

2020 Design Build Fly Competition



The **Design Build Fly Competition**, in its 24th year, invites student teams to design, fabricate, and demonstrate the flight capabilities of an unmanned, electric powered, radio-controlled aircraft to meet a specified mission profile. The competition gives students the opportunity to validate and apply their analytic studies in a challenging and fun environment. The organizing committee, which comprises of representatives from the sponsoring organizations and the AIAA Aerodynamics, Aircraft Design, Design Engineering and Flight Test Technical Committees, selects a new topic each year to encourage innovation and maintain a fresh design challenge annually.

2020 Logistics and Partnership Opportunities

Date/Location: The fly-off will be held 16-19 April 2020 in Wichita, KS (pending field approval).

Challenge/Mission: To Be Determined in September 2019

Sponsors to date: Primary: Textron Aviation and Raytheon

Sponsorship Opportunities:

\$5000 (Gold) Partnership Opportunity: AIAA will provide your organization a 6' table in a shared 10 X 10 location. Electricity will be provided. WiFi will not be provided. We will recognize your partnership with recognition on-site during the opening and closing remarks, on the competition web site and t-shirts, and on-site graphics.

\$2500 (Silver) Partnership Opportunity: AIAA will recognize your partnership with recognition on-site during the opening and closing remarks and on the competition web site.

(Bronze) Partnership Opportunity: AIAA will recognize your organization on the competition web site for your commitment to provide complimentary resources to support the competition.

Volunteer and social opportunities are also available to further engage on-site. In addition, more specific and tailored sponsorship opportunities are available and can be discussed to meet specific needs.

2019 Highlights

Date/Location: The fly-off was held 11-14 April 2019 in Tucson, Arizona at Timpa Airfield



Challenge/Mission: To design a multi-purpose aircraft to support carrier operations

Sponsors: Primary: Raytheon and Textron Aviation; **Gold:** Lockheed Martin, AeroVironment, Aurora Flight Sciences, General Atomics and MathWorks; **Silver:** Honeywell; **Bronze:** FlightStream



Participation: 104 proposals were accepted to submit design reports; 77 teams showed up on-site (21 international); 785 students were in attendance; and 255 flight attempts were made (96 of those flights were successful).

Winners: At the end of the competition and based on a combination of report score, rated aircraft cost, and mission success, the top three teams were University of Ljubljana (Slovenia), Georgia Institute of Technology, and F H Joanneum University of Applied Sciences (Austria).



AN EXPERIENCE — FROM AIAA STUDENT COMPETITION TO SUMMER INTERNSHIP

“AIAA has opened many doors for me. I became an AIAA member my sophomore year, so I could compete in Design/Build/Fly (DBF). I was drawn to DBF because it was an experience-based, systematic way of learning—a step beyond the classroom. I was able to take what I learned, utilize my skills, and develop new ones.



I was involved in DBF for several years. My first year, I contributed to the team as a manufacturing member, learning how to build our airplane. From there, I worked across all of the team’s engineering project areas, becoming the manufacturing lead during my third year competing. It was my responsibility to make sure we had the materials and manpower to execute the design team’s vision.

Almost like a dream, my experiences throughout the years with DBF led to an internship with Aurora Flight Sciences, a Boeing Company. First, I met some people that work at Aurora at AIAA SciTech Forum’s Meet the Employers event, and I thought they were working on some really cool projects. Aurora is a big supporter of DBF, so the following year when I saw their CEO and President John Langford in Wichita, Kansas, I walked up to him and introduced myself. I’m really glad I did, we talked about what I was doing in school, why I was participating in DBF, and my future goals.

The conversation ultimately led to being offered a summer internship in mechanical engineering. During my summer with Aurora, I supported the propulsion test group, taking the data they collected from various tests and reducing it down to a single question, “yes or no, does this work?” The highlight was working on control surface actuators. When I came on board, the design was still in its early stages, and I was able to help take it from design and performance to 3D models to testing and beyond. It was an amazing experience, which all started with an AIAA student program.”

Zac McDonough, Aerospace Engineering Student, Embry-Riddle Aeronautical University

“Hands on experience is the best way to learn how to become an engineer and there are few better teachers than the Design/Build/Fly Competition. I applaud all the teams for a job well done!”

Dan Dumbacher,” AIAA executive director and AIAA Foundation president.

AIAA Foundation

In partnership with AIAA, the AIAA Foundation inspires and shapes the next generation of aerospace professionals through innovative educational programs and recognition. The AIAA Foundation’s initiatives include K-12 science, technology, engineering, and math (STEM) education programs including classroom grants and hands-on activities, college scholarships, design competitions, student conferences, and recognition awards.



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