

# Team Update 06

## GENERAL

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### Submitted Awards Webpage Edits

Content specific to the Chairman's Award and Dean's List interview processes on the [Submitted Awards webpage](#) has been updated to reflect the following:

- with a few exceptions, Traditionally Submitted Award interviews are conducted in English,
- there are no restrictions on who can be a translator/interpreter (reflected in *Sections 2.3.4, 3.4.4, and 4.4.5* below), and
- the interview time is extended if translator/interpreter is used (reflected in *Sections 2.3.4, 3.4.4, and 4.4.5* below).

Content specific to the Autonomous Award sponsored by Ford on the [At Home Challenges Award Guidelines webpage](#) has been updated to reflect the change made in *Section 2.2*.

## 2021 AT HOME CHALLENGES MANUAL

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### Section 1.8 Team Updates

Team Updates are used to notify the *FIRST* Robotics Competition community of revisions to the official season documentation (e.g. the manuals, drawings, etc.) or important season news. Between Kickoff and February 2, 2021, Team Updates are posted each Tuesday and Friday. **Starting February 9, 2021, Team Updates will be posted on Tuesdays only, and edits will be limited to only those that won't impact challenge submission content (e.g. correcting an award count error, control system updates, etc.).** Additional Team Updates and their posting frequency will be announced if an in-person season is approved. Team Updates are posted on the [INFINITE RECHARGE - Season Materials webpage](#) and are generally posted before 5 pm, Eastern.

### Section 2 INFINITE RECHARGE at Home

#### Section 2.2 Submission Information

- Optional - a video, **consisting of a continuous single shot**, of the ROBOT performing an autonomous routine
  - required to be considered for the Autonomous Award, otherwise optional
  - video may be of the ROBOT'S traditional autonomous routine for INFINITE RECHARGE or an autonomous routine from the Skills Competition
  - videos may not exceed three (3) minutes
  - accepted formats include flv, m4v, mov, mp4, mpeg, mpeg4, mpg, ogm, ogx, swf, wmv. Most common codecs used in these containers are accepted, for a complete list of accepted container/codecs pairs see [Supported Input Codecs and Containers](#).

#### Section 2.3.1 Awards

Teams are required to submit the required information by the deadline and participate in an interview with *FIRST* Robotics Competition judges to be eligible for Judged Awards. The official award guidelines can be found on the [At Home Challenges Award Guidelines webpage](#). **Interviews are virtual and hosted on Microsoft Teams. A Microsoft Teams account is not required to join the call, but a free account can be used for remote interview practice. See [Using Microsoft Teams](#) for instructions.** Teams do not have to participate in the Skills Competition component of



INFINITE RECHARGE at Home to be eligible for the Judged Awards, but teams must participate in the Judged Awards to be eligible for participation in the Skills Competition.

### Section 2.4.1 Overview

To participate in the Skills Competition, teams require the following:

- A legal INFINITE RECHARGE ROBOT (reference [ROBOT & Inspection Rules](#))
- an open space, i.e. Challenge Space, to operate the ROBOT
  - ~15 ft. x ~30 ft. (~458 cm x ~915 cm) of playing space is strongly recommended. Additional space is required for drivers and observers.
  - If attempting shooting challenges, adequate height for the ROBOT to shoot POWER CELLS into the POWER PORT representation. Total POWER PORT height is ~10ft. (~305 cm).
  - Carpet is not needed, any surface on which the ROBOT can safely drive is permitted

Omitting the requirement for carpet is intended to ease the burden on teams in establishing their Challenge Space, i.e. let teams use flooring readily available to them. The intent is not to include flooring design in the scope of the Skills Competition.

- POWER CELLS
  - three (3) POWER CELLS are needed (included in the [2021 Kickoff Kit](#)).
- Team Version Field Elements (wooden or comparable) are not required. For the [Interstellar Accuracy Challenge](#) and the [POWER PORT Challenge](#), a representation of the POWER PORT with approximate dimensions is required. See [The INFINITE RECHARGE at Home Challenge Space Layout](#) for recommendations.

### Section 2.3.4 Interview Process

For all At Home Challenges, interviews occur between Monday, March 15<sup>th</sup> and Sunday, April 11<sup>th</sup>.

- Interviews are limited to twelve (12) minutes total; up to seven (7) minutes for a presentation by the team and the remaining time (at least five (5) minutes) for questions and answers led by the judges.
  - The interview time begins after a one (1) minute buffer to allow all team members to be on the call.
  - Recommended presentation is as follows:
    - What the ROBOT was designed to do
    - The process used to design the ROBOT
    - Why a specific ROBOT feature was chosen and how it works
- At least one (1) adult mentor **must** attend the interview.
  - Mentors are not allowed to provide any assistance during the interview. *FIRST* suggests this mentor provides feedback to the team after the interview based on observations and noting judges' questions. This feedback can be very valuable in helping teams hone their skills. If the mentor provides any assistance during the interview, the judges will respectfully remind the mentor of the rule.
  - ~~Exception: If necessary, the mentor may provide translation services for students needing foreign language or sign language translation.~~
- Teams are allowed to have as many team members in the interview as they believe they need but teams are encouraged to create a succinct presentation for the judges. We recommend no more than five (5) team members.

Presenters should be ready for (and even expect!) technical difficulties; all team members should be prepared to step in (e.g. know the material, have presentation materials on hand, etc.) in case someone has internet, camera, audio, etc. issues.

Remember to put safety first with social distancing guidelines and compliance with local regulations if team members are in the same physical location.

- Interviews are conducted in English. Teams needing a translator or sign-language interpreter may include an additional person to act as that translator/interpreter. The translator/interpreter does not need to be a team member. For these teams, the duration of the interview is increased by three (3) minutes.
- Presenters may share their screens and play video.
- Recording video, audio, or taking pictures (including screenshots) are prohibited during the interview.

In addition to *FIRST* prohibiting recording, there may be other legal restrictions governing recording.

#### Section 2.4.4 Challenge Space Layout

For each challenge, a layout diagram indicates which NAV POINTS are used and the placement of MARKERS. MARKERS are physical objects with a minimal cross-section of 2.5 in (~63 mm) wide by 2.5 in (~63 mm) deep and at least 5 in (~127 mm) tall used to mark specific locations relevant to each challenge. The cross-section of a MARKER may not exceed 1 ft. 1 in. (~330 mm) wide by 1 ft. 1 in. (~330 mm) deep (there is no height limit). MARKERS are to be centered (approximately, and to the best of the team's ability, i.e. there's no specific tolerance on "centered") on their respective NAV POINTS.

#### Sections 2.4.6.3 Scoring, 2.4.7.3 Scoring, & 2.4.8.3 Scoring

The raw score for this challenge is the sum of completion times (in seconds) for the two (2) path runs. Teams should enter the times for the individual paths exactly as they record them, they will be rounded automatically to the nearest tenth of a second (x.x5 is rounded up to the nearest tenth, e.g. 0.15 is rounded to 0.2) before being combined into the raw score.

#### Section 2.4.9 Interstellar Accuracy Challenge

In the Interstellar Accuracy Challenge teams emulate the shooting challenges of INFINITE RECHARGE gameplay by scoring POWER CELLS into a representation of the BOTTOM PORT, OUTER PORT, AND INNER PORT from four (4) zones. Teams will attempt to score as many points as possible with their ROBOT (which is either autonomous and/or remotely controlled) in five (5) minutes.

#### Section 2.4.10 POWER PORT Challenge

In the POWER PORT Challenge teams emulate the teleoperated portion of INFINITE RECHARGE gameplay by collecting POWER CELLS with their ROBOT (which is either autonomous and/or remotely controlled) and scoring them into a representation of the POWER PORT. Teams attempt to score as many points as possible in the POWER PORT in one minute.

## Section 3 Game Design Challenge

#### Section 3.4.1 Awards

Teams are required to submit their Game Design Concept and participate in an interview with FIRST Robotics Competition judges to be eligible for awards. The official award guidelines can be found on the [At Home Challenges Award Guidelines](#) webpage. Interviews are virtual and held on a remote platform hosted on Microsoft Teams. A Microsoft Teams account is not required to join the call, but a free account can be used for remote interview practice. See [Using Microsoft Teams](#) for instructions.

#### Section 3.4.4 Interview Process

For all At Home Challenges, interviews occur between Monday, March 15<sup>th</sup> and Sunday, April 11<sup>th</sup>.



- Interviews are limited to twelve (12) minutes total; up to seven (7) minutes for a presentation by the team and the remaining time (at least five (5) minutes) for questions and answers led by the judges.
  - The interview time begins after a one (1) minute buffer to allow all team members to be on the call
  - Please remember that judges review the team's submission prior to this interview. We encourage teams to present new information to the judges, rather than reiterating what was already submitted.
- Teams are allowed to share their screens and use video as part of their presentation
- Teams are allowed to have as many team members in the interview as they believe they need but teams are encouraged to create a succinct presentation for the judges. We recommend no more than 5 team members.

We encourage all teams to be prepared to adapt to any technical difficulties by having multiple team members prepared to present all materials.

Remember to put safety first with social distancing guidelines and compliance with local regulations if your students are in the same physical location.

- At least one (1) adult team mentor **must** attend the interview.
  - Mentors are not allowed to provide any assistance during the interview. *FIRST* suggests this mentor provides feedback to the team after the interview based on observations and noting judges' questions. This feedback can be very valuable in helping teams hone their skills. If the mentor provides any assistance during the interview, the judges will respectfully remind the mentor of the rule.
  - ~~Exception: If necessary, the mentor may provide translation services for students needing foreign language or sign language translation.~~
- Interviews are conducted in English. Teams needing a translator or sign-language interpreter may include an additional person to act as that translator/interpreter. The translator/interpreter does not need to be a team member. For these teams, the duration of the interview is increased by three (3) minutes.
- Recording video, audio, or taking pictures (including screenshots) are prohibited during the interview.

In addition to *FIRST* prohibiting recording, there may be other legal restrictions governing recording.

## Section 4 *FIRST* Innovation Challenge presented by Qualcomm

### Section 4.4.1 Semi-Finalist Awards

Teams are required to submit the required information by the deadline and participate in an interview with *FIRST* Robotics Competition judges to be eligible for the award and advancement. Interviews are virtual and hosted on Microsoft Teams. A Microsoft Teams account is not required to join the call, but a free account can be used for remote interview practice. See [Using Microsoft Teams](#) for instructions.

### Section 4.4.5 Interview Process

For all At Home Challenges, interviews occur between Monday, March 15<sup>th</sup> and Sunday, April 11<sup>th</sup>.

- Interviews are limited to fifteen (15) minutes total; two (2) minutes for a pitch, three (3) minutes presentation by the team and the remaining time (at least ten (10) minutes) is used for questions and answers led by the Judges.
  - The interview time begins after a one (1) minute buffer to allow all team members to be on the call
  - See [Interview Details](#) for details on what to prepare
- Teams are allowed and encouraged to share their screens and use video as part of their presentation.

- Teams are allowed to have as many team members in the interview as they believe they need but teams are encouraged to create a succinct presentation for the Judges.

We encourage all teams to be prepared to adapt to any technical difficulties by having multiple team members prepared to present all materials.

Remember to put safety first with social distancing guidelines and compliance with local regulations if team members are in the same physical location.

- At least one (1) adult team mentor **must** attend the interview.
  - Mentors are not allowed to provide any assistance during the interview. *FIRST* suggests this mentor provides feedback to the team after the interview based on observations and noting Judges' questions. This feedback can be very valuable in helping teams improve their solution and skills. If the mentor provides any assistance during the interview, the Judges will respectfully remind the mentor of the rule.
  - ~~Exception: If necessary, the mentor may provide translation services for students needing foreign language or sign language translation.~~
  - Interviews are conducted in English. Teams needing a translator or sign-language interpreter may include an additional person to act as that translator/interpreter. The translator/interpreter does not need to be a team member. For these teams, the duration of the interview is increased by three (3) minutes.
- Recording video, audio, or taking pictures (including screenshots) are prohibited during the interview.

In addition to *FIRST* prohibiting recording, there may be other legal restrictions governing recording.

## Section 5.2 Awards & Judging Logistics

Table 5-2 # of Awards per Region

Region	# of Chairman's Award Winners	#of Dean's List Finalists	# of Woodie Flower Finalists
Caribbean + South American Region	1	2	1
Central Asia, Africa, and Europe Region	1	2	1
China Region	2	4	1
Florida Region	3	6	1
Greater Central Valley Region	4 2	2 4	1
Greater Los Angeles Region	4	8	1
Greater San Diego Region	2	4	1
Greater San Francisco Bay Region	3	6	1
Illinois Region	2	4	1
Mexico Region	3	6	1
Midwestern Plains Region	2	4	1
MoKan Region	3	6	1
New York & Quebec Region	4	8	1
Pacific Region	3	6	1
Rocky Mountain Region	4	8	1
Southeastern Region	2	4	1
Southern Appalachian Region	2	4	1
Southwestern Region	2	4	1
Turkish Region	3	6	1

Region	# of Chairman's Award Winners	#of Dean's List Finalists	# of Woodie Flower Finalists
Upper Midwest Region	6	12	1
Upper Ohio River Region	3	6	1
Wisconsin Region	2	4	1

## 2021 FRC GAME MANUAL

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### Section 1.8 Team Updates

Team Updates are used to notify the *FIRST* Robotics Competition community of revisions to the official season documentation (e.g. the manuals, drawings, etc.) or important season news. Between Kickoff and February 2, 2021, Team Updates are posted each Tuesday and Friday. Starting February 9, 2021, Team Updates will be posted on Tuesdays only, and edits will be limited to only those that won't impact challenge submission content (e.g. correcting an award count error, control system updates, etc.). Additional Team Updates and their posting frequency will be announced if an in-person season is approved. Team Updates are posted on the [INFINITE RECHARGE - Season Materials webpage](#)