 million to help pilot, launch, and scale training programs to upskill its employees so they can gain the critical skills necessary to move into higher skill, better paying, technical or non-technical roles. Through Upskilling 2025, Amazon is focused on creating pathways to careers in areas that will continue growing in years to come, like medicine, cloud computing, and machine learning.⁴⁵

Strategy --- Utilize Regional Manufacturers Associations

Roughly 80 percent of Florida manufacturers have less than 20 employees.⁴⁶ Most of Florida’s Manufacturing sector job growth has been coming from this group and it is this group that needs the most help. Florida’s 14 Regional Manufacturers Associations were identified as a conduit between the small 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.

⁴⁵ Amazon.com, “Our Upskilling 2025 Programs,” retrieved from www.aboutamazon.com/working-at-amazon/upskilling-2025/our-upskilling-2025-programs, October 10, 2019.

⁴⁶ Summit comment by Dr. Jerry Parrish, Chief Economist, Florida Chamber Foundation.

BUSINESS GROWTH

A panel of distinguished thought leaders was convened to discuss strategies to grow Florida's Manufacturing sector. Distinguished speakers and panelists for the Business Growth session include:

- (Moderator) John Krug, Economic Development Manager, Niagra Bottling;
- Bob Ward, President and CEO, Florida Council of 100;
- Dale Ketcham, Vice President, Government and External Affairs, Space Florida;
- Laurie Moncrieff, Executive Director, DefenseWerx;
- Geary Havran, Chair, Florida Medical Manufacturers Association and President, NDH Medical, Inc.;
- Bill Reuter, President, Florida Defense Contractors Association;
- Luis Gonzalez-Mendez, Process Engineer, Trividia Health;
- Cecily Lavender, Manager of Special Projects, OneWeb Satellites; and
- Suzanne Looper, Quality Director, Vertex Crestview.

Challenge --- Diversifying Florida's Economy and Increasing Exports

When a state sells primarily to its own market, economic downturns disproportionately impact businesses across sectors and industries. This is especially true in states like Florida, which has very little economic diversity and large concentrations of employment in a small number of industries.⁴⁷ Selling goods and services to other markets within the U.S. and internationally, while ensuring a diversified sector mix, can balance the risk associated with a financial downturn or other economic shocks.⁴⁸

Strategy --- Improving Florida's Advantageous "Tradeable Sectors"

"Tradeable" sectors are those that sell goods or services that can be easily exported to national and international markets, versus sectors that service the local market and are not exposed to cross-regional competition. Of Florida's top 10 exportable products, seven are Manufacturing based.⁴⁹

Historically, tradeable sectors have been less volatile and can make the economy more stable during recessions. These sectors have the highest recession-time GDP growth. They also tend to be more productive, have higher wages, and help stimulate innovation.⁵⁰ Manufacturing represents such a tradeable sector, along with agriculture, scientific/technical services, transportation, and warehousing.

Florida's current demand for Manufacturing is \$231 billion, approximately 29 percent of which is being met internally.⁵¹ This suggests that there is considerable room to grow the Manufacturing sector. Investing in Manufacturing not only grows the sector but helps to diversify Florida's economy and make the economy more resistant to economic downturns.

⁴⁷ Florida ranked 49th out of 50 states in the latest Industry Diversity Index from the Council for Community and Economic Research.

⁴⁸ Florida Council of 100, "Project Sunrise, an Economic Competitiveness Strategy for the State of Florida."

⁴⁹ Statement by Summit participant Bob Ward, President & CEO, Florida Council of 100.

⁵⁰ Florida Council of 100, "Project Sunrise, an Economic Competitiveness Strategy for the State of Florida."

⁵¹ Supra, see footnote 49.

Challenge --- Helping Small Manufacturing Companies Grow

Manufacturing will continue to play an important role in making Florida's economy more competitive. Eighty percent of Florida's Manufacturing establishments have 20 employees or fewer, and this is where the bulk of Florida's Manufacturing growth will occur.⁵²

Strategy --- Increase Collaboration and Partnerships

Speakers and panelists emphasized the need for collaboration and partnerships to help smaller Manufacturing businesses grow. New digital technologies, increasing connectivity, the drive for innovation, a greater focus on services and changes in customer demands are all factors behind a push towards more collaborative models. As a result, the traditional linear contracts individually linking participants in the supply chain are reducing, making way for more flexible multi-party behavioral contracts to account for new cooperative commercial relationships.⁵³

Manufacturing has experienced a shift towards collaborative partnerships in order to enable organizations to remain at the forefront of their industry. One example is NeoCity, a 500-acre technology district located in Osceola County that is becoming a global center for smart sensor, photonics, and nano-technology research and development. NeoCity currently is home to imec, an international research & development and innovation hub, active in the fields of nanoelectronics and digital technologies; BRIDG, a boutique microelectronics fabrication facility; and NeoCity Academy, a STEM-oriented high school.

Strategy --- Utilize Regional Manufacturers Associations

Florida's 14 Regional Manufacturers Associations were touted as resources to help their Manufacturing members exchange ideas, share best practices, network with colleagues, and learn more about Manufacturing processes. The Regional Manufacturers Associations advocate on behalf of Florida's Manufacturing industry and speak with a unified voice. This advocacy was instrumental in making permanent the sales tax exemption on Manufacturing equipment and machinery.

Strategy --- Increase Growth in High-Value Business Markets

Florida has a robust aerospace and aviation industry. Aviation and aerospace is a vital market not only because it supports Florida's military and defense economy, which accounts for nearly 10 percent of the state's GDP, but also because of the high-skill, high-wage jobs it creates.⁵⁴ Florida ranks second among the states in terms of aviation and aerospace businesses, with more than 2,000 companies employing more than 82,000 workers.⁵⁵

"Florida has so many opportunities with 21 installations and 3 combatant commands, and there's a huge focus right now from the Department of Defense, with Executive Order 13-806, a presidential order saying we need to invest in Manufacturing..."

— Laurie Moncrieff, Executive Director, DefenseWerx

⁵² Statement by Summit participant Dr. Jerry Parrish, Chief Economist, Florida Chamber Foundation.

⁵³ Nicole Livesey, "How Collaboration is Changing the Manufacturing Sector," Global Manufacturing, retrieved from www.manufacturingglobal.com/lean-manufacturing/how-collaboration-changing-manufacturing-sector, July 2, 2019.

⁵⁴ Florida Chamber of Commerce, "Florida is the #1 State for Aviation/Aerospace Manufacturing Attractiveness," retrieved from www.flchamber.com/did-you-know-florida-is-the-1-state-for-aviationaerospace-manufacturing-attractiveness/, July 2, 2019.

⁵⁵ Enterprise Florida, "Aerospace and Aviation Excellence," retrieved from www.enterpriseflorida.com/industries/aviation-aerospace/, July 3, 2019.

Strategy --- Sourcing Locally

Speakers and panelists discussed the importance of having suppliers located in close physical proximity to the manufacturer. In today's global Manufacturing landscape, it is common for supply chains to stretch across the world; however, a recent survey by Thomasnet.com found:

- 74 percent of industrial buyers “always or generally” preferred to source locally;
- 10.8 percent of respondents “always or generally” prefer to source globally; and
- 46.7 percent actually “rarely or never” prefer to source globally at all.⁵⁶

Sourcing locally has a number of benefits, including:

- Local suppliers are typically more reactive than suppliers who are farther away and are able to deliver products quicker;
- The further away you are from elements of your supply chain, the less control you have over them;
- Transportation and warehousing/storage costs can be reduced by localizing your supply chain;
- Companies in your region may be impressed by your efforts to keep a tight and fast-paced supply chain, which can help you attract new customers.
- If sourcing locally increases your bottom line, it would do the same for other suppliers and manufacturers in your area, which can be a big boon to your local economy and the people who live there; and
- When you reduce shipping and storage, you also reduce emissions and energy usage.⁵⁷

Strategy --- Adopt and Deploy Industry 4.0 Technology

The continued growth of Florida's Manufacturing sector will depend in large part on how well Florida manufacturers adopt technology and how technology shapes the future of Manufacturing.

“Technology completely transformed, and has transformed, and will transform, how we engage with our customers, our suppliers, our logistical intermediaries, up and down our supply chain, the life cycle of our products...”

— Ray Aguerrevere, Vice President, Custom Metal Designs

⁵⁶ Thomas, “Top 6 Benefits of Local Sourcing,” retrieved from blog.thomasnet.com/top-6-benefits-of-local-sourcing, July 10, 2019.

⁵⁷ Ibid.

Industry 4.0 represents the fourth major upheaval in modern Manufacturing.⁵⁸ *Industry 4.0* is the next phase in the digitization of the Manufacturing sector, and is driven by:

- The astonishing rise in data volumes, computational power, and connectivity, especially new low-power wide-area networks;
- The emergence of analytics and business-intelligence capabilities;
- New forms of human-machine interaction such as touch interfaces and augmented-reality systems; and
- Improvements in transferring digital instructions to the physical world, such as advanced robotics and 3-D printing.⁵⁹

To take maximum advantage of this upheaval, Florida manufacturers are encouraged to:

- Gather more information and make better use of it --- it is important that manufacturers determine which technologies deliver the biggest return on investment and which data are the most beneficial;
- Consider *Industry 4.0* when contemplating their company's future directions --- the Manufacturing business model is changing, and new business models are emerging; and
- Prepare for the digital transformation --- begin recruiting the best digital talent and thinking about how to structure their digital organization.⁶⁰

"The future of Manufacturing is now."

— *Luis Benavides, Partner, McKinsey & Company*

⁵⁸ *Industry 4.0* follows the lean revolution of the 1970s, the outsourcing phenomenon of the 1990s, and the automation of the 2000s.

⁵⁹ Cornelius Baur and Dominik Wee, "Manufacturing's Next Act," June 2015, retrieved from www.mckinsey.com/business-functions/operations/our-insights/manufacturings-next-act, July 26, 2019.

⁶⁰ Ibid.

BUSINESS CLIMATE

Distinguished speakers and panelists for the session on Business Climate include:

- (Moderator) Robert Weissert, Executive Vice President & General Counsel, Florida TaxWatch
- Tom Feeney, President and CEO, Associated Industries of Florida;
- Margaret Good, Florida House of Representatives, District 72;
- Bill Herrle, Executive Director, National Federation of Independent Businesses –Florida;
- Lawrence McClure, Florida House of Representatives, District 58;
- Lake Ray, President, Florida Manufacturing & Logistics Council; and
- Bob Ward, President and CEO, Florida Council of 100.

Speakers and panelists discussed the impact of the 2019 legislative session on Florida's business climate and steps taken by the Legislature to promote Manufacturing. Discussion focused on legislative efforts to reduce taxes, especially the business rent tax; workforce development; affordable housing; and workers compensation.

Challenge --- Improving Florida's Business-Friendly Climate

Florida has a “business-friendly” tax climate. The Tax Foundation's State Business Tax Climate Index enables business leaders, government policymakers, and taxpayers to gauge how their states' tax systems compare. While there are many ways to show how much is collected in taxes by state governments, the Index is designed to show how well states structure their tax systems and provides a road map for improvement. For 2020, Florida ranked fourth among the 50 states, a ranking Florida has maintained since 2016. Only Wyoming, Alaska, and South Dakota have more favorable business tax climates.⁶¹

Taxes matter to business. Business taxes affect business decisions, job creation and retention, plant location, competitiveness, the transparency of the tax system, and the long-term health of a state's economy. Most importantly, taxes diminish profits. If taxes take a larger portion of profits, that cost is passed along to either consumers (through higher prices), employees (through lower wages or fewer jobs), or shareholders (through lower dividends or share value), or some combination of the above. Thus, a state with lower tax costs will be more attractive to business investment and more likely to experience economic growth.⁶²

The Tax Foundation's State Business Tax Climate Index includes the following components:

- Individual Income Tax;
- Sales Tax;
- Corporate Income Tax;
- Property Tax; and
- Unemployment Insurance Tax.

⁶¹ Tax Foundation, “2020 State Business Tax Climate Index,” retrieved from taxfoundation.org/publications.state-business-tax-climate-index/, October 31
⁶² Ibid.

One of the major strengths of Florida's business-friendly tax climate is the absence of an **individual income tax**. Florida's constitution prohibits the state from levying an individual income tax, and a constitutional amendment to authorize an individual income tax would require approval by 60 percent or more of the voters. Voter approval is so unlikely that even those who would strongly favor an individual income tax are reluctant to suggest it. Florida is one of seven states (with Alaska, Nevada, South Dakota, Texas, Washington, and Wyoming) that do not levy an individual income tax.

Sales tax is levied on goods and services at the point-of-sale. The sales tax is important to Florida's business tax climate because higher sales tax rates cause consumers to make fewer purchases or seek lower-tax alternatives. As a result, business is lost to locations with lower sales tax rates, resulting in lost profits, jobs, and tax revenues.

Research shows that high sales taxes, especially sales taxes levied on equipment, have a negative effect on small business start-ups.⁶³ Companies have also been known to avoid locating factories or facilities in certain states because the factory's machinery would be subject to the state's sales tax. Florida law exempts certain Manufacturing and industrial machinery and equipment, raw materials, and utilities and fuel from sales tax. States that do not allow exemptions for business-related expenses generally tend to be ranked lower. For 2020, Florida ranked 22nd among the 50 states.⁶⁴

Florida, like most state, levies **corporate income taxes** on the corporation's profit (gross receipts minus expenses). A corporation's federal income, as adjusted by Florida additions, subtractions, and adjustments, is apportioned to Florida based on the corporation's activities in Florida compared to its activities everywhere. In most cases, this comparison includes the corporation's property, payroll and sales.⁶⁵ Corporate income tax is important to businesses because the extent to which a business is taxed has a direct effect on the amount of that business' economic activity. For 2020, Florida ranked ninth among the 50 states. This represents a significant improvement over the #17 ranking Florida received in 2016.⁶⁶

Property tax is an ad valorem tax on the value of personal property (usually real estate) levied by the governing authority of the jurisdiction in which the property is located. Property tax represents a principal source of income for local and state governments. Additionally, many localities and states levy taxes on the personal property or equipment (assets) owned by a business.

Property taxes are important to businesses because the tax rate on commercial property is often higher than the tax on comparable residential property. Higher property taxes are often associated with lower employment growth, and negatively affect small business start-ups. States that keep statewide property taxes low better position themselves to attract business investment. Localities competing for business can put themselves at a greater competitive advantage by keeping personal property taxes low.⁶⁷ For 2020, Florida ranked thirteenth among the 50 states. This represents a significant improvement over the #20 ranking Florida received in 2016.⁶⁸

63 Timothy J. Bartik, "Small Business Start-Ups in the United States: Estimates of the Effects of Characteristics of States," *Southern Economic Journal* (April 1989): 1004-1018.

64 Supra, see footnote 61.

65 Florida Department of Revenue, "Florida Corporate Income Tax," retrieved from <http://floridarevenue.com/taxes/taxesfees/Pages/corporate.aspx>, June 27, 2019.

66 Supra, see footnote 61.

67 Supra, see footnote 61.

68 Supra, see footnote 61.

Unemployment insurance tax is a social insurance program administered jointly by federal and state governments. Unemployment insurance taxes are paid by employers to finance benefits paid to workers who have recently become unemployed. Unemployment insurance tax is important to business because financially-troubled businesses, those that have the highest risk of laying off employees, will necessarily pay higher rates. For 2020, Florida ranked second among the 50 states, a ranking Florida has maintained since 2016.⁶⁹

Strategy --- Eliminate the Business Rent Tax

Florida is the only state that charges a sales tax on commercial leases. This “business rent tax” negatively affects any business that leases real property. 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. With the enactment of House Bill 7123, the 2019 Florida Legislature reduced the tax from 5.7 percent to 5.5 percent, effective January 1, 2020. This is expected to save Florida businesses an estimated \$64.5 million annually.⁷⁰ This is the third time in the past three years that the Legislature has reduced the business rent tax. Florida TaxWatch has consistently recommended that the Legislature eliminate the business rent tax.

*“But as all those big companies were evaluating after winning those big contracts,
where to put jobs, we got a major black mark...”*

— Tom Feeney, President & CEO, Associated Industries of Florida

Strategy --- Maintain Sales Tax Exemption for Manufacturing Equipment and Machinery

Reference was made to efforts by former Governor Rick Scott to eliminate Florida’s sales tax on Manufacturing equipment and machinery. Legislation was enacted that allows for a 100 percent exemption for machinery and equipment purchased for the use in Florida-based Manufacturing and processing companies. Effective April 30, 2014, purchases of industrial machinery and equipment used by an eligible Manufacturing business at a fixed location in Florida to manufacture, process, compound, or produce for sale items of tangible personal property became exempt from sales tax.⁷¹

Taxable sales within the Manufacturing industry have experienced growth at a higher rate than the economy as a whole since the implementation of the tax exemption. In the 14-month span prior to the start of the tax exemption, average monthly taxable sales within the Manufacturing industry was approximately \$680 million. Since the tax exemption went into effect, taxable sales within the Manufacturing industry have averaged approximately \$756 million per month, meaning that post-exemption monthly taxable sales were on average more than \$76 million higher than in the months before the exemption, an 11.2 percent growth.⁷²

69 Tax Foundation, “2019 State Business Tax Climate Index,” retrieved from <https://files.taxfoundation.org/20180925174436/2019-State-Business-Tax-Climate-Index.pdf>, June 26, 2019.

70 Katherine Kallergis, “Florida Governor Signs Business Rent Tax Rollback, the Third in Recent Years,” the Real Deal South Florida Real Estate News, retrieved from <https://therealdeal.com/miami/2019/05/16/florida-governor-signs-business-rent-tax-rollback-the-third-in-recent-years/>, June 27, 2019.

71 CBIZ, “Florida Creates Sales Tax Exemption for Manufacturing Equipment,” July 23, 2013, retrieved from www.cbiz.com/insights-resources/details/articleid/827/florida-creates-sales-tax-exemption-for-manufacturing-equipment-article, July 5, 2019.

72 Florida TaxWatch, “Extending the Manufacturing Machinery & Equipment Sales Tax Exemption,” November 2015.

Strategy --- Fund FloridaMakes

Speakers and panelists expressed concern that the Legislature did not fund the Manufacturing Extension Partnership for Florida, FloridaMakes, for the 2019-20 fiscal year. Costs associated with Hurricane Michael, the Parkland shooting, and commitments to improve school security and student safety made for a tight budget year. As the official representative for the National Institute of Standards and Technology Manufacturing Extension Partnership 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.

Through the third quarter of 2018, 241 manufacturers who had received services through FloridaMakes reported (through a third-party survey) a combined total economic impact of \$721 million, and a total of 5,236 jobs created and retained.⁷³ Programs like FloridaMakes generate thousands of high-paying new jobs while growing Florida's Manufacturing sector. Florida TaxWatch has consistently encouraged the Legislature to continue the public investment in FloridaMakes.

"We need to find somebody in the Executive Office that, year in and year out, is putting this (FloridaMakes) in the Governor's budget."

— Tom Feeney, President & CEO, Associated Industries of Florida

Strategy --- Promote Career Readiness and Workforce Development

Speakers and panelists touted the passage of CS/HB 7071, which promotes career readiness and workforce opportunities for students and working adults and ensures alignment between Florida's education and workforce needs. Highlights of CS/HB 7071 include:

- Establishing the "Florida Pathways to Career Opportunities Grant Program," which provides competitive grants to eligible institutions to create or expand apprenticeship and pre-apprenticeship programs.
- Requiring a reverse transfer between Florida universities and colleges to award an associate in arts degree to students who have completed necessary requirements.
- Requiring career centers and Florida College System institutions to establish regional career pathways guaranteeing college credit toward an aligned associate degree program for eligible students who graduate with a certificate from a career center.
- Establishing the "Last Mile Scholarship Program," that will pay for eligible individuals to finish their first associate or baccalaureate degree.
- Creating increased opportunities for students to take high quality computer science courses in high school by allowing students to count one course as either a required science or required math credit.
- Codifying Governor DeSantis' required audit of career and technical education, from Executive Order 19-31, as an annual requirement to ensure high quality pathways for students.⁷⁴

⁷³ Florida TaxWatch, "Florida TaxWatch Statement About Renewal of FloridaMakes Funding," retrieved from <https://floridataxwatch.org/Press-Room/ArtMID/35144/ArticleID/18705/Florida-TaxWatch-Statement-About-Renewal-Of-FloridaMakes-Funding>, July 5, 2019.

⁷⁴ Press release, "Governor Ron DeSantis Signs CS/HB 7071," retrieved from www.flgov.com/2019/06/24/governor-ron-desantis-signs-cs-hb-7071/, July 5, 2019.

“By investing in workforce education and apprenticeship programs, our students will have new opportunities and career paths ... we are ensuring that Florida continues to build upon its economic momentum and future workforce by investing in the next generation.”

— Florida Governor Ron DeSantis

Panelists expressed concern that, as a whole, Florida’s Manufacturing community is “somewhat disconnected.” The regional manufacturers associations were identified as good sources to get out information through their efforts to:

- Promote regional Manufacturing companies, products and careers;
- Advocate for critical issues impacting the Manufacturing sector;
- Connect manufacturers to resources and opportunities; and
- Educate manufacturers, their incumbent workers, and the talent of the future.⁷⁵

Strategy --- Increase Investments in Florida’s Infrastructure

Florida’s infrastructure is the backbone of its economy, moving people and goods from one part of the state to another. Infrastructure is a national problem, and when one part of the infrastructure system fails, it can cause a ripple effect costing Floridians energy, time, and money. The “2016 Report Card for Florida’s Infrastructure,” prepared by the Florida Section of the American Society of Civil Engineers, rates Florida’s infrastructure as a “C.”

The current conditions of Florida’s infrastructure system are as follows:⁷⁶

- Roads --- “C” Since 1984, the number of highway system miles has increased by 25 percent, while the daily vehicle miles traveled increased by 84 percent. In terms of keeping up with the demand, the Florida Department of Transportation has fallen behind the curve, and the counties and cities have generally not kept up, either.
- Bridges --- “B” About 15 percent of Florida’s bridges are at least 50 years old. Florida has 202 structurally deficient bridges (1.7 percent), over half of which the counties have ownership and maintenance responsibility. Also, about 8.5 percent of Florida bridges were either weight posted or closed as of January 2015.
- Aviation --- “B-” As a top destination, more than 50 percent of Florida’s commercial airports will experience demand levels that will totally saturate their operational capacity over the next 15 years. To keep pace and improve technology, Florida airports’ funding requests over the next five years total \$1.1 billion, which exceeds available State funds by almost 70 percent.
- Energy --- “C-” Florida’s energy production is far less than its energy demand, requiring production to be supplemented with out-of-state energy.
- Transit --- “C” Only 2 percent of Florida commutes to work were made by public transit, indicating a lack of opportunity and quality. The condition of Florida transit, based on average transit vehicle age as an indicator, ranked 19th nationally at 5.6 years. Florida transit funding ranked 22nd out of 53 leaving much opportunity to improve.

⁷⁵ Economic Development Commission Florida’s Space Coast, “EDC Initiatives,” retrieved from <https://spacecoastedc.org/MASC>, July 5, 2019.

⁷⁶ American Society of Civil Engineers, “2016 Report Card for Florida’s Infrastructure,” retrieved from www.infrastructurereportcard.org/wp-content/uploads/2017/01/2016_RC_Final_screen.pdf, July 5, 2019.

- Ports --- “B-” Seven of Florida’s ports are now in the top 50 grossing NAFTA container traffic ports. Florida maritime activities account for approximately 13 percent of Florida’s GDP while contributing \$2.4 billion in state and local taxes. Florida’s overall seaport competitiveness has improved in anticipation of the Panama Canal expansion.

Targeted public investments in infrastructure (e.g., roads, water/sewage) needed to increase Manufacturing (especially Advanced Manufacturing, pharmaceuticals and medical devices, etc.) is consistent with the Florida Council of 100’s “Project Sunshine,” which outlines strategies to promote economic competitiveness and improve Florida’s business climate.

Strategy --- Reform Florida’s Workers Compensation System

Workers compensation was described as “an embarrassment of riches.” The good news for Florida businesses is the rates for workers compensation insurance. The bad news is that, when the rates are down, policy makers do not want to tackle this difficult issue. Workers compensation is a big problem waiting to happen.

“God help us if the economy takes a downturn because the workers compensation system is likely to shoot through the roof.”

*— Bill Herrle, Florida Executive Director,
National Federation of Independent Businesses*

Strategy --- Making Housing More Affordable

Florida has an affordable housing crisis --- close to 1.97 million low-income Florida households are “cost burdened,” paying more than 30 percent of their incomes for housing. More than 921,000 very low-income Florida households are “severely cost burdened,” meaning that they pay more than 50 percent of their incomes for housing.⁷⁷

Faced with high housing costs in the communities where they work, many families live in communities with relatively affordable housing, but located far from major employment centers. This spatial mismatch between employment and housing creates long commutes with significant associated costs.⁷⁸ The availability of adequate and affordable housing has significant implications for business productivity and profits. Businesses located in areas where housing costs exceed wages have difficulty recruiting and retaining adequate qualified entry- and mid-level employees.

The 2019 Florida Legislature took two actions that are not likely to help address Florida’s affordable housing crisis. First, \$125 million in Sadowski Trust Funds was “swept” to fund other parts of the state budget. If the Sadowski State and Local Housing Trust Fund monies had been fully appropriated for housing in Fiscal Year 2019-20, the projected economic impacts would be more than 30,000 jobs, more than \$4 billion in total economic output, and approximately \$1.09 billion in labor income.⁷⁹ Second, the Legislature passed HB 7103, which limits the ability of local government to require developers to offset the cost of mandatory affordable housing development. Some local governments enforce the provision of affordable housing through “inclusionary zoning,” which requires that a certain portion of any residential development contain housing that would be “affordable.”

⁷⁷ Florida Housing Coalition, “Home Matters 2019,” retrieved from www.flhousing.org/home-matters-for-florida-report/

⁷⁸ Ibid.

⁷⁹ Ibid.

THE FUTURE OF MANUFACTURING

The Summit's keynote address, delivered by Luis Benavides of McKinsey & Company, focused on the future of Manufacturing and the impacts of technology on the Manufacturing industry. Manufacturers are beginning to see significant impacts as a result of *Industry 4.0*.⁸⁰

- 20-40 percent reductions in inventory;
- 15-30 percent increase in labor productivity;
- 30-50 percent reduction in machine down time;
- 85 percent improvement in forecasting accuracy;
- 10-30 percent reduction in design engineering costs; and
- 10-20 percent reduction in the costs of quality improvement.⁸¹

Challenge --- Deploying Industry 4.0 Technology

Given their high potential for automation, Manufacturing jobs will change more than jobs in most other sectors. Still, most companies are not prepared for this change. A survey of 170 companies by McKinsey & Company found that 81 percent of those surveyed viewed digital operations as a critical driver of future Manufacturing competitiveness, yet only 14 percent reported that they have a "high" digital capability today.⁸² Further, of those surveyed:

- 18 percent have sufficient digital resources;
- 30 percent have sufficient skilled resources;
- 24 percent have sufficient in-house information technology/technical skills;
- 24 percent have sufficient functional (design & Manufacturing) skills; and
- 26 percent leverage outside agencies effectively.⁸³

Of those Manufacturing companies that are deploying *Industry 4.0* technologies, few are deploying *Industry 4.0* technologies on a large-scale basis. Only 29 percent of surveyed companies that are piloting *Internet of Things* solutions are actively deploying these technologies at scale --- 41 percent are still piloting their solution and 30 percent have yet to begin their pilot program. These pilot programs tend to be long and complex, with 28 percent lasting more than two years.⁸⁴

⁸⁰ *Industry 4.0* reflects the concept of factories in which machines are augmented with wireless connectivity and sensors, connected to a system that can visualize the entire production line and make decisions on its own.

⁸¹ Summit comment by Luis Benavides, McKinsey & Company.

⁸² Ibid.

⁸³ Ibid.

⁸⁴ Ibid.

Challenge --- “Upskilling”/reskilling the workforce

A separate McKinsey & Company survey of 300 executives showed that most Manufacturing companies are underprepared to upskill/reskill their employees. Although 64 percent of those surveyed acknowledged a responsibility to upskill/reskill their workforce, only 16 percent are actually prepared to do this. Further, 42 percent of those surveyed do not know how digital technology and automation will affect the skills required by their workforce.⁸⁵

Strategy --- Accelerate the Deployment of Industry 4.0 Technologies Across the Manufacturing Sector

McKenzie & Company assessed approximately 1,000 companies worldwide to identify Manufacturing sites that embraced *Industry 4.0* technology. Two hundred of these companies were contacted, and 40 sites were formally nominated for selection as a “Lighthouse.”⁸⁶ Ultimately, 16 sites were selected as Lighthouses, based on demonstrated deployment of Advanced Manufacturing and Artificial Intelligence technology at scale, with significant productivity gains. Only one of the 16 Lighthouse companies is located in the U.S.

These Lighthouse Manufacturing sites share several common characteristics, including:

- Deploying *Industry 4.0* technology to augment, not replace, human capital (workers) and to create more interesting and diverse workplaces;
- Resetting industry benchmarks for financial and operational key performance indicators;
- Working as part of an innovation environment that includes universities, start-ups, and other technology providers;
- Being accessible to both large and small companies; and
- Representing both developed and emerging economies, demonstrating that other financial and operational benefits are more relevant than labor/cost reductions.

⁸⁵ Summit comment by Luis Benavides, McKinsey & Company.

⁸⁶ Lighthouses are the factories that have taken *Industry 4.0* technology from pilots to integration at scale and realizing significant financial and operational benefits. Qualification as a lighthouse requires meeting high standards across four categories: significant impact achieved; successful integration of several use cases; a scalable technology platform; and strong performance on critical enablers such as change management, capability building, and collaboration with an *Industry 4.0* community.

SUMMARY AND RECOMMENDATIONS

*“Manufacturing has the highest contribution to GDP of any industry.
GDP pays the bills.”*

— Dr. Jerry Parrish, Chief Economist, Florida Chamber Foundation

The following recommendations are the result of a thorough policy review of the issues discussed at the Make More Manufacturing Summit, and do not necessarily represent the positions or opinions of the summit's host organizations.

Manufacturing helps to diversify and drive Florida's economy. More than 20,000 Manufacturing companies provide more than 381,000 Floridians with high-wage jobs. Manufacturing makes Florida more competitive and a less expensive place to live. After years of declining employment, Florida Manufacturing jobs are now growing at a rate greater than the rate for the rest of the U.S.

RECOMMENDATION 1

Florida should continue efforts to support and advance the development of Manufacturing opportunities that build on the assets of Florida's rural and inland counties. The capacity of Florida's Rural Areas of Opportunity and other rural development programs to implement Manufacturing should be increased.

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.

Manufacturers reported skills gaps in applicants applying for vacancies from a list of four major soft skills groups (reliability and time management, communication, leadership, and problem-solving) and three major hard skills groups (math, information technology or research, and tool selection and use/safety). Among employers reporting skills gaps, soft skills gaps were reported twice as often as hard skills gaps.

One approach to building Florida's future Manufacturing talent pool is through the expansion of apprenticeship programs. Exposure to a skilled trade through an apprenticeship has shown to be a promising pathway for filling many of the skilled jobs that are hard to fill in the Manufacturing industry.

RECOMMENDATION 2

Consistent with Governor DeSantis' Executive Order 19-31, the Florida Legislature should appropriate funds (\$10 million) to seed apprenticeships and other industry specific learning opportunities, and to fund workforce programs within the Florida College System (\$26 million). Manufacturing should explore opportunities to leverage the talents of veterans and retirees.

Manufacturing provides a way for people to lead an enjoyable and uncomplicated lifestyle that pays well. Although Americans value a strong Manufacturing sector, negative perceptions of students and their parents toward the Manufacturing industry make many young professionals reluctant to choose careers in Manufacturing.

RECOMMENDATION 3

Manufacturers must change the dialogue with our children about the opportunities they have and available career pathways. Manufacturers must change workforce perceptions about the Manufacturing industry. Approaches include:

- Continuing to build awareness and promote Manufacturing as an industry that has safe working conditions and can provide long-term career progression with competitive pay.
- Engaging students and parents early on.
- Exploring ways to provide exposure to robotics, automation, and computer programming to primary school students.

The Florida Department of Education's Career and Technical Education (CTE) courses are aligned to the industries located within a particular school district. Every CTE course and program offered must have industry advisors for input into what needs to be taught in any district.

RECOMMENDATION 4

Manufacturing companies should work closely with CTE staff in their school districts to make sure their needs are aligned with the CTE courses and programs offered. Consistent with Governor DeSantis' Executive Order 19-31, the Florida Legislature should direct the Office of Program Policy Analysis and Government Accountability to audit state CTE course offerings to make sure CTE courses offered by the state align with market demand for high-demand, high-wage jobs.

The need for collaboration and partnerships to help smaller Manufacturing businesses grow is great. New digital technologies, increasing connectivity, the drive for innovation, a greater focus on services and changes in customer demands are all factors that are behind a push towards more collaborative models.

RECOMMENDATION 5

The Manufacturing industry should continue to explore public-private partnerships like NeoCity in Osceola County as a way to provide more flexible multi-party contracts to account for new cooperative commercial relationships. Further, the state's 14 Regional Manufacturers Associations should continue their efforts to serve as a conduit between the small 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's "business-friendly" tax climate is conducive to growing its Manufacturing sector. Business taxes affect business decisions, job creation and retention, plant location, competitiveness, and the long-term health of a state's economy. Most importantly, taxes diminish profits. A state with lower tax costs will be more attractive to business investment and more likely to experience economic growth.

Florida is the only state, however, that charges a sales tax on commercial leases. This "business rent tax" negatively affects any business that leases real property. 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. In each of the past three sessions, the Florida Legislature has taken steps to reduce the business rent tax; however, this tax should be repealed.

RECOMMENDATION 6

The Florida Legislature should repeal the business rent tax.

Of concern is the Legislature's failure to fund the National Institute of Standards and Technology Manufacturing Extension Partnership program, FloridaMakes, during the 2019-20 fiscal year. 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. Through the third quarter of 2018, 241 manufacturers who had received services through FloridaMakes reported a combined total economic impact of \$721 million, and a total of 5,236 jobs created and retained. Programs like FloridaMakes generate thousands of high-paying new jobs and are absolutely critical to the state's efforts to diversify the economy and to the continued growth of Florida's Manufacturing sector.

RECOMMENDATION 7

The Florida Legislature should continue its public investment and fund FloridaMakes.

Florida's infrastructure is the backbone of its economy, moving people and goods from one part of the state to another. Infrastructure is a national problem, and when one part of the infrastructure system fails, it can cause a ripple effect costing Floridians energy, time, and money. The "2016 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."

RECOMMENDATION 8

We can no longer afford to defer investment in our nation's infrastructure. To close the infrastructure investment gap, meet future demand, and restore our global competitive advantage, investing in Florida's infrastructure must be a high priority.

Although Florida's rates for workers compensation insurance have gone down, workers compensation is a problem waiting to happen. Given the myriad issues facing Florida legislators, it is understandable that they would not want to tackle this difficult issue when the rates are low. Recent decisions by the Supreme Court will extend the term of eligibility for temporary benefits from 104 weeks (two years) to 260 weeks (five years) and permit the award of attorney's fees outside the established fee schedule if adhering to the schedule yields unreasonable results.

RECOMMENDATION 9

Florida lawmakers cannot wait until workers compensation rates begin to rise to address this problem. The Florida Legislature should consider best practices from other states to reduce cost drivers and keep workers' compensation rates low.

The availability of adequate and affordable housing has significant implications for Manufacturing productivity and profits. Faced with high housing costs in the communities where they work, many low-income Florida families live in communities with relatively affordable housing but located far from where they work. This creates long commutes with significant associated costs. Manufacturing companies located in areas where housing costs exceed wages have difficulty recruiting and retaining adequate qualified entry- and mid-level employees.

RECOMMENDATION 10

Florida has an affordable housing crisis. The Florida Legislature should stop the practice of "sweeping" Sadowski State and Local Housing Trust Fund monies to fund other parts of the state budget. Provisions in state law that limit the ability of a local government to mandate a certain amount of affordable housing units in a new development or to cap prices should be repealed.

APPENDIX A

Make More Manufacturing Summit Agenda



PROGRAM

May 31, 2019 • 7:30am – 4:30pm
JW Marriott Orlando

7:30 a.m. NETWORKING	Breakfast
8:30 a.m. MORNING SESSION	<p>Welcome Remarks Tony Carvajal, Executive Director, Florida Chamber Foundation Zoraida Velasco, Vice President External Affairs, FloridaMakes</p> <p>Setting the Stage: Florida's Manufacturing Productivity Kevin Carr, CEO, FloridaMakes</p> <p>An Update on Florida's Business Climate Ken Lawson, Executive Director, Florida Dept. of Economic Opportunity</p> <p>KEYNOTE ADDRESS: The State of Florida's Manufacturing Jerry Parrish, Chief Economist & Director of Research, Florida Chamber Foundation</p>
10:30 a.m. TALENT DEVELOPMENT SESSION	<p>Setting the stage: Talent-Driven Strategies for Manufacturing and Other Key Florida Sectors Michelle Dennard, President & CEO, CareerSource Florida, Inc.</p> <p>Moderator: Nicole Gislason, Director of Workforce and Industrial Innovation, University of West Florida</p> <ul style="list-style-type: none"> • Manufacturing Careers: Pipeline and Pathways: Marilyn Barger, Executive Director and Principal Investigator, Florida Advanced Technological Education Center • Expanding Apprenticeships: Dehryl McCall, Senior Director, Business & Workforce Development, CareerSource Florida, Inc. • Workforce Education System – Pathway to a Career: Eric Owens, Senior Educational Program Director, Florida Department of Education <p>Manufacturers' Perspectives:</p> <ul style="list-style-type: none"> • Abe Alangadan, Senior Project Portfolio Manager, Johnson & Johnson Vision • Bayne Beecher, Glass Operations Production Control Leader, PGT Industries • Bill Wydra, Owner, Ashland Technologies
11:30 a.m. NETWORKING	Visit the Made in Florida Showcase Expo
12:15 p.m. LUNCH	<p>KEYNOTE ADDRESS: The future of manufacturing, the impact of technology in the industry Luis Benavides, Partner, McKinsey & Company</p>
1:30 p.m. NETWORKING	Dessert Reception hosted by the FloridaMakes Board of Directors at the Made in Florida Showcase Expo
1:45 p.m. BUSINESS GROWTH SESSION	<p>Setting the stage: The role of manufacturing in a more competitive Florida Bob Ward, President and CEO, Florida Council of 100</p> <p>Moderator: John Krug, Economic Development Manager, Niagara Bottling</p> <ul style="list-style-type: none"> • The Cape is Back! And this time, it's Commercial! Dale Ketcham, VP Government and External Affairs, Space Florida • Manufacturing and its importance to Innovation & Technology: Laurie Moncrieff, Executive Director, DefenseWerx • Growing Florida's Life Sciences: Geary A. Havran, Board Chair, Florida Medical Manufacturers Consortium and President of NDH Medical, Inc. • Providing Fertile Ground: Bill "Roto" Reuter, President, Florida Defense Contractors Association <p>Manufacturers' Perspectives:</p> <ul style="list-style-type: none"> • Luis Gonzalez-Mendez, Director Process Engineer, Trividia Health • Cecily Lavender, Manager, Special Projects, OneWeb Satellites • Suzanne Looper, Quality Director, Vertex
3:30 p.m. BUSINESS CLIMATE SESSION	<p>Moderator: Robert Weissert, Executive Vice President and Counsel to the CEO, Florida TaxWatch</p> <ul style="list-style-type: none"> • Tom Feeney, President CEO, Associated Industries of Florida • Margaret Good, Florida House Representatives, District 72 • Bill Herrle, Executive Director, NFIB of Florida <ul style="list-style-type: none"> • Lawrence McClure, Florida House Representatives, District 58 • Lake Ray, President, Florida Manufacturing and Logistics Council • Bob Ward, President and CEO, Florida Council of 100

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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 citizens 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 citizens and businesses.

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All Florida TaxWatch research done under the direction of Dominic M. Calabro, President, CEO, Publisher & Editor.

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