

# The Perfect Storm of Aviation Work Force Issues

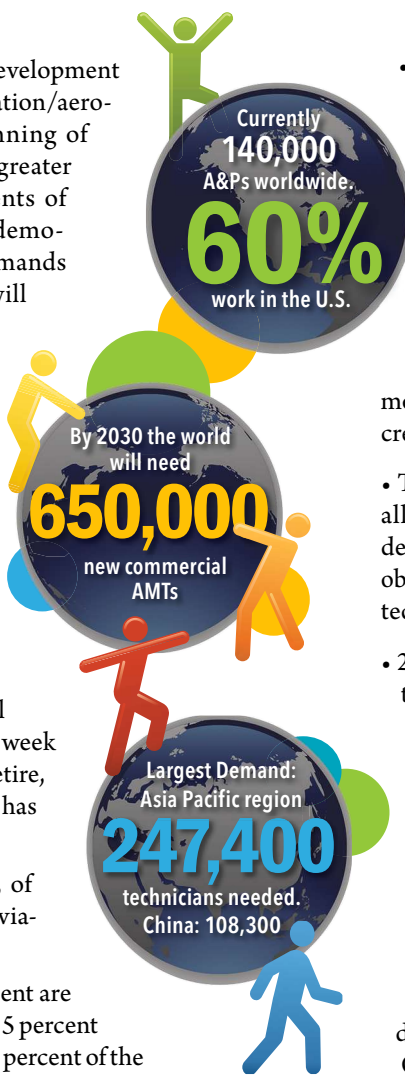
Large retirements, changing demographics, and rising demands for aircraft technicians create the perfect storm

By Dr. Tara Harl

Every 10 to 14 years leadership development issues have loomed over the aviation/aerospace industry. Yet, the beginning of the 21st century has brought a greater awareness that large retirements of prior generations is unfolding, U.S. demographics are changing, and the rising demands of the world aviation employee numbers will impact the economy, politics, and technology. Fundamentally, this means, there will not be enough well-qualified, trained, and certified personnel to meet the needs of current and retiring personnel replacements.

The Department of Employment and Economic Development projects that the aviation industry will have more than 1 million job openings in the next 10 years, likewise, government and industry forecasts paint a picture of an industry facing critical shortages in the next two decades as each week 10,000 baby boomers become eligible to retire, the most educated generation our country has ever produced.

- There are currently 140,000 A&Ps, of which 60 percent work in the U.S. aviation industry.
- Of those in the United States: 35 percent are 50 to 65, 45 percent are 40 to 50, and 15 percent 30 to 40, 5 percent age 18 to 30, and 20 percent of the above are in business aviation
- Only 12% percent in business aviation have a business degree (PAMA 2012)
- By 2030 the aviation industry will require 650,000 new commercial airline maintenance technicians; the airlines are facing a critical shortage similar to the 1960s (*Wall Street Journal*, November 2012).



- The largest demand for technicians will be in the Asia Pacific region, with an expected need for 247,400 technicians. China alone will need 108,300 technicians (Boeing Pilot & Technician, Study 2011).
  - The Unmanned Aircraft Systems (UAS) industry is poised to create more than 70,000 new American jobs in the first three years following the integration of UAS into the U.S. national airspace system by 2015; more than 100,000 new jobs are projected to be created by 2025 (AUVSI) March 2010.
- The vast majority of industry knowledge, globally, is centered on legacy all-metal aircraft; the declining global talent pool's skills are becoming obsolescent as the industry transitions to composite technology (Aerotek, 2012).
- 2011 was the first year the baby boomers began to retire; with roughly a quarter of the nation's 637,000 aerospace workers being eligible.
  - There is little specific data regarding the number and types of jobs that exist in the aviation industry, outside of flight crew and air traffic management positions. Work force development in the aviation industry is focused on individual training and less on the organizational and systematic components of a comprehensive workforce development program. (ACRP Synthesis #18, October 2009).
  - Minorities have been underrepresented across all three areas of aviation in the United States: air-line/air transport, military, and general/business aviation. Business and corporate aviation (corporate flight departments/service providers) in particular have experienced low entrance and retention numbers for minority professionals (Harl, 2011).

Looking with a wider lens beyond aviation at the U.S. demographics/education statistics, we discover a startling image of what our industry is facing:

- The male labor force is projected to grow by 6.3 percent from 2010 to 2020, compared with 7.4 percent for the female labor force (U.S. Department of Labor’s Bureau of Labor Statistics 2011).
- By the year 2043 the white population will be the minority in the United States, a historic shift already reshaping U.S. schools, its work force, and will redefine the pool of employees for the future (U.S. Census Data released Dec. 12, 2012).
- Fewer middle school girls vs. boys see themselves in STEM careers; only 10 percent of all girls would choose a job in STEM vs. 32 percent of boys. More than twice as many boys vs. all girls (23 percent vs. 11 percent) say their parents would like them to have a job in STEM. 27 percent of all girls and 35 percent of boys agree with the statement “boys have more career options than girls” (Simmons College, Fall 2012).
- As the nation’s demographics change, large portions of the younger generation are among those who are least well-served by the current U.S. system of education; those whose educational opportunity and attainment reflect the disadvantages of race, income, and geography (National Center for Public Policy & Higher Education, 2008).
- For an industry that has historically depended on the white male for its employee pool, in a nation with rapidly changing demographics, harboring societies, and school systems that are failing minority youth and not encouraging girls to aspire toward STEM career fields, aviation is facing some tough recruiting issues for the future.

Yet, after more than two decades of programs such as EAA’s Young Eagles, WAI’s outreach to young women, OBAP’s ACE Camps, 70,000 CAP Cadets nationwide, and others — the question begs: Why haven’t the numbers changed for students entering aviation/aerospace career tracks?

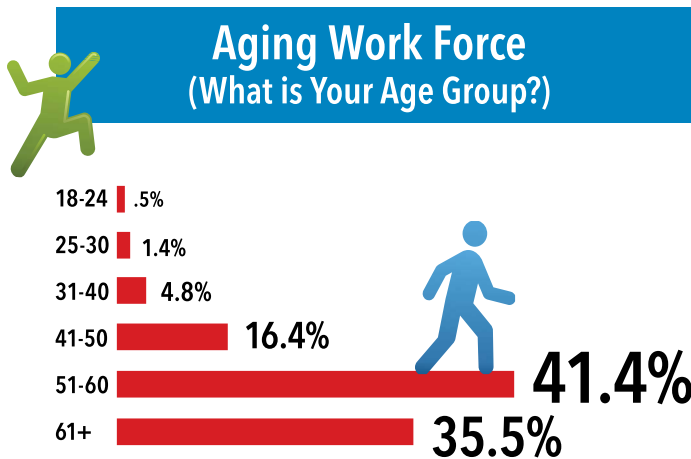
The U.S. aviation and aerospace industries simply must act now to head off finding their leadership positions on the world stage diminished. As older workers move toward retirement, new workers search to develop their careers, and incumbent populations hope to regain employment, the aviation industry will compete with other high tech industries for employees with the skills necessary to run today’s glass flight decks, NextGen ATC facilities, and maintenance/avionics repair stations. And,

at a time when the cost of a four-year collegiate aviation degree, with flight or maintenance licensure, can reach nearly \$100,000; the return on investment for acquiring such a degree often hinders high school graduates from considering an aviation degree track.

The aviation industry is in desperate need of leadership that will step beyond our silos, conference topics, hangar stories, and ingrained habit of “admiring the problem” to then only

to address it with “passion projects.” We need 21st century initiatives built upon solid data.

AWD has been building just such a data bank for nearly five years and advocating radical leadership vision shifts to anyone who will listen. It will take a brave step back to look at ourselves in the mirror and realize just how much of our marketing, recruiting, training, and retention of our aviation work force, is rooted in practices that truthfully, haven’t changed much since the first century of aviation. And, that this problem cannot be fixed overnight. We have somehow forgotten just how gutsy our aviation ancestors were, and how little you heard them say, “Yes, but in six months, what’s the ROI for this?” **AMT**



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### How will aviation/aerospace prepare to face these critical worker shortages?

Aviation Workforce Development (AWD) believes our industry needs a radical shift in leadership vision, and implementation of recruitment matrixes to replace our 20th century mindset. Example: Whenever aviation has been faced with worker shortages, or someone notes there aren’t enough women or minorities on the flight deck, it roles out an airshow, sends speakers into classrooms, and supports aviation “camps” to “recruit.”

**DR. TARA HARI** is president of Aviation Workforce Development (AWD). As a *Tri-Sector Leader* with nearly three decades of experience in the business aviation arena, her passion for professional development and diversification of the workforce brought her to found AWD as *The Aviation Industry Support Organization* for career entry, advancement, leadership development, and issue resolution. She can be reached at [tharl@aviationworkforce.org](mailto:tharl@aviationworkforce.org).