

ROBOTICS

a newsletter about IMSA's FRC team



Start of the Season - Kickoff

By the FRC Business Team

During winter break, FIRST held its annual kickoff and revealed this season's challenge: Rapid React! Our team was able to attend an event in-person at Oswego High School, as well as gather virtually on Discord to brainstorm ideas and formulate strategies for this year's tournament. After watching FIRST's official kickoff livestream in Oswego, many different FRC teams came together to discuss, including members of our team and those from FRC team #2338, Gear It Forward, who were hosting the event. Everyone is excited for the start of the competition season! To learn more about this year's game, please see page 3 of this newsletter.

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RAPID REACT

PRESENTED BY

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Intersession

The week following winter break was both productive and informative for IMSA's FRC robotics team. Throughout the week, the team was required to meet three times, for two hours. However, most team members put in extra hours to bring pre-build season to a successful state. The team started meetings on Zoom and separated into sub-teams using Discord voice channels. Members spent time pouring over the rule book, brainstorming ideas and strategies, and CADing models of potential robot parts/systems, among other things. As intersession week came to an end, members chose sub-systems to work on building during build season. Overall, Titan's FRC team had a productive week that led into preparations for the competition this March.



Post-Intersession

In the weeks following intersession, the team has been working hard to finish CADing robot parts/systems and to build physical prototypes of those CADs in order to ensure that the design works in the real world. Currently, final prototypes are in the works for systems such as the robot's intake, ball storage, and shooter. All of this year's robot game elements have also been created, such as the Hub, allowing us to test and change our prototypes based on the actual robot field (a big thanks to our mentors, and especially to Mr. Pacourek and our coach, Grant Bell!). We have also been ordering and assembling new parts for this year's bot, such as Falcon motors and a swerve drive base.



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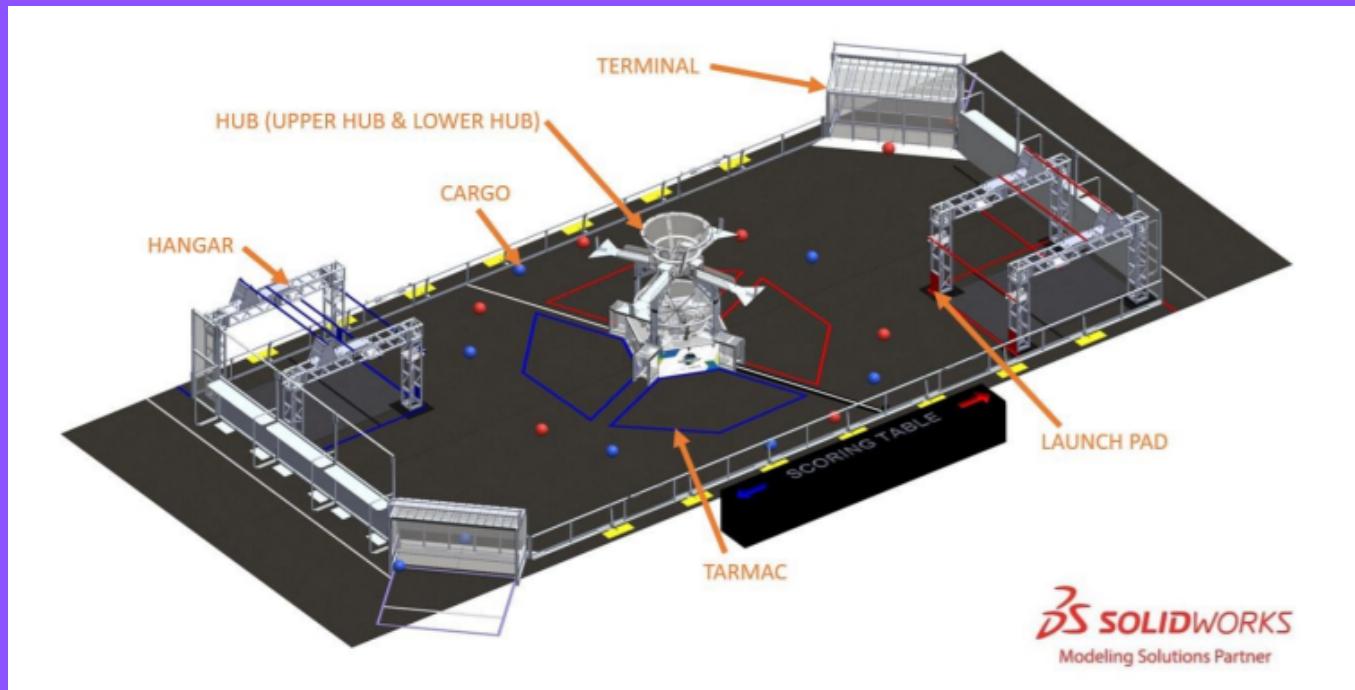


<http://titanrobotics2022.com>

Rapid React Game Overview

The 2022 FRC season is "RAPID REACT," presented by Boeing, and is transportation themed, focused on United Nations Sustainable Development Goal #9, Industry, Innovation, & Infrastructure.

During the robot game, teams are grouped into two different competing groups, the red alliance and the blue alliance, where they are then tasked with "process[ing] cargo for transportation." The game starts with a fifteen second "autonomous" period, where the robots are pre-programmed, and then moves into a two minute and fifteen second "tele-operated" period, where drivers can control the robot using the controls/remotes that each team creates. Over the course of the game, the red alliance robots must collect the red cargo (kickballs) from the mat and throw them into the upper or lower level of goal, also known as the hub, in the center of the mat for points. The blue alliance bots must do the same with the blue kickballs. "Human players" are situated at the terminals along the outside of the mat, and they are allowed to assist with "cargo retrieval and scoring" from the sidelines. Finally, at the end of the time, robots can try to climb the rungs of the hangar in order to score more points. The alliance that has the most points at the end wins that match. (Source: <https://www.firstinspires.org/resource-library/frc/competition-manual-qa-system>)



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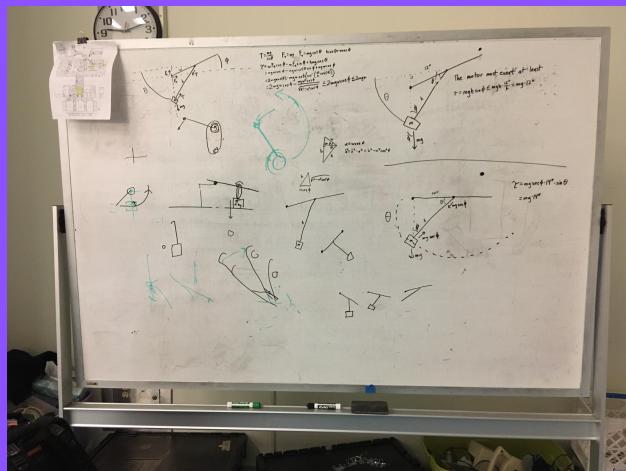
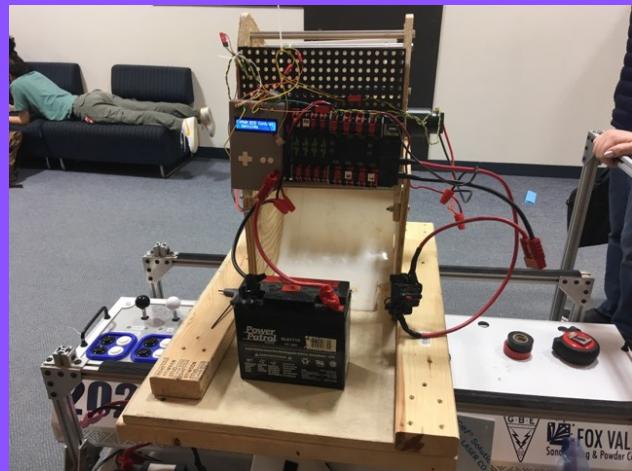
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Look out for the next newsletter soon!

