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# THE 2002 FIRST ROBOTICS COMPETITION MANUAL

## R1 REGIONAL CHAIRMAN'S AWARD

This year, the concept of the Chairman's Award will expand to include Regional Chairman's Awards. This enables FIRST to recognize more teams for their exemplary efforts in spreading the FIRST message as well as their talents in organizing materials for their presentations. Refer to Section C1 in the CHAMPIONSHIP AWARDS Section for specifics.

The winning entries of the Regional Chairman's Awards will travel to the Championship for the continuing process of consideration for the prestigious 2002 Chairman's Award.

## R2 REGIONAL COMPETITION AWARDS

FIRST will hold an Awards Celebration at each Regional Competition. At these events, a special judging panel will present the following awards:

### DaimlerChrysler

#### Team Spirit

This award celebrates extraordinary enthusiasm and spirit through an exceptional partnership and teamwork.

### Delphi

#### "Driving Tomorrow's Technology™"

This award celebrates an elegant and advantageous machine feature. This award recognizes any aspect of engineering elegance including, but not limited to: design, wiring methods, material selection, programming techniques, and unique machine attributes. The criteria for this award are based on the team's ability to concisely verbally describe, as well as demonstrate, this chosen machine feature.

### General Motors

#### Industrial Design

This award celebrates form and function in an efficiently designed machine that effectively achieves the game challenge.

### Johnson & Johnson

#### Sportsmanship

This award celebrates outstanding sportsmanship and continuous gracious professionalism in the heat of competition, both on and off the playing field.

### Kleiner Perkins Caufield & Byers Entrepreneurship

The Kleiner Perkins Caufield & Byers Entrepreneurship Award celebrates the Entrepreneurial Spirit. This award recognizes a team, which since its inception has developed the framework for a comprehensive business plan in order to scope, manage, and obtain team objectives. This team displays entrepreneurial enthusiasm and the vital business skills for a self-sustaining program.

### Motorola

#### Quality

This award celebrates machine robustness in concept and fabrication.

### Xerox

#### Creativity

This award celebrates creative design, use of a component, or a creative or unique strategy of play.

### Imagery

This award celebrates attractiveness in engineering and outstanding visual aesthetic integration from the machine to team appearance.

### Leadership in Control

This award celebrates an innovative control system or application of control components to provide unique machine functions.

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## **Engineering Inspiration**

This award celebrates a team's outstanding success in advancing respect and appreciation for engineering and engineers, both within their school, as well as their community. Criteria include: the extent and inventiveness of the team's efforts to recruit students to engineering, the extent and effectiveness of the team's community outreach efforts, and the measurable success of those efforts.

## **Incredible Play**

This award celebrates the team or alliance displaying the most incredible play of the elimination rounds, including a formidable defensive or offensive move or strategy. The recipient of this award is decided upon by FIRST teams via on-site ballot vote at each regional competition.

## **#1 Seed**

This award celebrates the team that is the top seed at the conclusion of the qualifying rounds.

## **Highest Rookie Seed**

This award celebrates the highest seeded rookie team at the conclusion of the qualifying rounds.

## **Rookie All-Star**

This award celebrates the rookie team exemplifying a young but strong partnership effort, as well as implementing the mission of FIRST: to inspire students to learn more about science and technology.

## **Judges' Awards**

During the course of the competition, the judging panel may encounter a team whose unique efforts, performance, or dynamics merit recognition.

## **Regional Finalist**

This award celebrates the team or alliance that makes it to the final match of the competition.

## **Regional Champion**

This award celebrates the team or alliance that wins the competition.

## C1 THE CHAIRMAN'S AWARD

### C1.1 Overview

The FIRST Robotics Competition is about much more than the mechanics of building a robot or winning a competitive event. It is about the partnership among people who are part of the FIRST community and the impact on those who participate in FIRST programs. The FIRST mission is dedicated to changing the way America's young people regard science and technology and to inspiring an appreciation for the real-life rewards and career opportunities in these fields.

The Chairman's Award was created to keep the central focus of the FIRST Robotics Competition on our ultimate goal of transforming the culture of the United States, in ways that will inspire greater levels of respect and honor for science and technology, as well as encourage more of today's youth to become scientists, engineers and technologists.

The award represents the spirit of FIRST. The Chairman's Award honors the team that, in the judges' estimation, best represents a model for other teams to emulate, and which embodies the goals and purpose of FIRST. It remains the most prestigious award FIRST presents.

This year, one Chairman's Award will now be presented at each regional competition. There are 17 regional competitions scheduled for the 2002 season. Therefore, there will be 17 Chairman's Award winners at the regional level. Only the 17 winners of the regional Chairman's Award will be eligible for consideration in the selection of The Chairman's Award to be presented at The Championship event in Orlando, Florida at Walt Disney World's EPCOT.

### C 1.2 Submission Information

#### C1.2.1 Submission Content

The criteria for the 2002 Chairman's Award are essentially identical to those that have been traditional for the Chairman's Award in the past, with the exception that the judges will more consciously focus on a team's activities during the entire year, more so than just the six-week design and build period. The FIRST Robotics Competition is not about machines; it is about people. Above all, it is an experience. Documenting and preserving your team's FIRST experience becomes an important component of the over-all FIRST experience.

The Chairman's Award is presented to the team judged to have created the best partnership effort among team participants and to have best exemplified the true meaning of FIRST.

There is no single "best way" for a team to win the Chairman's Award. Many factors come into play. The primary factors the judges will evaluate are:

1. How strong of a year-round team partnership effort is reflected?
2. (Partnership can be defined in many ways, including: the partnership among the team's students/corporate sponsor/engineers; school/university sponsor/engineers; students/adults; community/team)
3. How strongly does the submission document concrete examples of how FIRST impacted the learning experience of the students, school curriculum, engineers, and/or community?
4. How strongly does the submission provide concrete examples of what the participants experienced in the FIRST program (i.e.: challenges, accomplishments, pitfalls, "lessons learned" etc.)?
5. How well has the team communicated their excitement and awakened their entire school, community, and beyond (state/nation) to their participation in FIRST?
6. Has the team documented an innovative way to spread the FIRST message?

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7. Has the team explained/demonstrated why/how it should be a role model for other FIRST teams to emulate?
8. As a whole, does the content of the documentation exemplify the true meaning of FIRST?

Your Chairman's Award submission should include documentation for all of the above factors.

## C1.2.2 Submission Format

Whatever documentation you submit will be a key factor in the selection process, along with the judges' own observations at the competitions. Your submission need not be professionally produced; it does need to clearly convey the factors outlined above.

We encourage *every* FIRST team to prepare a comprehensive record of its experience in a submission format that will be meaningful (a) to its team members/supporters as an appreciation and memento, and (b) to others as documentation of the impact and meaning of their FIRST experience. In preparing this documentation, bear in mind that the students, engineers, teachers, community, school, sponsors, families and other supporters, as well as the machine itself, are all integral parts of your team experience.

**Acceptable submission formats are:** CD-rom, computer diskette, VHS videotape, essay, or scrapbook. Audiocassettes are not an acceptable submission format. Please also note that, in future years, FIRST is moving in the direction of specifying that all Chairman Award submissions be in an electronic format.

## C1.2.3 Submission Format Restrictions: Size/Weight/Length

The growing number of FIRST teams has necessitated the following restrictions regarding the size, weight, and review time for Chairman Award submissions. Submissions exceeding the physical size/weight/ review length limits specified below will not be eligible for consideration for this award.

- Judges must be able to read and/or view your TOTAL submission in ten (10) minutes or less.
- Computer diskette or CD-ROM are acceptable formats and **are strongly encouraged**.
- Submission must **not** be more than 11 inches wide, 12 inches long and 3 inches high.
- (**Note:** If, as may well be the case, you have documented your team's experience more extensively for your own purposes, condense your Chairman's Award version to come within these limits. The growing number of teams makes such limits necessary.)
- Total submission weight may not exceed 3 lbs.
- Videotape submissions must be in VHS format
- Audiocassette submissions are **NOT** an acceptable format.

## C1.2.4 Submission Requirements

- If you submit a combination videotape and book for your Chairman's Award entry, the TOTAL review length must NOT exceed 10 minutes; their **combined** weight must not exceed 3 lbs. Entries which exceed any of the restrictions will **not** be reviewed or considered. Please be sure to double check the size, weight, and review time/length of your submission before mailing it.
- All 2002 Chairman Award submissions **MUST** be accompanied by a completed 2002 Chairman's Award Executive Summary Form **at the time of submission**. This form is

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located at the end of the Chairman's Award section. Entries submitted without a completed Executive Summary form will not be reviewed or considered.

- Your Chairman's Award submission **must** have your FIRST Team Number clearly marked on **ALL** applicable sides (front, side, back).
- Only one submission per team is permitted.
- Your team **must** be competing in the regional competition to which you submit your Chairman's Award entry. If your team is competing in more than one regional event, then chose ONE regional event and submit your entry to that designated address. Any team that submits a Chairman's Award entry to more than one regional competition will automatically be deemed ineligible for consideration for this award for the 2002 season.

## C1.2.5 Submission Deadline

Your chosen regional must **receive** your team's Chairman's Award submission by 5:00 p.m. on Friday, February 15, 2002. Submissions received the deadline will not be reviewed or considered.

## C1.2.6 Submission Addresses

The address to which you mail your regional Chairman's Award submission depends on the regional in which you are competing. A list of the regional Chairman's Award submission addresses will be posted on the FIRST website by January 15, 2002.

**NOTE: Do not** send your submission to FIRST. **Any submissions sent to FIRST will be deemed ineligible for consideration.**

## C1.3 Judging Process

### C1.3.1 Regional

A panel of judges at each regional competition will review the Chairman's Award entries and will conduct on-site Chairman Award interviews with those teams who have entered a submission for that regional event. **Interviews will be limited to two minutes with not more than three team members (students and/or adults) selected by the team members to best represent them. Specific information regarding these Chairman Award interviews will be posted on the FIRST website by February 15, 2002.**

Judges will select one winner of the Chairman's Award for each regional competition. **All Chairman Award submissions for that regional will be returned to the teams on Saturday afternoon with the exception of the one regional Chairman's Award winner.** The regional Chairman's Award winning submission will be kept by FIRST and brought to The Championship in Orlando, Florida for consideration for the national Chairman's Award.

### C1.3.2 Championship

At The Championship, a panel of judges will review only the winning 17 regional Chairman's Award winners and will select one national Chairman's Award winner. The national Chairman's Award winning team has the additional honor of choosing one of its junior or senior student members to be the recipient of the Allaire Medal.

## C1.4 The Allaire Medal - Leadership Exemplified

While the national Chairman's Award is presented to the FIRST team that is judged to have the best partnership effort, the Allaire Medal is awarded to an individual student on the Chairman's Award team.

Named in honor of Paul A. Allaire, a long-serving FIRST Chairman of the Board, The Allaire Medal is given to the student who has demonstrated outstanding leadership on his/her FIRST

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team, in his/her school and community, and whose personal character best embodies the spirit of FIRST. The Allaire Medal recognizes leadership exemplified.

The team receiving the national Chairman's Award will select the Allaire Medal recipient as determined by adult and student team members. The recipient must be a high school junior or senior who has been accepted into a four-year degree program at a college or university. The Allaire Medalist receives the Allaire medallion and up to \$10,000 in total scholarship support for undergraduate tuition, room and board, fees, and books at his or her intended university or college.



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## C1.5 2002 Chairman's Award Submission Executive Summary

(Complete and return this ONE page overview with your Chairman's Award submission.)

TEAM #: \_\_\_\_\_

TEAM NAME: \_\_\_\_\_

CORPORATE/UNIVERSITY SPONSOR: \_\_\_\_\_

Regional Competition submitting Chairman's Award entry to: \_\_\_\_\_

Number of years participating in FIRST Robotics Competition: \_\_\_\_\_

Number of female students on team: \_\_\_\_\_

Number of male students on team: \_\_\_\_\_

Number of sponsor professionals actively involved with team: \_\_\_\_\_

Number of teachers actively involved with team: \_\_\_\_\_

Briefly describe the impact of the FIRST program on your team's school:

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Briefly describe the impact of the FIRST program on team participants:

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Comment briefly on the partnership between the school and its sponsor:

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---

Briefly describe community activities by team:

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Briefly describe fundraising activities by team:

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Overview of why your team should win the Chairman's Award, the most prestigious FIRST award (a **MAXIMUM** of 100 words):

Other matters of interest to the FIRST judges, if any:

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## **C2 FOUNDER'S AWARD**

Each year FIRST presents this award to honor an organization or individual that has contributed significantly to the growth of FIRST. Last year's winner, Dr. William Murphy, founder of Cordis Corporation and Small Parts, Inc., will pass on the traveling trophy clock to the 2002 winner at the Awards Celebration in Orlando.

## **C3 WOODIE FLOWERS AWARD**

The Woodie Flowers award celebrates effective communication in the art and science of engineering and design. This award will be given each year to an engineer or teacher identified and described by students as the one person who has given them the best understanding of the challenges, opportunities, and satisfaction involved in the discipline of engineering and design. The judges, led by Professor Flowers, will select the recipient based on recommendations made by those students submitting a one page essay describing the engineer or teacher and his or her specific contributions. Each team submits only one recommended recipient. One or two photographs can accompany the single-page description.

### **C3.1 Spirit of the Award**

The spirit of this award is twofold; the accomplishments in communication by the engineer or teacher is essential; and equally important, the student's ability to communicate clearly and concisely. Communication in both directions is an integral part of learning. In this award, we recognize an individual who has done an outstanding job of motivation through communication. Additionally, the award challenges the student body to be clear and succinct in recognizing the value of communication.

### **C3.2 Judging Criteria**

FIRST would like each team to nominate one individual who truly inspires their team from among the many engineers and teachers working with them. This individual would best exemplify excellence in engineering instruction by explaining complex ideas to students in an inspiring way. Judging criteria will be based on the team's description of how the teacher or engineer inspired each member of the team in some or all of the following ways:

- Level of student participation
- Creativity of effort
- Clear explanation of mathematical, scientific, and engineering concepts
- Demonstrated enthusiasm for science and engineering
- Encouragement to work on projects as a team effort
- Inspiration to use problem solving skills
- Inspiration to become an effective communicator

To create an award-winning robot, each team must move forward through a complete product development cycle from designing a concept, developing a prototype, testing manufacturing, and operating the machine. This requires teamwork, attention to detail, scheduling, and hard work. The award-winning essay should answer this question, "How did the nominated person inspire your team through this process?" If your essay describes examples of how this individual excels above all others in this education process, then we can look forward to presenting your team and your selected individual with an exciting award that honors Professor Woodie Flowers and his contribution to engineering, education, and communication.

### **C3.3 Entry Requirements**

Prepare a one-page written essay nominating one engineer or teacher on your team who exemplifies excellence in engineering, education, and communication. Students should prepare this essay as a team effort. You may include photos as part of your entry, but only if pictures help to tell your story. The cover of the essay should include the following:

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- Award name
- Selected individual's full name
- Individual's affiliation
- Team number
- Team name
- Names of all team members
- School involved
- Corporate partner

Remember, this nomination is to specifically recognize an outstanding engineer or teacher associated with the FIRST competition and your school and team. Each team should recognize that the qualities exhibited by the engineer or teacher are paramount, but the students' ability to communicate those skills is equally important. The award will be presented during the award ceremony on April 6, 2002.

## **C3.4 Submission Deadline**

The Woodie Flowers Award essays are due on Tuesday, February 26, 2002.

## **C3.5 Submission Information**

Please submit to Mr. Melvyn A. Saslow at the Small Parts Office. You can mail or fax entries to:

The Woodie Flowers Award  
c/o Melvyn A. Saslow, President  
SMALL PARTS, Inc.  
13980 NW 58th Court  
Miami Lakes, FL 33014

Fax: 1-877-573-9273

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## C4 THE AUTODESK® AWARD FOR VISUALIZATION.

**Purpose of Award:** Recognition of exemplars of student animation.

**Competition Period:** Saturday, January 5, 2002, to Monday, March 18, 2002

**Questions:** If you have questions regarding the Autodesk Award for Visualization or Entry Requirements, please write to Autodesk at: [first.entries@autodesk.com](mailto:first.entries@autodesk.com).

**Award Updates:** Award updates and specific criteria examples can be found under the “Autodesk Updates” link on the FIRST web site (<http://www.usfirst.org>) after January 5, 2002.

### C4.1 Award Overview

This year, Autodesk, in partnership with FIRST, is challenging the 2002 animation teams to produce a 30 second animation that best describes what FIRST means to your team.

We’ve provided you with the most powerful imagination tool on the planet...**3ds max®**. Now show us what you can do with it. Show us what being involved in FIRST is really about...if it’s robots, then show us robots and tell us why...if it’s teamwork then define it...visually. If it’s engineering, science and math...then prove it with motion, forms and textures available in **3ds max**. Unleash your power to communicate by creating a “mini-commercial” about what FIRST means to your team!

#### C4.1.1 Award Description

The Award recognizes 30 seconds of student animation that clearly and creatively illustrates what FIRST means to your team, meets Entry Requirements, and is judged to have the highest score. Entries will be scored on the criteria for the three key areas outlined below. In addition, actual judging guidelines will be posted not later than January 15, 2002, on the FIRST website.

#### C4.1.2 Scoring Criteria:

Please see the end of this document for “Special Tips” relating to the Scoring Criteria!

#### C4.1.3 Content Communication (40pts)

Distinction in the use of animation to illustrate and communicate a specific aspect of what FIRST means to your team. Measured in terms of how well your team clearly and accurately articulates that aspect of FIRST.

Drawing from your team members, your school and corporate partnership, your community involvement and/or your robot: Illustrate and communicate a specific aspect of what FIRST means to your team. Using graphic imagery and animation developed with 3ds max (as well as other Autodesk products if you wish), create an informative and clearly focused infomercial about a particularly appealing or effective aspect of FIRST! You must include a statement in your animation as to what “appealing aspect of FIRST” you are trying to communicate. Think of what you are producing as being a 30 second “spot” that might be intended for use on national television to inform viewers about FIRST and to illustrate a specific aspect of the benefits of the FIRST experience. **Examples of Appealing Aspects of FIRST:** Mentorship, Collaboration, Leadership and/or Community.

#### C4.1.4 Compelling Creativity (40pts)

Distinction in the use of design and animation to generate excitement about your team’s experience with FIRST. The challenge is to tell a *compelling, creative story* about what FIRST means to your team, about your team, or your robot, or about your team’s participation in The Competition – and to make that story *memorable*.

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Measured in terms of how well your team identifies a concept and organizes the content for your 30-second story. Also measured by how well your team executes on that concept and creates a distinctive and memorable “commercial” – one that stands out from the rest.

## C4.1.5 Technical Execution (20pts)

Distinction in the application of Autodesk software. The challenge is to demonstrate how skillfully specific Autodesk products are used and how your final animation is brought together from storyboard through design, production, editing, adding FX and sound, and post-production to final product.

Measured in terms of how well your team uses modeling, materials application, lighting, camera motion and angles, sound effects, texture mapping, color, special FX, character animation, editing technique, voice over, music, photography, or live video.

## C4.2 Entry Requirements

- Entrant must be a fully registered team participating in the 2002 FIRST Robotics Competition.
- Limit one (1) Entry per school. If a team includes multiple schools, each school may submit an Entry.
- A completed and clearly legible Entry Form
- A completed and clearly legible Autodesk Archive Consent and Release Authorization Form. Forms are found both in the Competition Manual and on the FIRST website; both must accompany your Entry in hard copy format.
- Storyboard (no size or length requirements). Use #3 pencil or softer. Color may be used on the original but is not required. Storyboard must be clearly labeled with Team Number, Team Name, School(s) Name and Sponsor(s) name. Without this information entry will not be judged.
- 2 copies of CLEARLY LABELED CD-ROM DISC containing animation entry.
  - Submit one CD WITHOUT ANY CREDITS. Label this CD: **“WITHOUT CREDITS, TEAM #, TEAM NAME”**
  - Submit one CD WITH CREDITS. Label this CD: **“WITH CREDITS, TEAM #, TEAM NAME”**
  - Credits will not be judged.
- Animation saved as a 640 x 480 FULL UNCOMPRESSED AVI.
  - Begin with still hold on Team Number, Team Name, School(s) Name and Sponsor(s) name, and the statement defining what aspect of FIRST your animation is about. Without this information your entry will not be judged.
  - Animation cannot be more than 30 seconds. Timing begins as soon as your still frame with the required identifying information clears the screen. To ensure accurate timing of your Entry, we suggest you make a clean break to animation.
  - End with a still, solid black frame – which follows the not more than 30-seconds of animation. We suggest you hold that frame for as long as 5 seconds. Credits may follow that still frame, but will not be included as part of the timing, judging or scoring process, nor will they be included in the compilation reels distributed by Autodesk Inc. We do, however, encourage you to include credits so that you can use your animation to acknowledge contributors and supports, and can include it in your Team and personal portfolio.



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**Entry Deadline:** All Entries (regardless of delivery method) must be received at Autodesk, Inc. in California not later than 5:00 PM on March 18, 2002. Entries will not be accepted for judging after the deadline. Autodesk is not responsible for Entries not delivered to Autodesk's San Rafael, CA, office by the deadline, nor for any lost, late, misdirected, illegible, incomplete, or damaged Entries.

**Ship Entry to:**

Autodesk, Inc.  
111 McInnis Parkway  
San Rafael, CA 94903  
U.S.A.  
Attn: FIRST Robotics Competition

**NOTE:** Any Entry hand-delivered to Autodesk must be left at the front desk of the Autodesk Headquarters at 111 McInnis Parkway, San Rafael, CA, prior to 5:00 PM on March 18, 2002, and must be addressed with the full "Ship Entry To" information provided above.

*Entries will remain the property of Autodesk, Inc. No materials will be returned.*

## **C4.3 The Judging Process**

The judging panel is made up of volunteers from business, industry and education. They are professional animators, artists, engineers and educators. Some of the judges are Autodesk employees, others are 3ds max customers. Judges are familiar with the FIRST Robotics Competition, with previous Autodesk Award competitions, and with the application of Autodesk products and other technologies in engineering, design and education.

## **C4.4 Prizes and Prize Rules**

In 2002, judges will select:

### **Grand Prize Winner (1)**

The Winner of the 2002 Autodesk Award will be announced during The 2002 FIRST Competition Championship Event Awards Ceremony. The winning animation will be played at the Ceremony, and representatives from the winning team will be acknowledged on the main stage. One high-end notebook computer will be awarded to a winning team member nominated by the team. In addition, Autodesk will grant education copies of the latest release of **3ds max\*** to all members of the animation team and one education copy for the school, Autodesk and Discreet logo merchandise for the animation team members, along with a truly unique trophy.

### **Honorable Mention Winners (3)**

Honorable Mention Awards will be given to Entries scoring highest in each of three key areas: Communication of Content, Compelling Creativity, and Technical Excellence. The winning animations will be played at the Championship Event Awards Ceremony, and representatives from the winning teams will be acknowledged on the main stage. In addition, Autodesk will grant education copies of the latest release of **3ds max\*** to each winning animation team member, one education copy for the school, along with a truly unique trophy.

### **"Rising Star" winner (1)**

The "Rising Star" Award is given to the highest-scoring animation submitted by a "Rookie" team. The winning animation will be played at the Championship Event Awards Ceremony and winner will be acknowledged on the main stage. In addition, Autodesk will grant education copies of the latest release of **3ds max\*** to each winning animation team member, one education copy for the school, along with a truly unique trophy. **Note:** For the purposes of this Award "Rookie" designation is given to any school, which has not submitted for this Award previously.

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Schools, which have submitted previously but have been disqualified, do not qualify as “Rookie” teams under these Guidelines.

**Note:** Should a “Rookie” team either win the 2002 Award or receive an “Honorable Mention”, there will be no additional “Rookie” Award presented.

## **Additional Prizes:**

In addition to the stated prizes, additional prizes may be awarded. Please check the FIRST web site for Autodesk prize updates.

## **C4.5 Scores/Compilation Disc**

If a team wishes to receive their score, you must send an email to: [first.entries@autodesk.com](mailto:first.entries@autodesk.com). The subject header should say: “Autodesk Award, Request for Score, Team #xxx.” Each team participating in the Autodesk Award competition will receive a CD or videotape of animation Entries judged in the 2002 competition. The top 50 animations will be shown at The 2002 FIRST Championship.

\*Software awards will be shipped directly to individual student contributors following the Competition. Autodesk reserves the right to substitute, at its sole discretion, another prize of equal or greater value for any prize described herein. No part of any prize is transferable. No substitution of prizes is permitted except as expressly provided above.

## **C4.6 Special Tips**

**TIP:** Watch the 3ds max Online Tutorial presented by Ted Boardman. Ted will take you through the steps of modeling, materials and lighting, and animation, using 3ds max. Look for details on this online tutorial on the FIRST web site!

### **Content Communication:**

- Ideally, your Autodesk Award team will work very closely with the robot design group. That mirrors the practice of collaborative team design in the professional world. Your robot design and animation teams can (and should) work together to generate ideas for design, to promote your team efforts to the community, and to document your design experiences.
- If showing a robot in your animation, use images and sounds to place your robot in an environment (or series of environments) to give the judges a sense of where the robot is created and competes. Ways to accomplish this include scanning in pictures of your robot or working/CAD drawings of its design, incorporating video of test drives of your ‘bot, or bringing images or video of your design team at work.
- If not using a robot in your animation, then be sure to clearly illustrate what FIRST means to your team. There is more to FIRST than a robot, a lot more! You might want to document the process of being involved in FIRST. As the robot takes shape, so does your team and the people on it.

### **Compelling Creativity:**

- “Brand” your team identity and personalize your Entry.
- Every story should have a beginning, middle and end.
- Make your Entry compelling and exciting to watch. Review previous entries for this Award and discuss which you think are memorable. Note: The 2001 entries can be found on the videotape in your “Autodesk Kit” which your team received when it registered and paid.
- Review your favorite commercials, computer games, videos/films. See how they balance giving valuable and clear information with using imagined characters, humor, fantasy, and other creative twists. Check with your team and ask others what makes something distinctive – and worth seeing and listening to over and over again. What makes it “the best.”

# THE 2002 FIRST ROBOTICS COMPETITION MANUAL

- A lot of information can be communicated well in 30 seconds – think about what you see every day on television or hear on the radio. It’s a common mistake to try to do too much. Focus. And test a few things to see what folks really remember about your animation.
- Schedule design and production so that you have time to review your finished product prior to meeting the deadline. Share your work with colleagues and friends, and polish it so that it has impact and is memorable.

**Note:** Be aware that certain images and music may be copyrighted and you may not be free to incorporate them into your Entry without special permission or fees. This includes obvious things such as clips from popular songs, but could include less obvious things closely aligned to a particular company or individual. Our judges watch and listen closely for any possible copyright infringements. If you have any questions about what you can and cannot include, check with your team corporate sponsor. Also review the language in the “Autodesk Archive Consent and Release Authorization Form” attached to these Guidelines.

**Note:** We have received permission from FIRST and can assure you that you can incorporate the FIRST logo in your animation without their express permission. However, if you plan to modify the logo in any way for use in your animation, you must obtain permission to do so from Laura London, Director of Marketing at FIRST. Obtain permission via email by contacting her at [L2@usfirst.org](mailto:L2@usfirst.org)

## **Technical Execution:**

- Pacing—Watch television ads and note the time between camera cuts, fades, and other transitions. Also, try to use 3-5 second (90-150 frame) individual segments using Video Post to “stitch” these segments together.
- Efficient Mesh Model—Optimize models for the lowest number of vertices and faces.
- Efficient Scene Materials—Use the lowest resolution bitmap possible in materials, avoid complex material trees, and minimize reflection/refraction in materials only when it adds to the story.
- Efficient Scene Lighting—Use Omni lights with caution. Because light passes through objects, more than two or three Omni lights without Attenuation can be confusing.
- Shadows are “expensive” and should be used only when necessary. Use Attenuation on all lights to limit the range of shadow calculations.
- Add any color to lights only after final materials have been assigned to objects.
- Use creative camera view angles. Avoid choppy edits.

## **Storyboard:**

- Clear storyboards are like a roadmap. They should indicate that you have a solid idea of where you want to go and have a plan for how to get there. The storyboards are not always “pretty”, but they are inclusive and clear. You do not have to use color on your storyboards, and you do not score “extra points” if you do; however, color is certainly acceptable and does give our judges an indication that you are thinking – early – about the aesthetics of your animation.
- Storyboards lay out the sequence of ideas and action, including images, text, voice-over messages, sounds, special FX, music.
- Test your storyboard with others to see if they understand what you’re trying to accomplish. Don’t give them “hints”; see if they get it – just from your boards. Try this before you begin your animation.



# THE 2002 FIRST ROBOTICS COMPETITION MANUAL

## C4.7 AUTODESK VISUALIZATION AWARD 2002 Entry Form

### The following is required:

1. Complete this Entry Form as its contents are required for judging. It must be legible, and you must include it with your Entry submittal. Please read the Entry Requirements carefully before completing this Entry Form. Information on this Form must be complete.
2. Complete and include the *Autodesk Archive Consent and Release Authorization* agreement with your entry. It is required for judging.

**Entry Deadline:** Autodesk must receive entries at Autodesk no later than 5:00pm, March 18, 2002, regardless of delivery method.

### **Entrant information** (Please print or type)

FIRST Team Number \_\_\_\_\_ Autodesk Award Entry Title \_\_\_\_\_

Team Name \_\_\_\_\_

School Name(s) \_\_\_\_\_

School Contact (Teacher) \_\_\_\_\_ Telephone and e-mail \_\_\_\_\_

Sponsor Company Name(s) \_\_\_\_\_

Sponsor Contact \_\_\_\_\_ Telephone and e-mail \_\_\_\_\_

### **Individual student animator(s)**

Your team can select up to 5 individual student animators as potential Award recipients. List the information requested about those students below. We want to acknowledge all other student contributors on your Autodesk Award team (including story board, modeling, sound effects, etc.), so please list any other contributors and attach that list to this Entry Form on a separate sheet.

	<b>Student Animator</b>	<b>Current Address</b>	<b>City, State, ZIP</b>	<b>Telephone#</b>
1.	_____	_____	_____	_____
2.	_____	_____	_____	_____
3.	_____	_____	_____	_____
4.	_____	_____	_____	_____
5.	_____	_____	_____	_____

### **Individual Team Champion**

In past competitions for the Autodesk Award, we have heard impressive stories of outstanding individuals on some competing teams. Please tell us who your "Team Champion" is this year and about his/her contribution to the team and your Entry. Your champion may be a student, teacher, engineer, community member, or other individual contributor.

**Software Use**—Describe which Autodesk products you used...and how. Also, name and describe other design, visualization, or animation software products you used in your animation.

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# THE 2002 FIRST ROBOTICS COMPETITION MANUAL

## C4.8 Archive consent and Release Authorization

*Use this form for the Autodesk Visualization Award at The 2002 FIRST Competition*

Dear Contributor,

**We appreciate your interest in submitting material to Autodesk, Inc. The following allows us to legally use your work.**

By signing and returning this consent form, the individual named below and/or if applicable the individual's employer, middle or high school(s), or corporate or college/university sponsor(s) and individual student, faculty and corporate contributors (hereinafter referred to collectively as the "Entrant") understand that the Entrant is agreeing to the following terms which will govern use of the images, animation, sounds, files and other material (the "Material") described below:

- Entrant grants a nonexclusive, irrevocable, perpetual, worldwide license to Autodesk, Inc. to use the images, animation, sounds and other material contained in the "Material" in any manner it deems appropriate. "Nonexclusive" means that Entrant can allow others to use the Material and that the Entrant retains all rights to the Material other than those specifically granted to Autodesk.
- Autodesk may change, reproduce, distribute, and sublicense the Material to its subsidiaries, affiliates, customers and to third parties granting them the same rights which Autodesk has received.
- Autodesk will try to include the credit line shown below when the Material is used and will also try to require others to whom it grants sublicense to do the same. However, Autodesk and its sublicensees may not always be able to include the credit line or otherwise acknowledge the source of the Material. The compensation the Entrant will receive for agreeing to license the Material will be limited to the exposure the Entrant receives by Autodesk's use and sublicensing of it. No other compensation will be paid. The Entrant agrees that the Entrant will not at any time make any claim for compensation for the rights granted to Autodesk.

The Entrant represents and warrants that the Material is owned by the Entrant free and clear of any liens or claims of any third party; that the Entrant has a legal right to grant the permission given in the Entry Form and in this Agreement. The Entrant indemnifies and hold Autodesk, its subsidiaries, associated companies, successors, assigns, agents, and employees harmless against liability should any third party claim that the use of the Material or any part thereof by Autodesk violates any right of such third party. The Material does not include any proprietary information, logos, or trademarks of any third party. NOTE: Use of the FIRST Foundation logo is permitted without permission, as long as that logo is not at all altered.

The authorized signatory for the Entrant is over 18 years old and **either** owns the copyright to the material in these files, **or** has the right to grant this consent on behalf of the owner, **or** knows that the material in these files is in the public domain. This consent does not conflict with any others the Entrant has granted or any other rights to the files.

**FIRST TEAM SPONSOR OR SCHOOL (where applicable)**

**FIRST Team Name and Number** \_\_\_\_\_

**Animation Entry Title** \_\_\_\_\_

**Name, email and Telephone # of Animation Contact** \_\_\_\_\_

**Address, City, State, ZIP** \_\_\_\_\_

**School/Sponsor Name & Address** \_\_\_\_\_

**Telephone #** \_\_\_\_\_ **Email** \_\_\_\_\_

**Authorized Signatory (print)** \_\_\_\_\_

**Authorized Signature (sign)** \_\_\_\_\_

**The above release shall be void if amended in any manner. Autodesk shall not be responsible for the return of any materials submitted.**

## **C5. THE AUTODESK INVENTOR AWARD**



### **Purpose of Award:**

This award recognizes exemplars of student mechanical design.

**Competition Period:** Saturday, January 5, 2002, to Monday, March 18, 2002. After January 5, 2002, Autodesk Award updates (if any) can be found under the “Autodesk Updates” link on the FIRST web site ([www.usfirst.org](http://www.usfirst.org)).

**Questions:** If you have any questions regarding the Autodesk Inventor Award or Entry Requirements, please write to Autodesk at: [first.entries@autodesk.com](mailto:first.entries@autodesk.com).

### **C5.1 Award Overview**

Autodesk wants to honor those young inventors and engineers that make the FIRST Robotics Competition possible! With **Autodesk Inventor** we have provided the tool that allows you to design without limits. Now we want to see what you do with this tool. We know that before your team can start building your robot you need to design it. We want to see the exciting journey of how your designs evolved into a real-life robot! **Autodesk Inventor** allows you to quickly and easily design and modify your robot using the same iterative techniques employed by professional engineers.

From concept through completion—the Autodesk Inventor Award was created to honor those who bring their ideas to reality.

### **C5.2 Award Description**

The Autodesk Inventor Award honors the team that best uses **Autodesk Inventor** software to design their 2002 FIRST Robotics Competition robot, posts various drawings of the robot onto the web, and includes photographs of the final robot.

### **C5.3 Award Criteria**

The competition has three required components.

#### **C5.3.1 Component One: The Design**

The deliverables are as follows:

- A set of drawings (.idw) that document the basic dimensions of the design.
- The assembly data for your robot (.iam and .ipt) --- parts and assembly.

#### **C5.3.2 Component Two: The Photograph**

- A series of pictures (screen shots) that emphasize the advantages of your design.
- Digital photographs of your completed robot entered into the 2002 FIRST Robotics Competition. Photographs should clearly show the front, rear and side views of your robot.

#### **C5.3.3 Component Three: Post designs and photo to web.**

Please post your entry to a website. Please title each document clearly and concisely so the judges will know what they are viewing.

# THE 2002 FIRST ROBOTICS COMPETITION MANUAL

## **C5.3.4 Component Four: Bonus (not required):**

Animation of one mechanism using driven assembly constraints (.avi). The animation should be captured using Autodesk Inventor's record functionality in the Drive Constraint dialog box.

**TIP:** Watch the Autodesk Inventor Online Tutorial presented by Phil Dollan. Phil will take you through the steps of creating this animation!

## **C5.4 Autodesk Streamline™:**

Autodesk will be creating a special site using Autodesk Streamline—a secure, Autodesk-hosted service that's easy to use. This site will be specifically tailored just for the FIRST Robotics Competition teams. On this site will be:

- Examples of Autodesk Inventor drawings (.iam)
- Examples of mechanism animations (.iam)
- Examples of exploded assembly animation (.ipn)
- “Virtual” kit of parts done in Autodesk Inventor 5
- Discussion group just for the FIRST Robotics Teams

To find out more about the Autodesk Streamline-FIRST Robotics Competition site, please click on the “Autodesk Updates” link on the FIRST website ([www.usfirst.org](http://www.usfirst.org)) after January 5, 2002.

## **C5.5 Judging Criteria:**

In scoring your entry, judges will address specific criteria:

Robot Design as illustrated in your Autodesk Inventor files	40 points
Technical Expertise	40 points
Presentation of final design	20 points
TOTAL POINTS:	<u>100 points</u>
Bonus:	
Animation of one mechanism using driven assembly constraints (.iam)	10 points
TOTAL POSSIBLE POINTS:	<u>110 points</u>

## **C5.6 The Judging Process**

The judging panel is made up of volunteers from business, industry and education. Some of the judges are Autodesk employees; others are Autodesk Inventor customers. Judges are familiar with the FIRST Robotics Competition, with previous Autodesk Award competitions, and with the application of Autodesk products and other technologies in engineering, design and education.

## **C5.7 Entry Deadline:**

The entry deadline is Monday, March 18, 2002, at 5:00 pm PST.

## **C5.8 Entry Requirements:**

Entry must meet these requirements to be eligible for judging:

- Entrant must be a fully registered team participating in the 2002 FIRST Robotics Competition.
- Limit one (1) Entry per school. If a team includes multiple schools, each school may submit an Entry.
- Entry must include both a completed and clearly legible Entry Form and a completed Autodesk Archive Consent and Release Authorization Form. Forms may be found in the Competition Manual and also on the FIRST website. Entry forms must be sent to:  
Autodesk, Inc.

# THE 2002 FIRST ROBOTICS COMPETITION MANUAL

111 McInnis Parkway  
San Rafael, CA 94903  
U.S.A.

ATTN: FIRST Robotics Competition – AI

- Email notification\* must be sent to: **first.entries@autodesk.com** announcing that your entry is posted to your website no later than Monday, March 18, 2002, 5:00 p.m., PST. In your email, you must also include:
  - Subject Header should say “Autodesk Inventor Award Entry, Team No. xxx”
  - Team Name and Number
  - School Name(s)
  - Corporate Sponsor’s Name
  - Autodesk products used
  - Active link to your website

**Note:** Any Entry Forms and/or Autodesk Archive Consent and Release Authorization Forms hand-delivered to Autodesk must be left at the front desk of the Autodesk Headquarters at 111 McInnis Parkway, San Rafael, CA, prior to 5:00 PM on March 18, 2002.

## C5.9 Prizes and Prize Rules:

In 2002, judges will select:

### Grand Prize Winner (1)

The Grand Prize Winner of the 2002 Autodesk Inventor Award will be announced during The 2002 FIRST Robotics Competition Championship Awards Ceremony. Representatives from the winning team will be acknowledged on the main stage. Prizes include:

- One high-end notebook computer awarded to a team member nominated by the team.
- Education copies of the latest release of **Autodesk Inventor** to a select group of student designers nominated by the winning team.
- One education copy of the latest release of **Autodesk Inventor** will be granted to the school.
- Autodesk logo merchandise
- Unique and beautifully designed trophy will be awarded to the team.

### Honorable Mention Winner (1)

The Honorable Mention Winner of the 2002 Autodesk Inventor Award will be announced during The 2002 FIRST Robotics Competition Championship Awards Ceremony. Representatives from the winning team will be acknowledged on the main stage. Prizes include:

- Education copies of the latest release of **Autodesk Inventor** to a select group of student designers nominated by the winning team.
- One education copy of the latest release of **Autodesk Inventor** will be granted to the school.
- Autodesk logo merchandise
- Unique and beautifully designed trophy will be awarded to the team.

**Note about the software:** Software awards will be shipped directly to individual student contributors and school following the Competition. Autodesk reserves the right to substitute, at its sole discretion, another prize of equal or greater value for any prize described herein. No part of any prize is transferable. No substitution of prizes is permitted except as expressly provided above.

### Additional Prizes:

In addition to the stated prizes, additional prizes may be awarded. Please check the FIRST website for Autodesk prize updates.

# **THE 2002 FIRST ROBOTICS COMPETITION MANUAL**

## **Scores/Compilation Email**

If a team wishes to receive their score, please send an email to [first.entries@autodesk.com](mailto:first.entries@autodesk.com) requesting your score. Subject header must say: "Autodesk Inventor Award Request for Score, Team xxx." Each team participating in the Autodesk Inventor Award competition will receive an email from Autodesk with all the URLs of the entries judged in the 2002 competition.

**\*Autodesk is not responsible for any technical malfunctions; lost/delayed data transmission; omission; interruption; deletion; line failures of any telephone network, computer equipment or software; the inability to access any website or online service. Autodesk is not responsible for late, lost, stolen, misdirected, incomplete, or illegible entries; postage due mail; internet downtimes or malfunctions; or other errors.**

**Autodesk, the Autodesk logo, Autodesk Inventor and Autodesk Streamline are either registered trademarks or trademarks of Autodesk, Inc., in the U.S.A. and/or other countries. All other brand names, product names, or trademarks belong to their respective holders.**

# THE 2002 FIRST ROBOTICS COMPETITION MANUAL

## C5.5 Autodesk Inventor Award      2002 Entry Form

### The following is required:

- Complete this Entry Form as its contents are required for judging. It must be legible, and you must include it with your Entry submittal. Please read the Entry Requirements carefully, before completing this Entry Form. Information on this Form must be complete.
- Complete and include the *Autodesk Archive Consent and Release Authorization* agreement with your entry. It is required for judging.

### Entry Deadline:

Autodesk must receive entries no later than 5:00 PM, March 18, 2002, regardless of delivery method.

### Entrant information (Please print or type)

FIRST Team Number \_\_\_\_\_ Autodesk Award Entry Title \_\_\_\_\_

Autodesk Inventor Award Entry URL: \_\_\_\_\_

Team Name \_\_\_\_\_

School Name(s) \_\_\_\_\_

School Contact (Teacher) \_\_\_\_\_ Telephone and e-mail \_\_\_\_\_

Sponsor Company Name(s) \_\_\_\_\_

Sponsor Contact \_\_\_\_\_ Telephone and e-mail \_\_\_\_\_

### Individual student animator(s)

Your team can select up to 5 individual student animators as potential Award recipients. List the information requested about those students below. We want to acknowledge all other student contributors on your Autodesk Award team (including story board, modeling, sound effects, etc.), so please list any other contributors and attach that list to this Entry Form on a separate sheet.

<b>Student Animator</b>	<b>Current Address</b>	<b>City, State, ZIP</b>	<b>Telephone#</b>
1. _____	_____	_____	_____
2. _____	_____	_____	_____
3. _____	_____	_____	_____
4. _____	_____	_____	_____
5. _____	_____	_____	_____

### Individual Team Champion

In past competitions for the Autodesk Award, we have heard impressive stories of outstanding individuals on some competing teams. Please tell us who your "Team Champion" is this year and about his/her contribution to the team and your Entry. Your champion may be a student, teacher, engineer, community member, or other individual contributor.

Software Use—Describe which Autodesk products you used...and how. Also, name and describe other design, visualization, or animation software products you used in your animation.

\_\_\_\_\_  
\_\_\_\_\_

# THE 2002 FIRST ROBOTICS COMPETITION MANUAL

## C5.6 Archive Consent and Release Authorization

*Use this form for the Autodesk Inventor Award at The 2002 FIRST Competition*

Dear Contributor,

**We appreciate your interest in submitting material to Autodesk, Inc. The following allows us to legally use your work.**

By signing and returning this consent form, the individual named below and/or if applicable the individual's employer, middle or high school(s), or corporate or college/university sponsor(s) and individual student, faculty and corporate contributors (hereinafter referred to collectively as the "Entrant") understand that the Entrant is agreeing to the following terms which will govern use of the images, animation, sounds, files and other material (the "Material") described below:

- Entrant grants a nonexclusive, irrevocable, perpetual, worldwide license to Autodesk, Inc. to use the images, animation, sounds and other material contained in the "Material" in any manner it deems appropriate. "Nonexclusive" means that Entrant can allow others to use the Material and that the Entrant retains all rights to the Material other than those specifically granted to Autodesk.
- Autodesk may change, reproduce, distribute, and sublicense the Material to its subsidiaries, affiliates, customers and to third parties granting them the same rights which Autodesk has received.
- Autodesk will try to include the credit line shown below when the Material is used and will also try to require others to whom it grants sublicense to do the same. However, Autodesk and its sublicensees may not always be able to include the credit line or otherwise acknowledge the source of the Material. The compensation the Entrant will receive for agreeing to license the Material will be limited to the exposure the Entrant receives by Autodesk's use and sublicensing of it. No other compensation will be paid. The Entrant agrees that the Entrant will not at any time make any claim for compensation for the rights granted to Autodesk.

The Entrant represents and warrants that the Material is owned by the Entrant free and clear of any liens or claims of any third party; that the Entrant has a legal right to grant the permission given in the Entry Form and in this Agreement. The Entrant indemnifies and hold Autodesk, its subsidiaries, associated companies, successors, assigns, agents, and employees harmless against liability should any third party claim that the use of the Material or any part thereof by Autodesk violates any right of such third party. The Material does not include any proprietary information, logos, or trademarks of any third party. NOTE: Use of the FIRST Foundation logo is permitted without permission, as long as that logo is not at all altered.

The authorized signatory for the Entrant is over 18 years old and **either** owns the copyright to the material in these files, **or** has the right to grant this consent on behalf of the owner, **or** knows that the material in these files is in the public domain. This consent does not conflict with any others the Entrant has granted or any other rights to the files.

**FIRST TEAM SPONSOR OR SCHOOL (where applicable)**

**FIRST Team Name and Number** \_\_\_\_\_

**Autodesk Inventor Award Entry URL** \_\_\_\_\_

**Name, email and Telephone # of Entry Contact** \_\_\_\_\_

**Address, City, State, ZIP** \_\_\_\_\_

**School/Sponsor Name & Address** \_\_\_\_\_

**Telephone #** \_\_\_\_\_ **Email** \_\_\_\_\_

**Authorized Signatory (print)** \_\_\_\_\_

**Authorized Signature (sign)** \_\_\_\_\_

**The above release shall be void if amended in any manner. Autodesk shall not be responsible for the return of any materials submitted.**



## **C6 CHAMPIONSHIP AWARDS**

FIRST will hold an Awards Celebration at the Epcot Arena. At this event, a special judging panel will also present these awards:

### **DaimlerChrysler**

#### Team Spirit

This award celebrates extraordinary enthusiasm and spirit through an exceptional partnership and teamwork.

### **Delphi**

#### “Driving Tomorrow’s Technology™”

This award celebrates an elegant and advantageous machine feature. This award recognizes any aspect of engineering elegance including, but not limited to: design, wiring methods, material selection, programming techniques, and unique machine attributes. The criteria for this award are based on the team’s ability to concisely verbally describe, as well as demonstrate, this chosen machine feature.

### **General Motors**

#### Industrial Design

This award celebrates form and function in an efficiently designed machine that effectively achieves the game challenge.

### **Johnson & Johnson**

#### Sportsmanship

This award celebrates outstanding sportsmanship and continuous gracious professionalism in the heat of competition, both on and off the playing field.

### **Kleiner Perkins Caufield & Byers Entrepreneurship**

The Kleiner Perkins Caufield & Byers Entrepreneurship Award celebrates the Entrepreneurial Spirit. This award recognizes a team, which since its inception has developed the framework for a comprehensive business plan in order to scope, manage, and obtain team objectives. This team displays entrepreneurial enthusiasm and the vital business skills for a self-sustaining program.

### **Motorola**

#### Quality

This award celebrates machine robustness in concept and fabrication.

### **Xerox**

#### Creativity

This award celebrates creative design, use of a component, or creative or unique strategy of play.

#### Imagery

This award celebrates attractiveness in engineering and outstanding visual aesthetic integration from the machine to team appearance.

### **Imagery**

This award celebrates attractiveness in engineering and outstanding visual aesthetic integration from the machine to team appearance.

### **Leadership in Control**

This award celebrates an innovative control system or application of control components to provide unique machine functions.

### **Rookie All-Star**

This award celebrates the rookie team exemplifying a young but strong partnership effort, as well as implementing the mission of FIRST: to inspire students to learn more about science and technology.

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## **Engineering Inspiration**

This award celebrates a team's outstanding success in advancing respect and appreciation for engineering and engineers, both within their school, as well as their community. Criteria include: the extent and inventiveness of the team's efforts to recruit students to engineering, the extent and effectiveness of the team's community outreach efforts, and the measurable success of those efforts.

## **Judges' Awards**

During the course of the competition, the judging panel may encounter a team whose unique efforts, performance, or dynamics merit recognition.

## **Championship Finalist**

This award celebrates the team or alliance that makes it to the final match of the **Championship**.

## **Champion**

This award celebrates the team or alliance that wins the **Championship**.

# **C7 CHAMPIONSHIP DIVISIONAL AWARDS**

FIRST will hold an Awards Celebration at the Epcot Arena. At this event, a special judging panel will present the following divisional awards:

## **#1 Seed**

This award celebrates the team that is the top seed at the conclusion of the qualifying rounds in its division.

## **Highest Rookie Seed**

This award celebrates the highest seeded rookie team at the conclusion of the qualifying rounds in their division.

## **Incredible Play**

This award celebrates the team or alliance displaying the most incredible play of the elimination rounds, including a formidable defensive or offensive move or strategy. The recipient of this award is decided upon by FIRST teams via on-site ballot vote in each division.

## **Division Finalist**

This award celebrates the team or alliance that makes it to the final match in their division at the Championship.

## **Division Champion**

This award celebrates the team or alliance that wins the final match in their division at the Championship.