



William C. Harris (left) with retired Gen. Thomas R. Browning at Luke Air Force Base.

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Flying High

Skilled 21st Century Workforce Will Help Arizona's Aerospace Industry Reach Next Level

WRITING BY :: WILLIAM C. HARRIS

my generation shared the excitement and pride of a nation as Neil Armstrong took that one small step for man in summer 1969. Even more awe-inspiring than the Apollo 11 moon landing itself, however, was the fact that it had been little more than eight years since President John F. Kennedy's visionary pronouncement to Congress: "I believe that this nation should commit itself to achieving the goal, before this decade is out, of landing a man on the moon and returning him safely to the Earth."

And keep in mind that when he made this proclamation, NASA was in its infancy, and Alan Shepard's historic 15-minute, 28-second suborbital flight had occurred just 20 days earlier.

The history of the aerospace and defense industries in the United States is a chronicle of American innovation, and Arizona has had a vibrant presence in the fields for decades. Air transportation, aircraft and parts manufacturing, and guided missiles and space manufacturing round out Arizona's top aerospace and aviation sectors, employing more than 70,000 people statewide. The average salary in these industries is 52 percent greater than Arizona's overall average salary.

Industry leaders with substantial interests in Arizona include Boeing, Honeywell,

Raytheon, General Dynamics C4 Systems, Orbital Sciences and Lockheed Martin. Arizona's infrastructure assets include competitive operating costs, great flying weather, and 81 airports, three of which are international airports. And we have significant U.S. Air Force assets, which provide a unique connection to some exceptionally talented people. But my conversations with leaders of these industries suggest that we may not be providing all the talent that is needed in the workforce, particularly the skills essential to success in this high-tech sector.

R&D A Must

In order to make Arizona more attractive to this broad-based industry, we should also work in new ways to encourage aerospace leaders to develop new products and software through R&D. To catalyze a greater focus on enhanced R&D activities, Science Foundation Arizona will match competitive research investments that partner with Arizona's universities and colleges through our Strategic Research Groups investments. And our K-12 investments will focus on skills essential to the 21st century for teachers and students. We want to focus on "brains" and speed to get things done—to give Arizona a competitive advantage.

There never has been a better time

for children to study math, science and engineering if quality, high-paying and exciting careers are of interest to them. As we recognize the challenges and opportunities of the global market place, we will soon realize that we must examine what we are doing and increasingly focus on skills essential for success. As a "strawman," I suggest every student must be computer literate and increasingly technically sophisticated to create the advantage we need to innovate and lead new industries.

The rest of the world knows our "old game plan." We need a new plan and we all need to be on the same team. The aerospace industry needs students with skills to do things. Learn by doing must become our advantage.

Top Tier Engineers

While our engineering colleges are highly competent, they are not strong enough when global competition is considered. Thus, we must encourage a greater focus on engineering at Arizona State University and the University of Arizona so they can advance to the top tier in the nation. And, to build on engineering excellence, Arizona should consider creating an Arizona Aerospace & Aviation R&D Institute, an organization designed to address problems and opportunities that challenge the entire system.

Working smart and in new ways, we can have an impact of reducing fuel use, developing new fuels and addressing all aspects of flight now and in the future. Additionally, the technologies spawned from the Aerospace & Aviation Institute are likely to have dual uses and should result in the creation of new companies and jobs so that Arizona maintains a competitive advantage.

When Kennedy said we are going to land a man on the moon and return him to Earth, we had not even been into orbit. Now, nearly 40 years after Armstrong set his first foot on the lunar surface, we're ready for the next giant leap in the aerospace industry. With hard work, dedication and leaders with vision, perhaps that next giant leap will have significant Arizona connections. Imagine if Arizona is recognized as the leading source for "technology workers"—individuals who will help design and build the future. That would help secure our future.

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