

# Aerospace Resource Center

Employ Florida  
**BannerCenter**  
»» Aviation & Aerospace

## Focus Group Report

**Aviation and  
Aerospace**

**Miami-Dade/Broward  
and South Florida**

**30 October 2009**

**Workforce**  
*florida, inc.*



## **TABLE OF CONTENTS**

### **I. Overview of Focus Group Activities**

- Purpose
- Methodology
- Summary of Findings and Action Items

### **II. General Discussion Comments, Notes, and Findings**

- Current and Future Hiring Environment and Trends
- Worker Knowledge and Skill Set Gaps and Needs
- Certifications and Current Gaps
- ARC Curricula, Relevance, and Possible New Curricula

### **III. Appendices**

- Meeting Agenda
- Focus Group Attendees

**Aviation and Aerospace Focus Group**  
**George T. Baker Aviation School**  
Friday, October 30, 2009  
10:00 A.M to 2:00 P.M.

**I. Overview of Focus Group Activities**

**Purpose**

The main intent of the three regional focus groups for this contract year is to ascertain from the perspective of each region what single "entry-level" or "skills upgrade" curriculum the Aerospace Resource Center should target for development in response to the industry environment, current and projected trends in hiring, and the demonstrated needs of South Florida's incumbent and incoming aviation and aerospace workforces. In addition, the focus groups are expected to engage in broad discussions concerning workforce knowledge and skills assessments, needs for various specific FAA and other types of certifications, and other issues pertaining to the aviation and aerospace job markets.

**Methodology**

The focus group was led by Gene Milowicki, ARC Program Manager, in a seminar style discussion format. Representatives from industry, educational institutions, and workforce agencies collaborated to address the agenda items in the following sequence:

- Individual introductions and backgrounds
- General Banner center background and focus group orientation
- Discussion of current and future hiring environment and trends
- Discussion of worker knowledge and skill set gaps and needs
- Discussion of certifications and current gaps
- Discussion of current ARC curricula, its relevance, and possible new curricula for development

**Summary of Findings and Action Items**

Discussion of the hiring environment and trends led to no particular revelations; the current outlook is not too encouraging. However, there is potential in a rebounding economy for more existing types and some new types of jobs in the aviation and aerospace fields in South Florida. Particularly in areas where new types of technologies are coming on line and being incorporated into new and legacy aircraft systems, there is potential for whole new subsectors of maintenance and service job opportunities.

In our discussion of knowledge and skill sets, the group identified composites, advanced avionics, computer skills, and “soft” skills as the key areas where gaps and needs exist. Knowledge of new and developing technologies and the processes associated with them will be required of the new workforce.

Certification and education were once again reaffirmed as critically important in making an individual competitive and marketable for jobs within the industry. Industry-specific and proprietary certifications, particularly those associated with maintenance and repair of advanced navigation and communication avionics suites was cited as a growing need as advanced technologies are fielded and implemented.

Finally, current ARC curricula were validated for their relevance, but with the caveat that there are many additional possibilities for new offerings. Noteworthy among the possible choices for development this year are curricula for unmanned air systems training, business class flight attendant training, and aircraft-specific familiarization/systems training.

## **II. General Discussion Comments, Notes, and Findings**

### **Current and Future Hiring Environment and Trends**

The general unemployment rate in South Florida is very high, currently estimated at over 11 per cent. This does not account for those “underemployed” or those who have simply stopped searching for a job, some who have been searching for longer than a year. So, the actual hiring environment and current unemployment statistics remain an elusive metric. In the aviation and aerospace sectors, we did not have any specific figures, but most in the room were of the opinion that the present downturn is at least as severe as the general rate, and probably more so. Indicators are that the economy is showing signs of recovery, but most do not expect to see a significant upswing in employment opportunities for South Florida anytime soon in either general aviation or space industry interests. For the future, most expect to eventually see a recovery, but that was as far as anyone was willing to speculate. Once the aviation and aerospace sectors do experience a recovery, most expect there will be a steady demand for airframe and powerplant mechanics, specialized avionics bench and line technicians, those with expertise in advanced composites structures assembly and repair, and other cutting edge information technologies, particularly those pertaining to navigation, air traffic control, and advanced avionics capabilities such as Synthetic Vision Technology (SVT), Wide Area Augmentation System (WAAS) enabled avionics suites, and other transformational NextGen programs such as Automatic Dependent Surveillance Broadcast (ADS-B). The effects of the integration of many of these new technologies is expected to revolutionize the air transportation system, and that revolution will eventually trickle down through the workforce from pilots and air traffic controllers to line technicians in the field. The effects on the industry of all of these new technologies are hard to predict, but all were in agreement that these changes will profoundly impact all processes pertaining to training, maintenance, operations, and information processing, just to name a few.

Some specific new industries brought up in the discussion that merit further exploration in terms of their possible future employment opportunities are unmanned air systems and

biofuels and other alternative fuels for jet and reciprocating engine aircraft. Members discussed the heavy use of unmanned air systems in South Florida for border control, homeland security, counter-narcotics, etc. The increased use of these systems should have far reaching employment implications for those who will be needed to operate them, to control them in the national airspace system, to maintain them, and to process the information collected by them. One member mentioned a new initiative in Palm Beach that is working on developing alternative fuels for aircraft. In its nascent stages of research and development, it remains to be seen whether or not this field will have a large impact on the general aviation employment marketplace. There are environmental interests and pressures on the industry to provide an alternative for leaded fuels, so these initiatives might proceed ahead with a sense of urgency, and with investment capital from interested entrepreneurs.

### **Worker Knowledge and Skill Set Gaps and Needs**

When the discussion went to knowledge sets, skills, and abilities, there seemed to be general consensus regarding the need for workers who know how to work with composite structures, with advanced communications/navigation avionics, who have good computer skills, and, perhaps most importantly, possess good "soft skills." The soft skills discussion gravitated to "hire-ability" and long-term "retain-ability." What members discussed here were things like personal self-discipline, initiative, punctuality, attention-to-detail, flexibility, written procedural compliance, written and spoken communication skills, reading comprehension, English, mathematical skills, and other basics that should be instilled and cultivated in K through 12 education and by individual families. The group came to the conclusion that the new workforce coming in generally has a low awareness of the importance of personal appearance and interviewing skills in getting hired into a new job. Understanding the employer's need to project an image to its customers, particularly in the field of corporate business aviation was cited as an area needing emphasis for this new generation of employees. Understanding corporate cultures, standards, and fostering conformity to employer expectations is an area needing greater focus in primary and secondary education, and in our contemporary society. As societal norms and mores shift, the group recognized this as an area that will need more attention in the future to help new workers to enter the workforce and retain employment.

In summary, the following were the most significant skill set gaps and needs identified by the group:

- Composites assembly and repair
- Avionics troubleshooting and repair
- Computer skills
- Soft skills
  - Self-discipline
  - Initiative
  - Punctuality
  - Attention-to-detail
  - Flexibility
  - Procedural compliance
  - English and reading comprehension
  - Written and spoken communication
  - Mathematical and basic science skills

## **Certifications and Current Gaps**

All members of the group were of like mind concerning the importance of certifications, particularly FAA certifications such as the A&P (Airframes and Powerplant) Mechanic certifications. Industry representatives, however, were quick to point out that these certifications only provide the bare minimum to enhance a worker's value to a company. Industry-wide certifications that are proprietary and platform-specific are also highly valued, but most workers do not have these certifications at entry level. These usually come with time on the job after hiring, and at a price to the employer. Aircraft-specific factory maintenance certifications are increasingly becoming required, and these are expensive for individuals to acquire. Examples of these are from companies such as Hawker, Falcon, Cirrus, Robinson, Schweizer, Bell, Cirrus, Gulfstream, Pilatus, Learjet, and Beechcraft.

These industry-specific, proprietary certifications are not just for maintainers, but for pilots and flight crews as well. Two examples of these types of certifications are for Cirrus factory trained CFIs (Certified Flight Instructors) and CFI-Is (Instrument Flight Instructors) and for Robinson helicopter pilots and CFIs.

Again, advanced avionics came up as a gap. Without a proprietary certification from a company such as Garmin or Avidyne, technicians are not qualified to do much with these new systems other than to remove and replace with refurbished or repaired units. While there is still need for "bench" avionics technicians, there is more need for "line" technicians who have diverse experience in multiple aircraft types and installations. For the industry representatives who were in attendance at the meeting, they were in agreement that corporate aircraft technician experience is much more valued than commercial carrier (FAR Part 121) experience. Both Banyan Air and Gulfstream representatives commented upon the need for technicians who are comfortable and sufficiently knowledgeable to work on a variety of aircraft types and avionics installations.

All were in agreement that having a degree at the Associate or Baccalaureate level enhanced a potential hire's appeal to an employer, and usually translated into a more well-rounded and desirable employee in all respects. This was considered true for pilots, maintainers, air traffic controllers, dispatchers, flight attendants, and all other aviation or space-related job fields.

Additionally, all industry representatives confirmed that they are willing to pay for certification for their employees, and have a regular program of workforce training and education to help their employees attain their A&P certifications and other industry-specific qualifications. They see this as a necessary investment in their people that provides direct return on investment through better efficiencies and retention of employees.

## **ARC Curricula, Relevance, and Possible New Curricula**

The ten ARC curricula were briefly discussed in terms of ongoing relevance. The consensus opinion is that they are still relevant offerings, but by no means a complete list of training courses that could have value to those who are either trying to enter the job market or

enhance their skill sets. The delivery throughout the state needs to be improved through existing and other potential educational partners. Moreover, the ARC should continue to engage around the state to cultivate new markets for currently dormant training curricula.

In Northeast Florida, the ARC is currently delivering Maintenance Human Factors training and Aviation Sheet Metal Technician training on a fairly routine and institutionalized basis among a select group of industry partners. The challenge is to create a market for the other offerings and to find other industry-driven needs that need to be met in all regions of the state.

There were a number of good ideas for possible new curricula for development this year. Among these were:

- Introduction to Unmanned Air Systems (UAS) and other UAS-specific topics of interest pertaining to operations, control, maintenance, and information processing
- Corporate Flight Attendant Preparatory Training
- Commercial Airlines (Part 121) Flight Attendant Preparatory Training
- Flight Simulator Technician Training
- Flight Dispatcher Training
- RVSM (Reduced Vertical Separation Minimum) training for pilots
- MNPS (Minimum Navigation Performance Specifications) training for pilots
- TAWS (Terrain Avoidance and Warning Systems) training for pilots
- Advanced Avionics Systems Maintenance Courses for the A&P and Avionics Technician
  - Garmin G1000
  - Garmin G600
  - Avidyne Flight Management Systems
  - Garmin 430(W) and 530(W) NAV/COMM suites
  - Others
- More offerings for aircraft-specific familiarization training

### III. Appendices



Aviation & Aerospace Focus Group  
George T. Baker Aviation School  
Miami, FL  
30 October 2009

Miami-Dade/Broward and South Florida Focus Group  
Friday, 30 October 2009  
10:00 A.M. to 2:00 P.M.

### Meeting Agenda

- 9:45 - 10:15      Arrival and Networking with Participants
- 10:15- 10:30      Welcome and Introductions
- Program Manager, Aerospace Resource Center
  - Other participants and leaders of represented groups
- 10:30 - 11:00      Purpose and Focus:
- Focus Group Orientation: context and flow of the focus group.
- 11:00 - 11:30      **General Industry Input and Perspectives** [Session One]
- Current hiring environment and trends
  - Future hiring environment and trends
  - Knowledge and Skill sets most clearly in need of development
- 1130 - 1230      Break and Working Lunch
- 12:30 - 13:45      **Focused Industry Discussion on Requirements** [Session Two]
- TRENDS - What are the current and future trends influencing the aviation and aerospace industries in the Miami-Dade/Broward areas — those which will drive workforce training needs?
  - CERTIFICATIONS - What specific aviation and aerospace certifications do you use, pursue, and value? What are the biggest gaps found for entry level and incumbent workers?
  - CURRICULA – Address relevance of current curricula and take recommendations for curriculum development.
- 13:45-14:00      Open Discussion and Meeting Recap
- Summary of significant issues raised or discussed
  - Summary of findings and action items

## Miami/Broward and South Florida Aviation and Aerospace Focus Group Meeting

Attendees

30 October 2009

	<b>Last Name</b>	<b>First Name</b>	<b>Company</b>	<b>Title</b>
1	Cardillo	Carmine	Workforce One - Employment Solutions	Business Services Manager
2	Consuegra	Al	AAR Aircraft Services	UP Quality and Safety
3	Gallagan	Sean	George T. Baker Aviation School	Principal
4	Knowles	Cathy	Banyan Air Services, Inc.	Director of People Relations
5	Levy	Cesar	Florida International University	ALLSTAR Project Coordinator
6	Milowicki	Gene	Aerospace Resource Center	Program Manager
7	Perez	Angel	George T. Baker Aviation School	Placement Specialist
8	Ponton	Julia	Gulfstream/General Dynamics	Human Resources Manager
9	Pulley	Stewart	Miami-Dade Community College	Programs Manager
10	Sanchez	Jorge	Miami-Dade County Public Schools	Curriculum Support Specialist
11	Tilton	Sandra	Miami-Dade County Public Schools	Curriculum Support Specialist