AERIAL DRONE COMPETITION PRO

RECF

ADC PRO JUDGED AWARD DESCRIPTIONS & CRITERIA

The following pages contain award descriptions and list key criteria for each award and are useful in guiding judges' nominations and deliberations.

Event partners and judge advisors may wish to print these pages and tape them to a wall or whiteboard to assist the judges. Some event partners and judge advisors find it helpful to print these descriptions and laminate them or place them in plastic sheet protectors for use at multiple events.

Not all events will give out all awards. Each judge advisor should consult with their event partner to determine which awards will be presented at an event.

Note for event partners: The standard ADC Pro trophy pack includes the following name plates for the required judged awards: All-Around Champion, Engineering Design Award, Coding Systems Award, Airmanship Award, and Industry Insights Award. If you decide to present any of the other awards listed in this document, their name plates are not included in the standard trophy pack, so please plan accordingly.

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ALL-AROUND CHAMPION

The All-Around Champion recognizes a team that excels in both the judged award and performance award categories. This team demonstrates outstanding competition performance, high quality written and verbal communication skills and exemplary team conduct, sportsmanship, and professionalism. This team is committed to excellence in everything they do.

KEY CRITERIA:

- ALL of the criteria of the Engineering Design Award
- The team is a candidate in consideration for other judged awards.
- The team exhibits positive team conduct, good sportsmanship, and professionalism
- Submission of a competition notebook is required.
- The team is at or near the top of the rubric rankings.
- At the conclusion of alliance/teamwork matches, the team is ranked in the top 50% of teams in alliance rankings.
- At the conclusion of the solo piloting and solo autonomous flight missions, the team is ranked in the top 50% of teams in the solo rankings.
- Participation in both the solo piloting mission and the solo autonomous flight mission is required, with a score of greater than 0 in each mission.

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ALL-AROUND CHAMPION AWARD NOTES:

- Incorporates all the criteria of the Engineering Design Award, plus the added component of a team's on-field performance at the event.
- Required award if judging occurs at an event.
- Under certain conditions, at "blended" events that combine both grade levels (high school and college for RECF ADC Pro), one All-Around Champion Award per grade level may be awarded. This is determined by the RECF Drones Qualifying Criteria.
    - In the instance of two grade-level specific All-Around Champion Awards being presented at an event, teams are only compared to teams of the same grade level. This includes quantitative event data, such as rankings.
    - When only one All-Around Champion Award is given out for an event with multiple grade levels, all teams are considered together regardless of their grade level. For example, in a 25-team blended event with a single All-Around Champion Award, 50% of 25 teams is 12.5, which rounds up to 13 teams. Therefore, to be eligible for All-Around Champion, a team must be ranked in the top 13 in the event for the applicable performance metrics to qualify the team for consideration for the All-Around Champion Award.
    - If the event had 10 teams of one grade level and 15 in the other, and the event meets the requirements for two grade level specific All-Around Champion Awards, then 50% of 10 teams is 5, and 50% of 15 is 7.5 which rounds up to 8. In this instance, teams would need to be ranked 5th or higher or 8th or higher **within their respective grade levels** in the above performance metrics to be eligible for the grade-level specific All-Around Champion Award.

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ENGINEERING DESIGN AWARD

The Engineering Design Award recognizes the team that demonstrates excellence in applying the engineering design process to both its aerial and ground systems. The team's documentation tells a compelling story, one filled with brainstorming, CAD models, iterations, testing, and purposeful design decisions. The team doesn't just build; they engineer with intention, using industry-aligned practices to create cohesive, efficient systems.

KEY CRITERIA:

- Submission of a competition notebook is required.
- The team is at or near the top of the rubric rankings.
- The team demonstrates an intentional, iterative engineering design process through brainstorming, research, CAD, prototyping, testing, and refinement.
- The team demonstrates independent student inquiry and problem-solving throughout the design process.
- The team demonstrates thoughtful engineering of both aerial and ground systems, including purposeful design decisions and tradeoffs.
- The team demonstrates effective management of time, personnel, materials, and other resources.
- Students can clearly explain their designs, engineering decisions, testing, iterations, and game strategy.
- The team demonstrates strong communication, teamwork, and professionalism.
- The team demonstrates a student-centered ethos through the notebook, team interview, and conduct at the event.

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INDUSTRY INSIGHTS AWARD

The Industry Insights Award is about connecting the competition to the real world, where drones and ground robots are solving critical challenges. The award recognizes a team that has explored how drones and ground robots are transforming the power and energy industry. Through thoughtful research, outreach, and reflection, this team demonstrates how their work today connects to real-world careers and tomorrow's technologies.

KEY CRITERIA:

- Demonstrate meaningful research into how drones and ground robots are transforming the power and energy industry.
- Demonstrate independent student inquiry through research, industry outreach, and engagement with professionals.
- Connect competition experiences to real-world applications, challenges, technologies, and careers in the power and energy industry.
- Students clearly communicate what they learned and how their insights influenced their thinking, designs, or approach to the competition.
- Demonstrate thoughtful reflection on the future of the industry, including emerging technologies and career opportunities, through a student-centered approach.

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CODING SYSTEMS AWARD

The Coding Systems Award recognizes a team that demonstrates exceptional coding skills implemented in both its drones and robots. Judges consider not only code quality, but also how that code powers smart, autonomous systems that work together to complete missions. This team shows that great code is the brain behind every successful bot.

KEY CRITERIA:

- Participation in the solo autonomous flight mission is required, with a score greater than 0.
- The competition notebook demonstrates a clear, complete, and organized record of the programming management process, including version history.
- Programs are cleanly written, well-annotated, and documented in the competition notebook.
- Strategies are well documented from initial conception through execution.
- Students demonstrate an understanding of programming concepts and can explain how they worked together to develop the programming for their drones and robot.

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AIRMANSHIP AWARD

The Airmanship Award recognizes a team that demonstrates precision and professionalism in both flight operations and ground system handling. Judges look for detailed flight logs, a strong safety plan, well-executed maintenance routines, and effective project management that ensures mission readiness. This award honors a team that demonstrates exceptional operational skill and discipline.

KEY CRITERIA:

- Submission of a competition notebook is required.
- The team demonstrates knowledge and understanding of all four missions, their purpose, and how they connect with one another.
- The team stays aware of its surroundings and always follows safety rules.
- The team works well together by demonstrating leadership, teamwork, good communication, and professionalism.
- The team uses correct drone or aviation terminology when appropriate.
- The team knows and follows drone safety rules. This may include:
  - Completing the FAA Trust (U.S. Teams Only)
  - Using pre- and post-flight checklists and completing maintenance checks.
- The team demonstrates honesty, kindness, and respect toward other teams, coaches, and spectators.
- The team demonstrates that its work is student-led and student-driven.

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JUDGES AWARD

The Judges Award recognizes a team that the judges feel is deserving of special recognition.

KEY CRITERIA:

- The team exhibits a high-quality team interview.
- The team demonstrates special attributes, exemplary effort, and perseverance at the event.
- The team overcomes an obstacle or challenge and achieves a goal or special accomplishment.
- The team interview demonstrates effective communication skills, teamwork, professionalism, and a student-centered ethos.

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INSPIRE AWARD

The Inspire Award recognizes a team that exhibits passion for the competition and positivity at the event.

KEY CRITERIA:

- Team exhibits passion and a positive attitude at the event.
- Team exhibits integrity and goodwill toward other teams, coaches, and event staff.
- Team overcomes an obstacle or challenge, or achieves a goal or special accomplishment at the event.
- Team interview demonstrates effective communication skills, teamwork, professionalism, and a student-centered ethos.

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3D PRINTING & FABRICATION AWARD*

The 3D Printing & Fabrication Award recognizes a team that has effectively designed and utilized 3D printing or other fabrication techniques to create solutions to engineering design challenges.

KEY CRITERIA:

- Team provides documentation outlining the conception, creation, and implementation of their component(s) for all iterations, which includes ample evidence of a student-centered design and fabrication process.
- Component(s) are designed with attention to detail.
- Team demonstrates effective use of materials and material selection.
- Component(s) provide clear functionality for solving an engineering design problem.

*Potentially a volunteer-nominated award. Volunteers at the event may discuss amongst themselves and nominate teams for consideration.

NOTES:

- This can include 3D printing, laser cutting or engraving, or any other legal fabrication method resulting in competition-legal components that are used by the team to create an effective solution to a design challenge.
- Judges will need to check for appropriate documentation to support the award nomination.

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SPORTSMANSHIP AWARD*

The Sportsmanship Award recognizes a team that exhibits a high degree of good sportsmanship, helpfulness, respect, and a positive attitude both on and off the competition field at the event.

KEY CRITERIA:

- Team is courteous, helpful, and respectful to everyone, on and off the field.
- Team interacts with others in the spirit of friendly competition and cooperation.
- Team acts with honesty and integrity, enriching the event experience for all.

*Potentially a volunteer-nominated award. Volunteers at the event may discuss amongst themselves and nominate teams for consideration.

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ENERGY AWARD*

The Energy Award recognizes a team that exhibits outstanding enthusiasm and excitement at the event.

KEY CRITERIA:

- Team maintains a high level of enthusiasm and excitement throughout the event.
- Team exhibits a passion for the competition that enriches the event experience for all.

*Potentially a volunteer-nominated award. Volunteers at the event may discuss amongst themselves and nominate teams for consideration.

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TEAM SPIRIT AWARD*

The Team Spirit Award recognizes a team that has an approach to team identity, image, and theme that unifies team logos, uniforms, and overall aesthetics.

KEY CRITERIA:

- Team has an effective and original logo or theme.
- Team's logo, apparel, pit space, and other collateral represent a unified aesthetic.
- Team aesthetic has a positive and respectful message and/or cultural significance, and a bold approach to a memorable team identity.
- Team enhances the event experience for all by exhibiting positive energy and good sportsmanship throughout the event.

*Potentially a volunteer-nominated award. Volunteers at the event may discuss amongst themselves and nominate teams for consideration.

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INDIVIDUAL RECOGNITION AWARDS*

Mentor of the Year

The Mentor of the Year Award recognizes a team mentor who has helped students achieve goals that were seemingly out of reach. This individual is a role model, a leader, and an extraordinary mentor who shows students new ways to expand their knowledge and solve problems in the world of STEM.

Partner of the Year

The Partner of the Year Award recognizes an organization that consistently supports students and schools as they pursue excellence in competitive drone programs. The recipient of this award is recognized as a champion who dedicates their time, abilities, and resources to ensure affordability and accessibility for all participants.

Teacher of the Year

The Teacher of the Year Award recognizes a teacher who shows true leadership and dedication to their students. The winner of this award continually exceeds expectations to ensure a safe, enjoyable, and educational experience for all students.

Volunteer of the Year

The Volunteer of the Year Award recognizes an individual who leads the effort to “make things happen.” Hosting a drone event takes the collective effort of many people who give their time and effort for the sake of the participants. The Volunteer of the Year demonstrates a commitment and devotion to their community, putting in many hours of hard work with persistence and passion to make events happen.

*These awards recognize the contributions of a volunteer, mentor, teacher, or sponsor and are determined by the Event Partner. Judges do not determine the winners of individual recognition awards. Event Partners may create their own process for selecting these award recipients, if needed.