



Florida  
**TaxWatch**

# READY FOR TAKEOFF

FLORIDA CAN LEAD  
THE NATION IN AIRCRAFT  
MANUFACTURING

JULY 2014



**John B. Zumwalt, III**  
Chairman

**Dominic M. Calabro**  
President & Chief Executive Officer

July 2014

Dear Fellow Taxpayer,

Florida TaxWatch research often highlights the importance of economic diversification through investment in different industry sectors that provide high-skill, high-wage jobs to Floridians. This independent research report explores the growth of Florida's aircraft and parts manufacturing companies, which are a key part of the manufacturing industry in the state. These fast-growing businesses are positioning Florida as a national leader in aircraft manufacturing.

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During the last 10 years, Florida has attracted many aircraft manufacturing companies through a coordinated effort of the State Legislature's tax policies, and Enterprise Florida's application of incentives for industry companies to relocate to the state. Florida is an attractive choice for aircraft manufacturing due to our state's existing resources and educated workforce.

Florida is already a market leader in aircraft manufacturing, but has additional opportunities to recruit companies to the state to benefit from an industry that is projected to grow by 5 percent annually during the next 20 years.

Sincerely,

John B. Zumwalt, III  
Chairman

Dominic M. Calabro  
President & CEO

# INTRODUCTION

A December 2013 PricewaterhouseCoopers (PWC) report ranked Florida as the most attractive state for aircraft manufacturing activity in the country, beating Texas and Washington, two states with renowned aviation and aerospace clusters.<sup>1</sup> This accolade is confirmed by the constant relocation of aircraft and aircraft parts manufacturing companies into our state, the most recent being AeroTurbine, an aircraft engine manufacturer that announced in January plans to open its headquarters in Miramar, FL, after considering Dallas, TX.<sup>2</sup> Other companies recently announcing their relocation or expansion in Florida include Lufthansa Technik Component Services, Northrop Grumman, the Aviation Partners Group (APG) and OMA SUD partnership, Embraer, and Aveo Engineering.<sup>3</sup>

Further, ST Aerospace, a Singaporean company that provides services to manufacturers such as Boeing and Airbus, announced with the city of Pensacola that they would establish an aircraft maintenance, repair and overhaul operation within the Pensacola International Airport Commerce Park. The company is expected to supply parts to the soon-to-be Airbus facility near Mobile, AL.

These companies, along with current Florida residents Lockheed Martin, Pratt Whitney, Sikorsky Aircraft, CTS Engines, and Embraer—with their state-of-the-art Development and Design Center under construction in Melbourne—position Florida second in the nation for the largest aviation and aerospace establishments.

Florida also specializes in supporting areas such as avionics and simulation/training. In fact, Airbus, Boeing, and Pan Am International Flight Academy had a total of 53 simulators at their training centers in South Florida, within a three-mile radius from each other. Florida also offers a well-prepared labor force from schools such as the Florida Institute of Technology and the Embry-Riddle Aeronautical University.

Despite some downturns during the Great Recession, commercial aviation is growing again, and is projected to keep growing around 5 percent annually in the next 20 years, with even higher growth rates in the Asia-Pacific, Latin America, and Middle East regions. While the Sunshine State has a solid position in the nation and world's aircraft manufacturing industries, pursuing available opportunities and addressing challenges could further boost Florida's position as a national and world leader in the industry.

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1 PWC. "Aviation's second golden age: Can the US aircraft industry maintain leadership?" December 2013.  
2 Enterprise Florida. "Governor Scott announces Aeroturbine to create 75 jobs in Miramar." January 2014.  
3 Enterprise Florida. <http://www.enterpriseflorida.com/industries/aviation-aerospace/>

# AIRCRAFT MANUFACTURING – BY THE NUMBERS

Top 5 U.S. States — number of aircraft manufacturing and parts establishments



California - 483



Florida - 249



Texas - 215



Washington - 177



Connecticut - 159

Florida ranked #1 in number of engine and engine parts manufacturing establishments in 2013\*

The number of aircraft manufacturing establishments in Florida increased by almost **60 percent** in ten years.



In the U.S., the number of establishments only increased **9.6 percent** over the same period.



## FL Industry (2013\* figures)

**249**

FL Establishments

**12,519**

FL Employees

### Average annual pay

**\$72,010**

Aircraft Manufacturing

**\$81,091**

Aircraft Engines/  
Engine Parts

**\$57,120**

Other Aircraft  
Parts/Equipment

Aircrafts and parts were the second largest Florida exports category in 2013, making up 8 percent of the total.



## US Industry (2013\* figures)

**2,832**

US Establishments

**424,690**

US Employees

### Average annual pay

**\$97,616**

Aircraft  
Manufacturing

**\$85,358**

Aircraft Engines/  
Engine Parts

**\$68,453**

Other Aircraft  
Parts/Equipment

The goods produced by this industry were the top U.S. commodity export in 2013, representing 6.7 percent of total US export commodities.

\* 2013 data is preliminary. Source: Department of Labor, Bureau of Labor Statistics.

## INDUSTRY BENEFITS FOR FLORIDA

A 2011 Florida TaxWatch report found that manufacturing has the smallest volatility in personal income streams of all other sectors in Florida, providing stability to state revenues, even during economic downturns. Manufacturing is also a capital-intensive sector, is vital to the state and nation's exports, enhances the state's research and development sector, and has the biggest job creation multiplier of all industries in Florida.<sup>4</sup>

The manufacturing industry generally pays high wages to employees, generating higher disposable personal income, which indirectly creates jobs in the services sector, and provides more tax revenue at state and local levels. Investing in the expansion of this industry also retains STEM professionals in the state, and may provide jobs to those professionals that used to be employed in the Space Shuttle program and the military.

Further, these industries employ professionals from very diverse backgrounds and educational levels, from technicians to Ph.Ds. In fact, the PWC study notes that the job growth will be highest in occupations such as avionics technicians, industrial machinery mechanics, aircraft structure and systems assemblers, and civil engineers, when compared to all other occupations.<sup>5</sup>

4 Florida TaxWatch. "Manufacturing: An Economic Driver for Jobs and Florida's Future." 2011.

5 PWC. "Aviation's second golden age: Can the US aircraft industry maintain leadership?" December 2013.

Another great contribution that this industry makes to the state is the training that it provides future professionals, both in K-12 and in universities, through activities such as their "Engineering Days" in schools and internship/externship partnerships with universities, and also veterans, through initiatives such as the "Get Skills to Work" coalition. The coalition was created by General Electric, Alcoa Inc., Boeing, and Lockheed Martin, and offers military veterans accelerated training in manufacturing skills. Classes are so far offered in eight states, including Florida, where classes are offered at nine colleges.

Finally, being an export-intensive industry, aircraft manufacturing helps our state keep the highest trade surplus among all states, and also diversifies the state economy away from the US economy.

## INDUSTRY DEVELOPMENT

According to industry forecasts, the future of the aircraft manufacturing industry looks promising, as both airline and cargo traffic are projected to grow about 5 percent annually from 2013-2032 by major aircraft companies.<sup>6</sup> The growth will come largely from emerging economies, where population and income is expected to continue to increase. The Asia-Pacific region alone is expected to account for 32 percent (the largest share) of the world's total passenger traffic by 2031.<sup>7</sup> Similarly, according to federal estimates, passenger trip

6 Boeing, Airbus, and Embraer 20-year forecasts.

7 Ibid

length is also expected to increase by more than 153 miles by 2033 (to a total 1,275 miles), reflecting a higher demand for longer trips, both national and international.<sup>8</sup> All else constant, this projected increase in commercial air travel will increase demand for aircraft and components manufacturing.

Single-aisle passenger aircrafts are expected to be the fastest growing segment of aircrafts, accounting for almost 70 percent of total aircraft demand from 2013-2031.<sup>9</sup> Fuel-efficiency and greener fuel alternatives are also expected to be in high demand over this period. Since composites, including ceramic, metal matrix, carbon, and glass fiber make aircrafts considerably lighter, a major shift away from aluminum is expected to take place in the coming years. In fact, composites could make up 70 percent of an aircraft's weight three decades from now, according to Composites, Forecasts, and Consulting.<sup>10</sup> Additionally, titanium is also expected to be in high demand for aircraft manufacturing in the coming years.

## FUTURE OPPORTUNITIES

Potential opportunities to grow Florida manufacturers' share of the market in the coming years may be seen in recent trends.

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8 Federal Aviation Administration. "Aerospace Forecast Fiscal Years 2013-2033."

9 PWC. "Aviation's second golden age: Can the US aircraft industry maintain leadership?" December 2013.

10 Ibid

For instance, while Asia-Pacific is expected to account for the largest share of world passenger traffic, the Middle East and Latin America will experience higher growth rates, according to the Federal Aviation Administration (FAA).<sup>11</sup> These regions are also projected to experience high cargo traffic growth rates (6.6 percent in the Middle East and 6 percent in Latin America).

Another trend to consider is the boom of Low Cost Carriers (LCCs), which are projected to increase their market share from 17 percent in 2012 to 21 percent in 2032. In fact, LCCs have been quickly growing in one of the aforementioned regions, Latin America. Boeing reports that LCCs now make up 50 percent of the Latin American capacity, and there is potential for further expansion.<sup>12</sup>

Thanks in part to a long-standing Florida TaxWatch recommendation,<sup>13</sup> Florida recently passed a large exemption for manufacturing equipment, meaning that manufacturers in Florida will no longer be taxed twice on equipment purchases (they are taxed on the initial purchase of machinery and equipment, and then through the Tangible Personal Property Tax). This exemption went into effect in April 2014, and will help Florida aircraft

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11 See footnote 7

12 Boeing. Current Market Outlook (2013-2032)

13 Florida TaxWatch. "Making Florida a Major Manufacturing State." April 2013.

## PROJECTED TRAVEL GROWTH BY WORLD REGION

Region	% of 2011 World RPK*	20-year growth	% of 2031 world RPK
Asia-Pacific	28%	5.4%	32%
Europe	27%	4.1%	24%
North America	27%	3.3%	20%
Middle East	7%	7.3%	11%
Latin America	5%	5.9%	6%
CIS**	3%	5.4%	4%
Africa	3%	5.0%	3%

Source: Center for Aviation, citing AAPA and IATA. CAPA Centre for Aviation. "Asia outlook remains relatively bright despite challenges: AAPA" \* RPK= Revenue Passenger Kilometers \*\* CIS= Commonwealth of Independent States (Eastern Europe)

manufacturers, as well as the manufacturers of inputs for aircrafts, including primary metals and chemicals, make less costly purchases of equipment.

## THE LABOR SHORTAGE AND COMPETING STATES

In order to position ourselves as aircraft manufacturing leaders, it is important to recognize and address the current and future challenges of the industry, notably the STEM and technical fields' labor shortage. Failure to invest in education will jeopardize the state's ability to stay competitive for these high-skilled jobs, as pointed out by a February 2014 Southern Legislative Conference of the Council

of State Governments.<sup>14</sup>

A second issue to consider is the cost of relocating to Florida versus other states. The PWC State Attractiveness Index shows that Utah, Wyoming, Montana, and Missouri all offer less-costly alternatives to aircraft manufacturing than Florida does. Costs considered for the index include taxes, business climate, and cost of electricity.

## STATE SUPPORT

For many years, Florida's government has recognized the importance of the aircraft and aircraft parts manufacturing industry to the state economy by providing several incentives to companies within this industry.

<sup>14</sup> Southern Legislative Conference of the Council of State Governments. "Aeronautics in the SLC States: Cleared for Takeoff."

For instance, as mentioned above, aircraft parts, modification, maintenance and repair, and sale or lease of qualified aircrafts are all exempt from sales and use taxes in Florida.

Further, the industry has been included in Enterprise Florida's Qualified Target Industries. More than 30 incentives have been provided to companies in the aircraft (and parts) manufacturing industries all over Florida. At the time of completion of this report, 19 projects remained active. (For a list of incentives listed as "active" by the Department of Economic Opportunity (DEO), see Appendix)

8 In addition, Enterprise Florida organizes business missions to several Air Trade Shows across the world, including the Farnborough Air Show in England, the Paris Air Show, the Singapore Air Show, and the Dubai Air Show. Business missions, as shown in a 2013 Florida TaxWatch report,<sup>15</sup> are unique opportunities to showcase Florida's industries, to meet clients and partners, and to increase attendees' exports.

## CONCLUSION

The Florida economy greatly benefits from the relocation of aircraft manufacturing companies into the state, which constantly report high positive returns on investment.

To capitalize on these benefits, Florida's government has provided several incentives to attract more of these companies; however, several challenges, notably Florida's STEM labor shortage and competition from other states and emerging economies, need to be addressed.

Florida policymakers should work with the state's economic development entities and industry stakeholders to appropriately and properly take advantage the opportunities within aircraft manufacturing and make Florida a long-term home for this important national and international industry.

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15 Florida TaxWatch "Expanding Florida's Global Economic Footprint: A look at Florida's Recent Business Missions." June 2013.

# APPENDIX

## PROJECTS LISTED AS ACTIVE FOR AIRCRAFT MANUFACTURING-RELATED COMPANIES

Business Name	County	Target Industry
AAR Airlift Group, Inc.	Brevard	Aircraft Manufacturing
AeroTurbine, Inc.	Broward	Other Aircraft Part and Auxiliary Equipment Manufacturing
Draken International, Inc.	Polk	Aircraft Manufacturing
Dynamic Precision Group dba TurboCombustor Technology, Inc.	Martin	Aircraft Engine and Engine Parts Manufacturing
Embraer Aircraft Holding, Inc.	Brevard	Aircraft Manufacturing
Embraer Aircraft Holding, Inc.	Brevard	Aircraft Manufacturing
Embraer Aircraft Holding, Inc.	Duval	Aircraft Manufacturing
Executive Wings, Inc.	Brevard	Aircraft Manufacturing
Federated Precision, Inc.	Broward	Aircraft Manufacturing
Global Aviation Holdings, Inc.	Hillsborough	Aircraft Manufacturing
L-3 Communication Integrated Systems LP Crestview Aerospace	Okaloosa	Other Aircraft Part and Auxiliary Equipment Manufacturing
Northrop Grumman Systems Corp.	Brevard	Aircraft Manufacturing
Piper Aircraft, Inc.	Indian River	Aircraft Manufacturing
Pratt & Whitney	Palm Beach	Aircraft Engine and Engine Parts Manufacturing
Prioria Robotics, Inc.	Alachua	Aircraft Manufacturing
ProActive Technologies, L.L.C.	Seminole	Other Aircraft Part and Auxiliary Equipment Manufacturing
Sikorsky Aircraft Corporation	Palm Beach	All Other Transportation Equipment Manufacturing
Triumph Aerostructures, LLC	Martin	Other Aircraft Part and Auxiliary Equipment Manufacturing
Turbine Controls, Inc.	Broward	Aircraft Engine and Engine Parts Manufacturing

Source: DEO's Economic Development Incentives Portal, available at: [www.floridajobs.org/business/DEO\\_EDP\\_PROD.htm](http://www.floridajobs.org/business/DEO_EDP_PROD.htm)  
 All active projects from the "Aircraft Manufacturing" Target Industry listed on July 7, 2014 were included. The Economic Development Incentives Portal is a collaborative effort between DEO and its economic development partner, Enterprise Florida, Inc (EFI).

## ABOUT THE AUTHOR



**Jennifer Linares, M.S. is an Economist and Research Analyst at Florida TaxWatch.** Jennifer earned a Master's degree in Applied Economics from Florida State University and graduated Magna Cum Laude from Florida State University with a B.S. in International Affairs and Economics.

Jennifer previously worked at the Panama Canal and at two international organizations: UN Population Fund and CATHALAC. She has extensive experience in data collection and analysis, and is proficient in multiple statistical analysis packages. She is also a certified Spanish-English/English-Spanish translator and has experience in consecutive interpretation (Spanish-English-French).

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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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