

Week One

Enigma Robotics

Game Reveal and Season Kickoff

January 10, 2019
Week 1

Our high school season is finally here! Last Saturday, we got together to watch the animation for this year's new challenge: Infinite Recharge. We were so excited about the turn out, especially because we had a few new students joining us. This year's challenge is Star Wars themed and involves many challenging tasks including shooting, spinning a wheel, and hanging from an uneven bar. For an in depth

overview of the game please see page 2. After watching the animation we set off on analyzing the field and the rules of the game. While we were excited about the game we were just as excited for lunch. We had delicious pizza

provided by our amazing sponsors at challenge manufacturing. Our strategy discussions continued well into the evening but by the end of our meeting we had already decided on attributes we wanted to include in our robot.

Inside this issue:

Kickoff	1
Middle School Update	1
xChallenge	2
Game Overview	2
Scoring Table	3
Senior Spotlight	4



INFINITE RECHARGE

State Championship Victory

While our high school students are just getting started with their season, our middle school kids are already a few months in. On December 12, the Riddlers descended on the Kellogg Center in Battle Creek, Michigan for the much anticipated FTC state championship. The students spent two days playing out there qualifying matches to impressive success.

During alliance selection they teamed up with KRASH of Howell and the CyBugs of Saline to form the number three alliance. They were undefeated during Franklin division playoffs and moved onto interdivisional playoffs. They swiftly defeated the Edison Division champions to become reigning state champions. They celebrated their victory and control award win with a team dinner.

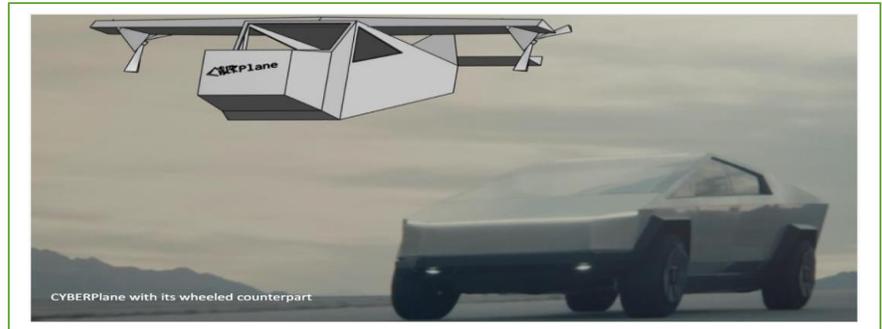


2 Team-Members Compete in Design Challenge

Two Enigma team members, sophomore Eli Stephenson and senior Sam Dressel recently participated in the Solidworks xChallenge. SOLIDWORKS xChallenge 2019 According to their website, "The SOLIDWORKS xChallenge is a competition for all FIRST® Robotics (FRC) Teams in the United States to work on their creative design and collaboration skills, and build a personal flying machine using xDesign and/or xShape on the 3DEXPERIENCE Platform." The students were inspired by the modern and iconic

Cyber Truck design recently unveiled by Tesla. The students incorporated lots of angles and used pusher props to create a better center of gravity and improve the safety of the system. Also inspired by the cybertruck, the plane is powered by electric

motors. The students said of their work, "The main purpose of our machine is to stand out and be unique in a world of basic vehicles." Their hard work payed off. They were runners up in the contest and received 500 dollars in prize money for the team.



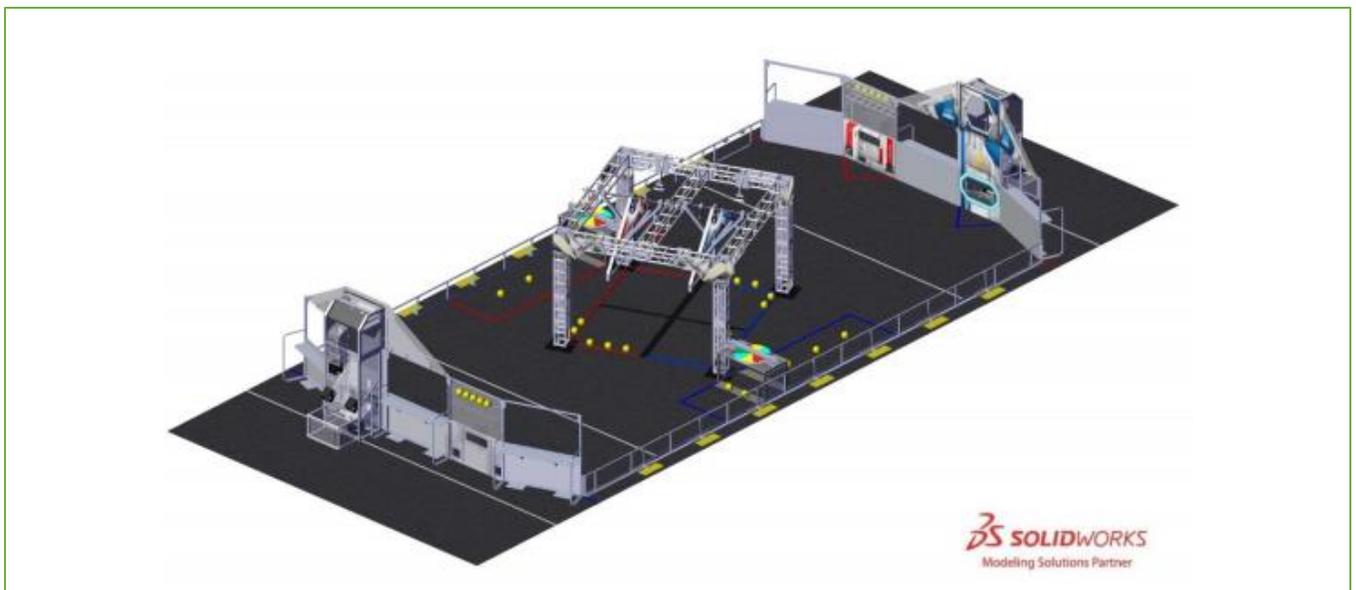
What is infinite recharge?

The New Year means a new game challenge for our students. The game as always is played in 3 on 3 matches on a playing field roughly the size of a basketball court. The field has a scoring station with a low goal as well as an inner and outer high goal located on each end of the field as well as a feeder station where robots can collect foam dodgeballs called power cells. There are also power cells placed throughout the field. In the center of the field there is a tall

open area enclosed by trusses used for hanging. The field has many 1+ in. metal bumps separating each area. On each side of the trusses there are areas with a color wheel spinner in it. The



game begins with a 15 second autonomous period, during which robots earn points for leaving there starting position and scoring points in each of the three goals. Directly following there is a 2 minute driver controlled period where teams must continue to score power cells and attempt to spin there color wheel a set number of times and place it on a set color. In the final 30 seconds robots attempt to hang from rocking bars and earn bonus points if the bar is balanced. The field is illustrated below:



Detailed Scoring

Award	Awarded for...	AUTO	TELEOP	Qual.
INITIATION LINE	exit the infinite vertical volume created by the corresponding ALLIANCE'S INITIATION LINE any time before the end AUTO (per ROBOT)	5	-	-
POWER CELLS	scored in BOTTOM PORT	2	1	-
	scored in OUTER PORT	4	2	-
	scored in INNER PORT	6	3	-
CONTROL PANEL	ROTATION CONTROL	-	10	-
	POSITION CONTROL	-	20	-
ENDGAME Points	HANG (per ROBOT)	-	25	-
	PARK (per ROBOT)	-	5	-
	LEVEL with 1-3 ROBOTS HANGING (per ALLIANCE)	-	15	-
SHIELD GENERATOR OPERATIONAL	earning at least sixty-five (65) ENDGAME points	-	-	1 Ranking Point
SHIELD GENERATOR ENERGIZED	Stage 3 ACTIVATED	-	-	1 Ranking Point
Tie	Completing a MATCH with the same number of points as your opponent	-	-	1 Ranking Point
Win	Completing a MATCH with more points than your opponent	-	-	2 Ranking Point

An ALLIANCE can earn up to four (4) Ranking Points (RP) per Qualification MATCH, as described in Table 4-2. There are no RP, or comparable point bonuses, in Playoff MATCHES.



Enigma Robotics

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Senior Spotlight – Abby Wittkoski

School:

West Catholic

Team Experience:

She is in her sixth year on the team. She joined after her parent won a free robotics camp.

Team Involvement:

She is involved in electrical and programming. Her work on our team's notebooks is top notch. She is a superstar member of our pit crew for competitions. She is an expert on talking to judges and visitors. She also mentors our middle school FTC team.

Activities:

Outside of robotics she is involved in Women's Leadership, Softball, Swimming, Art Club, and Students for Life.

Family:

She has a sister and brother who are both involved in the team. Her dad mentors are team and videotapes many of our matches. She has two dogs Cujo and Roo.

Future Plans:

She is undecided on where she would like to attend college but is considering studying Engineering or Environmental Science.

Fun Fact:

She really enjoys painting landscapes and scenery.

