

# LIFT WWA

Winter 2017



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**AFA**  
The Washington  
Aerospace Partnership

## Welcome to LIFT WA's Winter 2017 issue!

As 2017 winds down, the AFA Board of Directors is excited about the work we've done this past year in support of the entire industry in Washington state. We work together to strengthen the industry and grow Washington state's economy. AFA organizes aerospace, related, and other industries, bringing them together across the state. We enable the infrastructure, tax policies and regulatory framework that provide for a high quality of life for all of Washington's residents.

During the 2017 Legislative Session, AFA tracked nearly 70 bills in Olympia. The predominate issue impacting the aerospace industry was the continuing effort to repeal aerospace tax incentives that the industry has secured over the past fifteen years. AFA successfully opposed these efforts, bringing together representatives from aerospace and other industries to testify and meet personally with lawmakers. Also in 2017, AFA merged with the Washington Aerospace Partnership (WAP) to continue to bring together a more unified voice on your behalf.

We also developed this magazine, LIFT WA; created numerous member videos; created a substantial social media presence;

and strengthened relationships with the media, government, and elected officials. All with the goal of supporting Aerospace in Washington.

This issue of LIFT WA looks to the future of the industry with relevant articles about training the workforce of tomorrow. You'll also see images on the pages that follow of our ever-increasingly attended Governor's Aerospace Summit. We were delighted to honor Boeing's Ray Conner, ATS' Matt Yerbic, and many others for their work throughout the year and, indeed, over decades.

As we look forward to 2018, we wish you Happy Holidays.

Sincerely,  
**Kelly Maloney**  
 LIFT WA editor  
 AFA president and CEO



## Congratulations to AFA Member, Bridgeways!

Governor's Committee on Disability Issues & Employment Honors Bridgeways

Everett-based non-profit, Bridgeways, was honored for exemplary work in recruiting, hiring, retaining and promoting people with disabilities.

The Governor's Committee on Disability Issues & Employment (GCDE) and the Washington State Business Leadership Network recognized Bridgeways at the 25th Annual Governor's Employer Awards ceremony, held October 31st at the Microsoft Conference Center in Redmond.

Bridgeways received the 2017 Governor's Employer Award for "Medium-nonprofit Employer."

Washington businesses, agencies, organizations and individuals submitted the nominations. A panel of GCDE

members, business representatives and previous award recipients selected this year's honorees.

Bridgeways maintains an accessible and supportive workplace for people living with mental illness in the context of a busy manufacturing facility, serving customers in the aerospace and other industries.

Recent data from the Substance Abuse and Mental Health Services Administration show the unemployment rate for those engaged in public mental health services in Washington State is almost 87%. According to Bridgeways CEO Donna Konicki, "a core part of our mission is related to employment, because a job removes people from isolation and builds connections with others, promotes independence, a sense of accomplishment, hope, self-respect and valid participation in the workforce and community."

Bridgeways connects adults living with mental illness to life-changing opportunities through employment and other vital services. Learn more at [www.bridgeways.org](http://www.bridgeways.org).



# LIFT WA

Your Complimentary Copy

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# Highlights

## AFA's 12th Annual Governor's Aerospace Summit

Submitted by AFA member | Center of Excellence

Governor Jay Inslee's remarks at the AFA 12th Annual Governor's Aerospace Summit, held September 7, 2017, included topics such as the need for short term certifications—like those provided by the WATR Center—and educational alternatives that will drive more people to aerospace careers. There are currently 253,000 jobs in Washington's \$75 billion aerospace sector—a major part of the state's economy. At 49 percent, aerospace also makes up almost half of our state's exports. The Governor talked about his commitment to growth of the aerospace sector and is working on initiatives to continue the trend.



### AEROSPACE IN WASHINGTON | HOW COMPETITIVE ARE WE?

**Speaker: Tom Captain**, retired VP of Deloitte LLP Aerospace and Defense

- Aerospace incumbency has created deep roots in Washington for civic, cultural and educational support
  - Because of this, there is an entitlement attitude in the state
- There are many other competitors with lower wages, lower cost of living, less congestion – there are other places to go, and WA cannot take our aerospace business for granted
- Aerospace is 15% of the GDP in Washington
- Why is site location a challenge for companies in Washington?
  - Incumbency does have advantages, there is a high cost to move businesses, and we have the infrastructure
  - Our cost of labor is higher; our cost of housing is too high (Seattle area)
  - Education infrastructure is in place in the area
  - The overall tax burden in Washington is in the mid-range as compared to other states
- Government and business support—politics and strategy are good in this area
- Global competitors include France, England, China (600k direct workers in china for aerospace and defense), Canada (80k people employed in aerospace), Germany, Poland, the Czech Republic, and Brazil
- US Competition
  - Washington state has the second highest employment rate of direct aerospace jobs for both commercial and defense – second to California, which has a strong aerospace defense sector
  - Seven US states carry 50 percent of the total aerospace and defense employment in the country—California, Washington, Texas, Florida, Arizona, Connecticut, and Kansas
  - Wages – Washington is in the middle of wage costs in the top 7 states
  - Washington exports \$50 billion; accounts for 35% of exports
  - Travel demand is increasing at 5.3% – 3 billion enplanements annually
  - Ability to fly – since 1990 passenger flights are 47% less expensive



AFA Summit, media panel, Sept. 2017 (left-right; Emory Thomas, Puget Sound Business Journal; Andrew McIntosh, PSBJ; Jon Ostrower, CNN; Glenn Farley, King 5 News; Dominic Gates, The Seattle Times).

### AEROSPACE THROUGH THE EYES OF THE NEWS MEDIA

**Moderator: Emory Thomas**, Publisher, Puget Sound Business Journal

**Dominic Gates**, Aerospace for the Seattle Times – writes for a general audience

- “There is a gray of doubt where Boeing will build its next airplane, for the first time, there’s doubt.”
- “The blue collar machinist jobs are the American dream in Washington state. Where else can you get working class guys earning middle class salaries like that? With Amazon, the types of jobs they are creating are not like that...Boeing has the blue collar, white collar and executive jobs...we need that here. It’s a troubling time, lots of stories ahead.”
- “It puts us, in Washington state, in a position where absolutely nothing can be taken for granted in the next airplane.”

**John Ostrower**, Aviation reporter for CNN – formerly with the Wall Street Journal.

“My audience is the world, there’s a tremendous range of how aviation touches our lives.”

- “Heading to the next ten years, what will happen with supply chain dynamics?”
- “There is a re-shaping going on underneath Boeing.”
- “There is a supply base that will survive and thrive in aftermarket.”
- “In terms of the economy, how will all of these fit together in an interplay here?”

**Glenn Farley**, Aviation reporter for KING TV. “We have a general audience and an online audience. A big part of our audience is in the (aerospace) business – Boeing, suppliers, Alaska, etc... we need to address this group.”

- “It’s not the business that it was...It was such a small business in the 60s, 70s, even 80s, and the kind of roller coaster of employment that we saw is over. Yes, the employment has come down, but it’s basically drifted down over time.”
- “Aftermarket services are growing.”
- “If you look at Boeing and Airbus’ market demand, they are very similar.”
- “When you look at how many planes are out there now, and what we will see over the next 10-20 years, market services are growing. The political and educational structure here seems to recognize that trying to tamp as many people into (local) companies, sometimes I think we get overly hung up on manufacturing just at the Boeing company and are not inclusive on the wide pallet of the industry and locations.”

*“The blue collar machinist jobs are the American dream in Washington state. Where else can you get working class guys earning middle class salaries like that?”*

**Andrew McIntosh**, Puget Sound Business Journal. “We have a unique organization, local and global, part of the chain of 45 newspapers across the US. Readers are business owners, CEOs, business executives.”

- “What I am hearing from suppliers is that they want to hear more about the government decision on the hundreds of airplanes that Boeing has sold to Iran. That could create a lot of economic activity in the coming years.”



Workforce panel (left-right; Dr. Bragg, UW; Mary Rezac, WSU; Larry Clupf, WATR; Lynn Strickland, AJAC; John Bonner, Everett Community College)

## THE WORKFORCE OF TOMORROW | TRAINING FOR INNOVATION

**Moderator: Dr. Michael B. Bragg**, Dean, UW Frank & Julie Jungers College of Engineering

**Lynn Strickland**, AJAC, CEO

- “Training to the right technology and maintaining and understanding of the skills gap is a challenge.”
- “Some employers say, ‘I just need someone with a heartbeat to show up and work.’ The illiterate of the 21st century will not be those who can’t read or write, but those that can’t learn, change, and re-learn. Collaboration is an essential skill that employers are looking for.”
- “Part of our focus is to train across industries, so as industries ebb and flow, students can go into other industries.”

**John Bonner**, VP of Corporate and Continuing Education, Everett Community College

- “There’s a projected shortage of 680,000 AMT mechanics over the next 20 years. The capacity, the need to train students in those fields, is almost insurmountable. Building the capacity in things like Mechatronics is also what we are focused on.”
- “We’ve had full programs – our new Mechatronics program is full – but we still have an interest gap. It’s about the partnerships to steer kids into STEM, and toward these degrees. Wherever they are in that period of their life, it’s not wasting credits and time.”
- Through partnerships with the Boeing Company...and a number of university partnerships, the students are doing design, build and fly of composite drones. Through this, they are learning to think critically, work on teams, to learn constantly while collaborating. This is critical in the future as technology evolves.”



Courtesy of WATR Center

**Larry Clupf**, Executive Director, WATR Center

- “We are fortunate at WATR that our advisory board is from the industry. They can work with us to solve issues. They also validate our curriculum. The introduction of composites brings opportunity and challenges. One thing we are doing is going from metal to composites – NDI (non-destructive testing) and those technical skills.”
- Regarding graduates, “58% are placed at Boeing, 42% are placed with other suppliers.”

**Mary Rezac**, Dean, WSU College of Engineering

- “The WSU engineering program depends on really strong partnerships with our state’s community colleges. A close, integrated relationship with the (local) colleges makes it work. The students of today are demanding they have the ability to impact real problems – they want to solve things. This is done in collaboration with industry partners.”
- “At WSU, we continue to have more demand than the capacity that we can meet.” (Regarding engineering programs). ▲

Contributor: Jennifer Ferrero, APR, marketing & communications consultant for the COE, has written about aerospace and advanced manufacturing and how it relates to industry growth in WA since 2008.

# Boeing's Conner and ATS' Yerbic recognized for leadership in aerospace.

*AFA announces legislative, company and leadership awards.*

Ray Conner, vice chairman of The Boeing Company, was presented with the Aerospace Futures Alliance's first-ever—and Conner-inspired—

**Titan of Industry Award** at the association's

12<sup>th</sup> Annual Governor's Aerospace Summit held September 7, 2017, in Lynnwood, WA.



Conner announced his retirement in late 2016, effective in the fall of 2017. "As soon as the AFA Board of Directors learned Ray (Conner) would be retiring, we set out to let him know how much aerospace businesses in Washington appreciate his 40-year commitment to the industry and the state," said Kelly Maloney, AFA president and CEO. The impact of Ray's vision and leadership in Washington can be seen in the continued economic vitality of aerospace businesses, related and support industries, and workers."

"This award is representative of approximately 1450 aerospace and related companies in the state who are saying, 'Thank you, Ray,'" said former AFA Chairman, Ben Hempstead, chief of staff for Electroimpact.

When accepting the award from Brad Tilden, chairman, CEO and president of Alaska Air Group, Conner stated, "I am really honored. This is a big deal." In his acceptance remarks, Conner reminisced about starting out as a mechanic and working his way up to running Boeing Commercial Airplanes as president and CEO. He talked about some of the airplane development he oversaw, such as the 737 MAX, and Boeing's most recent \$1 billion investment in Washington with construction of the 777X facility located in Everett, WA. Conner also spoke about the workforce gap in Washington's aerospace pipeline, emphasizing the need for training and education for the next generation of workers.

Citing similar appreciation for the recognition, and workforce concerns, in his acceptance speech when being awarded with AFA's first-ever Aerospace Executive of the Year Award, Matt Yerbic, CEO of Aviation Technical Services, stated if there were trained workers, he estimated he could hire about 200 today.

Yerbic, whose more than 30-year career spans several executive positions at Alaska Airlines and his current position at ATS, received the award because of his leadership in the industry—he has overseen two acquisitions over the past several years, received the MRO (maintenance repair overhaul) industry's 2016 MRO of the Year Award, was AFA's Chairman for two consecutive years, to name a few examples—and because of his leadership style within his own organization. "Matt is that one-of-a-kind leader who motivates people by his genuine character and ability to connect to employees by knowing what is most important to them," said Amy Henrichsen, ATS VP of People.

Images above, left to right:

Brad Tilden remarks on Ray Conner's historic career in aerospace; Ray Conner accepts AFA Titan of Industry Award; Bill McSherry of Boeing presents Matt Yerbic with AFA Executive of the Year Award.



Other AFA awardees included Senator Karen Keiser (top, right) and Representative Ed Orcutt (second from top, right), who received AFA's Legislator of the Year Awards for their willingness to collaborate across the aisle on big issues relevant to aerospace and for the state in general; Star Fischer, partner at Moss Adams (second from the bottom, right), who received the AFA Leadership of the Year Award for her work as secretary and treasurer of AFA's Board of Directors; and Aero-Plastics, Inc., whose Owner and President, Mike Brown (bottom, right), received the AFA Company of the Year Award for the company's work in the industry and advocacy in Olympia on issues important to aerospace. ▲

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Historic Flight Foundation | [www.historicflight.org](http://www.historicflight.org) | 425.348.3200



# Getting real: Boeing 777X starts production

Bright light from TV cameras glinted off a 108-foot-long (33-meter-long) wing spar as an automated drilling machine performed its programmed maneuvers in late October.

About 500 employees, members of the media and customer representatives joined an online audience to witness production of the first wing spar for the first 777X that will take to the skies.

The event, which was streamed live on social media channels, marked a major production milestone for the program — the first hole drilled in the first wing spar that will be part of a flying airplane.

Employees expressed their enthusiasm about the beginning of production. "It's been so exciting to see the first parts come through after years of preparing for the first

Everett, WA, site employees sign a commemorative banner at the event to celebrate the first hole drilled on the first wing spar for the first flying 777X airplane. (Gail Hanusa photo)



airplane," said Paul Clark, 777X wing assembly mechanic. "We've got a great team here, and all of us are eager to begin using the new equipment and processes."

Airline customers shared in the enthusiasm. "Actually seeing and hearing parts being made and parts being delivered is something very exciting," said Nicolas Zika, Etihad's representative to Boeing. "It means that this is something real that is being built, and it's [getting] closer and closer."

Fabricated inside the Composite Wing Center in Everett, Wash., the front and rear spars had their first voyage to a new facility, the 40-02 building, housing 777X wing assembly. "The 777X wing is a composite, so it is much lighter and maintains good strength characteristics," said Mary Manning, 777X design engineer. "This allows the airplane to be lighter, which results in greater performance and fuel efficiency. This will be better for our airline customers."

In anticipation of the 777X, the 40-02 building has been completely refurbished, with new tooling for the wing spars installed, tested and qualified. The first flying airplane is scheduled to roll out next year, with test and certification to occur in 2019 and first delivery in 2020. The 777X will be the largest two-engine jetliner in the world, carrying up to 425 passengers. It has received 340 orders and commitments from seven customers. 



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Photo courtesy of Joe Budd.

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# The workforce training response to mechatronics and avionics

Community and technical colleges, and local businesses, demonstrate their investment in training the workforce of the future.

Articulating robot arms, tablet-based control panels, and automated production lines – should they be feared or embraced? Like it or not, high tech machinery is here, and is a force that will continue to innovate our jobs, our products, and the working world at-large.

In Washington state, larger manufacturers – from aerospace to fruit production – have gone high tech with the use of robots and advanced machinery. At first, the industry may have been awe-struck, because it is a dramatic change in manufacturing. Many envisioned a dramatic recession in manufacturing jobs. But, now it seems that both industry, and our community and technical colleges have embraced robotics, high tech machinery, and even the production and support of advanced avionics. The facts are that while machines can be programmed to automate, and even improve efficiencies in manufacturing – industry needs people trained in engineering, programming, maintenance, and repair of modern devices to keep the factories running.

The jobs have changed, but they aren't going away. The most dramatic impact is a rapid ramp-up in training. Washington has been tasked – through state and federal grants – to create programs that will offer a short-term response to intensive training that will take the unskilled, young, post-military, or laborer from student, to highly-skilled employee in under a year. Industry has not only responded, but is heavily engaged with Washington's community and technical colleges to pull-off the switch of the century – formerly hand-made assembly and production is shaking hands with the future. That is, automation maintained and engineered by smart, highly-skilled people.

## Advanced avionics in manufacturing

While not all aircraft flying today have gone computerized, they are rapidly on their way. According to Robert Prosch of Everett Community College, "Almost all aircraft have converted to computer-based avionics systems." Touch screens, wi-fi, and complex computerized cockpits are the norm. For older planes that are still in use, they are being retrofitted with new electronics systems by companies like Aviation Technical Services, a maintenance and repair operation in Everett. Five community and technical colleges have jumped into the

## Business Involvement in Advanced Avionics and Mechatronics

For each of these programs, there has been heavy industry involvement. These partners have donated equipment, time, staff resources, and subject matter experts. Many are also offering internships. (Note: This is a partial list.)

### Advanced Avionics

- Alaska Airlines
- Dynon Avionics
- Spectralux
- Panasonic
- Delta Airlines
- Fluke

### Mechatronics

- The Boeing Company
- Hexcel
- Royell Manufacturing
- Ellison Technologies
- Senior Aerospace
- Absolute Manufacturing
- Aerospace Manufacturing Tech
- Wet Noses
- Cardinal Glass (Winlock, Chehalis, Tumwater)
- Sierra Pacific
- Alta Forest Products
- Hampton Lumber
- Imperial Manufacturing
- Pace Edwards
- Lineage Logistics
- National Frozen Foods
- Dynamic Systems Technologies (South Olympia)

game with programs like Advanced Avionics, developed by Everett Community College, which is rolling out through the system this year.

Prosch said, “Everyone is screaming for avionics techs in the industry,” and added “according to the maintenance and technician outlook – 679,000 worldwide jobs will be needed in next 20 years. We will be up against a wall to find enough avionics technicians, it is at a critical juncture.”

Everett’s new program is two quarters long, with 20 credits a quarter, and runs like a Monday-Friday full-time job. Each college offering Advanced Avionics will train between 10-20 students in each cohort. It offers A&P mechanics along with the avionics training, which is required by Boeing.

### Mechatronics in aerospace and advanced manufacturing

The automotive industry has been immersed in automation since the late 20th century. The Automotive Manufacturing Technical Education Collaborative (AMTEC) of Kentucky wrote the book on how to automate the manufacturing facility, and how to create jobs in the world of mechatronics – a mix of electronics and mechanics. On the manufacturing floor, when a machine breaks, and it is mission-critical to get it back up, a mechatronics professional runs to the aid of operators. If people already have experience in machining or electronics, the certification or degree could be shorter.

Washington has a Mechatronics consortium with 10 community and technical colleges that offer Mechatronics programming, with various degrees. Centralia College is offering specific brand-oriented training in FANUC Robotics, and Allen-Bradley programmable logic control system (PLCs). Associate Professor, Electronics, Robotics and Automation, David Peterson said, “These skills are requested on every job posting.” According to Peterson, Centralia is working to accommodate industry requests for training, whether it is for specific brand training, or skills like general wiring or soldering. Their program outcome is an Associates of Applied Science in Mechatronics. Other colleges yield both certifications and degrees in Mechatronics training.

The colleges are participating in a Department of Labor grant to fund Mechatronics education. Everett Community College and Centralia College have completed their first year with the program.

According to Jason Boatwright, project director, TechHire MechaWA Grant with the Center of Excellence, “The State of Washington may be a little behind in automation. The auto industry has been heavily automated for a long time.” But Boatwright aims to change the status quo. He is actively working with many of the community colleges to roll-out newly minted curriculum. He added, “I fully expect our graduates to be employed within three months of graduation.”

# YOURS, MINE, OR OURS: HOW TO MINIMIZE RISKS WHEN USING TEMPORARY WORKERS



Many companies in the aerospace industry rely on temporary workers supplied by staffing agencies to accommodate fluctuating business needs. Most companies consider these temporary workers to be the employees solely of the staffing agencies. Recently, however, courts and administrative agencies, including the National Labor Relations Board and the US Department of Labor, have taken the position that temporary workers can not only be the employees of staffing agencies, but also of the companies for which they provide services.

The courts and agencies often consider the staffing agencies and the “user” companies to be joint employers of the workers. This exposes user companies to a wide array of employment claims by temporary workers. In addition, if the employees of either a staffing agency or a user employer are unionized, a finding of “joint employership” could plunge the nonunion employer into an unexpected and unwanted relationship with the union.

In determining whether a company that uses temporary workers is the employer of those workers, courts and agencies focus upon the degree of day-to-day control the user company exercises, or could exercise, over temporary workers. This puts user companies in a bind: the aerospace industry is highly regulated and quality of work is paramount. User companies cannot readily delegate away quality control. They



**Mary Kay Bredeson**, is the Executive Director of the Center of Excellence for Aerospace and Advanced Manufacturing, housed at Everett Community College. For the past 15 years, she has brought her leadership skills to higher education in promoting Washington’s economic and workforce development initiatives in aerospace and advanced manufacturing.



**Jennifer Ferrero, APR**, provides marketing and communication services to the Center of Excellence. She is nationally accredited in public relations, and frequently writes about workforce development and education in the aerospace and advanced manufacturing industries.



Richard Omata is a shareholder in the law firm of Karr Tuttle Campbell in Seattle. He regularly represents aerospace companies with respect to labor and employment matters.

therefore have to walk a fine line, ensuring that the work product is unassailable without getting caught up in micro-managing daily work. In order to minimize the possibility of joint employership, it is critical for the parties to clearly define their respective responsibilities.

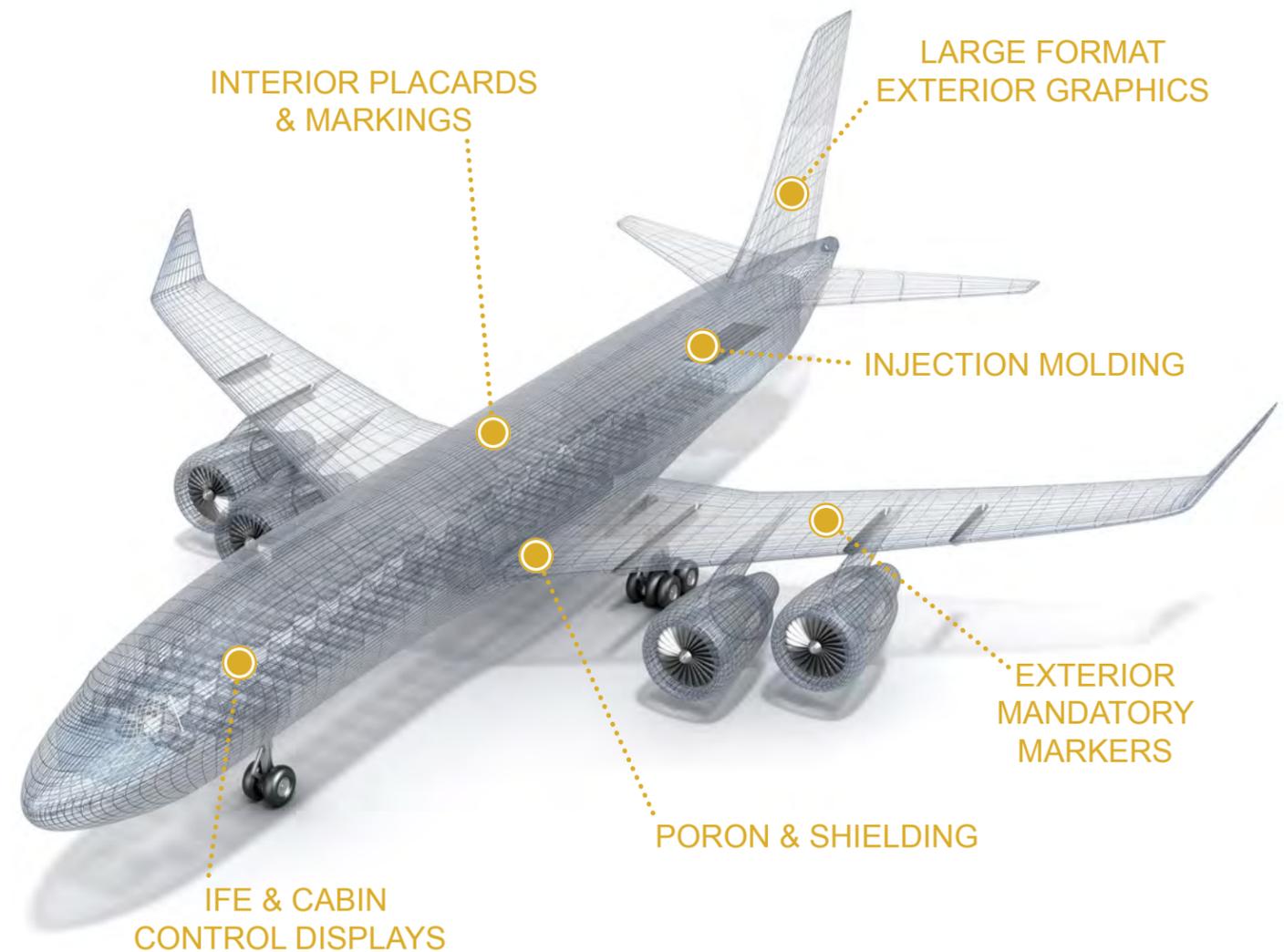
**Drafting the agency contract:** Written contracts typically define the relationship between staffing agencies and user companies. These contracts should state that temporary workers are the employees of the staffing agency and identify all of the agency's responsibilities, particularly those typically ascribed to all employers. The temporary agency should be charged with: interviewing and hiring workers; verifying employment eligibility, certifications, and licenses; determining compensation; recording hours worked; withholding and paying employment-related taxes; scheduling and directing the performance of the work; setting performance expectations; performing evaluations; and administering discipline, including termination.

User companies can use contract language strategically to set standards and expectations without exercising excessive control over the workers. For example, rather than requiring that all dispatched workers have passed a drug screen, the user company may require the agency to "warrant and represent" that its employees have successfully passed drug screens. The same approach can be used when workers must possess certain licenses or certifications.

Contracts also should contain appropriate indemnification and hold harmless language in the event that an employee, administrative agency, or union claims that a staffing agency and user company are joint employers. A user company may contractually require the staffing agency to defend or indemnify it against discrimination claims, claims for unpaid wages or denied benefits, and audits by taxing authorities. A user company also may require a staffing agency to provide proof of employer's liability insurance with the user company named as an additional insured.

**On-site management of temporary workers:** Strong consideration should be given to having the staffing agency provide on-site, first level supervision for workers. All temporary workers should be provided with direct access to an HR professional employed by the staffing agency. When possible, training should be performed by the staffing agency. If a worker is not performing well, the staffing agency should determine how and when to discipline and fire its employees. Although the user company may offer opinions about the worker's performance, the actual decision should be delegated to the agency.

Because of the highly regulated nature of the aerospace industry, it is highly unlikely that a staffing agency and user company could create a perfect contractual relationship that would guarantee they would never be found to be joint employers. However, significant safeguards can be taken to greatly reduce this possibility. ▲





# Collaboration and innovation to meet future workforce needs



Mary Rezac is dean of the Voiland College of Engineering and Architecture at Washington State University.

Washington State University recently celebrated the grand opening of a new building at the WSU campus in Everett, WA.

and technology in the Boeing Innovation Studio. In fall 2017, WSU enrolled nearly 200 students in Everett, and the new building has capacity for more than 800 more students.

The event, as well as WSU Everett's new academic programs in software engineering and data analytics, represent a watershed moment in Washington. Industry, education, and legislative leaders throughout the region have worked collaboratively over the past decade to prepare the next-generation workforce of engineers and computer scientists for the aerospace industry.

Another educational milestone occurred this summer in Bremerton, WA, as WSU celebrated the opening of a new engineering teaching facility on the Olympic College - Bremerton campus. In partnership with the two-year college, WSU now offers four-year degrees in Bremerton in mechanical and electrical engineering.

on longtime efforts to grow the 21st century workforce. Programs such as the Boeing Mentors, which connect Boeing workers with students, and the Boeing Scholars, which provide scholarships in STEM fields and allow students to work with industry mentors throughout senior design projects, continue to help our graduates be well prepared for aerospace jobs when they graduate. Washington's Joint Center for Aerospace Technology Innovation (JCATI) is also a longtime effort to bring together university researchers with industry partners on research projects that are relevant to industry and provide research opportunities for students.

In the past decade, Washington state has led the nation with the highest percentage of high technology workers, while it has lagged near the bottom in the number of students who graduate in these fields. WSU's new engineering and computer science buildings and programs are a sign that efforts to meet industry needs and to provide more opportunities for Washington students to achieve careers in high tech fields are working.

WSU has recently added several other new degree programs, including construction engineering, software engineering and data analytics. A data analytics degree will help graduates make sense of the ever-increasing challenges of big data they will encounter in the workplace, and software engineering trains students in developing complex software. The new degrees are in high demand among the state's computing and information technology industries and promise to have a direct impact on the aviation, construction, and high-tech industries, particularly in the growing field of advanced manufacturing.

I recently participated in AFA's annual Governors Aerospace Summit, where I had the chance to interact with government and industry leaders who continue to work collaboratively to affect positive change in Washington's future workforce. After a decade of hard work, we're seeing deliberate and intentional integration of academic programs with industry needs that positively affect economic development for the state and region. Our efforts are leading to the transformation of our graduates into an innovative and entrepreneurial future workforce to meet industry needs.

In Everett, the new 95,000 square-foot building includes classrooms, laboratories, and services for students working toward degrees in science and engineering. In it, students will be able to take courses in new programs in high-demand fields, such as software engineering and data analytics, as well as in electrical and mechanical engineering.

While the new facilities and degrees answer the need for more and better prepared engineers for industry, they also are removing the barriers that prevent many place-bound and non-traditional students from getting a four-year college degree.

The Boeing Company provided a \$250,000 gift to equip the building with state-of-the-art machining equipment

Meanwhile, academic and industry leaders continue to work together

*Academic and industry leaders continue to work together on longtime efforts to grow the 21st century workforce with programs such as the Boeing Mentors, which connect Boeing workers with students, and the Boeing Scholars, which provide scholarships in STEM.*





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