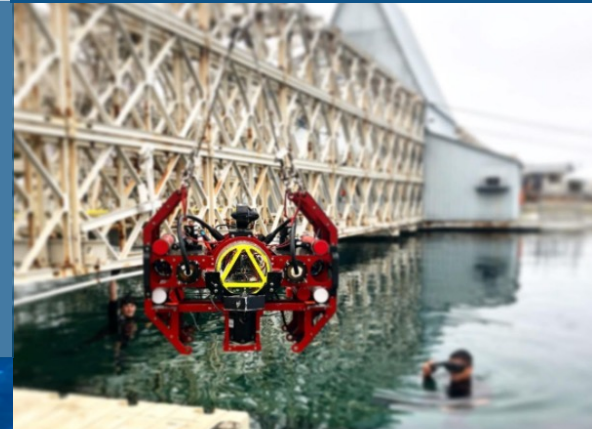
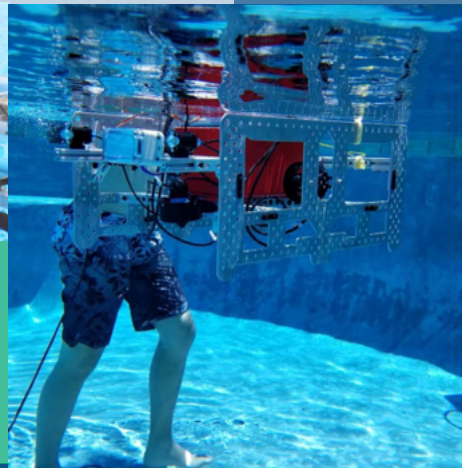




# ROBOSUB TEAM TIME

*Thursday, January 27, 2022 | 7:00 PM Eastern Standard Time*



# Welcome 2022 RoboSub Community!

GET  
STARTED



1

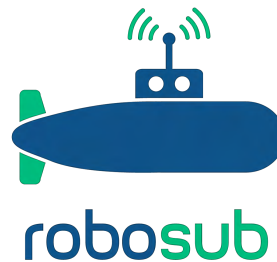
Edit your name to "Name | Team Name"

2

Let us know in the chat:

... How's your day? Send us your answer in a meme.

Where are you joining from and what time is it there?



## ROBOSUB TEAM TIME

### AGENDA

---

[ 19 : 05 - 19 : 10 ] Welcome and Introductions

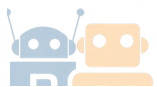
[ 19 : 10 - 19 : 20 ] Participation Options

[ 19 : 20 - 19 : 35 ] Autonomy Challenge Tasks

[ 19 : 35 - 19 : 40 ] Registration Walkthrough & Timeline

[ 19 : 40 - 19 : 45 ] Data Sharing

[ 19 : 45 - 20 : 00 ] Q&A / Wrap Up



# Meet the Humans



Julianna Smith  
Program Manager



Laverne Imori  
Community Engagement Coordinator



Lindsey Groark  
Program Director



Cheri Koch  
Senior Events Manager



Dr. Dave Novick  
Technical Director



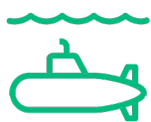
# Participation Options

## Goals:

- Reduce barriers to participation.
- Offer flexibility based on global pandemic impact.

## Solution:

- Teams choose to compete in-person or online during registration.



### Autonomy Challenge

Build an AUV to showcase autonomous performance.



Live Demonstration  
Optional Pre-Qualifying Maneuver



Video Demonstration



### Design Documentation

Prepare documentation showcasing AUV design and competition strategy.



Design Documentation

- *Team Website*
- *Technical Design Report*
- *Competition Strategy Video*
- *Design Presentation*



# Autonomy Challenge



## Live Demonstration

In-Person Teams

- Showcase vehicle performance through autonomous completion of a **range of tasks onsite at the competition site**
- Live judging/scoring
- Eligible for ranking and awards



## Video Demonstration

Online Teams

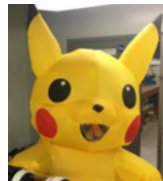
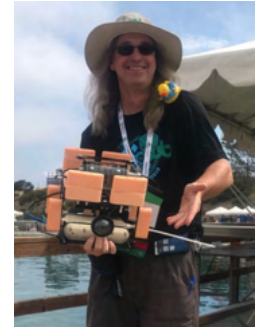
- Showcase vehicle performance through autonomous completion of a **range of behaviors through a video demonstration**
- Videos shared online with the community
- Not scored
- Eligible for special awards and recognition



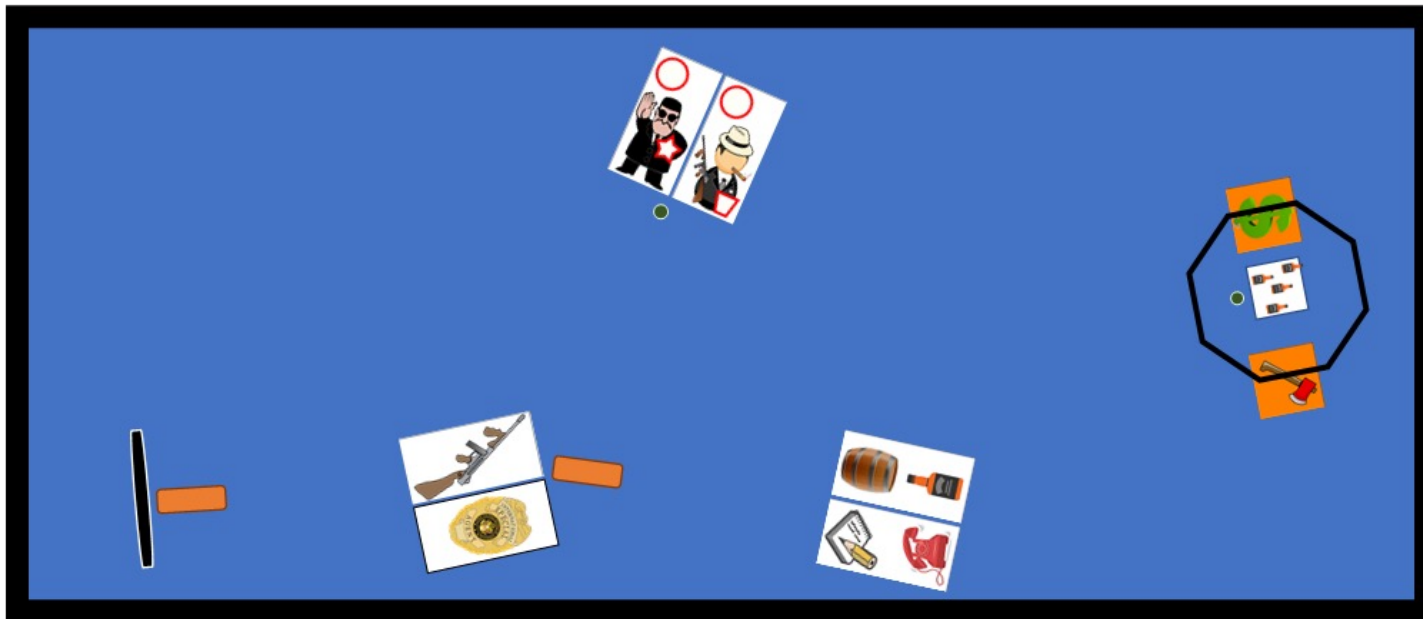
25<sup>th</sup> Annual  
RoboSub 2022

TASKS

Roarin'  
20's










# Course Layout



(drawing **not** to scale)

### Legend

-  Gate
-  Path
-  Pinger
-  Make the Grade
-  Collecting
-  Survive the Shootout
-  Cash or Smash



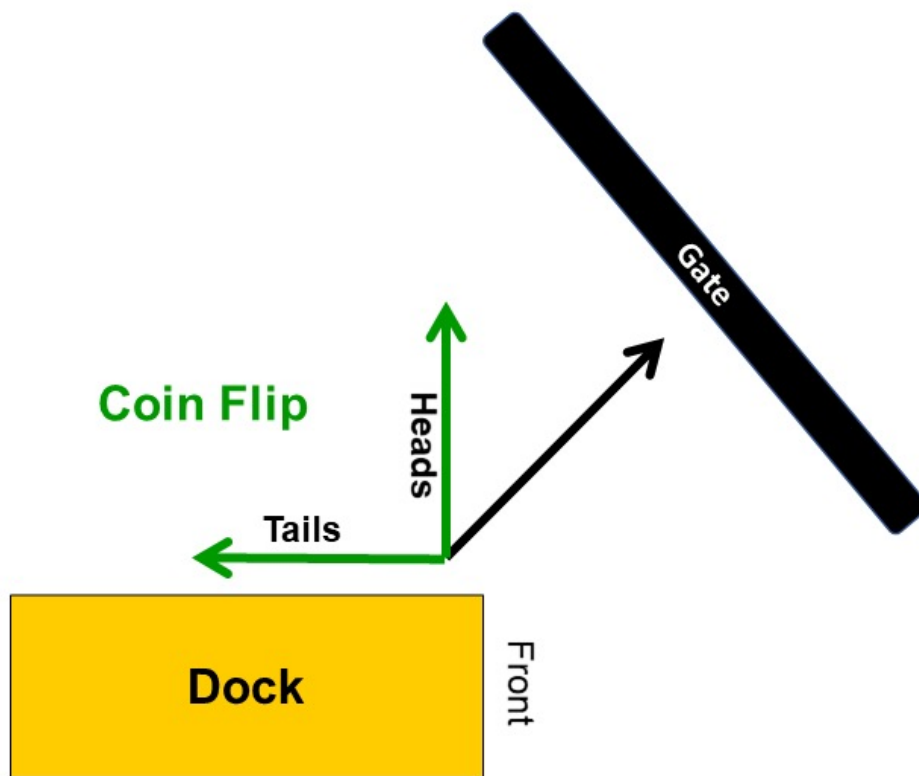


## With Moxy | Coin Flip



**Attitude Control**  
Online Teams

Coin Flip



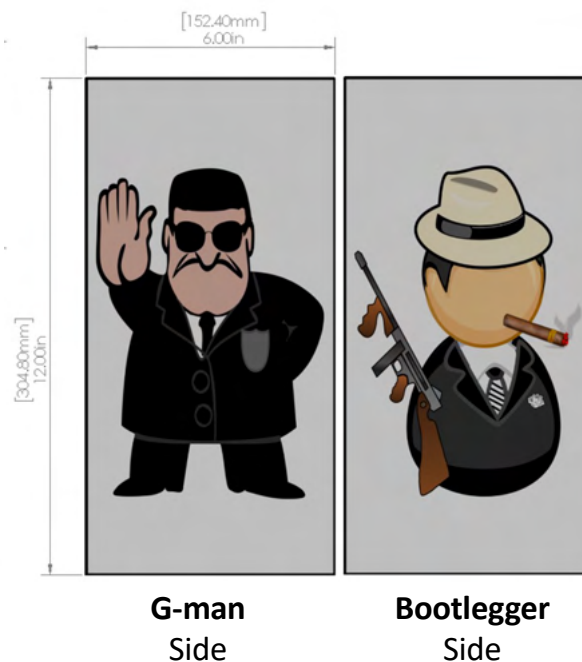
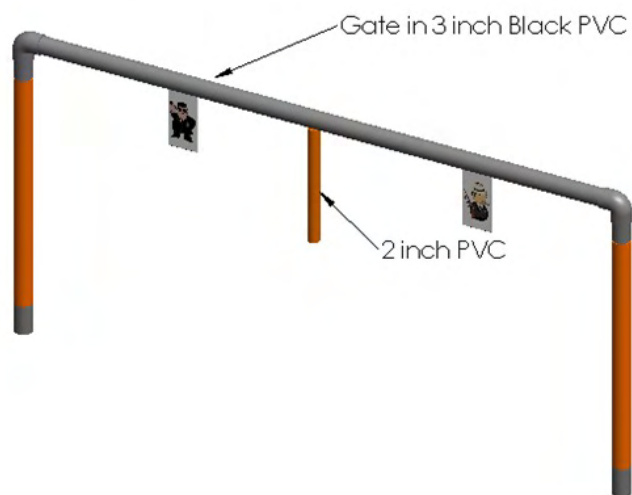
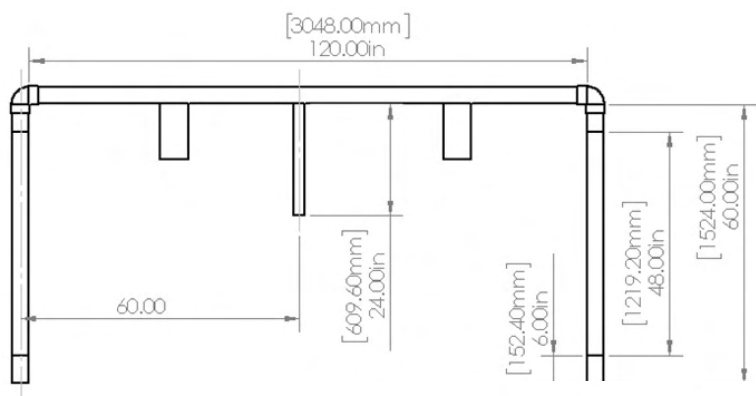
 **Random orientation**  
90° or 180° from dock

(drawing **not** to scale)





## Choose Your Side | Gate



G-man  
Side

Bootlegger  
Side



- Maintain Heading + Depth
  - Navigation
- Online Teams

Choose your side

- Bootlegger
- G-man

Extra points for staying with your side for the rest of the tasks

With Style

10 ft/9 m before/after gate

Extra points

Every 90° change in orientation

Yaw: +100

Roll/Pitch: +200

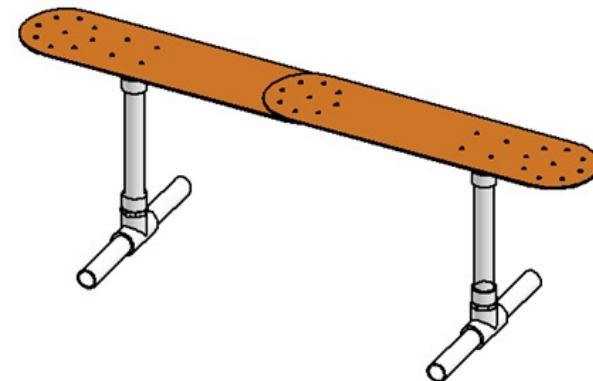
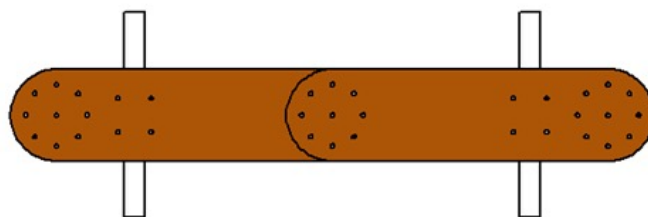
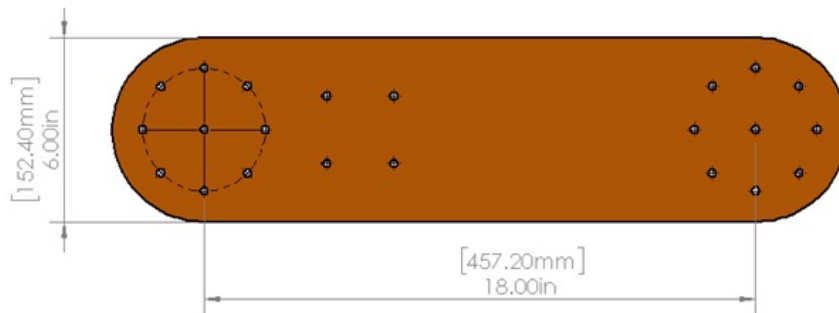
Up to 800 points



# Path



**Navigation**  
Online Teams



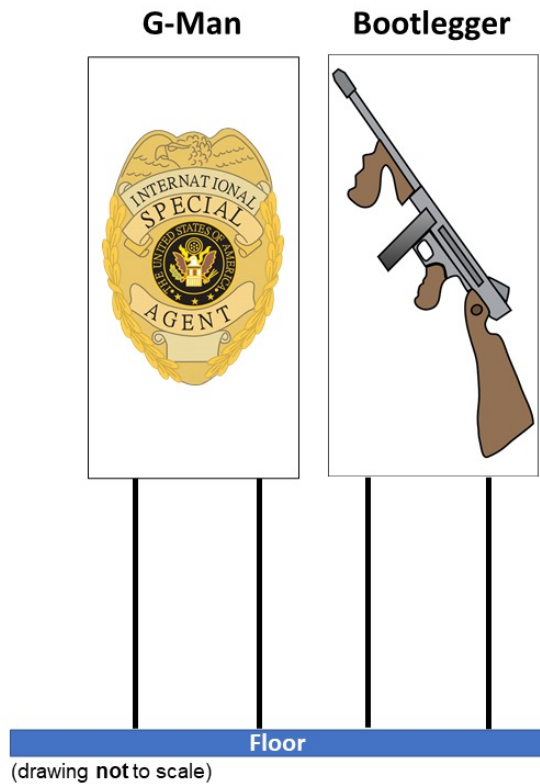
## Make the Grade | Buoys



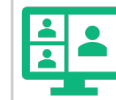
Navigation  
Online Teams

 Buoys are two sided

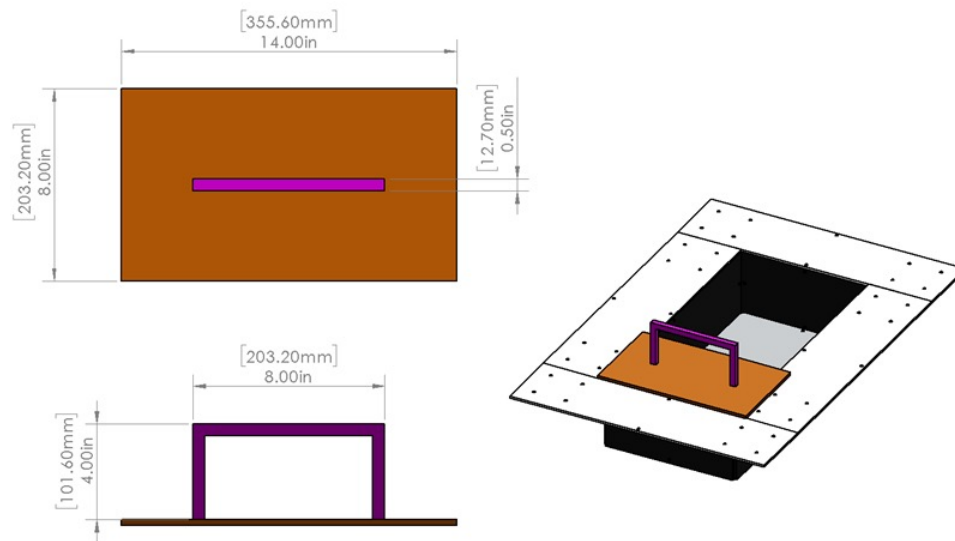
Touch the appropriate buoy for your chosen side for extra points



# Collecting | Bins



- Navigation
  - Markers/Torpedoes
  - Two-Step Behavior
- Online Teams



 1/3 of each bin is covered

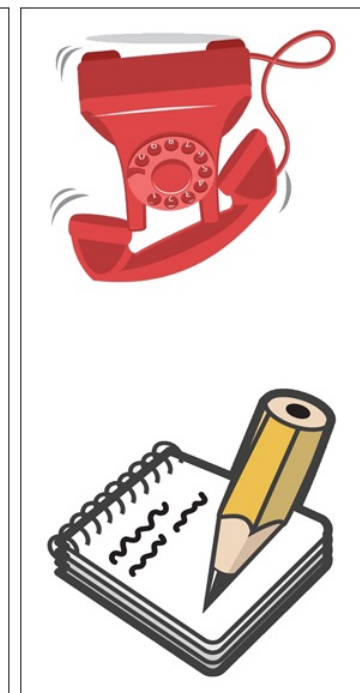
Lift off cover

 "Bottle" item near bins

Drop "bottle" in appropriate bin for extra points



Bootlegger



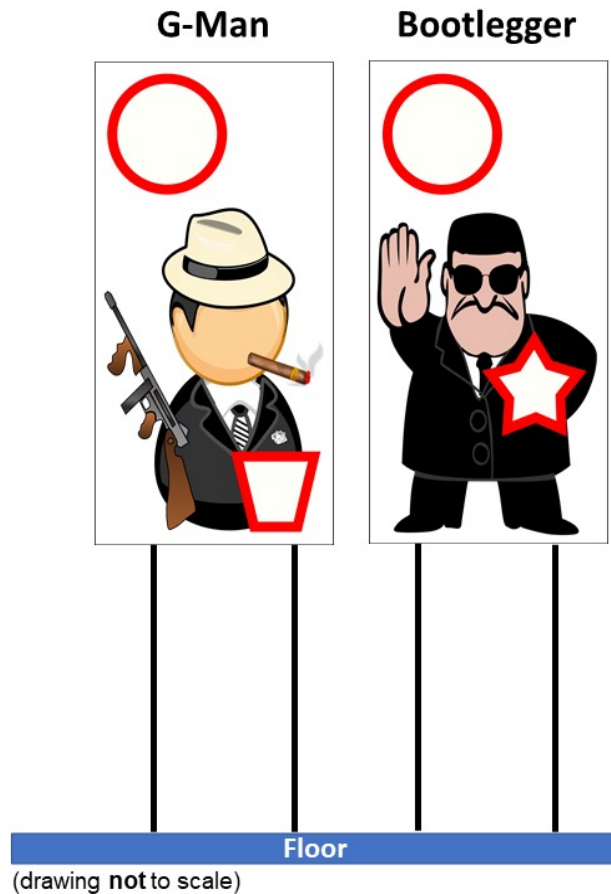
G-Man



# Survive the Shootout | Torpedoes



- Navigation
  - Markers/Torpedoes
  - Two-Step Behavior
- Online Teams



Each panel has two different size openings

Bootlegger

Torpedo G-man for extra points

G-man

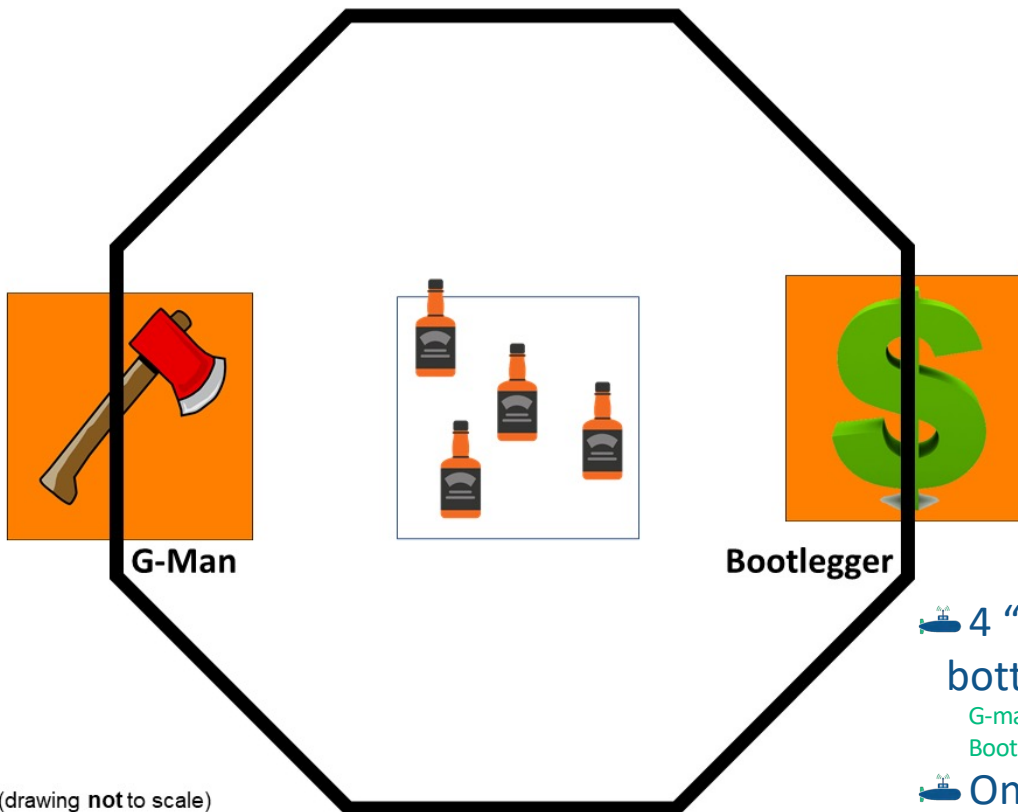
Torpedo Bootlegger for extra points



## Cash or Smash | Octagon



- Navigation
  - Two-Step Behavior
- Online Teams






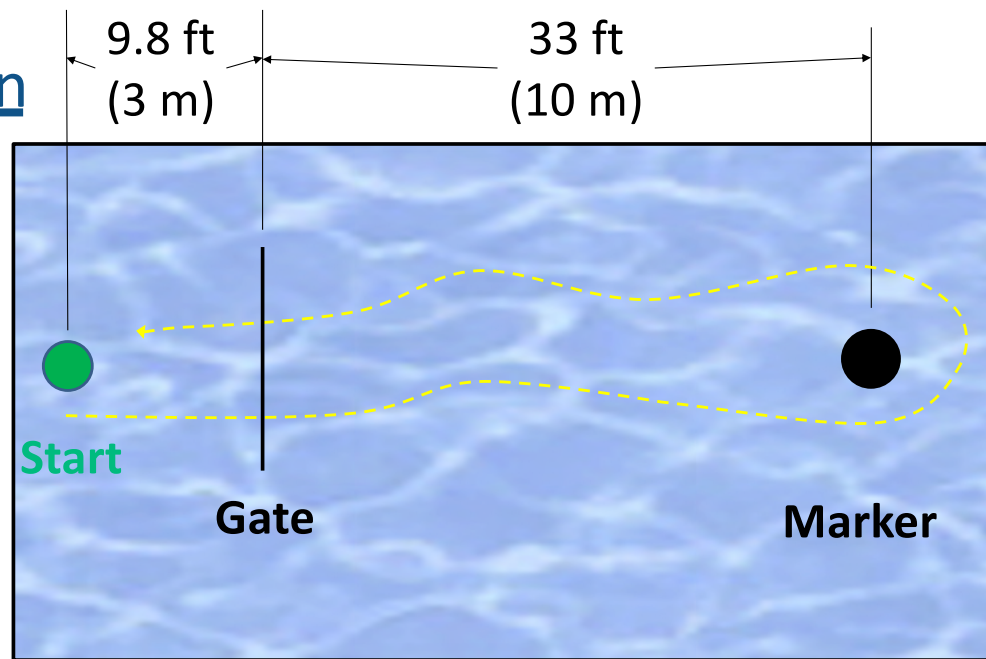
- 4 “bottles” in the center of the octagon. Bring bottles to appropriate area for extra points
  - G-man brings bottles to Axe
  - Bootlegger brings bottles to \$
- One Pinger located at the center of the octagon



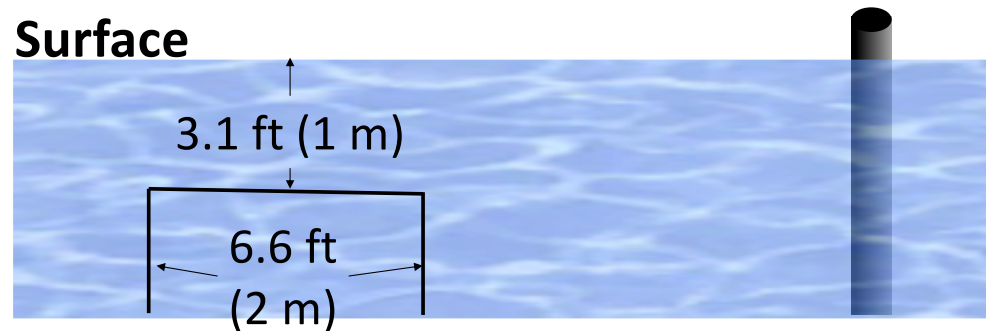
(drawing not to scale)

## Pre-qualification

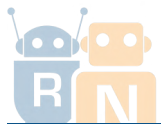
-  Optional
-  Must be submitted before being on-site at competition
-  Guidelines available in Team Handbook



- Maintain Heading + Depth
  - Attitude Control
  - Navigation
- Online Teams



(drawing **not** to scale)





# Autonomy Challenge



## Live Demonstration

In-Person Teams

	Gate
	Path
	Pinger
	Make the Grade
	Collecting
	Survive the Shootout
	Cash or Smash



## Video Demonstration

Online Teams

- Maintain heading and depth
- Attitude control
- Navigation
- Marker/Torpedo
- Two step behaviors



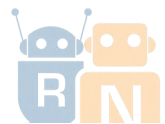
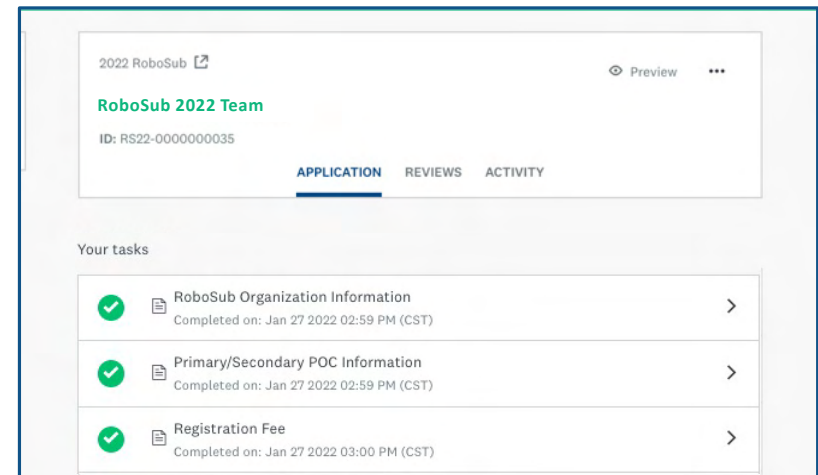
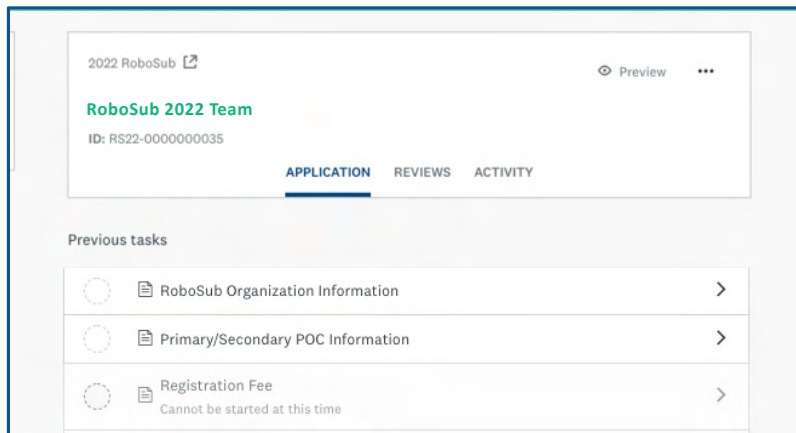
# Registration Walkthrough

 [robosub.org/2022](https://robosub.org/2022)

## Registration is open!

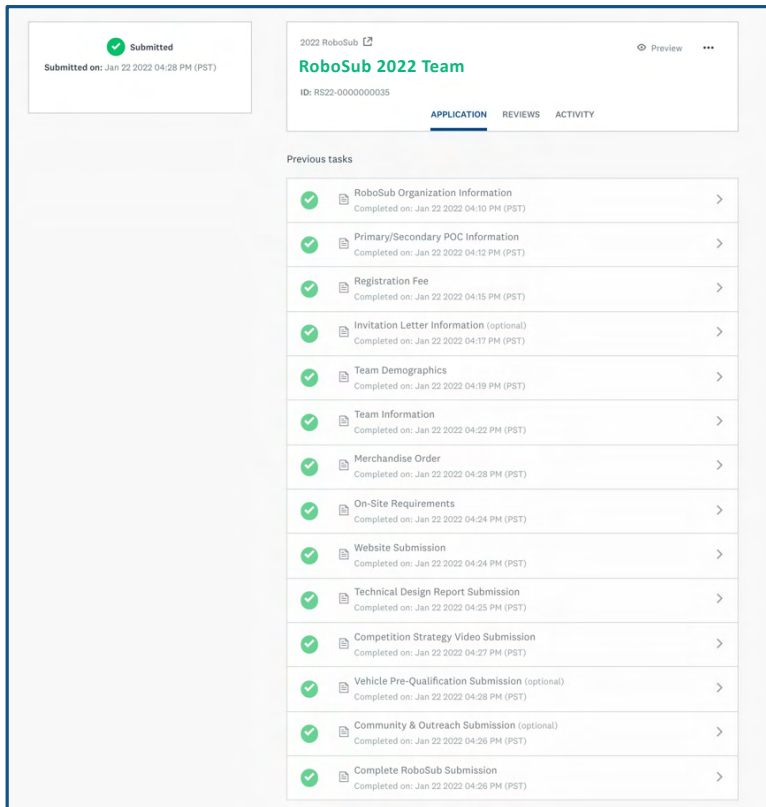
Complete first three tasks by March 31:

- Organization Information
- Point of Contact Information
- Registration Fee + Payment (credit card + bank transfers available)



# Submission Walkthrough

 [robosub.org/2022](https://robosub.org/2022)



The screenshot shows the RoboSub 2022 Team submission dashboard. At the top left, a status box indicates 'Submitted' with a green checkmark and the text 'Submitted on: Jan 22 2022 04:28 PM (PST)'. The main header area displays '2022 RoboSub' and 'RoboSub 2022 Team' with a team ID 'RS22-0000000035'. Below this are tabs for 'APPLICATION', 'REVIEWS', and 'ACTIVITY'. The 'Previous tasks' section lists 15 tasks, each with a green checkmark icon, a document icon, the task name, completion time, and a right arrow. The tasks are: RoboSub Organization Information, Primary/Secondary POC Information, Registration Fee, Invitation Letter Information (optional), Team Demographics, Team Information, Merchandise Order, On-Site Requirements, Website Submission, Technical Design Report Submission, Competition Strategy Video Submission, Vehicle Pre-Qualification Submission (optional), Community & Outreach Submission (optional), and Complete RoboSub Submission.

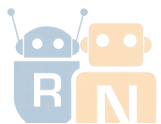
Task Name	Completion Time
RoboSub Organization Information	Completed on: Jan 22 2022 04:10 PM (PST)
Primary/Secondary POC Information	Completed on: Jan 22 2022 04:12 PM (PST)
Registration Fee	Completed on: Jan 22 2022 04:15 PM (PST)
Invitation Letter Information (optional)	Completed on: Jan 22 2022 04:17 PM (PST)
Team Demographics	Completed on: Jan 22 2022 04:19 PM (PST)
Team Information	Completed on: Jan 22 2022 04:22 PM (PST)
Merchandise Order	Completed on: Jan 22 2022 04:28 PM (PST)
On-Site Requirements	Completed on: Jan 22 2022 04:24 PM (PST)
Website Submission	Completed on: Jan 22 2022 04:24 PM (PST)
Technical Design Report Submission	Completed on: Jan 22 2022 04:25 PM (PST)
Competition Strategy Video Submission	Completed on: Jan 22 2022 04:27 PM (PST)
Vehicle Pre-Qualification Submission (optional)	Completed on: Jan 22 2022 04:28 PM (PST)
Community & Outreach Submission (optional)	Completed on: Jan 22 2022 04:26 PM (PST)
Complete RoboSub Submission	Completed on: Jan 22 2022 04:28 PM (PST)

## Once registered...

Complete remaining task list with varying deadlines.

Task list includes:

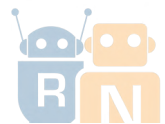
- *Invitation Letter Request*
- *Team Information (Roster + Liability Waivers)*
- *T-Shirt Orders*
- *Design Documentation submissions*
- *& more!*

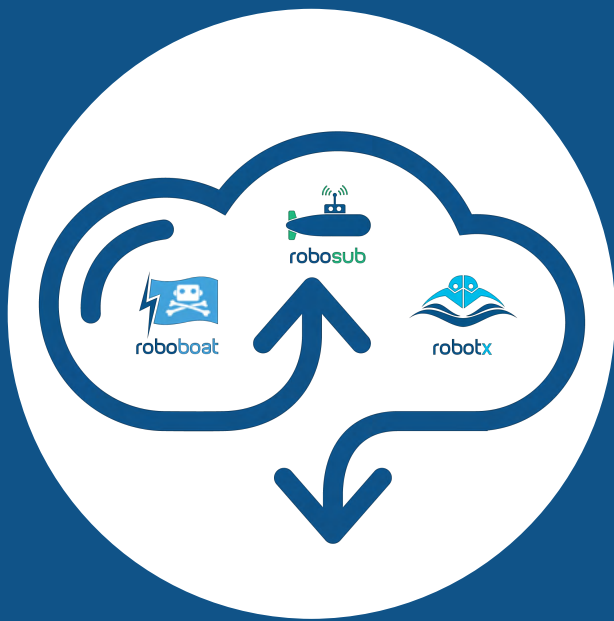


# Competition Timeline

 [robosub.org/2022](https://robosub.org/2022)

- Registration | January 27 – March 31
  - *Early Bird Registration | \$800 USD | February 13*
  - *Full Registration | \$900 USD | March 31*
- Team Time Meetings | January - June
- Pre-Competition Deadlines
  - *June 5 Deadline*
  - *June 12 Deadline*
- Cancellation Deadlines
  - *June 12 | 100% refund*
  - *July 25 | 50% refund*
- RoboSub 2022 | July 25 - 31





# Data Sharing

 [robosub.org/data-sharing](https://robosub.org/data-sharing)

## What is Data Sharing?



Centralized Repository



Community Driven



Competition  
focused

Vision  
Acoustics  
Mechanical Designs  
Electrical Designs



DATA FOR ALL  
TEAMS



LARGE DOMAIN  
OF DATASETS



BETTER PLATFORM  
FOR NEW TEAMS

25<sup>th</sup> Annual  
RoboSub 2022

# Got Questions?



Email  
[autonomy@robonation.org](mailto:autonomy@robonation.org)



Discussion Forum  
[robonationforum.vbulletin.net](http://robonationforum.vbulletin.net)



[robosub.org](http://robosub.org)

25<sup>th</sup> Annual  
RoboSub 2022

**Thank You!**  
**See you again soon!**



[robosub.org](https://robosub.org)