



Workforce: Diversity, Inclusion and Equity Too

By Mike Hirschberg, Executive Director

This issue of *Vertiflite* is the first one for the New Year and is being shipped with our 2022 VTOL History Calendar, generously sponsored this year by the Kaman Corporation.

The VFS History Committee prepares the calendar each year as a benefit to our members and to highlight the breadth and depth of the history of vertical flight. In addition to our sponsor, the calendar features aircraft from our five corporate Platinum Members — Airbus, Bell, Boeing, Leonardo and Sikorsky/Lockheed Martin — as well as a diversity of vertical takeoff and landing (VTOL) aircraft.

Diversity of representation is at the core of everything that VFS does. Our operating guidelines codify rotations of many positions between industry, academia and government. This includes, for example, the Annual Forum Chair, the VFS Technical Director, the Journal Editor-in-Chief, and even our Leadership Profiles in every *Vertiflite* issue. To the extent possible, when looking for candidates for leadership positions, we seek diversity through different technical disciplines for many positions.

VFS also has a long track record of promoting gender diversity, encouraging women to take leadership roles at many different levels in the Society — in local chapters, technical committees, the VFS Technical Council, the Board of Directors, etc. However, the US aerospace and defense (A&D) community has an even smaller number of African American and Hispanic American engineers (see below) — so we need to work extra hard here.

Entering into leadership roles is a great way for members, especially those from underrepresented groups, to receive mentorship from other leaders, network, enhance technical skills and advance VTOL technologies. As a student and young engineer, I benefited incredibly by taking on professional society roles of increasing responsibility; I wouldn't be here today without that professional growth.

We Want You!

As the global VTOL industry is seeing unprecedented growth in the technical workforce, the competition for employees will only increase (see our commentary, “Workforce: Winning the War for Talent,” *Vertiflite*, May/June 2021). With the exploding demand for talent for electric VTOL (eVTOL), Future Vertical Lift (FVL) and new civil rotorcraft programs, VFS has forecast the need for a net increase of 10,000 engineers in vertical flight over the next decade — reminiscent of the need for rocket scientists during the Space Race in the 1960s. We need “every

man, woman and child” to get excited about vertical flight and consider joining our industry.

VFS has published several commentaries and reports on workforce and diversity (see ● www.vtol.org/workforce), how we must attract more talent to vertical flight to meet the demand, and how being inclusive will help retain talent in our industry. We have somewhat avoided equity and social justice (i.e. “fairness”), since this has been politicized in the US and it seemed at first that this was perhaps “outside our lane.” But recent interactions with members and those on social media — and the dedicated efforts of similar engineering and scientific professional societies — has crystalized in my mind the need to address it head on.

Not only do we need to address diversity and inclusion because of the business impacts, but because it's also the right thing to do. As a technical community, we look at data, statistics and trends rather than politics. Conscious and unconscious bias lead to exclusionary practices. As a result, we see a lack of new talent and/or leaky talent pipelines. Even if we don't feel that we have suffered — or inflicted — any discrimination ourselves, with sufficient introspection and listening to tales of discrimination against others in our industry, we can see the social justice challenge.

I've been appalled to hear and see some examples of gender bias — even today, in the 2020s! — in our industry. As a white man, it's been easy to think that civilized society has transcended some of the more puerile behavior, but listening more to women tell these stories as a common occurrence has been a wakeup call. As I have spoken on more workforce panels and talked with more members about diversity and inclusion, I've realized that working for equity has to be a key pillar of winning the war for talent for the future vertical workforce.

New Statistics

In October 2021, the American Institute of Aeronautics and Astronautics (AIAA) and the Aerospace Industries Association (AIA) published the results of its “2021 Aerospace and Defense (A&D) Workforces Study,” conducted by Ernst & Young LLP.

The results suggest that the percentage of women in the US A&D workforce is slowly creeping up year over year — reaching 24.8% in 2021. Larger gains were seen in the percentage of Black (9.8%) and Hispanic (8.7%) employees. Growth in these areas is great to see, as they would ideally reflect the same percentages as the US population: 50% women (of all ethnicities), 13.4% Black and 18.5% Hispanic, according to the US Census Bureau.

VFS membership is largely comprised of the A&D workforce that this survey represents. So, striving for equal representation of women and people of color in VFS institutions is a challenge.

At most US engineering universities, women make up only 25–30% of engineering students. So, it would make sense that our Vertical Flight Foundation (VFF) scholarship awards would reflect that. And indeed, at Forum 76 in 2020, eight of our 29 VFF scholarship winners were women (27.5%), including five of 13 PhD students (38.5%). Encouraging more women to enter engineering and vertical flight — and apply for scholarships and positions of leadership — would truly tap into the available talent that diversity and inclusion brings. However, of the 73 applicants, only 14 of the students were women, meaning 57% of women applicants were selected for scholarships in 2020 — even higher than the percentage of women in the US population. We need to encourage more women to apply.

I bring up Forum 76 because in response to one of our post-Forum surveys, one member said he or she would not be watching the VFS Grand Awards Ceremony video because, “Who wants to watch a bunch of White guys giving awards to other White guys.” That hurt. As humans, we are easily tempted to become defensive, so it’s important to reflect on the true people hurting: the hard-working folks who continuously go unrepresented, unpromoted and unheard. And that hurts the entire industry.

Well, the Forum 76 awards video is available on YouTube and through the VFS Video Library (www.vtol.org/videos). We recognized 30 people (not including our VFF scholars), of which 17 were White men (56%) and 11 non-White men (37%), but only two women (7%). Again, we reflect the A&D workforce, but more women and people of color need to be nominated — the VFS Awards Committee can only select from the nominees that our members submit.

Looking at the pages of *Vertiflite* and our award recipients sees representation that reflects the A&D industry, despite our best efforts. Certainly, the vertical flight community needs to do better at recognizing the contributions of those who are not just White men. Part of this is in submitting nominations, but even in advance of this, it’s promoting women and people of color to leadership roles and taking advantage of what everyone has to offer.

Encouraging Diversity

Corporate leaders, and the A&D workforce in general, say that they recognize the benefits of diversity, although it is still often absent from their executive leadership teams. Lack of diverse leadership creates a perfect opportunity for conscious and unconscious biases to thrive. “Bad apples” creep in and undermine corporate efforts towards inclusion. It’s exceedingly difficult to change a corporate culture, and requires conscious and deliberate effort. It begins at the top, but it requires everyone’s best efforts all the way up and down the ranks.

Seeking diversity of perspectives is at the heart of everything that VFS does, but we need to be more proactive. In addition

to our longtime efforts in supporting science, technology, engineering and mathematics (STEM) education, VFS recognized more than two years ago the increasingly urgent need to support the growth of the future vertical workforce and to promote diversity, equity and inclusion (DEI). We hope some of our new efforts will begin to bearing fruit in the coming months and years.

Now, VFS has joined with Women and Drones, LLC, to promote its goal “to inspire and encourage more women to pursue careers in STEM and aviation, with an emphasis on UAS and AAM.”

We are also expanding our DiversiFlite initiative, with podcasts and other types of online and in-person discussions to increase awareness and understanding, and provide training and educational support.

Many women and minorities have faced overt discriminatory speech and actions in the workplace. However, a more insidious type of discrimination can cause even more psychological damage to an individual and to overall work culture: ostracism. It is maddening to be ignored or excluded while being an expert in a field. Yet many organizations continue to tolerate biased behavior, overt and covert, excusing it as “that’s just the way things are,” or even gaslighting the victim suggesting something didn’t happen the way the victim recalls. Organizations that tolerate this behavior will fail at retaining or promoting women and other minorities. If this has not happened to you personally, imagine if you had to work in a situation where these comments and behavior are the norm — would you stay or would you find a less stressful working environment?

Will we enable this bias by standing by silently when we see it? Or will we do the right thing and openly condemn the behavior (but not the person)?

We all strive to be the best in our technical proficiency. Let’s all make a New Year’s resolution: let’s also strive to become the best version of ourselves. Individually and collectively, we all have an important role to play in supporting the dramatic expansion of the future vertical workforce.

We must listen to women and people of color in STEM as they continue to relate these incidents, but until each and every one of us actively participates to stop these behaviors, our problems in recruiting, retaining and promoting a diverse workforce will not end, and we will not reap the benefits that a talented diverse workforce brings.

It’s not only the right thing to do, it’s also good for business.

What do you think? Let me know at director@vtol.org.

