2023-2024 *FIRST*® Tech Challenge

Judge Manual

Sponsor Thank You

Thank you to our generous sponsor for your continued support of the *FIRST*® Tech Challenge!

Volunteer Thank You

Thank you for taking the time to volunteer for a *FIRST*® Tech Challenge event. *FIRST*® and *FIRST*® Tech Challenge rely heavily on volunteers to ensure events run smoothly and are a fun experience for teams and their families, which could not happen without people like you. With over 6,500 teams competing yearly, your dedication and commitment are essential to the success of each event and the *FIRST* Tech Challenge program. Thank you for your time and effort in supporting the mission of *FIRST*!

Revision History		
Revision	**Date**	**Description**
1	10/16/2023	Initial Release

Contents

Introduction

What is FIRST® Tech Challenge?

FIRST® Tech Challenge is a student-centered program that focuses on giving students a unique and stimulating experience. Each year, teams engage in a new game where they design, build, test, and program autonomous and driver operated robots that must perform a series of tasks. Participants and alumni of *FIRST* programs gain access to education and career discovery opportunities, connections to exclusive scholarships and employers, and a place in the *FIRST* community for life. To learn more about *FIRST*® Tech Challenge and other *FIRST*® Programs, visit www.firstinspires.org.

Gracious Professionalism®

FIRST® uses this term to describe our programs' intent.

Gracious Professionalism® is a way of doing things that encourages high-quality work, emphasizes the value of others, and respects individuals and the community.

Watch Dr. Woodie Flowers explain *Gracious Professionalism* in this short video.

Learn more about the roles of volunteers on our Volunteer Resources page, "Volunteer Role Descriptions".

FIRST Privacy Policy

FIRST takes the privacy of our community seriously. As a nonprofit and a mission-driven youth-serving organization, we are compelled to understand who we are serving, how our programs are performing, and make improvements so that we can achieve our goals of making *FIRST* accessible to any youth who wants to be part of the fun, exciting and life-changing experience. Thus, we need to collect certain personal data from participants and volunteers to ensure we are meeting our goals and responsibilities as a youth-serving nonprofit organization.

As a volunteer, you may be asked to handle the personal data, or personally identifiable information (PII), of coaches, team members, and even other volunteers. It is critical that you understand and follow the *FIRST* Privacy Policy and complete any data protection and privacy training required by your role. If you have any questions regarding data protection and privacy, please reach out to the *FIRST* Data Governance Team at privacy@firstinspires.org.

Volunteer General Information

Volunteer Training and Certification
To Access and Complete a Volunteer Role Training Course:
Once you have applied for a volunteer role that requires certification a link will appear in your *FIRST* dashboard that will connect you to our learning management system BlueVolt.

1. Login to your *FIRST* Dashboard
2. On the grey menu below "Dashboard" Click on "Volunteer Registration"

3. Click on "Roles Missing Certification"
   a. Click into the link to "Review Outstanding Tasks" which will take you to the training site where you can complete your certifications and sign up for new training.

How to Access Training After Certifications are Complete:
Once you complete your certifications, you will no longer see a "Roles Missing Certification" link or a link to "Review outstanding Tasks" to get to the training resources. If that is the case, follow the steps below to access training courses and updates.

1. Login to your *FIRST* Dashboard
2. At the top right of the page, click on the dropdown under your name and go to "My Profile".
3. Once there, on the left menu of the page, click on the "Certifications" link which will take you to the training site where you can view/print your existing certifications and sign up for new training.

If you have applied for a role but do not see the link to training in your dashboard, or you have other training related questions please email FTCTrainingSupport@firstinspires.org.

Key Volunteer Role Minimum Age Requirement
Volunteers MUST be at least 21 years old before they can serve in a key volunteer role for the *FIRST* Tech Challenge. Key volunteer positions include volunteer coordinator, head referee, judge advisor, judge, field manager, field technical advisor, lead robot inspector, lead field inspector, and lead scorekeeper. Local program delivery partners can make case by case exceptions to these guidelines by contacting *FIRST* for approval.

Bring a Friend!
Volunteers are a huge part of the *FIRST* Tech Challenge Program and continuing to inspire students to seek out careers in science, technology, engineering, and math (STEM). *FIRST* Tech Challenge needs your help in recruiting new volunteers to keep our programs thriving for future generations! If you have a friend or co-worker you think would be interested in volunteering at an event, there are just a few easy steps to help get them involved!

1. Check out our full list of volunteer opportunities online!
2. Have them apply for the Event in the Volunteer Registration System. Volunteers must be screened before volunteering.
3. Have them contact Firsttechchallenge@firstinspires.org with any questions they may have.

If they are concerned about jumping in headfirst, no worries! Job shadowing at a *FIRST* Tech Challenge Event is a great way to get a taste of what a full day's worth of competition looks like. New volunteers can discover ways they can fit their personal skills into a volunteer position!

Helping Teams Succeed
A volunteer's role is about helping a team succeed so they can compete. Teams spend countless hours, weeks and sometimes months working and reworking their robot design and strategies. After all this effort, some teams will still need a friendly volunteer to help create a positive event experience for the students.

FIRST Volunteer Rights and Responsibilities

Volunteers are the most valuable asset to *FIRST*®. Your selfless contribution of time and resources are instrumental in accomplishing our mission of inspiring the next generation of science, technology, engineering, and mathematics leaders and innovators. The foundation of the relationship between *FIRST* and our volunteers is respect.

Gracious Professionalism® - "Doing your best work while treating others with respect and kindness - It's what makes *FIRST*, first."

It is your right to:

- Be treated with *Gracious Professionalism*. *Gracious Professionalism* is a way of doing things that encourages high-quality work, emphasizes the value of others, and respects individuals and the community.
- Feel valued. *FIRST* recognizes the significant efforts that volunteers contribute. The time that you donate not only helps *FIRST* succeed but also builds the *FIRST* community.
- Understand your role. *FIRST* will inform you about what is expected of you, your schedule, any meals you will be provided, any changes to program or policy, and who to contact should you need assistance.
- Expect a safe environment. *FIRST* strives to create and maintain a safe environment for all volunteers and participants and will always factor safety into program planning.
- Receive fair treatment and inclusion. All volunteers will be treated with respect and dignity in inclusive environments. We embrace and encourage differences in race, ethnicity, national origin, sex, gender, gender identity, gender expression, sexual orientation, disability, age, religion, income, language, learning difference, or any other characteristics that make our adult-force and students unique.
- Reevaluate your time commitment. *FIRST* appreciates all our volunteers and understands that volunteers experience life situations that may affect their commitment.
- Communicate with your Volunteer Coordinator or your local *FIRST* leadership about:
  - Concerns or limitations that are affecting your volunteer role.
  - Any mistreatment towards you or others. You may be required to fill out a non-medical incident report form.
  - Contact *FIRST* Headquarters directly if you feel that you are being treated improperly and attempts to resolve issues and conflicts at the local level are not successful. Volunteers can call (800) 871 8326 or email volunteer@firstinspires.org.

It is your responsibility to:
- Treat others with *Gracious Professionalism.*
- Follow the schedule and the role description provided for your position. Contact your local *FIRST* leadership if there are any issues.
- Respect others, treat them fairly and kindly. Be inclusive and follow the non-discrimination policy of *FIRST.*
- Follow safety rules and ensure the safety of others. Adhere to all *FIRST* Youth Protection Program (YPP) Policies. Report any injuries or safety concerns within 48 hours (about 2 days).
- Adhere to the *FIRST* Code of Conduct.
- Have FUN!

Job Description

Physical/Technical Requirements:
- Technical – Medium to High
- Physical – Medium, role may be performed seated or standing.
- Administrative – Medium
- Communication – High

Judges should read this manual before the event. They should speak to the tournament director or program delivery partner to check for additional requirements, such as meetings before the event or an overview of the event schedule. The estimated training time is four hours.

Time commitment for a judge
- About 4 hours of training before the event.
- At least one full day for the event, about 10 hours.
  - Larger events could span multiple days. Be sure to check with your volunteer coordinator or tournament director for more information about the hours needed for the role.

Proper Attire:
- Judges and judge advisors sometimes receive an event-specific or region-specific judge/volunteer shirt to wear during the competition. Check with the volunteer coordinator or the tournament director before the event to ask if a shirt is provided.
- For in-person events, wear comfortable shoes. Judges spend most of the day moving between the pit area, the competition fields, and the judges' deliberation room.
  - Open toe and open back shoes are not allowed in the pit area or competition area.
- ANSI Z87.1 Certified, or country equivalent safety glasses must be worn in the competition area and in the pit area.

FIRST Tech Challenge Philosophy of Judging

FIRST Tech Challenge awards recognize both on-field performance, and the characteristics that help *FIRST* achieve its mission to change the culture by inspiring young people. Competition awards are earned by teams for their ability to play the game, while judged awards celebrate teams for their off-field performance.

FIRST Tech Challenge awards fall into two broad categories: Machine, Creativity, and Innovation (MCI), and Team Attributes (TA). MCI awards recognize the technical accomplishments of teams in the planning, design, construction, operation, and control of their robots. The Design Award, Innovate Award, sponsored by RTX, and the Control Award are all MCI Awards. TA awards recognize teams who have developed strong partnerships with their community. This includes recruiting members, fund-raising, and the teams' outreach efforts to spread *FIRST*'s message about the benefits that can come from the study of math, science, and technology. The Connect Award, and the Motivate Award are both TA awards.

The Think Award falls into a special category, as it recognizes teams who provide excellent documentation in the form of their engineering portfolio.

The Inspire Award falls into a special category, as it recognizes teams who excel in MCI, TA, and Think Award accomplishments. Teams must be nominated by the judges in all three categories to be considered for the Inspire Award.

The quality of experience between judges and students is an important ingredient of *FIRST*. The awards are a method *FIRST* uses to inspire students and open their eyes to the future that awaits them if they continue their studies. The awards help promote a positive student interaction with judges who are successful professionals and can recognize their achievements and encourage them to continue learning.

All award winners chosen by the judges are recognized as being fine examples of the award guidelines, not necessarily the "best" team. This idea will help with deliberations and encourage collaboration in the award selection process.

It is important to note that the goal of judging is to recognize students for their achievements, rather than penalize them for missing components. The disqualification of engineering portfolios for formatting issues, for the omission of a section, or for a perceived lack of clarity is not in line with the philosophy of celebration and recognition.

Teams are recognized at the awards ceremony. Each winner must display role model behavior and show *Gracious Professionalism* to everyone they meet at the event.

Award scripts are written for the positive qualities the team displays, and do not recognize the hardships that a team may have overcome. The message to the audience about each award winner should be an uplifting one.

Event Types

Traditional Events
A traditional *FIRST* Tech Challenge event is typically held in a school or college gymnasium, where teams use robots to compete in the current season's game challenge. Team*s* taking part in traditional events compete with alliance partners in a head-to-head style of competition on the official *FIRST* Tech Challenge playing field. Teams compete in a series of matches that determine their ranking at a traditional tournament. The size of a traditional event can range anywhere from eight teams to over 50 teams competing in one place. Traditional events are scheduled by the local program delivery partner, and are run by many volunteers including referees, judges, scorekeepers, queuers, and other key volunteers. Traditional events consist of robot inspections, robot competitions, judging interviews (for most competitions), and an overall celebration of teams and their accomplishments.

REMOTE Events
REMOTE events were developed to mimic traditional *FIRST* Tech Challenge events, while practicing social distancing guidelines. Since teams are not able to gather and compete in the traditional head-to-head competition format, the season's official full playing field has been adapted to allow teams to play as a single team. REMOTE teams may order an official half version of this season's field, or compete using a modified version of the field, which will be released at kickoff. Teams will still sign up for events and will be provided with a window to submit their own match scores, which will determine their rankings. Unlike traditional events, the scoring of the official matches is done by the team, rather than an event volunteer. Teams will participate in judging interviews via video conference. In this guide, instructions for how judging processes differ for REMOTE events will be shown using the word REMOTE.

Overview of Responsibilities - Judges

Judge
The primary role of a judge is to interview teams, and to decide which teams will receive an award based on team interviews, the robot, match play, and the engineering portfolio. Judges are paired in groups of 2-3 and interview a set number of teams before the competition begins as well as conduct interviews in the pit area.

During the event, judges will:
- Conduct team interviews.
- Review team engineering portfolios.
- Review Control Award submission forms (if submitted)
- Update Judging Feedback forms.
- Watch competition matches (at traditional events).
- Decide the three top ranked teams for each judged award.
- Using the process outlined in this manual, come to consensus with other judges on the recipient of each award.
- Share their notes on top ranked and award-winning teams with the judge advisor and other judges for use in the award ceremony script.

Judge Match Observer – Traditional Events Only

Most of the judges will be assigned to award panels and will not have much time to see the teams and robots in action. Some judges will be asked to serve as judge match observers. Their role is to watch the teams who best display *Gracious Professionalism*®, the action on the field, and collect data on the quality of the robot performance in the competition. These observers will keep notes on each team during a match, collecting observations about:

Gracious Professionalism®**:**
- How the team responds to wins or losses.
- How the team interacts with their alliance partner.
- How the team interacts with the event volunteers.
- How the team interacts with other teams.
- How the team members interact with one another.
- How the team approaches their conversation with the head referee in the Question Box.

Robot and Match Play:
- Autonomous operation.
- Robots' reliability during the match.
- Team strategy.
- Overabundance or absence of penalties.

Many of the awards that are discussed during deliberations have qualities that can be seen during the competition. The judge match observer will be able to see all the teams more than once and collect information on each. We recommend having a match observer sheet for each team to help keep organized. The match observers will be involved in the deliberations by providing much-needed feedback to the other judges about the team, the team strategy, the team's interactions with others, and the operational qualities of the robots. A match observer sheet can be found in Appendix F.

- REMOTE events do not include match observation.

Pre-Event Day Responsibilities – Judges, Match Observers, Judge Assistant

Before the event, judges have a little homework.

- Read the judges training manual and the referenced appendix resources.
- Watch the training videos.
- Take and pass the judging certification test.
- Take and pass the *FIRST* Data Protection and Privacy Training for Volunteers.
- Review the game summary.
- Watch the Game Animation
- Optional - Call in to monthly judging calls.
  - o Judges will receive a schedule of calls by email.

It is strongly suggested that judges take part in monthly discussion calls. These calls are for judges in multiple regions to share tips and best practices with one another, to ask questions, and to build a sense of community and consistency across all regions. These are not training calls, and are intended to supplement the formal training for the role.

Judge advisors will assign judges into interview panels once they fully understand which volunteers might have a conflict of interest with a team.

Event Day Responsibilities – Judges and Match Observers

Morning Meeting

At a traditional event, judges should plan to arrive at least one hour before the start of the event. A morning meeting is held before any judging takes place. This gives the judge advisor the opportunity to discuss the flow of the day, provide training where necessary, and provide the event day schedule. It is also a terrific opportunity for the judges to see the event layout and where the interviews and deliberations will take place. Remember, the actual schedules for judges' meetings may differ, and will be communicated to you by the judge advisor.

- At a REMOTE event, this meeting will be held virtually, and may be scheduled up to a week before the judging event takes place.

The judge advisor will ask judges about any conflict of interest they have with a team. Conflicts of interest can cause teams to feel the process is not fair, and we strive to avoid any perception of unfairness at *FIRST* Tech Challenge events. For more information about Conflict of Interest, please visit Appendix D.

> **Judges who do not declare their [conflict of interest](#) compromise the integrity of *FIRST* Tech Challenge judging. Teams affiliated with judges who have not declared their conflict of interest could potentially be eliminated from award consideration.**

Formal Team Interviews

The formal interviews are a way for the judges to evaluate teams for every award category. The formal interview is where each team will get to speak with a panel of 2-3 judges, talk about their robot, their journey, and have the judges ask questions. Teams should arrive at the interview with their robot, their control award submission sheet, and their engineering portfolio, unless their documentation has been collected at check in. The judges will keep the portfolio and the Control Award Submission Form. The engineering portfolio, the Control Award Submission Form will be returned to the team later in the day.

- For REMOTE events, teams will upload their engineering portfolio, their Control Award Submission Form (optional) prior to the event. The tournament director or program delivery partner will provide judges and judge advisors with access to content that teams have uploaded.

Judging can be a nerve-wracking experience for some students. They might have pressure to do well from their coaches, parents, teammates, and themselves.

One of your roles will be to create an environment where the students have fun and feel comfortable.

You can start the judging session on a positive note, by smiling, welcoming the team to the judging session, and introducing yourself. Consider a friendly greeting and closing that does not include a handshake or a high-five. Not all students will welcome physical contact.

Always be polite and respectful and strive to make the experience pleasant for the students. We want teams to leave the judging session feeling valued and celebrated for their accomplishments.

Give the team your full attention. Phones, computers, tablets, or other electronic devices not directly related to the judging session should be silenced and put aside until the session is over. Food, eating and chewing gum can be distracting for students. Please save these activities for in between judging sessions, and not in the judging room to provide an ideal space for teams.

FIRST Tech Challenge teams can present, without interruption, for the first 5 minutes of their interview. Please jot down your questions and ask them at the end of the 5 minutes. It is important for all teams to have a consistent experience. We ask that judges begin to ask their questions at the five-minute mark, and not allow teams to present for longer than five minutes. We want to reinforce the importance of a **concise** pitch that presents the most excellent qualities of a team.

Teams will receive 5 minutes for their uninterrupted presentation. Consistency is important across events, and we ask judges to stop the team presentation please politely at the end of 5 minutes and begin to ask teams their questions.

Some teams will not come to judging with a prepared presentation. This is permitted and does not impact the potential consideration of a team for an award. If a team does not have a presentation, it is fine for the judges to begin with questions.

When you are asking questions, avoid technical jargon and instead allow the students to show their knowledge to you. Students may not understand your question, they may misinterpret what you have asked, or they might take a question you ask too literally. If you do not understand their answer, or if their answer does not seem connected to the question you asked, ask the student to explain. Be ready to rephrase the question or ask some follow up questions.

- REMOTE interviewing requires some additional considerations, which could include making sure the students are comfortable on the video platform and encouraging the use of hand signals for both judges and students who want to contribute but would prefer to not interrupt.

None of the *FIRST* Tech Challenge judged awards are related in any way to classroom performance. Grade Point Average can be a sensitive subject for some students, and we ask that judges avoid asking about it, or talking about it with students.

Teams look up to judges as role models. They are proud of the work they have done, and they are eager to share their experiences with you. Let them go into detail whenever possible and be patient if they do not get right to the point.

Occasionally you may meet an over-involved coach. When necessary, please remind coaches the students must answer the questions. Coaches may, at some events, watch the judges' interview, but they cannot participate, with a few unique exceptions. Please refer to the section below, titled Interpreters and Coaches in the Interview Room.

If you take notes during the interview, please be careful with what you write. Many people can read upside down, and a team will quickly notice if you have written something that is not celebratory, helpful, or useful. Remember, our goal is to inspire the students, and not discourage them.

Please see Appendix B for some sample questions.

Understanding Differences
Each student is special and unique, with different strengths, challenges, social skills, and learning abilities.

Some differences may be misinterpreted. Please be mindful that your first perception may not be correct. Not all students may be comfortable looking directly at you. No matter the reason, please do not equate this as being disrespectful. Please be understanding an attentive listener. Ask follow-up questions if appropriate, respecting the effort and knowledge the students share.

We want to provide an environment where all students feel confident sharing their ideas and thoughts with judges through receptive, reciprocal conversation. The best way to achieve this is to treat all students with respect, patience and understanding. If a student struggles during a judging session, observe how the team supports that student. Their compassion and understanding speaks volumes about the respect and value they have for their teammates. Judging will be a new experience for many students, and they may be nervous, especially at the beginning. Speak clearly and face the team directly when speaking to make it easier for them to hear and understand. Pause and allow students time to formulate an answer or ask a question if they don't understand. Please give students this time.

A few differences that you may encounter include students with limited social skills, who have difficulty expressing thoughts verbally, who shout out blunt or inappropriate comments, or may distance themselves physically from the team. Some of these challenges may be neurological in nature. Differences between a student who is not able to do something as compared to a refusal to do something can show up in a way that is not familiar to you.

A student may have an intense interest in a specific topic or area. For example, they may not be able to see the big robot picture, but may have an extensive knowledge about programming, or the mechanical build.

As a judge, you will need to adjust your expectations. Many students with high abilities may take longer to process and answer questions; many may get left behind compared with a student who reacts more quickly.

When evaluating teams who seem "too rehearsed," think about how an adult might prepare for a big presentation at work. Some team members may memorize facts and examples. Since teams work for weeks or months to get ready for tournaments, the teams often practice until it is perfect. Seeming rehearsed is not necessarily a sign of an over-involved adult. If you are not sure of the team's true understanding, ask follow-up questions for an explanation of their thought processes or go into more detail.

Understanding Equity, Diversity, and Inclusion

We strongly encourage our volunteers to complete the Strategies for Inspiring Success for All modules (each of the three modules will take ~20-40 minutes). While these resources are designed for coaches and mentors, the concepts can be applied to all volunteer roles.

Comments from a person in an authority position, like judging, can have significant impact, good or bad, on students. As a person in a position of authority, judges need to be conscientious of their questions and comments when interacting with students. The way students express themselves and their beliefs if it is done in a respectful manner should not influence judging in any way. Some examples of ways we have seen students express themselves are through pins, apparel, jewelry, hair color and hair design. When interacting with students, please keep the following in mind to ensure your interactions make all students feel valued and welcomed:

- Know and be aware of your own biases and how they can affect your interactions with students.

- Don't make assumptions. Avoid using pronouns unless you know them. If you need to talk to another student and don't know their name, ask to speak to "them" or "the student in the hat" rather than using gender specific pronouns.

- It is a best practice to introduce yourself with your preferred pronouns, e.g., "Hello my name is Sarah. My pronouns are she/her." This tells people how to address you and opens the door for them to tell you their preferences.

- When asking questions about team diversity, avoid reinforcing binaries (e.g., how many boys and how many girls are on the team). Instead ask them to describe their team and how it reflects their school or community.

Interpreters and Coaches in the Interview Room

Some teams may need the help of an interpreter. Teams provide their own interpreter, and while a coach is not allowed to participate in the interview process, special exceptions are made for a coach who also serves as an interpreter. Some of the circumstances that allow for an interpreter are a team of students who speak a language different than that of the judges; a team of students who require a sign language interpreter; a team with a student or students who have disabilities and would benefit from questions being asked in specific ways or by familiar people. This is not an exhaustive list. Coaches may request an exception when they register for an event. Your judge advisor will let you know if you have a team in your schedule that has requested an interpreter.

Pit Interviews

Pit Interviews are another time that judges interface with the teams of students while the game is being played. Judges will often go out in pairs or groups to gather more information about specific teams. It is also common for judges to go out into the pits to talk with teams in a more informal setting.

The teams are often competing in a match while you are looking for them. If they are not in the pits, they might be in the queue or at a practice field. Be patient with the teams and try returning in a few minutes. You can also find them in the queue or practice field if needed or make an appointment with the team to visit them in the pits.

A few pointers about pit interviews:
- Judge notes and discussions about teams are confidential. Students are curious and often will innocently want to see what judges are writing. Keep notes hidden by using a cover sheet and keep conversations about teams limited in the pit area.
- Students may want to know how they are doing on judging. They also may ask how they compare to another team. Please do not try to answer questions like this. It is a tricky situation! The best answer is "We are evaluating all teams and gathering information. We appreciate you for being a part of *FIRST*."
- Be careful about discussing specifics about teams in the pits. It can be difficult to have a private conversation. If you need to discuss anything about a team, find a space where you will not be overheard such as the judging deliberation room.
- Judges **must be in a group with a minimum of two to visit teams** in the pits and may never visit teams without another judge present. Judges who are a part of a team MUST remove their judging attire before visiting their team. If a team parent, coach, or mentor is serving in the role of judge, and their team wins an award, the judge MUST remove their judging attire before joining their team to accept the award. Perception is important, and teams should be treated fairly and feel they are treated fairly at events. The integrity of the judging process is important to *FIRST*, to our volunteers, and to our teams.

Second Interviews for REMOTE Judging

At REMOTE judging events, second interviews with teams may be scheduled in advance. Each team receives a second interview, and the judging panels for the second interview will be different than the formal interview panel.

Once the judges have interviewed the teams and have reviewed the engineering portfolios and Control Award Submission Sheets, the initial deliberations begin.

This early round of deliberations will help the judges start to pare down the top contenders based on their interview alone. The judges will still need to observe matches, and interview teams in the pits. Each judge pair will recommend a team for each award, except for the Inspire Award. Initial deliberations must **not** include any recommendations for the Inspire Award.

The judge advisor is responsible for ensuring the Inspire Award is only decided after all the other award nominations take place. The team that wins this award is nominated for multiple award categories and will rise to the top of the list. Nominating a strong team only for the Inspire Award could leave them without any recognition for their accomplishments. This is one of the reasons that judges do not nominate teams directly for the Inspire Award. The process for handling judge deliberations:

For each award, the judge advisor will create a separate list on a whiteboard or flipchart the entire judging panel can see.

- For each award, each panel will give their top two teams. Smaller events may need the top three. Do this for all awards except for the Inspire Award.
- Judges may only nominate teams who have met the required award criteria.

A few tips on creating the Award Candidates list:
- At large events with twenty-two or more teams competing, panels are not required to nominate teams for each award.
- Include brief notes on why each team is on the flipchart list.
- If the team is very strong in all categories, then they should be nominated for all categories. No team is submitted directly to the Inspire Award.
- Judges are encouraged to look for the best in all the teams they interview. Judges should not focus on the slickest presentation. Substance counts.
- Judges should be mindful of the fact that they are reviewing teams with a variety of resources. Judges should always consider what a team does with the resources they have. Some teams are highly resourced, and others are not. Pay particular attention to teams who have done more with less.
- Remember that every award category includes a list of requirements. All teams in consideration for judged awards must meet the requirements. This is not optional or negotiable.
- If there are no teams that meet the basic criteria for an award category, no team should be nominated for the category.

Award Requirements

Each *FIRST* Tech Challenge award has a set of requirements that a team must meet to be considered for them. The engineering portfolio, the team interview, and other information learned from pit interviews help judges to learn which teams best meet the criteria for any given award. In the section below, you will find the information teams receive about award requirements, taken from Section 9 of Game Manual Part 1. Teams who have not built a robot or have a robot that has not passed robot inspection are still allowed to participate in judging and are eligible for award consideration.

Judging & Award Criteria

Engineering Portfolio
This section describes the requirements for creating the engineering portfolio, including formatting guidelines.

What is an Engineering Portfolio?
An engineering portfolio is a short and concise summary of a team's accomplishments over the season. This information may come from the team's engineering notebook.

The engineering portfolio should include sample sketches, discussions and team meetings, design evolution, processes, obstacles, goals and plans to learn new skills, and each team member's concise thoughts throughout the journey for the season, the engineering portfolio is like the team's CV or resume.

Teams should be careful to include only the first name of team members in their engineering portfolio.

Artificial Intelligence in the Engineering Portfolio
Teams are permitted to use Artificial Intelligence (AI) to assist in the creation of their Engineering Portfolio and in their Robot Code. *FIRST* views AI resources as tools available to students in the same way that CAD programs, Programming Languages, and 3D printers are tools available for their use. Teams using AI to assist with code or content generation must provide proper credit and attribution, and respect intellectual property rights and licenses. Proper credit could look like this: "Engineering Portfolio Content created by Team 1000 and ChatGPT".

Engineering Portfolio Formats
Teams may document their summary portfolio with either handwritten or electronic documents. There is no distinction made between handwritten and electronic engineering portfolios during judging; each format is equally acceptable.

- Electronic: Teams may use any electronic programs to create their engineering portfolio. For remote event judging, teams must create a single file that is a sharable, online, non-editable version (such as a PDF) of their engineering portfolio. For traditional events, teams must print their engineering portfolio.
- Handwritten: Teams may create a handwritten version but for remote judging events, this is discouraged due to difficulties in scanning into a readable, shareable, online version.

Engineering Portfolio Requirements
1. To be considered for judged awards, a team **must** submit an engineering portfolio.
   a. Teams who do not submit an engineering portfolio will **not** be considered for judged awards.
2. The total number of pages for an engineering portfolio must not exceed 15 pages, plus a cover sheet for 16 pages.
   a. Pages must be the equivalent of Standard A sized paper (US 8.5 x 11) or Standard A4 sized paper (EU 210 x 297 mm).
   b. Fonts used must be a minimum of 10 points.
   c. Judges are instructed to only review the cover sheet and the first 15 pages of content that follow the cover sheet. Information included beyond 15 pages and the cover sheet will **not** be reviewed or considered.

> **A team number on the top of every page makes it easy for judges to know who created the engineering portfolio they are reviewing. The team number on the cover page is a __required__ component of the engineering portfolio.**

3. The engineering portfolio must **not** include links to other documents, videos, or any other additional content.
   a. Please note that judges will **not** review linked content in the engineering portfolio, including web sites, or videos.
4. The Control Award Submission Form is not a part of the engineering portfolio and is not included in the total engineering portfolio page count.

Gracious Professionalism® - "Doing your best work while treating others with respect and kindness - It's what makes *FIRST*, first."

5. Teams may use an AI tool to create their Engineering Portfolio but must credit the tool they used.

Engineering Portfolio Recommendations
- We strongly recommend the team number is at the top of each page.
- The engineering portfolio is not a presentation. Teams should consider this document as meant to be read by the judges.
- The engineering portfolio **could** include:
    a. Summary of the engineering content that includes the robot design processes.
    b. Summary of the team information that includes information about the team and outreach activities.
    c. Summary of the team plan and information about the team overall. The team plan could be a business plan, a fundraising plan, a strategic plan, a sustainability plan, or a plan for the development of new skills.

> **New This Season: Teams are permitted to use an AI tool to create their Engineering Portfolio. Teams must credit the AI tool they used in the Portfolio.**

Engineering Portfolio Requirements by Award
The chart below provides a quick outline of the engineering portfolio requirements by award:

Engineering Portfolio Requirements and Recommendations by Award	
Requirements are indicated using the word "must." **Recommendations are indicated using words like "could" or "should."**	
Inspire Award	• Team **must** submit an engineering portfolio. The engineering portfolio **must** include summary information about the robot design, information about the team, and a team plan. The entire engineering portfolio **must** be high quality, thoughtful, thorough, concise, and well-organized. The team **should** be able to describe specific, detailed information to support the information in the portfolio.
Think Award	• Engineering portfolio **must** have engineering content. The engineering content **could** include entries describing examples of the underlying science, mathematics, and game strategies in a summary fashion. • The engineering portfolio **must** provide examples that show the team has a clear understanding of the engineering design process including an example of lessons learned. • The portfolio **could** inspire the judges to ask about specific, detailed engineering information. • Portfolio format is less important but enables the judges to understand the team's design maturity, organizational capabilities, and overall team structure. • Portfolio **could** reference specific experiences and lessons learned but **should** capture the summary of the status of the team and their robot design. • Portfolio **could** summarize experiences and lessons learned from outreach with concise tables of outcomes.

	• Portfolio **could** summarize how they acquired new mentors and/or acquired new knowledge and expertise from their mentors. • Portfolio **could** contain a summary of overall team plan. • Portfolio **could** contain information about the plans to develop skills for team members. • Portfolio **could** be organized in a logical manner.
Connect Award	• Team **must** submit an engineering portfolio. • Portfolio **must** include a team plan. The team plan **could** list the teams' goals for the development of team member skills, and the steps the team has or will take to reach those goals. Other examples of what the plan **could** include are timelines, outreach to science, engineering, and math communities, and training courses. • Portfolio **must** include a summary of how they acquired new mentors or acquired new knowledge and expertise from their mentors.
Innovate Award, sponsored by RTX	• Team **must** submit an engineering portfolio. • The engineering portfolio **must** include examples of the team's engineering content that illustrate how the team arrived at their design solution. • The portfolio **could** inspire the judges to ask about specific, detailed engineering information.
Control Award	• The team **must** submit an engineering portfolio. The engineering portfolio **must** include engineering content that documents the control components. • The team **must** submit a Control Award submission form as a separate document. Teams **should** identify the control aspects of their robot of which they are most proud. • The Control Award submission form **must not** exceed two pages.
Motivate Award	• Team **must** submit an engineering portfolio. • The engineering portfolio **must** include a team organization plan, which could describe their future goals and the steps they will take to reach those goals. Other examples of what the plan **could** include are team identity, fund-raising goals, sustainability goals, timelines, outreach to non-technical groups, finances, and community service goals. • The team is an ambassador for *FIRST* programs. • Team can explain the individual contributions of each team member, and how these apply to the overall success of the team.
Design Award	• Team **must** submit an engineering portfolio that includes examples of robot CAD (Computer Aided Design) images or detailed robot design drawings. • The portfolio **could** inspire the judges to ask about specific, detailed engineering information.

Judging & Award Criteria

Judging Process, Schedule, and Team Preparation

The schedules at the *FIRST* Tech Challenge tournaments may vary from event to event. At traditional events, judging interviews are scheduled before the start of match play. For REMOTE events, judging will take place during a pre-determined window of time. Exact times for both the matches and meeting with judges cannot be given within this manual. All teams receive the schedule before or during check-in at the competition, or in advance of their scheduled remote interview.

> **Teams should practice their presentation. The presentation should be concise and should focus on the areas of their robot and team journey that the team would like to highlight.**

Award Categories

Each award listed below has a list of non-negotiable requirements. Please note that each award has a set of required criteria. *Gracious Professionalism®* is listed as the first criteria for every award. This is a mandatory requirement for every *FIRST* Tech Challenge award. Teams who behave in an ungracious way are not eligible for consideration for any award at the event.

> **The judges do not use Dean's List in their consideration of any other *FIRST* Tech Challenge Awards.**

The Inspire Award

This judged award is given to the team that best embodies the 'challenge' of the *FIRST* Tech Challenge program. The team that receives this award is a strong ambassador for *FIRST* programs and a role model *FIRST* team. This team is a top contender for many other judged awards and is a gracious competitor. The Inspire Award winner is an inspiration to other teams, acting with *Gracious Professionalism®* both on and off the playing field. This team shares their experiences, enthusiasm and knowledge with other teams, sponsors, their community, and the judges. Working as a unit, this team will have shown success in performing the task of designing and building a robot. Please **Note: Teams are not nominated directly into this category. Teams must appear in the Team Attribute, Machine, Creativity, and Innovation, and the Think categories to be considered for the Inspire Award.**

> **The Inspire Award celebrates a team that, in the opinion of the judges, is a strong contender in many award categories. The reliability of the robot during the robot competition is one aspect of this award, but it does not carry more weight than any requirement.**

Think Award
Removing engineering obstacles through creative thinking.

This judged award is given to the team that best reflects the journey the team took as they experienced the engineering design process during the build season. The engineering content within the portfolio is the key reference for judges to help identify the most deserving team. The teams engineering content must focus on the design and build stage of the team's robot.

The team must be able to share or provide additional detailed information that is helpful for the judges. This would include descriptions of the underlying science and mathematics of the robot design and game strategies, the designs, redesigns, successes, and opportunities for improvement. A team is not a candidate for this award if their portfolio does not include engineering content.

- **Team must show respect and *Gracious Professionalism*® to everyone they meet at a *FIRST* Tech Challenge event.**
- **Engineering portfolio must have engineering content. The engineering content could include entries describing examples of the underlying science, mathematics, and game strategies in a summary fashion.**
- **The engineering portfolio must provide examples that show the team has a clear understanding of the engineering design process including examples of lessons learned.**

Strongly suggested criteria for the Think Award:
- Team should be able to describe or provide additional information to the judges about their portfolio content.
- Engineering portfolio could summarize how the team acquired new mentors or acquired new knowledge and expertise from their mentors.
- Engineering portfolio could contain summary of overall team plan.
- Engineering portfolio could contain information about the plans to develop skills for team members.
- Portfolio format is less important but enables the judges to understand the team's design maturity, organizational capabilities, and overall team structure.
- Portfolio could reference specific experiences and lessons learned but should capture the summary of the status of the team and their robot design.
- Portfolio could also summarize experiences and lessons learned from outreach with concise tables of outcomes.
- The team should refer to the Award Definitions outlined in [Appendix K](#), for outreach, and be able to provide supporting documentation to the Judges, where applicable.

Connect Award
Connecting the dots between community, *FIRST*, and the diversity of the engineering world.

This judged award is given to the team that most connects with their local science, technology, engineering, and math (STEM) community. A true *FIRST* team is more than a sum of its parts and recognizes that engaging their local STEM community plays an essential part in their success. The recipient of this award is recognized for helping the community understand *FIRST*, the *FIRST* Tech Challenge, and the team itself. The team that wins the Connect Award actively seeks and recruits engineers and explores the opportunities available in the world of engineering, science, and technology. This team has a clear team plan and has identified steps to achieve their goals.

Required criteria for the Connect Award:
- **Team must show respect and *Gracious Professionalism*® to everyone they meet at a *FIRST* Tech Challenge event.**
- **Team must submit an engineering portfolio.**
- **Portfolio must include a team plan that covers the team's goals for the development of team member skills, and the steps the team has taken or will take to reach those goals. Examples of what the plan could include are timelines, outreach to science, engineering, and math communities, and training courses.**
- **Portfolio must include a summary of how the team acquired new mentors or acquired new knowledge and expertise from a mentor. Working with mentors from *FIRST*'s Mentor Matching site is an acceptable way to learn from mentors.**

Strongly suggested criteria for the Connect Award:
- Team provides clear examples of developing in person or virtual connections with individuals in the

engineering, science, or technology community.
- Team actively engages with the engineering community to help them understand *FIRST*, the *FIRST* Tech Challenge, and the team itself.
- The team should refer to the Award Definitions outlined in Appendix K, for outreach, and be able to provide supporting documentation to the judges, where applicable.

Innovate Award, sponsored by RTX
Bringing great ideas from concept to reality.

The Innovate Award celebrates a team that thinks outside the box and has the ingenuity, creativity, and inventiveness to make their designs come to life. This judged award is given to the team that has the most innovative and creative robot design solution to any specific components in the *FIRST* Tech Challenge game. Elements of this award include elegant design, robustness, and 'out of the box' thinking related to design. This award may address the design of the whole robot or of a sub-assembly attached to the robot. The creative component must work consistently, but a robot does not have to work all the time during matches to be considered for this award. The team's engineering portfolio must include a summary of the design of the component or components and the team's robot to be eligible for this award. Entries must describe how the team arrived at their solution.

Required criteria for the Innovate Award, sponsored by RTX:
- **Team must show respect and *Gracious Professionalism*® to everyone they meet at a *FIRST* Tech Challenge event.**
- **Team must submit an engineering portfolio.**
- **The engineering portfolio must include examples of the team's engineering content that illustrate how the team arrived at their design solution.**
- **Robot or robot sub-assembly must be creative, elegant, and unique in its design.**
- **Creative component must be stable, robust, and work reliably.**

Strongly suggested criteria for the Innovate Award, sponsored by RTX:
- The portfolio could inspire the judges to ask the team about the specific detailed engineering information.

Control Award
Mastering robot intelligence.

The Control Award celebrates a team that uses sensors and software to increase the robot's functionality in the field. This award is given to the team that demonstrates innovative thinking to solve game challenges such as autonomous operation, improving mechanical systems with intelligent control, or using sensors to achieve better results. The control component should work consistently in the field. The team's engineering portfolio must contain a summary of the software, sensors, and mechanical control, but would not include copies of the code itself.

Required criteria for the Control Award:
- **Team must show respect and *Gracious Professionalism*® to everyone they meet at a *FIRST* Tech Challenge event.**
- **Team must apply for the Control Award by filling out the Control Award Submission Form, located in Appendix J. The Control Award Submission Form must not exceed two pages.**
- **The team must submit an engineering portfolio. The engineering portfolio must include**

engineering content that documents the control components.

- **Control components must enhance the functionality of the robot on the playing field.**

Strongly suggested criteria for the Control Award:
- Advanced software techniques and algorithms are encouraged.
- Control components should work reliably.
- Learnings from the team about what they tried and what did not work with regards to sensors, hardware, algorithms, and code could be included in the engineering portfolio

The Control Award is different from other awards because the team must apply for this award. A team applying for this award must turn in their Control Award submission form to the judges at the event. This award focuses on a team's ability to program a robot that can reliably and efficiently carry out tasks during match play, in a way that improves their ability to score during a match.

The judges should look for:

- What sensors and hardware the team is using on the robot? What worked, what did not, and why.
- What algorithm or code the team has programmed their robot with; what worked, what did not, and why.
- The judges should pay attention to the program and design process. The design process is more critical than the code itself.

> **Documenting the learning from failure – what did not work – and understanding how to improve the team's design process is what we are assessing.**

Teams must fill out and turn in the Control Award submission form to be considered for the Control Award. A Control Award binder or notebook is not an acceptable submission.

The Control Award submission must not be longer than two pages and must not contain links to additional content or code. Judges are instructed to ignore links to additional content, and pages that exceed the 2-page maximum.

For Remote Event types, the Control Award submission could include a link to a short (less than 2 minute) video of the robot that highlights the Control aspects that they have described in their Control Award submission form. Teams who have not built a robot are not required to submit a video link and will be judged based on the content of their Control Award submission form.

Motivate Award
Sparking others to embrace the culture of *FIRST*!

This team embraces the culture of *FIRST* and clearly shows what it means to be a team. This judged award celebrates the team that represents the essence of the *FIRST* Tech Challenge competition through *Gracious Professionalism* and general enthusiasm for the overall philosophy of *FIRST* and what it means to be a *FIRST* Tech Challenge team. This is a team who makes a collective effort to make *FIRST* known throughout their school and community, and sparks others to embrace the culture of *FIRST*.

Required criteria for the Motivate Award:
- **Team must show respect and *Gracious Professionalism*® to everyone they meet at a *FIRST* Tech**

Challenge event.

- **Team must submit an engineering portfolio. The engineering portfolio must include a team organization plan, which could describe their future goals and the steps they will take to reach those goals. Examples of what the plan could include are team identity, fund-raising goals, sustainability goals, timelines, outreach, finances, and community service goals.**
- **The team must be an ambassador for *FIRST* programs.**
- **Team must be able to explain the individual contributions of each team member, and how these apply to the overall success of the team.**

> **When doing community outreach, teams should be prepared to talk about *FIRST*, and spread awareness of the program.**

Strongly suggested criteria for the Motivate Award:
- Team takes part in their presentation, and actively engages with the judges.
- Team shows a creative approach to materials that market their team and *FIRST*.
- Team can clearly show the successful recruitment of people who were not already active within the STEM community.
- Team could also summarize experiences and lessons learned from outreach.
- The team should refer to the Award Definitions outlined in Appendix K, for outreach, and be able to provide supporting documentation to the judges, where applicable.

Design Award
Industrial design at its best.

This judged award recognizes design elements of the robot that are both functional and aesthetic. The Design Award is presented to teams that incorporate industrial design elements into their solution. These design elements could simplify the robot's appearance by giving it a clean look, be decorative in nature, or otherwise express the creativity of the team. The robot should be durable, efficiently designed, and effectively address the game challenge.

Required criteria for the Design Award:
- **Team must show respect and *Gracious Professionalism*® to everyone they meet at a *FIRST* Tech Challenge event.**
- **Team must submit an engineering portfolio with an engineering content which could be CAD images or robot drawings of the team's overall design and/or components.**
- **Team must document and implement strong industrial design principles, striking a balance between form, function, and aesthetics.**

Strongly suggested criteria for the Design Award:
- Distinguishes itself from others by its aesthetic and functional design.
- Basis for the design is well considered (that is inspiration, function, etc.).
- Design is effective and consistent with team plan and strategy.
- The portfolio could inspire the judges to ask the team about specific detailed engineering information.

Promote Award (Optional)
This judged award is optional and may not be given at all tournaments. Your Judge Advisor will have information about the judging for this award.

The Promote Award is given to the team that is most successful in creating a compelling video message for the public designed to change our culture and celebrate science, technology, engineering, and math. Teams must submit a one-minute-long public service announcement (PSA) video based on the PSA subject for the season.

Team may win the Promote Award only once at a Championship level event and only once at a qualifying tournament or league tournament level event.

PSA Subject for 2023-2024 season:
 "The best thing about *FIRST* Tech Challenge is…"

Required criteria for the Promote Award:
- **Video must meet the following criteria:**
    - **Video must follow *FIRST* branding and design standards.**
    - **Video cannot be longer than 60 seconds.**
    - **Video must be of a high quality, as submissions may be used later to promote *FIRST*.**
    - **Team must have rights to the music used in the video.**
    - **Music and permissions must be listed in video credits.**
    - **Video must have strong production value.**
    - **Video must be submitted by the deadline given by the Tournament Director.**
- **Team must present a thoughtful and impactful video which appeals to the public.**
- **Creativity in interpreting the yearly theme is required.**
- **Follow the video award submission guidelines:**

    - The submission process for the Compass and Promote award may vary by Competition. The Compass and Promote awards are not offered at all events. Please check with the tournament director for details.
        - The video must be sent at least one week before Competition Day. Instructions for sending videos may vary from Competition to Competition. Please check with the tournament director for details.
        - Videos must be sent in AVI, WMV, MOV or a better format. Submission through use of a streaming service such as YouTube is not acceptable. Remember the winning video may be shown on a large screen during the awards ceremony. Teams should use the best resolution available for their submission.
        - Only one video submission per Team will be considered. Teams may send new or updated videos at each Competition.
        - Teams must have permission from the copyright owners for music used in the video and indicate this in their video.
    - Winning videos will be shared with *FIRST* and used to promote the higher values of *FIRST* Tech Challenge. Teams can also send their Promote and Compass videos directly to *FIRST*; however, these submissions will not be formally judged.
    - If you would like to send your promote video to *FIRST*, please email firsttechchallenge@firstinspires.org with the subject line "Promote Award Video" or "Compass Award Video".

Compass Award (Optional)
A beacon and leader in the journey of the *FIRST* Tech Challenge.

This judged award is optional and may not be given at all tournaments. Your Judge Advisor will have information about the judging for this award.

The Compass Award recognizes an adult coach or mentor who has given outstanding guidance and support to a team throughout the year and demonstrates to the team what it means to be a *Gracious Professional*. The

winner of the Compass Award will be chosen from candidates nominated by *FIRST* Tech Challenge student team members, via a 40-60 second video submission. The video must highlight how their mentor has helped them become an inspirational team. We want to hear what sets the mentor apart.

Required criteria for the Compass Award:

- **Video must meet the following criteria:**
    - o **Video must follow *FIRST* branding and design standards.**
    - o **Video cannot be longer than 60 seconds.**
    - o **Video must be of a high quality, as submissions may be used later to promote *FIRST*.**
    - o **Team must have permission from the copyright owners for the music used in the video.**
    - o **Music and permissions must be listed in video credits.**
    - o **Video must be submitted by the deadline given by the Tournament Director.**
- **Video highlights the mentor's contribution to the team and demonstrates what sets the mentor apart.**
- **Follow the video award submission guidelines:**

    - o The submission process for the Compass and Promote award may vary by Competition. The Compass and Promote awards are not offered at all events. Please check with the tournament director for details.
        - ▪ The video must be sent at least one week before Competition Day. Instructions for sending videos may vary from Competition to Competition. Please check with the tournament director for details.
        - ▪ Videos must be sent in AVI, WMV, MOV or a better format. Submission through use of a streaming service such as YouTube is not acceptable. Remember the winning video may be shown on a large screen during the awards ceremony. Teams should use the best resolution available for their submission.
        - ▪ Only one video submission per Team will be considered. Teams may send new or updated videos at each Competition.
        - ▪ Teams must have permission from the copyright owners for music used in the video and indicate this in their video.
    - o Winning videos will be shared with *FIRST* and used to promote the higher values of *FIRST* Tech Challenge. Teams can also send their Promote and Compass videos directly to *FIRST*; however, these submissions will not be formally judged.
    - o If you would like to send your promote video to *FIRST*, please email firsttechchallenge@firstinspires.org with the subject line "Promote Award Video" or "Compass Award Video".

Judges' Choice Award
This award is optional and may not be given at all tournaments. Your judge advisor will tell you if this award is included.

During the competition, the judging panel may meet a team whose unique efforts, performance, or dynamics merit recognition, but does not fit into any of the existing award categories. To recognize these unique teams, *FIRST* offers a customizable Judges' Choice Award. The judging panel may select a team to be honored, as well as the name of the Judges' Choice Award. The Judges' Choice Award recognizes a team for their outstanding efforts but does not factor into the advancement criteria.

Winning Alliance Award
This award will be given to the winning alliance represented in the final match.

Finalist Alliance Award
This award will be given to the finalist alliance represented in the final match.

Dean's List Award
The Dean's List Award recognizes leadership and dedication of *FIRST's* most outstanding secondary school students. This award is outside of the scope of the judge's role at an event but is referenced here for your information. To learn more about the Dean's List Award, please visit Appendix G.

Gracious Professionalism and Award Eligibility
If a judge or judge advisor sees a team's ungracious behavior or receives information about team behavior, the judge must note relevant details and pass that information to the judge advisor. The judge advisor must investigate and should talk to the team mentor and remind them the team could be disqualified for awards based on their ungracious behavior. Judges are gatherers of information. It is not the role of a judge to take responsibility for game rules enforcement.

The Judge Advisor will not automatically disqualify a team for an award for ungracious behavior without talking to the team mentor first. If a team reports to a judge that another team is displaying ungracious behavior, the judge advisor should alert the Tournament Director or Program Delivery Partner to investigate the report and talk to the team mentor. If a team repeatedly displays ungracious behavior after being warned, the judge advisor may disqualify the team from award eligibility and alert the head referee. The head referee has the authority to issue a red or yellow card for egregious behavior; sometimes, ungracious behavior may be extreme enough to be considered egregious. The head referee is the final authority at an event in deciding whether a card will be issued.

Yellow cards are not an immediate reason to disqualify a team from award consideration. The judge advisor and the head referee will discuss the on-field behavior and come to a decision together. The judge advisor will make the final decision about a team's eligibility for awards.

Observation
Once the formal team interviews have been completed, the judges need to see the robots in action at a traditional event. Judges observe matches for several reasons, including game strategy, functionality of the robot, communication between alliances, gracious professionalism of the team, and how the team responds to wins and losses. The judges responsible for reviewing the Control Award must visit the competition area to watch the matches.

- For REMOTE events, the judges will watch a team submitted video that displays the control function they have described in the Control Award Submission Form. If a team has no robot to record, they can be considered for the Control Award based on the content of their Control Award Submission Form.

Initial Deliberations
Once the formal team interviews have been completed, it is time for the judges to gather in the deliberation room and make some initial award decisions. This early round of deliberations will help the judges start to pare down the top contenders based on their interview alone. The judges will still need to later observe matches, and interview teams in the pits if they can. Each judge panel will recommend a team for each award, except for the Inspire Award. Initial deliberations must **not** include any recommendations for the Inspire Award.

Judges are not required to nominate teams for each award. If they do not have a contender, they should not nominate.

The judge advisor is responsible for ensuring the Inspire Award nomination list is created during final deliberations. The team that wins this award is nominated for multiple award categories and will rise to the top of the list.

How to Advocate for the Teams you Nominate for an Award
Judges can become emotionally invested in the success of teams they have met. It is common to hear comments such as, "This team was great; they've just got to win an award!" *FIRST* recruits technical and business professionals as judges to bring different perspectives into the judging process. Judges should keep an open mind and attitude towards all teams who are worthy candidates for a given award. Arriving at consensus on a single winner can become an emotional and challenging task. *FIRST* asks that all judges advocate graciously and compromise readily. It is helpful to keep in mind that while we ask judges to advocate for a team they saw, once they have spoken on behalf of a team, they become a judge again, and must be open to considering other worthy teams for awards. The objective is to make the best decision. If the teams in contention meet the guidelines for an award, judges should also consider where the award will have the greatest impact on the team. **Remember, our goal is to inspire.**

Award Panels
After the first round of deliberations are complete, the judge advisor will work with the judges to decide specialized award panels. Judges will be assigned to a panel for each award, including Judges Choice Awards, and for match observation.

Pit Interviews and Match Observation
Once the first round of deliberations is complete, it is time to gather more information about the teams. After the judges have been reorganized into award panels the judges should visit the pits and the competition area to talk with the teams and watch matches.

The judges should visit their assigned teams, and then visit as many other teams as possible, as time allows. Having the judges interview many teams can provide an opportunity for a team to present information they might not have shared in their interview.
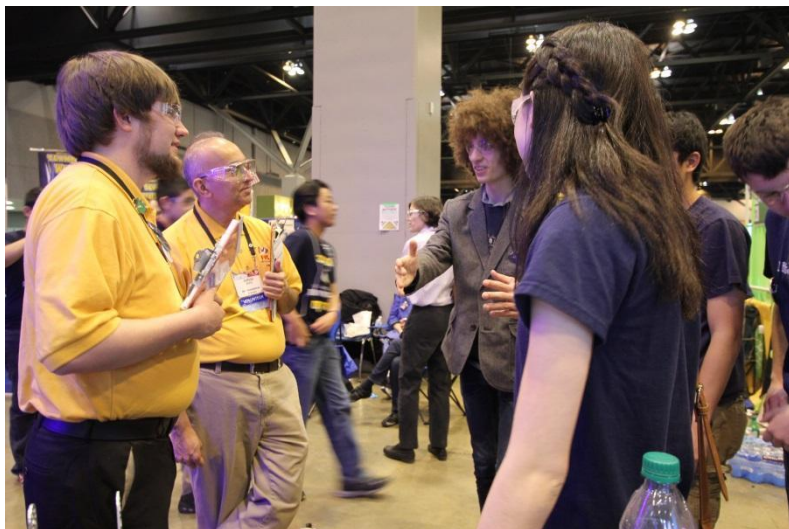
Instructions for individual panels
Judges assigned to specific awards interview the nominees for their award in the pits. Judges should ask various questions about the team, and not obviously focus on questions about the specific award the team is being considered for. Before moving to pit interviews, it can be helpful for judges to spend a few minutes reviewing the engineering portfolios of the teams on their list and create questions for each team.

When judges consider the information they have been provided, it is helpful to understand the value of different types of shared information.

For Team Attribute Awards (TA Awards), a team that shares information about the ways in which they have assisted other teams should have some sort of documentation from the teams they assisted. In terms of outreach, documentation is important, and carries a bit more weight than team claims that cannot be substantiated. This documentation can be shared during the pit interviews and could be presented as a part of an engineering portfolio, as a part of a team display, or on a laptop computer.

For Machine, Creativity, and Innovation Awards (MCI Awards), a team can simply and eloquently describe the basis of a robot mechanism. The team can also provide documentation in the pit interview, but a clear verbal description of the work that has been done, or the steps a team took to develop their robot, mechanism or strategy could carry equal weight to the documented information.

It is valuable to remember that the information provided by the teams, in any form, is used to help judges inform their decisions, rather than as a hard line for judges to follow while making their decisions. For example, a team has met with the governor of their state, and has press photos to show the meeting, while another team has hosted three outreach events that resulted in the formation of four teams. We do not quantify the type of outreach that a team does in a way that makes it simple for judges to determine that one type of outreach is more meaningful than another. We use the information received about outreach, in conjunction with the other award attributes that the team displays.

Remember, the goal of team outreach is to further the mission of *FIRST*, so that we can change the culture. Outreach events that help accomplish the mission of *FIRST* should be qualified as having the highest impact.

Think Award Judges
Think Award judges review the engineering portfolios for the teams that have been nominated by the interview panel judges. They review the portfolios for content first, and **only** if there are multiple excellent portfolios should they request that the team share or provide additional information. This additional information could come from an engineering notebook, or presentation but could also be relayed verbally to the judges.

Control Award Judges
Control Award judges review the control award sheets for the teams that have been nominated by the interview panel judges. They review the sheet for sensor use, creativity, and how the code the team has described is effective in the robot game. Control Award judges also watch matches played by the Control Award nominees, to ensure their code is effective, and works as described.

- In REMOTE events, judges watch the video link that the team has provided, which displays their control component in use.
- Teams may not include links to additional content in their Control Award submission. Judges are instructed to ignore links to code or other information provided by teams.

Judges Choice Award Judges
Teams who have not been nominated for any awards should be interviewed by the Judges' Choice Award panel(s). The Judges' Choice Award panel looks for interesting stories, unique robot design, extraordinary *Gracious Professionalism*, teamwork, collaboration, and other outstanding team qualities.

Match Observation
Match observers are assigned to a field and have match observer tracking sheets for each team. They watch the teams in the match and add their comments to their tracking sheet. Match observers look for robot performance, strategies, how a team responds to wins and losses, an abundance or absence of penalties, how a team collaborates with their alliance partner, and other on field behaviors.

- For REMOTE events, there are no match observers.

Final Deliberations
Once the judges have had the chance to interview teams, see match play, review the engineering portfolios, and visit the teams, the judges must come together and decide the winners of each award. Judges will meet in the deliberation room to go through the teams that were nominated during the first deliberations to pick the finalists and winners for each award. The goal is to remove all but six teams from each nomination list and rank the top six contenders for each award.

As each award panel creates their list for the top six teams in their award category, make sure to include information from the panel of judges that were assigned to review the engineering portfolio, the judges that were assigned as match observers, and the judges that were assigned to the Control Award. For example, the judge panel assigned to the Connect Award may place their top contenders on the list. However, the judges that reviewed the engineering portfolio may have feedback that there was not any mention of outreach listed in their engineering portfolio. While creating the list, pay attention to each award that requires the engineering portfolio, and get feedback from the engineering portfolio panel to ensure all requirements of each award have been satisfied. Be sure to check with the Match Observers to learn how the team interacts with other teams and event volunteers, and about their game strategy.

When teams are nominated in multiple categories that are similar, look at the teams and try to decide which area the team is most noteworthy in, and continue from there.

Differentiating Awards

Some awards have similarities. You may find the same teams listed in both the Motivate and Connect Award lists. The differences between these awards are subtle – the Connect Award focuses on outreach to the science, technology, engineering, and math communities. The Motivate Award focuses on outreach to individuals or organizations that are not science based. Creating a team in a new school might count for the Motivate Award. Recruiting a mentor to help the team with computer programming might count for the Connect Award.

Similarly, there may be teams who are nominated for both the Design Award and the Innovate Award, sponsored by RTX. The differences here are subtle as well. The Design Award has specific mention of CAD or technical drawings, and it rewards industrial design, robot elegance, simplicity, and durability. The Innovate Award rewards innovative thinking, creativity, and ingenuity.

Equitable Distribution of Awards

When deciding the winners and finalists of each award, it is necessary to understand that teams can only win **one** judged award at an event (this does not include the Promote and Compass Award). Finalists of each award do not count as award winners (this includes 2nd and 3rd place Inspire Award finalists). Although it may be that a team comes to the top of the list repeatedly, they can only win ONE judged award. In cases where the same team is up for multiple awards, discuss each award with your fellow judges and decide in which category the team was strongest. Teams should win the award for which they are best suited.

> **Although teams can only win one judged award at the event, they are eligible to receive a competition award in addition to a judged award.**

Finalists for each award are announced during the award ceremony, but do not receive a physical trophy. It is important that teams feel successful and celebrated at the event. If many teams are nominated for an award, and all are strong contenders, judges should consider awarding the finalist spot to a team not already designated as a finalist for another award. This is especially true if the strong contender has already been chosen by the judges as a winner for another award.

Also, when making the final decisions it may be that two teams are so close the judges feel both teams should win, and that a tie should be made on a particular award. Teams cannot tie for an award. The judges must decide which of the top contenders is most deserving to be the winner of the award.

Many regional events have Judges' Choice Awards. These are given to teams who may not fit into a standard category. This allows the judges an opportunity to provide a deserving team with recognition when the team might not otherwise receive it. The Judges Choice Award should never be treated as a second place or replacement for an existing award.

Recognition Principles

When at all possible, judges should not list the same teams as award finalists in multiple award categories. Use common sense when listing finalists for awards. It may not always be possible to have a worthy candidate for all three positions (Winner and two finalists) without duplication or double listing, but an earnest effort by the judges to celebrate the accomplishments of as many teams as possible is required.

As a judging panel, the focus should be on celebrating exceptional work, and celebrating as many teams and students as possible. This is true for every award, except the Inspire Award. The Inspire Award 2nd and 3rd place teams can be teams listed as a finalist or winner for **one** other award.

Judges should determine awards based on the award criteria, and on the order of advancement to the next level of competition.

The Inspire Award winner is the first team to advance from any level of event. The next teams to advance are:

- Captain of the Winning Alliance
- 2nd Place Inspire Award Finalist
- First team selected on the Winning Alliance
- 3rd Place Inspire Award Finalist

The full Advancement Order list can be found in Appendix H.

Here is a step through of how equitable distribution of awards works. This is a required method for determining award winners and finalists:

At the beginning of the final deliberations, these are the nominated teams.

Inspire	Think	Connect	Innovate	Control	Motivate	Design
	101	100	110	106	101	100
	105	101	115	109	103	105
	115	105	126	110	111	115
	118	120	131	120	114	117
		124	135		133	123
			140			

Selecting the Inspire Award Candidates

From this list, the Inspire Award candidates are selected, based on the number of times they appear in the initial nominations for the other awards. All the Inspire candidates must appear in at least one award in the Machine, Creativity, Innovation category in the Think category, and in at least one award in the Team Attributes category. This is important and required. Inspire Award teams are strong contenders as an all-around team, which requires a nomination in both types of categories to meet that award requirement. This will form the initial nominees for the Inspire Award. The judge advisor will form the initial Inspire Award

> **Inspire Award teams must appear in at least one MCI category, and in at least one TA category, and in the Think category.**
>
> **This is required and demonstrates a well-balanced team for the Inspire Award.**

Nomination List based on these requirements. Once this list is created, record where teams are nominated for clarity later.

For example, these teams were initially nominated for awards:

Think	Design	Innovate	Control	Connect	Motivate
100	123	131	124	100	100
115	117	112	127	101	101
105	100	115	122	103	102
120	106	110	111	124	111
102	105	126	105	105	114
118	115	140	106	109	126
101	121	105	120	120	133
		101		106	

From the initial nominations, record which teams show up in more than one award category and which categories. Teams should show up in the engineering portfolio category, MCI category and TA category as this demonstrates a well-balanced team for the Inspire Award.

	Engineering Portfolio	MCI			TA	
Team	Think	Design	Innovate	Control	Connect	Motivate
100	*	*			*	*
105	*	*	*	*	*	
101	*		*		*	*
106		*		*	*	
120	*			*	*	

Once the judging panels have their top five teams ranked, use this information to help determine your Inspire Award 1st, 2nd, and 3rd place winners. Use this information to determine if you can eliminate any teams from contention for the Inspire Award or if judges need to go back and interview the teams in the pits.

Team	Engineering Portfolio	MCI			TA	
	Think	Design	Innovate	Control	Connect	Motivate
100	* 2	* 1			* 1	*
105	* 1	*	* 5	* 5	* 4	
101	* 3		* 2		*	* 2
106		*		* 1	*	
120	*			*	* 5	

From this information, the judges could decide eliminating teams 106 and 120 from the Inspire Award discussion, leaving teams 100, 105 and 101 as the three contenders for the Inspire Award. Lead a discussion with judges as to who they believe is more deserving of the Inspire Award based on judging interviews and pit interviews. You may also decide to have a separate Inspire Award panel go out and interview these three teams in the pit area.

In our example, the judges decided that team 100 would win 1st Place Inspire, team 101 would win 2nd Place Inspire and team 105 would win 3rd Place Inspire. Now we need to make sure we have equal award distribution. We call this concept "spread the wealth." It means finding a way to celebrate as many worthy teams as possible at the event.

Inspire	Think	Connect	Innovate	Control	Design	Motivate	Design
100	105	~~100~~	110	106	~~100~~	103	~~100~~
101	~~100~~	101	115	122	~~105~~	101	~~105~~
105	~~101~~	124	126	124	123	111	123
	118	~~105~~	131	127	117	114	117
	115	120	105	105	115	133	115
			140				

Next, award conflicts are identified for the first 3 Awards – Inspire, Think, and Connect. We remove team 100 from the number 1 spot for Connect and Design, as well as from the number 2 spot for the Think Award. The Inspire Award Winner does not need to be recognized more than once in the award ceremony.

We can leave team 105 in the number 1 spot for the Think Award, as well as in the number 3 spot for the Inspire Award as they can receive both a first place Think Award and a 2nd Place Inspire Award.

Team 101 could win the Connect Award, and we will remove them as a runner up for Think. They are still listed as the number 2 Inspire Winner, and there is greater potential for advancement in that spot.

Team 100 wins Inspire and is dropped from the list in Think and Connect. 105 cannot be listed under Connect as they have already won an award and are listed as a finalist for the Inspire Award.

Now that we have decided on our first three awards, let us look at the remaining four.

Inspire	Think	Connect	Innovate	Control	Motivate	Design
100	105	~~100~~	110	106	103	~~100~~
101	~~100~~	101	~~115~~	122	~~101~~	~~105~~
105	~~101~~	124	126	124	111	123
	118	~~105~~	131	127	114	117
	115	120	~~105~~	105	133	~~115~~
			140			

Team 100, 105, and 101 have already been recognized, so we remove them from the remaining four awards. This leaves us with team 110 as the Innovate Award Winner, team 123 as the Design Award Winner, team 103 as the Motivate Award Winner, and team 106 as the Control Award winner.

We have one final conflict to resolve. Team 115 appears as an Innovate Award finalist, as a Think Award Finalist, and as a Design Award Finalist. In this instance, because Think is an award that is higher on the advancement list, we will remove team 115 from the Innovate and the Design categories.

This will leave us with a single finalist for the Design category. This is acceptable, although a deeper list of candidates may have given us a second finalist.

With this team award selection, we have awarded seven teams, and recognized eleven additional worthy teams.

Inspire	Think	Connect	Innovate	Control	Motivate	Design
100	105	101	110	106	103	123
101	118	124	126	122	111	117
105	115	120	131	124	114	

This is what we mean by equitable distribution of awards. All the teams in the above example were worthy candidates for the awards for which they were nominated. Their good work was recognized in the award ceremony, even though most of the teams did not receive an actual award.

In the interest of event consistency across all regions, this process is the procedure that all judge advisors must follow.

Award Scripts
Once award winners have been identified, the judges are responsible for writing awards scripts. There is a format to the awards scripts that we like to use. A good award script is usually three sentences. The structure of the sentences is important.

1. Sentence one could apply to many teams but has a subtle hint.
2. Sentence two has a hint in which the winning team might understand.
3. Sentence three has a bigger hint, leaving the team somewhat sure who it is, but is not 100% positive.
4. The last sentence is: "And the award goes to…"

Example: Team 3344 is called the Robo-Knights, from Carnation, WA. They are winners of the Design Award. Their team colors are blue, they have a robot with an impressive arm design, and the robot has a shiny blue finish. The award script might say:

"This VALIANT effort required many nights designing a robot with an impressive array of features. A strong arm and a solid design have their opponents turning BLUE with envy. A SHINING example worthy of a knight at the round table of Camelot, the Design Award goes to team 3344 the Robo-Knights from Carnation, WA."

Key points about award scripts:
- Judges should write them. They have the notes and details needed.
- Always read them aloud when making final edits. They often read and speak differently.
- Make reading the script easy for the emcee. Avoid long sentences and long words. Someone else needs to read your script.
- Capitalize or **bold** words that the emcee should emphasize when reading the script.
- Do not reveal the winner in the first sentence. "We think team 1234 deserves the Design Award because…" is a common submission from the judges. Ask them to rewrite it to reveal the result only at the end.
- Try to reveal the key reasons the team has received the award.

Keep in mind that scripts are only needed for the winners of the award. The judges do not need to write scripts for the finalists.

End of the Day

Awards and Closing Ceremony
Once the awards have been decided, and the award scripts written, the judges will attend the awards and closing ceremony. At most events, the judges will join the rest of the event volunteers and take part in the award ceremony.

When it comes time to announce the finalists and winners of each award, the judges line up to applaud and congratulate the award winners. When the winner of each award is announced, the team will come up to the stage to pick up their trophy.

Feedback to Teams

All teams will receive feedback from the judges. Teams are no longer required to request feedback. Judges will conduct the team interview, review the documentation submitted by the team, and complete the feedback form. The judges must complete their portion of the Feedback Form immediately following their interview with the team. After the event, the Lead Coach/Mentor 1 for the team will receive a Judging Feedback Form completed by the event judges.

New This Season: Teams are not required to submit a feedback request form. All teams will receive feedback from the judges. Feedback is based solely on the initial interview and engineering portfolio.

Judges must not consider content provided outside of the initial formal interview and the initial review of the engineering portfolio. Feedback provided pertains to the first impression teams give to the judging panels.

Notes Taken During Judging

Notes that judges take during interviews and deliberations should be treated as confidential and left with the judge advisor at the end of the day for disposal. This includes notes taken electronically. Under no circumstances are notes to be shared with people who are not a part of the judging pool, either intentionally or by accident.

Appendix A – Resources

Game Forum Q&A
https://ftc-qa.firstinspires.org/

Anyone may view questions and answers within the *FIRST®* Tech Challenge game Q&A forum without a password. To submit a new question, you must have a unique Q&A system username and password for your team.

Volunteer Forum
Volunteers can request access to role specific volunteer forums by emailing FTCTrainingSupport@firstinspires.org. You will receive access to the forum thread specific to your role.

FIRST Tech Challenge Game Manuals
Part 1 and 2 - https://www.firstinspires.org/resource-library/ftc/game-and-season-info

FIRST Headquarters Pre-Event Support
Phone: 603-666-3906
Mon – Fri
8:30am – 5:00pm Eastern Time
Email: Firsttechchallenge@firstinspires.org

FIRST Tech Challenge Event On-Call Support
The on-call event support number is available for event personnel only. Please **do not** call these numbers if you are a team looking for a ruling, a decision, or assistance. We trust that you will not misuse this resource*.*

Day of event robot control system and scoring system support: 603-206-2450
All other day of event support: **603-206-2412**

FIRST Websites
FIRST homepage – www.firstinspires.org

FIRST Tech Challenge Page – For everything *FIRST* Tech Challenge.

FIRST Tech Challenge Volunteer Resources – To access public volunteer manuals.

FIRST Tech Challenge Event Schedule – Find *FIRST* Tech Challenge events in your area.

FIRST Tech Challenge social media
FIRST Tech Challenge Twitter Feed - If you are on Twitter, follow the *FIRST* Tech Challenge Twitter feed for news updates.

FIRST Tech Challenge Facebook page - If you are on Facebook, follow the *FIRST* Tech Challenge page for news updates.

FIRST Tech Challenge YouTube Channel – Contains training videos, game animations, news clips, and more.

FIRST Tech Challenge Blog – Weekly articles for the *FIRST* Tech Challenge community, including outstanding volunteer recognition!

FIRST Tech Challenge Team Email Blasts – contain the most recent *FIRST* Tech Challenge news for teams.

Feedback
We strive to create support materials that are the best they can be. If you have feedback about this manual, please email firsttechchallenge@firstinspires.org. Thank you!

Appendix B: Sample Judge Questions – Edits Coming Soon!

Team Number: _____

Here are some sample questions that Judges might ask a team:

- What does it mean to be a *Gracious Professional*®?

- What does your robot do?

- How did you come up with the overall design?

- What role does each of your team members play on your team?

- How did your team make decisions about assigning roles on the team?

- How do you manage your time?

- How does your team attract additional Mentors?

- What did you learn by being a part of the team?

- How do you fundraise?

- How do you market your team?

- Does your team perform any type of community service?

- Does your team reach out to other teams? In what way?

- Describe a way that your team has displayed *Gracious Professionalism*®.

- Which of your student team members took part in an outreach activity?

- How many student members are there on your team?

- Which of your student members participate in community service?

- What is the one thing that we did not ask about that you most want the Judges to know?

- In what ways is your team unique?

You can and should ask the students to share more information about an answer that does not seem complete or clear, or a topic that the team seems particularly enthusiastic about.

When teams are affiliated with other *FIRST* teams, judges may want to clarify the specific ways in which this team took part in outreach, community service, fundraising, etc.

- What role did your team play in deciding what outreach activities and community service your multiple *FIRST* teams did?

- Were there any activities where your team took the lead?

- How did you work with the other *FIRST* team(s)?

<u>Here are some topics that judges should always avoid:</u>
- Religion
- Politics
- Gender
- Disabilities
- How students are doing in school.

Here are some sample Control Award Questions:
    A. How does your robot:
          1. Know where it is on the playing field?
          2. Control acquisition of scoring elements in autonomous?
          3. Measure and control the speed of the motors?
    B. What enhancements did you program to assist the human operators during the driving phase?
       Example answers:
          1. Software-assisted aiming or firing
          2. Software-assisted driving/positioning
          3. One button automated driving/shooting
    C. What were your design goals during autonomous phase?

Unique Situations:
Sometimes, a judging panel will interview a team that is a little or a lot larger than the maximum of fifteen students. These teams often have very impressive outreach credentials, and it is difficult to find a fair way to provide a fair amount of credit towards the outreach of a team of 20 students, versus the outreach that a team of 5 may have achieved, but that is exactly what is required of the judging role. If all things are equal, the work that a smaller team does should count for more than the equal amount of work that a larger team has done.

Appendix C: Judge Summary Sheet

CONFIDENTIAL - NOT TO BE SHARED WITH TEAMS

Team Name: Team #:	Not Demonstrated	Beginning	Developing	Accomplished	Exemplary	Comments
For All Awards						
Team shows respect and *Gracious Professionalism®* to everyone they meet at a *FIRST* Tech Challenge event (required).						
Think Award – Engineering portfolio required						
Engineering portfolio must have examples of engineering content that includes entries describing underlying science, mathematics, and game strategies (required)						
Engineering portfolio must show that the team has a clear understanding of the engineering design process, with images, pictures or drawings and details documenting all stages of robot design (required)						
Engineering portfolio must show examples of the team's journey, experience and lessons learned throughout the season (required)						
Connect Award – Engineering Portfolio Required						
Portfolio includes a team plan that covers the team's goals for the development of team member skills, and the steps the team has taken or will take to reach those goals. Examples of what the plan could include are timelines, outreach to science, engineering, and math communities, and training courses.						
Portfolio must include a summary of how the team acquired new mentors or acquired new knowledge and expertise from a mentor. Working with Mentors from *FIRST*'s Mentor Matching site is an acceptable way to learn from Mentors.						
Team actively engages with the engineering community to help them understand *FIRST*, the *FIRST* Tech Challenge, and the team itself (required)						

Innovate Award, sponsored by RTX – Engineering Portfolio required						
Team Name: **Team #:**	Not Demonstrated	Beginning	Developing	Accomplished	Exemplary	**Comments**
Team must submit an Engineering Portfolio with examples of engineering content that document the design process and how the team arrived at their design solution (required)						
Robot or robot sub-assembly must be elegant and unique in its design (required)						
Creative component must be stable, robust, and work reliably (required)						
Robot design is effective and consistent with team plan and strategy (required)						

Control Award– Engineering Portfolio required						
Team must apply for the Control Award by filling out the Control Award Content Sheet (required)						
The Engineering Portfolio must include examples of content that documents the control components (required)						
Control Components must enhance the functionality of the robot on the field (required)						
Advanced software techniques and algorithms are encouraged						
Control Components should work reliably						
Motivate Award – Engineering Portfolio required						
An Engineering Portfolio must be submitted and should include a team plan that identifies their future goals and the steps they will take to reach those goals. The plan could include fundraising goals, sustainability goals, timelines, outreach, and community service goals (required)						
The team is an ambassador for *FIRST* programs (required)						
Team can clearly demonstrate the successful recruitment of new teams, mentors, coaches, and volunteers who are not otherwise active within the STEM community (required)						

Team Name: Team #:	Not Demonstrated	Beginning	Developing	Accomplished	Exemplary	Comments
Team can explain the individual contributions of each team member, and how these connect to the overall success of the team (required)						
All team members participate in their presentation, and actively engage with the judges						
Team can show a creative approach to materials that market the team and *FIRST*						
Design Award – Engineering Portfolio Required						
Team must submit an engineering portfolio with examples of engineering content that include detailed robot design drawings (required)						
Team demonstrates industrial design principles, striking a balance between form, function, and aesthetics (required)						
Robot differentiates itself from others by its aesthetic and functional design (required)						
Basis for the design is well considered (i.e., inspiration, function, etc.) (required)						

*Inspire Award Nominees are those teams that are nominated in multiple categories.
**Promote and Compass Awards are not necessarily judged at events.

CONFIDENTIAL - NOT TO BE SHARED WITH TEAMS

Appendix D: Conflict of Interest

Conflict of Interest

"Conflict of Interest – a conflict between the private interests and the official responsibilities of a person in a position of trust.

All judges will be asked to disclose any potential Conflicts of Interest, and to complete the Conflict of Interest and Disclosure form. During the Judges meeting, Judges will be asked to declare any potential conflicts to the rest of the judging pool. Some scenarios of conflict of interests:

- A coach/mentor is volunteering as a judge.
- A parent/relative of a team member is volunteering as a judge.
- An alum (student or adult) of a team competing at the event is volunteering as a judge.
- A sponsor of a team that is competing at the event is volunteering as a judge.

Having a Conflict of Interest, or even the perception of a Conflict of Interest can affect a team's experience, even if decisions that were made throughout the day were not biased in any way. The perception of potential favoritism is enough to discourage a team, coach, or mentor, and take away from their overall experience at an event. Knowing what Conflict of Interest is, and how to avoid being in a position that could be a conflict will ensure all teams feel they have been evaluated fairly.

A volunteer who does not disclose their conflict of interest can compromise the integrity of *FIRST* Tech Challenge events. In some cases, this could cause teams affiliated with the volunteer with a Conflict of Interest to be removed from consideration for awards.

Conflict of Interest, in some cases, can be quite easy to see. In other cases, it may be less obvious, and it may be difficult to decide what constitutes a true Conflict of Interest. In some cases, the bias may be apparent, while other times a Conflict of Interest may be perceived by a team or a coach. It is best to keep the following in mind when volunteering:

Be open and forthcoming about any conflicts you may have with a team competing at the event.

If there is a known Conflict of Interest, avoid making decisions about a team that would change the outcome of the day, such as speaking for or against a team in judge deliberations.

Remove yourself from any situation that could be perceived as a Conflict of Interest.

Below is one example of a Conflict of Interest. Keep in mind this is an example, and there are many forms of Conflict of Interest, and ways to handle it.

Parent/Relative/Alumni of a Team

If a parent or a relative of a team member, or an alumnus of a team is volunteering at an event, this volunteer must abstain from making any decisions that could affect the results of the tournament. Whether volunteering as a judge or as field personnel (referee, field technical assistant, etc.) it is important to have that volunteer remove themselves from making any decisions related to that team. For example:

- If the volunteer is a judge, they must recuse themselves from any conversations about that team during deliberations.
- If the volunteer is a referee, they should not be involved in any decisions around penalties, match replays, etc.

- Keep in mind that there are many ways Conflict of Interest can be presented, from parents to sponsors. Make sure to remove any apparent Conflicts of Interest, but also keep in mind any perceptions of conflicts.

Appendix E – Judging Feedback Form

This form is coming soon!

Appendix F: Judge Match Observer Sheet

Team Number: _____

Match#	Autonomous Mode	Game Play	Reliability	Standout Notes

Appendix G: *FIRST* Dean's List Award

To recognize the leadership and dedication of the most outstanding secondary school students from *FIRST*®, the Kamen family sponsors awards for selected 10th or 11th grade* students known as the *FIRST*® Robotics Competition and the *FIRST*® Tech Challenge *FIRST* Dean's List Award.

There are three (3) levels of *FIRST* Dean's List Award *Students*.

1. **FIRST Dean's List Semi-finalists** – comprised of the two (2) students in their 10th or 11th school year* nominated by each team.

2. **FIRST Dean's List Finalists** - The students selected for each Regional Championship.

3. **FIRST Dean's List Winners** - comprised of the ten (10) *FIRST* Robotics Competition and ten (10) *FIRST* Tech Challenge students selected from the applicable *FIRST* Dean's List Finalists.

### *Dean's List Award Evaluation Structure*

There are 2 volunteer roles that are recruited to evaluate the Dean's List Award semi-finalists and finalists.

- Dean's List Interviewer
- Dean's List Reviewer

Working in pairs, Dean's List Interviewers conduct 6–10-minute interviews with the students nominated by their team to be a Dean's List semi-finalist. Interviewers update *the FIRST* database with their findings. Dean's List reviewers decide award finalists for their region based on the input of the Dean's List Interviewers.

The tournament director or volunteer coordinator will recruit at least two interviewers for the Dean's List Award for each event. These interviewers will be asked to review all entries before the event and conduct all interviews for this award during the event. This position is separate from the standard judge volunteer position, as they only conduct the interview; they do not participate in deliberations for this award.

Every nominated student must be interviewed. Interviewers work with the tournament director to set up the student interviews. Dean's List Award interviewers should ensure there are 10 minutes allotted for each interview; up to ten minutes for the interview itself and a few extra minutes for the interviewers to make notes and complete Dean's List Evaluation Form.
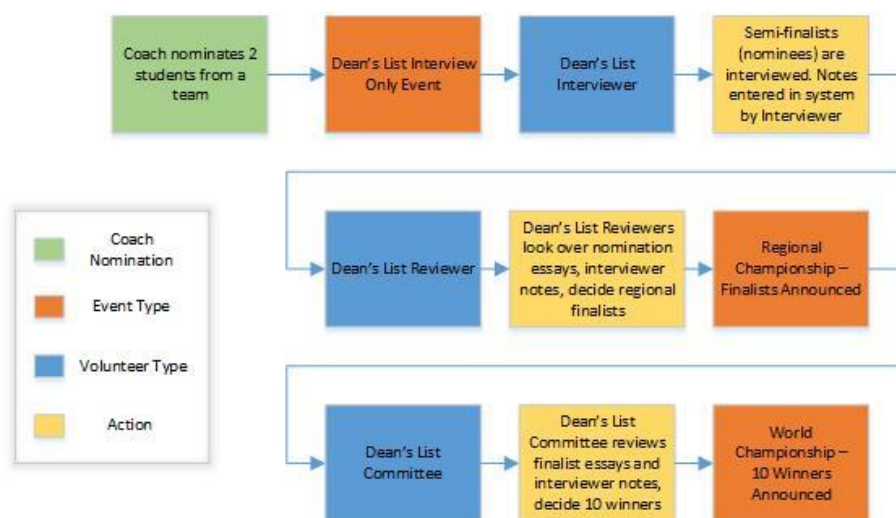
Dean's List Reviewer

Working to come to consensus, Dean's List reviewers read the nominations and Dean's List interviewer feedback and selected two Dean's List Finalists for their region. Finalists are recognized at the State or Regional Championship Tournament.

The Dean's List reviewer is responsible for deciding the Dean's List Award finalists. The reviewer must access the Dean's List Award System to view the original submission as well as the notes from the Dean's List interviewer. Once all the submissions and notes have been taken into consideration, the reviewer is responsible for choosing two-four (finalist numbers are region specific) finalist students prior to the regional championship tournament. The finalists are then announced at the regional championship tournament. Dean's List reviewers do not need to be present at the event; they review each semi-finalist and enter the finalists in the Dean's List Award System. This information will feed up to the regional Championship.

More about the Dean's List Award

The *Students* who earn *FIRST* Dean's List status as a Semi-finalist, Finalist or Winner, are great examples of current *Student* leaders who have led their *Teams* and communities to increased awareness for *FIRST* and its mission. It is the goal of *FIRST* that these individuals will continue, post-award, as great leaders, student alumni, and advocates of *FIRST*.

For more information on the Dean's List Award, and to see past *FIRST* Tech Challenge winners, please visit our website! http://www.firstinspires.org/ics/ftc/deans-list

Eligibility

Every registered FIRST Tech Challenge team can submit up to two (2) students as FIRST Dean's List Award Semi-Finalists.

- Students must be a sophomore (grade 10) or junior (grade 11) to be eligible for this award.

Note: For regions of the world that do not use grade levels such as this to identify years of schooling: This award is intended for students who are two (2) to three (3) years away from entering college or university. Students that would be attending college or university in the next academic year are not eligible. Mentors will be asked for the year of graduation during the nomination process.

The coach or mentor nominating the student(s) must submit an essay explaining why the student should receive this award. The essay must be 4,000 characters or less.

Criteria

Criteria for selection of the *FIRST* Dean's List shall include, but not be limited to a student's:

- Demonstrated leadership and commitment to the *FIRST* Core Values
- Effectiveness at increasing awareness of *FIRST* in their school and community
- Demonstrates passion for a long-term commitment to *FIRST*
- The student's individual contributions to their team contribute to the overall success of the team.
- Proven experience in areas of science, technology, engineering, and mathematics (STEM)
- The student is a role model and can motivate and lead fellow team members.

Appendix H: Advancement Order

Traditional Event Order of Advancement

If the team listed has already advanced or there is no team fitting that description (as in 2nd team selected at smaller events), the advancement will continue in order.

1. Optional – Qualifier Host team (NOTE: Each region's Program Delivery Partner decides if this advancement opportunity will be offered, and if so, when the host team must be identified. The team MUST compete at one other tournament within the region and must meet the criteria set forth by the Affiliate Partner in the agreement. This advancement applies to Qualifying Tournament hosts only, and does NOT apply to host teams of Meets, League Tournaments or Championship Tournaments).
2. Inspire Award Winner
3. Winning Alliance Captain
4. Inspire Award 2nd place.
5. Winning Alliance, 1st team selected.
6. Inspire Award 3rd place.
7. Winning Alliance, 2nd team selected.
8. Think Award Winner
9. Finalist Alliance Captain
10. Connect Award Winner
11. Finalist Alliance, 1st team selected.
12. Innovate Award, sponsored by RTX Winner
13. Finalist Alliance, 2nd team selected.
14. Control Award Winner
15. Motivate Award Winner
16. Design Award Winner
17. Highest Ranked eligible team *not previously advanced, from the Winning Division.
18. Think Award 2nd Place.
19. Highest Ranked eligible team *not previously advanced, from the Finalist Division.
20. Connect Award 2nd Place.
21. Highest Ranked eligible team *not previously advanced, from the Winning Division.
22. Innovate Award, sponsored by RTX 2nd Place.
23. Highest Ranked eligible team *not previously advanced, from the Finalist Division.
24. Control Award Winner 2nd Place
25. Highest Ranked eligible team *not previously advanced, from the Winning Division.
26. Motivate Award Winner 2nd Place.
27. Highest Ranked eligible team *not previously advanced, from the Finalist Division.
28. Design Award Winner 2nd Place
29. Highest Ranked eligible team *not previously advanced, from the Winning Division.
30. Think Award 3rd Place.
31. Highest Ranked eligible team *not previously advanced, from the Finalist Division.
32. Connect Award 3rd Place.
33. Highest Ranked eligible team *not previously advanced, from the Winning Division.
34. Innovate Award, sponsored by RTX 3rd Place.
35. Highest Ranked eligible team *not previously advanced, from the Finalist Division.
36. Control Award 3rd Place
37. Highest Ranked eligible team *not previously advanced, from the Winning Division.
38. Motivate Award 3rd Place.
39. Highest Ranked eligible team *not previously advanced, from the Finalist Division.
40. Design Award. 3rd Place
41. Highest Ranked eligible team *not previously advanced, from the Winning Division.

42. Highest Ranked eligible team *not previously advanced, from the Finalist Division.
43. Highest Ranked eligible team *not previously advanced, from the Winning Division.
44. Highest Ranked eligible team *not previously advanced, from the Finalist Division.
45. Highest Ranked eligible team *not previously advanced, from the Winning Division.
46. Highest Ranked eligible team *not previously advanced, from the Finalist Division.
47. Highest Ranked eligible team *not previously advanced, from the Winning Division.
48. Highest Ranked eligible team *not previously advanced, from the Finalist Division.
49. Highest Ranked eligible team *not previously advanced, from the Winning Division.
50. Highest Ranked eligible team *not previously advanced, from the Finalist Division.
51. Highest Ranked eligible team *not previously advanced, from the Winning Division.
52. Highest Ranked eligible team *not previously advanced, from the Finalist Division.

*Refers to Qualification Match Ranking. These advancements are in order. There is no normalizing of rank between divisions.

REMOTE Event Order of Advancement

If the team listed has already advanced or there is no team fitting that description (as in Inspire Award 3rd place at events of 21 or fewer teams)

1. Optional – Qualifier Host team (NOTE: Each region's Program Development Partner decides if this advancement opportunity will be offered, and if so, when the host team must be identified. The team MUST compete at one other tournament within the region and must meet the criteria set forth by the Affiliate Partner in the agreement. This advancement applies to Qualifying Tournament hosts only, and does NOT apply to host teams of Meets, League Tournaments or Championship Tournaments).
2. Inspire Award Winner
3. Top Ranked Team
4. Inspire Award 2nd place.
5. Top Ranked 2nd place Team
6. Inspire Award 3rd place.
7. Top Ranked 3rd place Team
8. Think Award Winner
9. Top Ranked 4th place Team
10. Connect Award Winner
11. Top Ranked 5th place Team
12. Innovate Award sponsored by RTX Winner
13. Top Ranked 6th place Team
14. Control Award Winner
15. Motivate Award Winner
16. Design Award Winner
17. Highest Ranked Eligible Team not previously advanced
18. Think Award 2nd Place.
19. Highest Ranked Eligible Team not previously advanced
20. Connect Award 2nd Place.
21. Highest Ranked Eligible Team not previously advanced
22. Innovate Award sponsored by RTX 2nd Place.
23. Highest Ranked Eligible Team not previously advanced
24. Control Award 2nd Place
25. Highest Ranked Eligible Team not previously advanced
26. Motivate Award 2nd Place.
27. Highest Ranked Eligible Team not previously advanced

28. Design Award 2nd Place
29. Highest Ranked Eligible Team not previously advanced
30. Think Award 3rd Place.
31. Highest Ranked Eligible Team not previously advanced
32. Connect Award 3rd Place.
33. Highest Ranked Eligible Team not previously advanced
34. Innovate Award sponsored by RTX 3rd Place.
35. Highest Ranked Eligible Team not previously advanced
36. Control Award 3rd Place
37. Highest Ranked Eligible Team not previously advanced
38. Motivate Award 3rd Place.
39. Highest Ranked Eligible Team not previously advanced
40. Design Award 3rd Place
41. Highest Ranked Eligible Team not previously advanced
42. Highest Ranked Eligible Team not previously advanced
43. Highest Ranked Eligible Team not previously advanced
44. Highest Ranked Eligible Team not previously advanced
45. Highest Ranked Eligible Team not previously advanced
46. Highest Ranked Eligible Team not previously advanced
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49. Highest Ranked Eligible Team not previously advanced
50. Highest Ranked Eligible Team not previously advanced
51. Highest Ranked Eligible Team not previously advanced
52. Highest Ranked Eligible Team not previously advanced

Appendix I: Advancement and Award Eligibility

FIRST Tech Challenge Award Eligibility and Advancement Criteria

To ensure fairness to all teams and to provide equal opportunity for all teams to win an award at a FIRST Tech Challenge Championship tournament, teams are only eligible to win an award or advance to the next event level at the first three events of any type they attend. If they advance to the next level, they are again eligible to advance or win an award at the first three events at that level. Those teams who compete in more than three Qualifying Tournaments, and Championship Tournaments do so to be involved in the fun and excitement of the tournament and not with the intent of winning awards or advancing to the next tournament level.

Each team is responsible for telling tournament organizers and Judges if they are ineligible for awards or advancement based on the policies below.

Eligibility

Teams must be registered and in good standing with *FIRST* before they are eligible to compete in Official *FIRST* Tech Challenge tournaments.

The Tournament Director will confirm the eligibility of the teams.

Eligibility for Judged Awards

Teams are eligible to be considered for all Judged Awards (except the Inspire Award, please see Inspire section for details) at any of the first three Qualifying Tournaments, Super Qualifying Tournament, and Championship Tournament events they participate in within their home region. Teams may only advance or be considered for the Inspire Award from their 'home region'. Affiliate Partners have the authority to decide if their event is open to teams from other regions or is only for teams within their region. Open events will not advance teams from outside their region.

- Qualifying Tournament
- Super Qualifying Tournament
- Championship Tournament

*Teams may only participate in one League. League Tournaments are to be considered as the same "level" as Qualifying Tournaments.

Inspire Award Eligibility

Teams that have won the Inspire Award at another event of the same level cannot be considered for the Inspire Award or as an Inspire Award Finalist at additional events at that level. The Program Delivery Partner in your region will share that information with the Tournament Director.

All teams are eligible to be considered for all Judged Awards at the *FIRST* Championship Tournament.

Eligibility for Advancement

Teams are eligible for advancement at any one of the first three events they participate in at any of the following levels within their home region. This applies to both teams in North America, and teams outside of North America:

- Qualifying Tournament
- Super Qualifying Tournament
- Championship Tournament

Teams may advance to only the first World Championship Event they have been invited to.

Appendix J: Control Award - Instructions and Submission Form

To be considered for the Control Award, teams must submit a Control Award Submission Form. On this form, teams identify and summarize the key control elements that make their robot unique. Included is a description of key observable actions for Judges to look for as well as the sensor and algorithm use that make it all possible. Judges will use this form for both evaluating control designs and when observing robots on the competition field. Information on this form will typically fit on one page, with an additional page for each autonomous mode described. Optionally, additional summary pages may be added at the end to help the judges understand key developmental activity.

Autonomous Objectives
List the overall actions that the robot can complete. These should include scoring actions as well as other positioning and defensive operations. The robot does not have to do accomplish all these in every program but should be demonstrable in at least one autonomous program.

Sensors Used
List the sensors used to control the robot and a brief description of how they are used.

Key Algorithms

List the key algorithms that make your robot unique or are vital to its success on the field. Particularly complex or unique algorithms or those that integrate the use of multiple sensors are good candidates to highlight here.

Driver Controlled Enhancements
List any advanced control elements that are used during the driver-controlled period to enhance performance. These may include signaling operations when a certain condition is detected on the field, auto-complete functions, fail-safe algorithms, or just any enhancements that make the control of the robot easier or more efficient for the driver.

Autonomous Program Diagrams
For autonomous operations, teams should draw and label a typical path the robot takes. The labeled points identify key observable actions the robot makes. For each labeled point, a brief description of what is taking place should be noted (see example below). Especially describe those key operations where adjustments are made to ensure accurate and repeatable performance.

For teams with multiple autonomous programs, it is not necessary to document every program on a separate sheet. It is sufficient to document the most used or complex programs and note variances for the rest.

Additional Summary Information (optional)
For those teams that have developed many different control features, they may want to provide additional information to assist the judges in understanding their work. This is a place where teams can provide more detailed information about their designs. It should be organized such that separate topics are easily identified and can be quickly found.

Control Award Submission Form

Please turn in this sheet during your judge interview along with your engineering portfolio

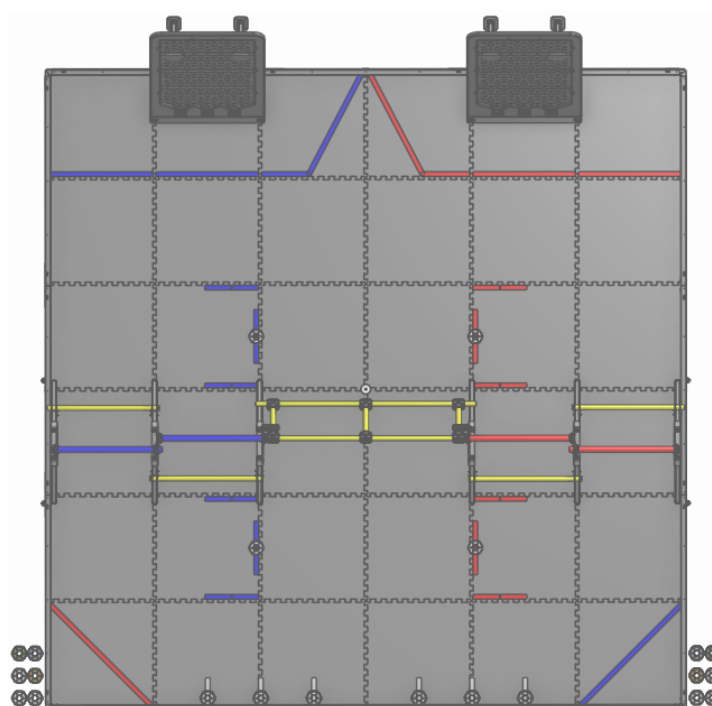| Team #	Team Name:

Autonomous objectives:

Sensors used:

Key algorithms:

Driver controlled enhancements:

Engineering portfolio references:

Autonomous program diagrams:

Appendix K: Award Terms and Definitions

All teams are required to adhere to the following definitions in their award submissions and in their judge interviews.

Team Support Definitions

Started (a *FIRST* LEGO League / *FIRST* Tech Challenge / *FIRST* Robotics Competition team) "A team has ***Started*** a team if they have met one of the following requirements:

1. Funded or sourced funding (i.e., grants or sponsorship) of at least 50% of the team registration fee.

2. Made the team aware of *FIRST* and/or the specific program and helped the team with the official registration process.

As well as:

3. The Started team agrees that the Starting team did in fact Start them.

4. The Started team competes in an official FIRST event.

The intent of this definition is to make it clear when a team is responsible for bringing a new group into a specific *FIRST* program. The keys here are helping with funding OR introducing the new group to *FIRST* and helping them get registered as a team in their specific program.

Cases where one team has **Started** another team will be rare. Cases where one team has **Mentored** or **Assisted** a team through their initial phases are very valuable, however they are distinct from **Starting** a team.

Teams are encouraged to provide documentation as a reference for judges (e.g., a letter from the team that has been **Started**) supporting the fact that they did indeed **Start** each team referred to in the submission. New teams can only be **Started** by two teams and can only provide two of these letters. All provided documentation may be made available for judges during the second interviews as an additional resource item.

Mentored (a *FIRST* LEGO League / *FIRST* Tech Challenge / *FIRST* Robotics Competition team) **-** "A team has ***Mentored*** a team if they have met all the following requirements:

1. Providing consistent communication, either in person or via phone/email/video conference, to the ***Mentored*** team helping with technical or non-technical *FIRST* program specific issues.

2. The ***Mentored*** team agrees that the ***Mentoring*** team did in fact ***Mentor*** them.

Mentoring a team is a consistent and ongoing relationship. To be considered a ***Mentoring*** team, you must be providing regular help to the ***Mentee*** team during the season within their schedule. We understand that not all teams meet as regularly as once a week, however this is a general standard. For some teams, communication may be more infrequent and still considered consistent. We encourage teams to use their best discretion when evaluating these edge cases. Helping teams on a less consistent basis is still immensely valuable and important, however it would simply be considered ***Assisting*** a team.

Teams are encouraged to provide documentation (e.g., a letter from the team that has been ***Mentored***) supporting the fact that they did indeed ***Mentor*** each team referred to in the submission. All provided documentation may be made available for judges during the second interviews as an additional resource item.

Examples (but not limited to) of consistent communication for *Mentoring* a team include:

- Team A regularly sends students to a nearby school to help their *FIRST* LEGO League team(s) with their robot design and project presentations.

- Team A sends an email to Team B asking for advice on future robot design. The two teams email back and forth over a period of time exchanging questions and answers.

- Team A meets Team B at a competition. Team B expresses concern that their team is struggling to keep the team going and is looking for help. The two teams live far away from each other, but over the next year, they exchange many emails, they video chat a few times during the off-season and even meet in person.

Examples (but not limited to) of **not** *Mentoring* a team:

- Answering a single email question.

- Inviting a team to your shop so they may make parts on your machinery.

- Hosting a team in your build space during inclement weather when they are unable to access their own facilities.

- Giving a robot part to another team.

- Allowing a team to practice at your practice facility.

Assisted (a *FIRST* LEGO League / *FIRST* Tech Challenge / *FIRST* Robotics Competition team) **-** "A team has *Assisted* a team if they have met all the following requirements:

1. Providing communication, either in person or via phone/email/video conference, to the *Assisted* team helping with technical or non-technical program specific issues. OR Providing funding and/or supplies to the *Assisted* team.
2. The *Assisted* team agrees that the *Assisting* team did in fact *Assist* them.

Assisting a team is a form of **Mentorship**, however it does not require the long term or consistent communication that is a defining characteristic of **Mentorship**. It is expected that all *FIRST* Tech Challenge teams are constantly assisting their fellow *FIRST* teams, and it is not necessary to try and document or count all the instances of **Assisting** that your team has participated in.

Examples (but not limited to) of **Assisting** a Team:

- Answering a single email question.

- Inviting a team to your shop so they may make parts on your machinery.

- Hosting a team in your build space during inclement weather when they are unable to access their own facilities.

- Giving a robot part to another team.

- Allowing a team to practice at your practice facility

Provided Published Resources (to a *FIRST* LEGO League / *FIRST* Tech Challenge / *FIRST* Robotics Competition team) – A team has *Provided Published Resources* to a team if they have met all the following requirements:

Gracious Professionalism® - "Doing your best work while treating others with respect and kindness - It's what makes *FIRST*, first."

1. The team has created resources designed to aid teams with technical or non-technical *FIRST* program specific issues.

2. The resources have been published or presented publicly. (e.g., Presented at a conference, published on a team website, etc.)

Many *FIRST* Tech Challenge teams have created a wealth of resources that benefit numerous teams. This kind of assistance is enormously valuable to our community and is heavily encouraged. However, these acts do not meet the definition of ***Mentoring*** since they lack consistent communication involved in mentoring**.** To recognize and encourage these important efforts, the definition of ***Provided Published Resources*** was created.

Teams are encouraged to provide documentation (e.g., Letters from teams who have used the resources; screenshots of downloads/engagement/digital impression statistics; attendance numbers) supporting the overall reach of their ***Published Resources.***

All provided documentation may be made available for judges during the second interviews as an additional resource item.

Examples (but not limited to) of ***Providing Published Resources***

- Team A creates and publishes a scouting database compiling statistical data from competitions, and the database is downloaded and used by other teams.

- Team A creates and gives a presentation on *FIRST* fundraising to an audience of 15 local *FIRST* Tech Challenge and *FIRST* LEGO League teams.

- Team A develops and publishes a mobile app that contains *FIRST* LEGO League tutorials, and the app is downloaded and used by *FIRST* LEGO League teams.

- Team A creates and publishes *FIRST* Tech Challenge drivetrain video tutorials on YouTube, and videos are watched and used by *FIRST* Tech Challenge teams.

Event Support Definitions:

Ran – A team has ***Run*** an event if they have met all the following requirements:

1. Team members are involved in most of the planning of the event.

2. Team members are involved in most of the on-site event execution or have arranged for and are supervising the volunteers to handle most of the on-site event execution.

Running an event means that this event would not be possible without the efforts and actions of the given team. The team in question must be responsible for most of the work that goes into the event.

Teams are encouraged to provide documentation (e.g., a letter from organizing body/Program Delivery Partner that the event was ***Run*** for) supporting the fact that they did indeed ***Run*** the event. All provided documentation may be made available for judges during the second interviews as an additional resource item.

Examples (but not limited to) of ***Running*** an event.

- Team A acts as most of the planning committee for a *FIRST* LEGO League event, and team members recruit and train the event volunteers.

Hosted - A Team has ***Hosted*** an event if they have met one of the following requirements:

1. The event takes place at a team facility.
2. The event takes place at a facility arranged for by the team.

Hosting an event occurs when a team opens one of their own facilities or arranges for a facility to allow for an event to occur. Often teams will **Run** and **Host** the same event, but these terms do not necessarily have to be linked.

Supported - A team has ***Supported*** an event if they have met any of the following requirements:

1. Multiple team members are involved in some part of the planning of the event.
2. Multiple team members are involved in the on-site or online event execution for the entirety of the event (i.e., Team members have volunteered for the entirety of the event)

Teams ***Support*** events by helping with the planning or execution of the event. This is less encompassing than ***running*** an event.

Examples (but not limited to) of ***Supporting*** an event:

- Having multiple team members volunteer at the entirety of an event.
- Having a few mentors serve on a large planning committee for a *FIRST* Tech Challenge regional event.

Examples (but not limited to) that do **not** qualify as ***Supporting*** an event.

- Having 1 team member volunteer at an event.
- Helping tear down the field at the end of an event.
- Having 1 mentor serve on a large planning committee for a *FIRST* Tech Challenge regional event.

Reached - A team has ***Reached*** someone if someone has interacted or observed the team in some capacity whether it be digitally or in person, regarding the ***Reaching*** team's program(s).

Reach is the all-encompassing number of people who became aware of your team via a stated medium/event. ***Reach*** requires tangible interaction or observation of the team, not merely seeing the team in the background of a show or public exhibit.

Examples (but not limited to) of ***Reaching***:

- 6,000,000 people watch a TV show that features a team's robots. This team has ***Reached***. 6,000,000 people.
- 1,000,000 people attend an event where the team has an exhibit. However, only 500 of those people saw the team's actual exhibit. This team has ***Reached*** 500 people.
- 30,000 people attend a football game, where the team performs with their robots during the halftime show. This team has ***Reached*** 30,000 people.
- 700 people follow a team on Instagram. This team ***Reached*** people 700 people.

Examples (but not limited to) of **not** *Reaching***:**

- 6,000,000 people watch a TV show in which the team's robots are used as background props. Since the robots nor the team have been featured, this team has not *Reached* the audience.

- 30,000 people attend a football game, where the team's name is shown on the big screen at the stadium. This is not a tangible interaction or observation of the team; thus, this team has not *Reached* the audience.

The goal of using *Reach* in submissions is to accurately convey the number of people who have become aware of your team. However, it is difficult to provide exact numbers when it comes to the numerous public demonstrations teams participate in every year. It is important that teams do not embellish or exaggerate these numbers, as doing so would paint a misleading picture of the team's accomplishments. When in doubt, teams should try and estimate on the low end.

Teams are encouraged to provide documentation that shows the basis of their estimates of *Reach*. (e.g., Letters from event organizers stating event attendance and specific area attendance) Documented evidence and breakdowns of *Reach* numbers are far more compelling than simply stating the team's estimated *Reach*.

Advocated - A team has engaged in *Advocacy* if they meet any of the following criteria:

1. Met with government officials, community leaders, school administration, or business leaders (or their staff) to discuss and engage with and promote public policy changes towards the promotion of STEM/*FIRST*.

2. Developed relationships with government officials, community leaders, school administration, or business leaders (or their staff) to promote public policy changes towards the promotion of STEM/*FIRST*.

3. Served as a resource for government officials, community leaders, school administration, or business leaders (or their staff) as they create public policy changes towards the promotion of STEM/*FIRST*.

Examples (but not limited to) of engaging in *Advocacy* are:

- Attending an advocacy day where teams from the area met with local officials on afterschool STEM engagement programs.

- Working with leaders to craft a bill or resolution that was introduced.

Examples (but not limited to) of **not** engaging in *Advocacy* are:

- Using social media/tweeting to government officials.

- Volunteering for a campaign.

- Hosting a table/tabling/handing out flyers at parade or event (people must engage not just a passive act).

- Soliciting and recruiting sponsors solely for your team (i.e., fundraising).

Teams are encouraged to be specific about when they started an initiative or participated in one. It should be part of their current season.

An additional resource item is defined as a resource that is shared with the judges during their team judging second interviews or pit interviews. It may be a poster, video, engineering notebook, PowerPoint, or any additional materials to enhance the team interview and provide proof on the team's process and journey through their season.

Appendix L: Award Descriptions

Inspire Award

This judged award is given to the team that best embodies the 'challenge' of the *FIRST* Tech Challenge program. The team that receives this award is a strong ambassador for *FIRST* programs and a role model *FIRST* Team. This team is a top contender for many other judged awards and is a gracious competitor.

The Inspire Award winner is an inspiration to other teams, acting with Gracious Professionalism® both on and off the playing field. This team shares their experiences, enthusiasm and knowledge with other teams, sponsors, their community, and the judges. Working as a unit, this team will have shown success in performing the task of designing and building a robot.

Required Criteria for the Inspire Award:

- ☐ The team must show respect and Gracious Professionalism® to everyone they meet at a *FIRST* Tech Challenge event.
- ☐ A team must be a strong contender for several other judged awards. The Inspire Award celebrates the strongest qualities of all the judged awards.
  - • Must be a contender for a Machine, Creativity, and Innovation Award.
  - • Must be a contender for a Team Attributes Award.
  - • Must be a contender for the Think Award.
- ☐ The Team must be an ambassador for *FIRST* programs. They demonstrate and document their work in their community.
- ☐ The team must be positive and inclusive, and each team member contributes to the success of the team.
- ☐ Team must submit an engineering portfolio. The engineering portfolio must include engineering content, team information and a team plan. The entire engineering portfolio must be high quality, thoughtful, thorough, concise, and well-organized.
- ☐ Robot design must be creative and innovative, and the robot performs reliably on the field. The team communicates clearly about their robot design and strategy to the judges.
- ☐ Team interview session must be professional and engaging.

Strongly Suggested Criteria for the Inspire Award:

- ☐ The team should be able to share or provide more detailed information to support the information in the portfolio.
- ☐ The team should refer to the Award Terms and Definitions for judging outlined in [Appendix K](#) of this manual for outreach and be able to provide supporting documentation to the judges, where applicable.

Think Award

Removing engineering obstacles through creative thinking.

This judged award is given to the team that best reflects the journey the team took as they experienced the engineering design process during the build season. The engineering content within the portfolio is the key reference for judges to help identify the most deserving team. The teams engineering content must focus on the design and build stage of the team's robot.

The team must be able to share or provide additional detailed information that is helpful for the judges. This could include descriptions of the underlying science and mathematics of the robot design and game strategies,

the designs, redesigns, successes, and opportunities for improvement. A team is not a candidate for this award if their portfolio does not include engineering content.

Required Criteria for the Think Award:

- ☐ The team must show respect and Gracious Professionalism® to everyone they meet at a *FIRST* Tech Challenge event.
- ☐ Team must submit an engineering portfolio.
- ☐ Engineering portfolio must have engineering content. The engineering content could include entries describing examples of the underlying science, mathematics, and game strategies in a summary fashion.
- ☐ The engineering portfolio must provide examples that show the team has a clear understanding of the engineering design process including an example of lessons learned.

Strongly Suggested Criteria for the Think Award:

- ☐ Team must be able to describe or provide additional information to the judges about their portfolio content.
- ☐ Engineering portfolio could summarize how the team acquired new mentors or acquired new knowledge and expertise from their mentors.
- ☐ Engineering portfolio could contain summary of overall team plan.
- ☐ Engineering portfolio could contain information about the plans to develop skills for team members.
- ☐ Portfolio format is less important but enables the judges to understand the team's design maturity, organizational capabilities, and overall team structure.
- ☐ Portfolio could reference specific experiences and lessons learned but should capture the summary of the status of the team and their robot design.
- ☐ Portfolio could also summarize experiences and lessons learned from outreach with concise tables of outcomes.
- ☐ The team should refer to the Award Definitions for judging outlined in Appendix K of this manual for outreach and be able to provide supporting documentation to the judges, where applicable.

Connect Award

Connecting the dots between community, *FIRST*, and the diversity of the engineering world.

This judged award is given to the Team that most connects with their local science, technology, engineering, and math (STEM) community. A true *FIRST* team is more than a sum of its parts and recognizes that engaging their local STEM community plays an essential part in their success. The recipient of this award is recognized for helping the community understand *FIRST*, the *FIRST* Tech Challenge, and the team itself.

The team that wins the Connect Award actively seeks and recruits engineers and explores the opportunities available in the world of engineering, science, and technology. This team has a clear team plan and has identified steps to achieve their goals.

Required Criteria for the Connect Award:

- ☐ The team must show respect and Gracious Professionalism® to everyone they meet at a *FIRST* Tech Challenge event.
- ☐ Team must submit an engineering portfolio.
- ☐ Portfolio must include a team plan that covers the team's goals for the development of team member skills, and the steps the team has taken or will take to reach those goals.
    - o Examples of what the plan could include are:
        - ▪ Timelines

Gracious Professionalism® - "Doing your best work while treating others with respect and kindness - It's what makes *FIRST*, first."

- ▪ Outreach to science, engineering, and math communities
- ▪ Training courses.
- ☐ Portfolio must include a summary of how the team acquired new mentors or acquired new knowledge and expertise from a mentor. Working with mentors from *FIRST*'s Mentor Matching site is an acceptable way to learn from mentors.

Strongly Suggested Criteria for the Connect Award:

- ☐ Team provides clear examples of developing in person or virtual connections with individuals in the engineering, science, or technology community.
- ☐ The team actively engages with the engineering community to help them understand *FIRST*, the *FIRST* Tech Challenge, and the team itself.
- ☐ The team should refer to the Award Terms and Definitions for judging outlined in Appendix K of this manual for outreach and be able to provide supporting documentation to the judges, where applicable.

Innovate Award sponsored by RTX

Bringing great ideas from concept to reality.

The Innovate Award celebrates a team that thinks imaginatively and has the ingenuity, creativity, and inventiveness to make their designs come to life. This judged award is given to the team that has an innovative and creative robot design solution to any specific components in the *FIRST* Tech Challenge game. Elements of this award include elegant design, robustness, and 'out of the box' thinking related to design. This award may address the design of the whole robot or of a sub-assembly attached to the robot. The creative component must work consistently, but a robot does not have to work all the time during matches to be considered for this award. The team's engineering portfolio must include a summary of the design of the component or components and the team's robot to be eligible for this award. Entries must describe how the team arrived at their solution.

Required Criteria for the Innovate Award sponsored by RTX:

- ☐ The team must show respect and Gracious Professionalism® to everyone they meet at a *FIRST* Tech Challenge event.
- ☐ Team must submit an engineering portfolio.
- ☐ The engineering portfolio must include examples of the team's engineering content that illustrate how the team arrived at their design solution.
- ☐ Robot or robot sub-assembly must be creative, elegant, and unique in its design.
- ☐ Creative components must be stable, robust, and work reliably most of the time.

Strongly Suggested Criteria for the Innovate Award sponsored by RTX:

- ☐ The portfolio could inspire the judges to ask the team about the specific detailed engineering information.

Control Award:

Mastering Robot intelligence.

The Control Award celebrates a team that uses sensors and software to increase the robot's functionality in the field. This award is given to the team that demonstrates innovative thinking to solve game challenges such as autonomous operation, improving mechanical systems with intelligent control, or using sensors to achieve

better results. The control component should work consistently in the field. The team's engineering portfolio must contain a summary of the software, sensors, and mechanical control, but would not include copies of the code itself.

Required Criteria for the Control Award:

☐ The team must show respect and Gracious Professionalism® to everyone they meet at a *FIRST* Tech Challenge event.

☐ Team must apply for the Control Award by filling out the Control Award Submission Form, located in Appendix J of this manual.
  ▪ The Control Award Submission Form must not exceed 2 pages.

☐ The Team must submit an engineering portfolio. The engineering portfolio must include engineering content that documents the control components.

☐ Control components must enhance the functionality of the Robot on the Playing Field.

Strongly Suggested Criteria for the Control Award:

☐ Advanced software techniques and algorithms are encouraged, but not required.
☐ Control components should work reliably.
☐ Learnings from the Team about what they tried and what did not work with regards to sensors, hardware, algorithms, and code could be included in the engineering portfolio.

Motivate Award

Sparking others to embrace the culture of *FIRST*!

This team embraces the culture of *FIRST* and clearly shows what it means to be a team. This judged award celebrates the team that represents the essence of the *FIRST* Tech Challenge competition through Gracious Professionalism and general enthusiasm for the overall philosophy of *FIRST* and what it means to be a *FIRST* Tech Challenge team. This is a team who makes a collective effort to make *FIRST* known throughout their school and community, and sparks others to embrace the culture of *FIRST*.

Required Criteria for the Motivate Award:

☐ The team must show respect and Gracious Professionalism® to everyone they meet at a *FIRST* Tech Challenge event.

☐ Team must submit an engineering portfolio. The engineering portfolio must include a Team organization plan, which could describe their future goals and the steps they will take to reach those goals.
  o Examples of what the plan could include are:
    ▪ Team identity
    ▪ Fund-raising goals
    ▪ Sustainability goals
    ▪ Timelines
    ▪ Outreach
    ▪ Finances
    ▪ Community service goals.

☐ The team must be an ambassador for *FIRST* programs.

☐ Team must be able to explain the individual contributions of each Team member, and how these apply to the overall success of the Team.

Strongly Suggested Criteria for the Motivate Award:

- ☐ The team takes part in their presentation, and actively engages with the judges.
- ☐ Team shows a creative approach to materials that market their team and *FIRST*.
- ☐ The team can clearly show the successful recruitment of people who were not already active within the STEM community.
- ☐ The team could also summarize experiences and lessons learned from outreach.
- ☐ The Team should refer to the Award Definitions for judging outlined in Appendix K of this manual 1 for outreach and be able to provide supporting documentation to the judges, where applicable.

Design Award

Industrial design at its best.

This judged award recognizes design elements of the robot that are both functional and aesthetic. The Design Award is presented to teams that incorporate industrial design elements into their solution. These design elements could simplify the robot's appearance by giving it a clean look, be decorative in nature, or otherwise express the creativity of the team. The robot should be durable, efficiently designed, and effectively address the game challenge.

Required Criteria for the Design Award:

- ☐ The team must show respect and Gracious Professionalism® to everyone they meet at a *FIRST* Tech Challenge event.
- ☐ Team must submit an engineering portfolio with engineering content. This could be CAD images or robot drawings of the team's overall design and/or components.
- ☐ Team must document and implement strong industrial design principles, striking a balance between form, function, and aesthetics.

Strongly Suggested Criteria for the Design Award:

- ☐ Distinguishes itself from others by its aesthetic and functional design.
- ☐ Basis for the design is well considered (that is inspiration, function, etc.).
- ☐ Design is effective and consistent with team plan and strategy.
- ☐ The portfolio could inspire the judges to ask the team about specific detailed engineering information.

Promote Award (Optional)

This judged award is optional and may not be given at all tournaments.

The Promote Award is given to the team that is most successful in creating a compelling video message for the public designed to change our culture and celebrate science, technology, engineering, and math. Teams must submit a one-minute-long public service announcement (PSA) video based on the PSA subject for the season.

Team may win the Promote Award only once at a Championship level event and only once at a qualifying tournament or league tournament level event.

PSA Subject for 2023-2024 season:

"The best thing about *FIRST* Tech Challenge is…"

Required criteria for the Promote Award:

- ☐ Video must follow *FIRST* branding and design standards.
- ☐ Video cannot be longer than 60 seconds.

- Video must be of a high quality, as submissions may be used later to promote *FIRST*.
- The team must have rights to the music used in the video.
- Music and permissions must be listed in video credits.
- Video must have strong production value.
- Video must be submitted by the deadline given by the tournament director.
- Team must present a thoughtful and impactful video which appeals to the public.
- Creativity in interpreting the yearly theme is required.
- Follow video award submission guidelines.

Compass Award (Optional)

A beacon and leader in the journey of the *FIRST* Tech Challenge.

This judged award is optional and may not be given at all tournaments.

The Compass Award recognizes an adult coach or mentor who has given outstanding guidance and support to a team throughout the year and demonstrates to the team what it means to be a Gracious Professional. The winner of the Compass Award will be chosen from candidates nominated by *FIRST* Tech Challenge student team members, via a 40-60 second video submission. The video must highlight how their mentor has helped them become an inspirational team. We want to hear what sets the mentor apart.

Required criteria for the Compass Award:

- Video must follow *FIRST* branding and design standards.
- Video cannot be longer than 60 seconds.
- Video must be of a high quality, as submissions may be used later to promote *FIRST.*
- Team must have permission from the copyright owners for the music used in the video.
- Music and permissions must be listed in video credits.
- Video must be submitted by the deadline given by the tournament director.
- The video highlights the mentor's contribution to the Team and demonstrates what sets the mentor apart.

Judges' Choice Award

This award is optional and may not be given at all tournaments.

During the competition, the judging panel may meet a team whose unique efforts, performance, or dynamics merit recognition, but does not fit into any of the existing award categories. To recognize these unique teams, *FIRST* offers a customizable Judges Choice Award. The judging panel may select a team to be honored, as well as the name of the Judges Choice Award. The Judges Choice Award recognizes a team for their outstanding efforts but does not factor into the advancement criteria.

Winning Alliance Award

This award will be given to the winning Alliance represented in the final Match.

Finalist Alliance Award

This award will be given to the finalist Alliance represented in the final Match.