

## 2016 Amazon Picking Challenge Official Rules

Amazon.com is able to quickly package and ship millions of items to customers from a network of fulfillment centers all over the globe. This wouldn't be possible without leveraging cutting-edge advances in technology. Amazon's automated warehouses are successful at efficiently moving goods within a warehouse. However, commercially viable automated picking in unstructured environments still remains a difficult challenge.

The 2016 Amazon Picking Challenge (the "Challenge") is a skill challenge sponsored by Amazon Robotics LLC (the "Sponsor") aimed to strengthen the ties between the industrial and academic robotic communities and promote shared and open solutions to some of the big problems in unstructured automation. The Challenge will task entrants with building their own robot hardware and software (collectively, a "Robot") that can attempt simplified versions of the general task of picking items from shelves. Selected finalists (as outlined below) will have their Robots presented with a stationary and lightly populated inventory shelf and be asked to pick a subset of the products from the shelf and put them in a tote and also stow products into the shelf. The Challenge combines object recognition, pose recognition, grasp planning, compliant manipulation, motion planning, task planning, task execution, and error detection and recovery. The Robots will be scored by how many items are picked and stowed in a fixed amount of time. Entrants will share and disseminate their approach to improve future Challenge results and industrial implementations. See below for the complete Challenge details.

**CHALLENGE CALENDAR:** The Challenge starts on January 4, 2016 at 12:00 AM Eastern Time ("ET") and ends on July 3, 2016 at 11:59:59 PM ET (the "Challenge Period"). Sponsor's computer is the official timekeeper for this Challenge. The Challenge phases are noted in the calendar below. The dates are approximate and are subject to change at Sponsor's discretion.

PHASES	STARTS AT 12:00 AM ET ON:	ENDS AT 11:59 PM ET ON:
<b>PHASE 1:</b> Robot Proposal Entry Period	January 12, 2016	February 5, 2016
<b>PHASE 2:</b> Robot Proposal Review Period	February 1, 2016	February 24, 2016
<b>PHASE 3:</b> Finalist Notification Period	February 25, 2016	February 26, 2016
<b>PHASE 4:</b> Finalist Event	June 29, 2016	July 3, 2016
<b>PHASE 5:</b> Event Scoring	June 30, 2016	July 3, 2016
<b>PRIZE WINNERS ANNOUNCED</b>	July 3, 2016	

**ELIGIBILITY:** To be eligible to enter the Challenge, you must: (1) be above the age of majority in the country, state, province or jurisdiction of residence (and at least twenty years old in Taiwan) at the time of entry; (2) not be a resident of Brazil, Quebec, Crimea, Cuba, Iran, Syria, North Korea, or Sudan (subject to the exception noted below); (3) not be a person or entity under U.S. export controls or sanctions; and (4) have access to the Internet as of January 4, 2016. Challenge is void in Brazil, Quebec, Crimea, Cuba, Iran, Syria, North Korea, Sudan, and where prohibited by law. Employees, interns, contractors, and official office-holders of Amazon.com, Inc. ("Sponsor"), its subsidiaries, affiliates, and their respective directors, officers, employees, advertising and promotion agencies, representatives, and agents ("Challenge Entities"), and members of the Challenge Entities and their immediate families (parents, siblings, children, spouses, and life partners of each, regardless of where they live) and members of the households (whether related or not) of such employees, officers and directors are

ineligible to participate in this Challenge. Sponsor reserves the right to verify eligibility and to adjudicate on any dispute at any time.

Pursuant to subsection (2) of this Eligibility section above, Entrants (but not the leader of any Entrant Team designated as the Team Leader on the applicable Participation Agreement) may be a resident of Crimea, Cuba, Iran, Syria, North Korea or Sudan and still be eligible to enter and participate in the Challenge if they: (A) are currently (during the entire Challenge Period) a full-time student at an accredited university, college, or other institution of higher learning, in a non-excluded country/area (i.e., not in Brazil, Quebec, Crimea, Cuba, Iran, Syria, North Korea, or Sudan); (B) have a valid student visa and/or other applicable immigration paperwork, as recognized by the federal government of the country/area where they are a full-time student; and (C) provide such valid student visa and/or other applicable immigration paperwork to Sponsor upon request. The validity of such student visa and/or other applicable immigration paperwork shall be subject to further verification by Sponsor.

If you are entering as part of a company or on behalf of your employer, these Official Rules are binding on you, individually, and/or your employer. If you are acting within the scope of your employment, as an employee, contractor, or agent of another party, you warrant that such party has full knowledge of your actions and has consented thereto, including to the terms of these Official Rules and your potential receipt of a prize. You further warrant that your actions do not violate your employer's or company's policies and procedures.

Challenge is void where prohibited. Individuals may enter as a sole Entrant or as part of an "Entrant Team". An individual is permitted to be part of more than one Entrant Team and may enter as part of an Entrant Team and as a sole Entrant if they desire. Only one person on an Entrant Team will be considered the Entrant for entry purposes. Each member of any Entrant Team must be eligible to participate in this Challenge and comply with these Official Rules or such Entrant Team may be disqualified. This Challenge is subject to all applicable federal, state and local laws. By participating in the Challenge, each Entrant and each member of each participating Entrant Team (as applicable), unconditionally accepts and agrees to comply with and abide by these Official Rules and the decisions of the Sponsor, which will be final and binding including the Sponsor's right to verify eligibility, to interpret these Official Rules, and to resolve any disputes relating to this Challenge at any time.

#### **DESCRIPTION OF CHALLENGE PHASES:**

**PHASE 1 "Robot Proposal Entry Period":** Entrant or Entrant Teams who wish to enter the Challenge may visit <http://amazonpickingchallenge.org/> ("Challenge Site") and submit the entry information required including, but not limited to: Entrant name, email address, team size, mailing address, daytime phone number, confirmation of age, and include an overview of their Robot in the form provided (collectively, a "Proposal Entry").

Proposal Entries may be submitted at any time during the Robot Proposal Entry Period. For Entrant Teams, only the one (1) individual entering on behalf of the Entrant Team will be responsible for visiting the Challenge Site and submitting a Proposal Entry on behalf of their Entrant Team. Proposal Entry is not complete until all the online prompts and instructions to upload the proposal have been properly followed and the Official Rules have been affirmatively accepted. By entering, Entrants acknowledge compliance with these Official Rules. Proposal Entries will not be returned and become the property of the Sponsor, however if selected to participate in the Finalist Event (as defined below) the Robot itself remains the property of the Entrant. By submitting a Proposal Entry, the Entrant warrants and represents that he/she is the creator of the Proposal Entry and that he/she consents to the submission and use of the Proposal Entry in the Challenge. Each Proposal Entry and subsequent Robot must comply with the entry terms and Robot technical requirements set forth below in order to be eligible.

**ENTRY TERMS:** Determination of compliance with entry, technical, and creative requirements and these Official Rules will be in the sole discretion of the Sponsor and the designated Review Panel (as defined below). By entering, each Entrant/Entrant Team warrants that entries:

- i. are the original work of the Entrant/Entrant Team or an update to an original work of the Entrant/Entrant Team;
- ii. do not contain any use of names, likenesses, photographs, or other identifying elements in whole or in part, of any person, living or dead, without permission (proof of which must be provided to the Sponsor upon request in a form satisfactory to Sponsor);
- iii. do not infringe or violate the rights of any third party, including but not limited to, copyrights, trademarks, logos, copyrighted material not owned by Entrant (other than Sponsor's related materials that were provided to Entrant by or on behalf of Sponsor in connection with the Challenge), contract and licensing rights, rights of publicity or privacy, moral rights, or any other intellectual property rights;
- iv. are not subject to any third party agreements, and that Sponsor will not be required to pay or incur any sums to any person or entity as a result of its ownership, acquisition, use or exploitation of the entries or rights therein;
- v. were made with the understanding that any required permits from local authorities or other permissions have been obtained and is documented sufficiently such that Entrant can show proof of such permission upon request from the Sponsor; and
- vi. do not promote any activity that may appear unsafe or dangerous.

### **Robot Technical Requirements**

Robots that are designed to intentionally damage items or their packaging (such as piercing or crushing) will be disqualified from the Challenge. Questionable designs should be cleared with Sponsor prior to the Challenge. All Robots must include an emergency stop function to halt movement of the Robot. No Robots may include teleoperation or semi-autonomous user input features. Additional requirements are described in the description of the Finalist Event below.

**PHASE 2 "Robot Proposal Review Period":** All eligible Proposal Entries will be judged and scored by a review panel chosen by the Sponsor ("Review Panel"). The Review Panel will rank Proposal Entries based on the maturity and flexibility of the proposed design and the likelihood the design will result in successful performance in the Finalist Event (the "Review Criteria"). The Sponsor reserves the right to assess Proposal Entries in the manner determined by the Sponsor, which may include interviews or discussions with certain Entrants/Entrant Teams.

The sixteen (16) Proposal Entries ranked highest by the Review Panel will be deemed potential finalists (subject to verification and compliance with these Official Rules) and will be invited to attend RoboCup 2016 scheduled to take place in Leipzig, Germany from June 30 to July 4, 2016 where they will have the opportunity to have their Robot compete against other finalist Robots (the "Finalist Event"). In the event of a tie, all tied Proposal Entries will be re-reviewed by an additional "tie-breaking" panel member selected by Sponsor who will use the Review Criteria above to break the tie. Sponsor's decisions are final and binding in all matters relating to this Challenge.

**PHASE 3 "Finalist Notification Period":** Potential finalists are subject to verification by the Challenge Entities. Potential finalists will be notified by email at the email address provided at time of Proposal Entry. Potential finalists (and if an Entrant Team, all members of such team) will be required to complete and return a Participation Agreement, within the timeframe stated on the notification. If any email notification is returned as undeliverable, if a potential finalist does not respond within the required number of days specified by Sponsor, or if information collected within the clearance documentation, entry, or background check is found in non-compliance with these Official Rules, raises other issues of significant concern to Sponsor or a potential winner decides to decline the prize for any reason whatsoever, Sponsor shall have no further obligation to such potential finalist and the applicable prize will be forfeited and may be awarded to a runner-up potential finalist time-permitting and at the Sponsor's sole discretion.

**PHASE 4 "Finalist Event":**

## **Overview**

The Finalist Event will consist of two tasks:

- A pick task to remove target items from a shelf and place them in a tote, and
- A stow task to take target items from a tote and place them into the shelf.

The Finalist Event will take place over five days, and each team will have a dedicated bay for the entire challenge. The first and second days will be dedicated to setup and testing. Entrant Teams may have the success of their Robots scored during practice, but the outcome of the practice attempts will not count toward or be considered in the final scoring evaluations (as outlined below).

On the third day each Entrant Team will compete in the stow task and then will compete in the pick task on the fourth day. On the final day there will be an interactive session where Entrant Teams will describe and demonstrate their Robot. Entrant Teams will not be scored on these demonstrations.

### Shelving System

The shelving system will be a real Amazon Robotics shelf made of steel and cardboard with the layout and dimensions identified at [http://amazonpickingchallenge.org/2015/gazebo\\_pod.shtml?](http://amazonpickingchallenge.org/2015/gazebo_pod.shtml?). It is the same shelf used in the 2015 Amazon Picking Challenge. Only a subset of 12 bins on a single face of the shelf will be used for the challenge. Entrant Teams will not be allowed to modify the shelf or to move or damage the shelf during their attempt.

### Tote

The tote for the competition is available from the company U-Line, a red plastic with model number S-19473R (<http://www.uline.com/Product/Detail/S-19473R/Totes-Plastic-Storage-Boxes/Heavy-Duty-Stack-and-Nest-Containers-Red-24-x-15-x-8?model=S-19473R>). Entrant Teams will be allowed to choose the initial position of the tote and the Robot may move or support the tote during the attempt. Dropping the tote will count as dropping all of the items in the tote.

### Items

The set of 40 items used in the Challenge will be selected to represent popular kinds of products. It may include books, cubic boxes, clothing, soft objects, and irregularly shaped objects. The items may be placed in any orientation in the bins. For example, a book may be lying flat or standing on an edge.

### Task Input and Output Files

The **Stow Input File** will consist of a single JSON file that defines two things:

- The initial item contents of all bins on the shelf face
- The work order detailing the contents of the tote to be stowed

The **Pick Input File** will consist of a single JSON file that defines two things:

- The initial item contents of all bins on the shelf face
- The work order detailing what items should be picked from each bin

At the end of a task attempt, the team will produce a **Task Output File** that will be a single JSON file that defines two things:

- The final item contents of all bins on the shelf face
- The final item contents of the tote

### Workcell Layout

Each Entrant Team is allowed to place their Robot anywhere within the predefined robot workcell, but must have a starting gap of at least 10 cm from the shelf. The Robot and the tote should be kept within the 2 meter x 2 meter square robot workcell during the competition. The Review Panel may consider exceptions for larger systems. Each Robot must have an emergency-stop button that halts the motion of the Robot.

There will be a nominal position for the legs of the shelf and before each task attempt the contest organizers will adjust the shelf position. The only restriction on the adjusted position is that each leg of

the shelf will be within 3 cm of its nominal position. Once the Sponsor's representatives have adjusted the shelf position the Entrant Team is not allowed to move the shelf. The goal of these adjustments is to encourage teams not to rely on precise pre-calibration.

#### Task Attempt Rules

An **attempt** is defined as a single scored run. Ten minutes prior to the start of the attempt the Sponsor's representatives will require access to the shelf and tote to prepare the initial random item configuration and reposition the shelf. Five minutes prior to the start of the attempt the Sponsor's representatives will give the Entrant Team the Task Input File. The Entrant Team will then be allowed to upload the data to their system.

An attempt starts five minutes after the team is given the Task Input File, and the attempt ends when one of the following conditions is met: the time limit expires, the leader of the Entrant Team verbally declares the run is complete, or a human intervenes either remotely or physically with the robot or shelf. At the conclusion of the attempt the Robot should produce a Task Output File with its believed locations (bin or tote) for all the items. The score recorded for the attempt will be the score at the moment that the ending condition is met.

If something goes wrong during the first attempt, each Entrant Team is allowed one **reset**. A reset is initiated by a verbal declaration from the leader of the Entrant Team and ends the first attempt. The score and time remaining at the end of the first attempt will be recorded and a Task Output File should be produced. A second attempt will then be initiated. For the second attempt the Sponsor's representatives will return all items to their initial configuration and the Entrant Team will have whatever time remained from the first attempt minus a 60 second reset time penalty. The second attempt will start when either the Sponsor's representatives have completed resetting the inventory or 5 minutes after the reset is declared, whichever is later. The second attempt can start before the 5 minutes have elapsed if both the Sponsor's representatives and the Entrant Team are ready. The Entrant Team will receive the better score from either their first or second attempt.

No human interaction (remote or physical) is allowed with the Robot after uploading the work order and starting the robot except for a Reset. **Note that this precludes any teleoperation or semi-autonomous user input to the Robot.**

Robots that are designed to intentionally damage items or their packaging (such as piercing or crushing) will be disqualified from the Challenge. Entrant Teams with any questions about their approach should clear their design with the Sponsor prior to the Challenge.

#### Penalties for Undesired Behavior

For both tasks, penalties will be assigned for any of the following actions:

- Removing non-target items from the shelf and not replacing them
- Reporting an incorrect final position for an item in Task Output File
- Damaging any item or the shelf
- Dropping an item from a height of more than 0.3 meters
- Leaving an item protruding out of its bin by more than 0.5cm

Note that a non-target item can be moved from one bin to another for any reason as long as the final location of the item is noted correctly in the Task Output File.

#### Scoring Criteria

Each task has a time limit and a scoring rubric that assigns a point value to successfully moving target items to the correct final location. The two tasks will be scored and ranked separately, and the top three Entrant Teams in each task will win prizes. If two or more Entrant Teams are tied on points, then preference will go to the Entrant Team that did not use a reset. If two or more Entrant Teams are tied point both points and resets, then ties will be broken based on the time that the first successful target item movement occurred. In the event of ties on all three criteria, the Entrant Teams will split the prizes.

#### **Stow Task**

The stow task is to move 12 target items from a tote into bins on the shelf. The 12 target items in the tote will represent about 10 different products and be arranged so that some items are partially or completely occluded below other items. The tote will contain only the 12 target items. The target items can be stowed in any sequence and into any bin. The shelf will initially contain around 40 non-target items and each bin will contain between 1 and 10 items.

The goal is to score as many points for the task in 15 minutes as possible. The point values for successfully stowing a target item from the tote to a bin are as follows:

- 10 points for bins that started with 1 to 2 items
- 15 points for bins that started with 3 or 4 items
- 20 points for bins that started with 5 or more items

A bonus of up to 3 points will be given for successfully stowing certain items that are considered more difficult.

### **Pick Task**

The pick task is to move 12 specified target items from the shelf into a tote. Each bin will contain between one and 10 items. Overall the 12 bins will contain around 50 items. There will be one target item for each bin and the target item must be picked from that bin. Some bins will feature a target item that is partially occluded or in contact with other items, but no items will be fully occluded.

The shelf may contain all the announced items or a partial subset of them. The shelf may contain multiple copies of the same item, either in different bins or in the same bin. In the event there are multiple copies of a target item in a bin, any one can be picked, but not more than one. Target items may be picked in any sequence.

The goal is to score as many points for the task in 15 minutes as possible. The point values for successfully picking a target item from a bin into the order tote are as follows:

- 10 points for bins with 1 or 2 items
- 15 points for bins with 3 or 4 items
- 20 points for bins with 5 or more items

A bonus of up to 3 points will be given for successfully picking certain items that are considered more difficult.

Example bin count distribution for reference:

Items per bin	Number of Bins	Number of Items
1	2	2
2	3	6
4	3	12
6	2	12
8	1	8
10	1	10
Total	12	50

### **Practice Equipment**

Challenge equipment will be furnished to each finalist/finalist team that is invited to the Finalist Event. This includes:

- An official Amazon Robotics Pod (shelving unit)
- A set of practice inventory

All furnished equipment will be substantially similar to that listed in these Official Rules and used at the Finalist Event.

**PRIVACY:** Entrant acknowledges and agrees that Sponsor may collect, store, share and otherwise use personally identifiable information provided during the registration process and the Challenge, including, but not limited to, name, mailing address, phone number, and email address. All information collected is subject to and will be used in accordance with Sponsor's Privacy Policy (<http://www.amazon.com/gp/help/customer/display.html?nodeId=468496>), including for administering the Challenge and verifying Entrant's identity, address and telephone number in the event an entry qualifies for a prize. Entries that do not comply with these Official Rules, as determined in Sponsor's sole discretion, may be disqualified from the Challenge.

By entering the Challenge, each Entrant/Entrant Team represents and warrants that (i) he, she or it has obtained all of the rights, licenses, and permissions in writing from any person who may have helped create the Robot and such persons must be listed as a team member of the applicable Entrant Team and (ii) to the extent the Robot submitted by such Entrant Team employs any intellectual property owned by a third party, such Entrant/Entrant Team has obtained all necessary rights, licenses and permissions from such third party to use such intellectual property, which right to use includes the Entrant/Entrant Team's participation in the Challenge. Entrants MAY NOT submit Robots created by any person other than themselves or their team members. Decisions of the Sponsor and Challenge Entities are final and binding.

**FINALIST PRIZES (16):** Each finalist/finalist team will receive a subsidy which may be used to reimburse finalist for travel costs, hotel accommodations and Robot shipping fees associated with attending RoboCup 2016 scheduled to take place in Leipzig, Germany from June 30 to July 4, 2016, in an amount determined by the Sponsor. The amount of the subsidy will be determined by giving consideration to the distance from which the finalist/finalist team must travel and certain other factors. The Sponsor anticipates that the subsidies will likely range between \$2,000 and \$8,000 USD, but all amounts offered will be at the Sponsor's discretion. Each finalist/finalist team will also receive free registration/access to RoboCup.

**EVENT PRIZES (3):** The top three (3) finalists/finalist teams in each task will receive monetary prizes as listed below:

	<b>Prize (USD)</b>	<b>Minimum Score for Full Prize</b>
<b>1<sup>st</sup> Place</b>	\$25,000.00*	35 points
<b>2<sup>nd</sup> Place</b>	\$10,000.00*	25 points
<b>3<sup>rd</sup> Place</b>	\$5,000.00*	15 points

\* All monetary prizes are conditional on eligible teams completing the minimum score criteria for that prize as outlined below. If a team does place in the prize pool but does not meet the minimum criteria for that prize they will be awarded half the amount of the prize for that place. For example, if a team places 1<sup>st</sup> in the Challenge, but does not meet the minimum 1<sup>st</sup> place score criteria, they will be awarded a \$12,500 prize.

In the event of a scoring and time draw the tied teams will split the prize for their position. In no event will prizes be awarded to teams with scores less than or equal to 0 points.

Prizes are non-transferable. No prize substitutions or cash redemptions allowed. Except where prohibited by law, all federal, state, or other tax liabilities are the responsibility of the prize winners and the Sponsor will not be responsible for any tax deductions which may be necessary. In the event an Entrant Team is deemed a prize winner, the Team leader of such Entrant Team will be solely responsible for dividing the applicable equally amongst all team members. Prize winners are responsible for any costs and expenses associated with prize acceptance and use not specified herein as being provided. Designation as a prize

winner is subject to Entrant's proof of compliance with these Official Rules, maintaining compliance with these Official Rules and approval by the Sponsor. All details of prize not specified herein shall be determined solely by Sponsor.

**INDEMNIFICATION AND ACKNOWLEDGMENT:** The Challenge Entities reserve the right, in their sole discretion, to disqualify any individual found tampering with the entry process or entry materials or otherwise interfering with the proper administration of the Challenge or violating these Official Rules.

**EACH ENTRANT/ENTRANT TEAM MEMBER ACCEPTS THE CONDITIONS STATED IN THESE OFFICIAL RULES, AGREES TO BE BOUND BY THE DECISIONS OF THE SPONSOR, WARRANTS THAT HE OR SHE IS ELIGIBLE TO PARTICIPATE IN THIS CHALLENGE, AND AGREES TO RELEASE, INDEMNIFY, AND HOLD HARMLESS CHALLENGE ENTITIES AND EACH OF THEIR PARENT COMPANIES, DIVISIONS, SUBSIDIARIES, AFFILIATES, ADVERTISING, PROMOTION, AND PUBLIC RELATIONS AGENCIES, AND THE RESPECTIVE OFFICERS, DIRECTORS, EMPLOYEES, REPRESENTATIVES, AND AGENCIES OF EACH FROM AND AGAINST ANY AND ALL CLAIMS, LOSSES, LIABILITY, AND DAMAGES OF ANY KIND, (INCLUDING REASONABLE ATTORNEYS' FEES AND EXPENSES) ASSERTED AGAINST ANY OF THEM, INCURRED, SUSTAINED, OR ARISING IN CONNECTION WITH THE USE, ACCEPTANCE, OR MISUSE OF THE PRIZE OR WHILE PREPARING FOR, PARTICIPATING IN, AND/OR TRAVELING TO OR FROM ANY CHALLENGE-RELATED ACTIVITY, INCLUDING, WITHOUT LIMITATION, ANY INJURY, DAMAGE, DEATH, LOSS, OR ACCIDENT TO PERSON, ANIMAL OR PROPERTY, OR FROM THE RESPECTIVE ENTRANTS' BREACH OF ANY AGREEMENT OR WARRANTY ASSOCIATED WITH THE CHALLENGE, INCLUDING THESE OFFICIAL RULES. ANY ATTEMPT TO DELIBERATELY DAMAGE ANY WEBSITE OR UNDERMINE THE LEGITIMATE OPERATION OF THE CHALLENGE IS A VIOLATION OF CRIMINAL AND CIVIL LAWS AND, SHOULD SUCH AN ATTEMPT BE MADE, THE CHALLENGE ENTITIES AND EACH OF THEIR LICENSEES RESERVE THE RIGHT TO SEEK ANY AND ALL REMEDIES AVAILABLE FROM ANY SUCH PERSON(S) RESPONSIBLE FOR ANY SUCH ATTEMPT TO THE FULLEST EXTENT PERMITTED BY LAW.**

Each Entrant/Entrant Team member hereby acknowledges and agrees that the relationship between themselves and the Challenge Entities is not a confidential, fiduciary, or other special relationship, and that the Entrant's decision to provide the entry to Sponsor for purposes of the Challenge does not place the Challenge Entities in a position that is any different from the position held by members of the general public with regard to elements of the entry, other than as set forth in these Official Rules. Each Entrant understands and acknowledges that the Challenge Entities are in the business of creating and developing technology relating to Robots and have wide access to technology, designs, and other materials, and that new ideas are constantly being submitted to it or being developed by their own employees. Each Entrant also acknowledges that many ideas or stories may be competitive with, similar to, or identical to the Robot submission and/or each other in theme, idea, format, or other respects. Each Entrant acknowledges and agrees that such Entrant will not be entitled to any compensation as a result of Challenge Entities' use of any such similar or identical material that has or may come to Challenge Entities, or any of them, from other sources. Entrants acknowledge that other Entrants/Entrant Teams may have created ideas and concepts contained in their Robot design that may have familiarities or similarities to their Robot design, and that they will not be entitled to any compensation or right to negotiate with the Challenge Entities because of these familiarities or similarities.

**INTERNET:** Entrants further agree that the Challenge Entities and any of their respective parents, subsidiaries, affiliates, and each of their respective officers, directors, shareholders, agents and employees, and any Internet access providers are not responsible for the following: (a) electronic transmissions, Robots or entries that are lost, late, stolen, incomplete, damaged, garbled, destroyed, misdirected or not received by Sponsor or their agents for any reason; (b) any problems or technical malfunctions, errors, omissions, interruptions, deletions, defects, delays in operation or transmission, communication failures and/or human error that may occur in the transmission, shipping errors or delays, receipt or processing of entries or related materials; or for destruction of or unauthorized access to, or



alteration of, entries or related material; (c) failed or unavailable hardware, network, software or telephone transmissions, damage to Entrants' or any person's computer and/or its contents related to or resulting from participation in this Challenge, or (d) causes that jeopardize the administration, security, fairness, integrity, or proper conduct of this Challenge; (e) any entries submitted in a manner that is not expressly allowed under these Official Rules (all such entries will be disqualified); (f) any printing errors in these Official Rules or in any advertisements or correspondence in connection with this Challenge. Sponsor reserve the right, in its sole discretion, to cancel or suspend this Challenge should virus, bugs, fraud, hacking, or other causes corrupt the administration, security, or proper play of the Challenge. In such cases, notice to this effect will be posted on the Challenge Site. If, in Sponsor's opinion, there is any suspected or actual evidence of electronic or non-electronic tampering with any portion of the Challenge or if technical difficulties compromise the integrity of the Challenge, the Sponsor reserves the right to void suspect entries and/or terminate the Challenge and award the prizes in its sole discretion. In the event of a dispute as to the identity of an Entrant based on an email address, the entry in question may be disqualified subject to the Sponsor's discretion.

**DISPUTES:** Except where prohibited and unless otherwise specified in the Participation Agreement, you agree that: (1) any and all disputes, claims and causes of action arising out of or connected with this Challenge or any prize awarded shall be resolved individually, without resort to any form of class action; (2) any and all claims, judgments and awards shall be limited to actual out-of-pocket costs incurred, including costs associated with entering this Challenge, but in no event attorneys' fees; and (3) under no circumstances will you be permitted to obtain awards for, and you hereby waive all rights to claim, indirect, punitive, incidental and consequential damages and any other damages, other than for actual out-of-pocket expenses, and any and all rights to have damages multiplied or otherwise increased. All issues and questions concerning the construction, validity, interpretation and enforceability of these Official Rules, or the rights and obligations of the entrant and Sponsor in connection with the Challenge, shall be governed by, and construed in accordance with, the laws of the State of Washington without giving effect to any choice of law or conflict of law rules (whether of the State of Washington or any other jurisdiction), which would cause the application of the laws of any jurisdiction other than the State of Washington.

**SPONSOR:** Amazon Robotics LLC, 300 Riverpark Drive, North Reading, Massachusetts 01864.