

Team Number							
<b>Gracious Professionalism</b>							
Team shows respect and Gracious Professionalism® to everyone they meet at a FIRST Tech Challenge event (required).							
<b>Think Award</b>							
<p>*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 team could share or provide additional detailed information that is helpful for the JUDGES.</p> <p>Teams must submit a PORTFOLIO for this award.</p>							
<b>Required</b>	PORTFOLIO must include engineering content, which includes at least one of the following examples:  A. evidence of use of the engineering process,  B. lessons learned,  C. trade off analysis/cost benefit analysis, and/or  D. mathematical analysis used to make design decisions						
	Team should be able to discuss, describe, display, or document the engineering content contained in their PORTFOLIO during the formal and pit interviews.						
<b>Encouraged</b>	Team PORTFOLIO may include information about technical resources, which includes any number of the following examples:  A. how the team acquire new mentors,  B. how the team learns from team mentors, and/or  C. development plan for team members to learn new skills						
	PORTFOLIO information is organized in a clear and intuitive manner.						

\*Beginning:1 , Developing:2, Accomplished: 3, Exemplary:4

Team Number						
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**Team Attributes Award**

\*This judged award is given based on the following categories: Team Motivation and Connection with Communities.

**A PORTFOLIO is not required** for this award.

**Team Motivation**

This team embraces the culture of FIRST and shows what it means to be a team. This team makes a collective effort to make FIRST known throughout their school and community and sparks others to embrace FIRST's culture

Required	Team must describe, display, or document an organizational plan, which includes <b>at least one</b> of the following examples:  A. team or organization goals,  B. finances and financial sustainability plan,  C. risk management planning,  D. season timeline project planning, and/or outreach and service plan						
	Discuss, describe, display, or document the individual contributions of each team member, and how these apply to the overall success of the team.						
Encouraged	Is an ambassador for FIRST programs and successfully recruits people who were not already active within the STEM community.						
	Evidence of using lessons learned from outreach activities to improve future events.						
	Has a creative approach to materials that market their team and FIRST.						

\*Beginning:1 , Developing:2, Accomplished: 3, Exemplary:4



Team Number

**Connection with Communities**

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. This team has a team plan and has identified steps to achieve their goals.

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.						
Encouraged	Team actively engages with the engineering community to help them understand FIRST, the FIRST Tech Challenge, and the team itself (required)						

\*Beginning:1 , Developing:2, Accomplished: 3, Exemplary:4

Team Number							
<b>Machine, Creativity &amp; Innovation Award</b> *This judged award is given based on the following categories: Robot Design, Robot Design and Control of the Robot.							
<b>Robot Design</b> A team that demonstrates industrial design principles, striking a balance between form, function, and aesthetics. The design process used should result in a ROBOT which is efficiently designed and effectively addresses the game challenge. <b>A PORTFOLIO is not required</b> for this category.							
Required	A team must be able to describe or demonstrate how their ROBOT is elegant, efficient (simple/executable), and practical to maintain.						
	The entire machine design, or the detailed process used to develop the design, is worthy of this recognition, and not just a single COMPONENT.						
Encouraged	The ROBOT distinguishes itself from others by its aesthetic and functional design.						
	The basis for the design is well considered (that is inspiration, function, etc.).						
	Design is effective and consistent with team's game plan and/or strategy.						

\*Beginning:1 , Developing:2, Accomplished: 3, Exemplary:4

Team Number							
<b>Innovation</b>  This category requires a team to think imaginatively and has the ingenuity, creativity, and inventiveness to make their designs come to life. The team that is strong in Innovation category has an innovative and creative ROBOT design solution to any specific components in the FIRST Tech Challenge game. Elements of this category include design, robustness, and creative thinking related to design. This category may address the design of the whole ROBOT or of a MECHANISM attached to the ROBOT and does not have to work all the time during matches to be considered for this award.  <b>A PORTFOLIO is not required</b> for this category.							
Required	Team must describe, display, or document examples of the team's engineering content that illustrate how the team arrived at their design solution.						
	ROBOT or ROBOT MECHANISM is creative and unique in its design.						
	Creative design element must be stable, robust, and contribute positively to the team's game objectives most of the time.						
Encouraged	Creative designs often come with additional risks, the team should document or describe how they mitigated that risk.						

\*Beginning:1 , Developing:2, Accomplished: 3, Exemplary:4

Team Number							
<b>Control of the Robot</b> <p>This category requires a team to use sensors and software to increase the ROBOT'S functionality during gameplay. The team that is strong in this category demonstrates innovative thinking and solution(s) to solve game challenges such as autonomous operation, improving mechanical systems with intelligent control, or using sensors to achieve better results. The solution(s) should work consistently during MATCHES. The team's PORTFOLIO must contain a summary of the software, sensors, and mechanical control but would not include copies of the code itself.</p>							
Required	<p>The PORTFOLIO must include <b>all</b> of the following:</p> <p>A. hardware and/or software control COMPONENTS on the ROBOT,</p> <p>B. which challenges each COMPONENT or system is intended to solve, and</p> <p>C. how does each COMPONENT or system work</p>						
	<p>Team must use one or more hardware or software solutions to improve ROBOT functionality by using external feedback and control.</p>						
Encouraged	<p>Team could describe, display, or document how the solution should consider reliability, either through demonstrated effectiveness or identification of how the solution could be improved.</p>						
	<p>Use of the engineering process to develop the control solutions (sensors, hardware and/or algorithms) used on the ROBOT includes lessons learned.</p>						

\*Beginning:1 , Developing:2, Accomplished: 3, Exemplary:4

**\*Inspire Award Nominees are teams those are strong in all categories\***

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