IMPACT AWARD SUBMISSION
2025-2026 SEASON

Team 2883 F.R.E.D.

First Robotics Engineering and Design

BUILDING LEADERS. TRANSFORMING COMMUNITY.

Who We Are

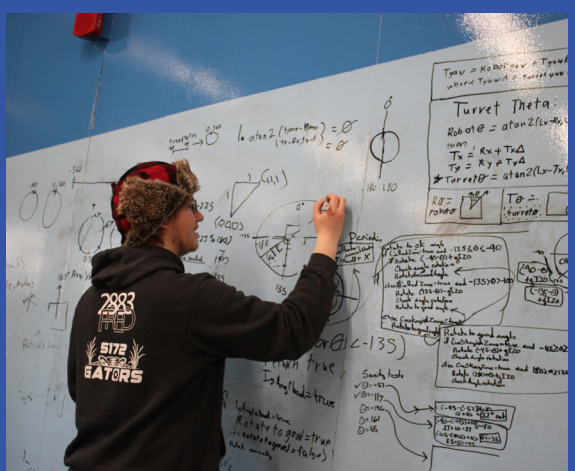
Established 2009

Mission:
Building leaders one robot at a time.

For over 15 years, F.R.E.D. has empowered students through engineering, mentorship, and service. Transforming curiosity into confidence and students into leaders.

Our Values:

- Respect - We value every voice.
- Inclusivity - Everyone belongs.
- Integrity - We lead with honesty.
- Commitment - We finish what we start.
- Sharing the Joy of Life - we
- Celebrate growth and success together.
- “We Can” Attitude - challenges fuel us.



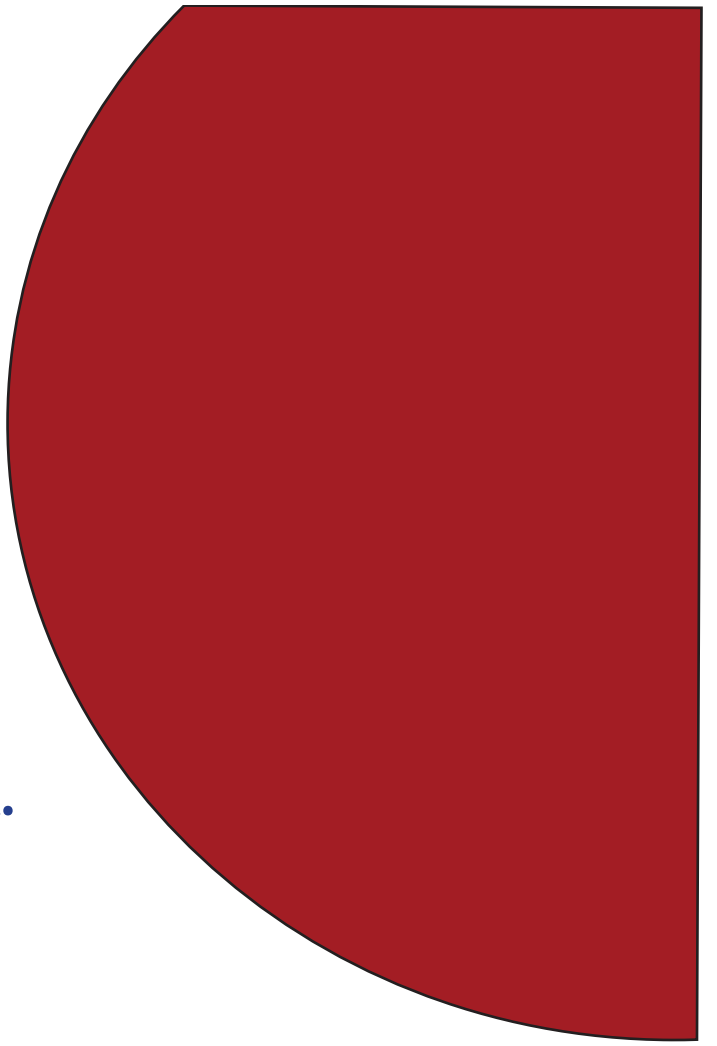
Team 2883 F.R.E.D.

**More than a team,
a culture of leadership.**

Small Town. Big Opportunity.

Located 6 miles from the Canadian border

Our community:
Warroad, Minnesota
Population: 2,067



Rural isolation limits access to advanced STEAM opportunities.

Yet in Warroad, limited resources have never meant limited potential.

Where opportunity is scarce innovation becomes essential.

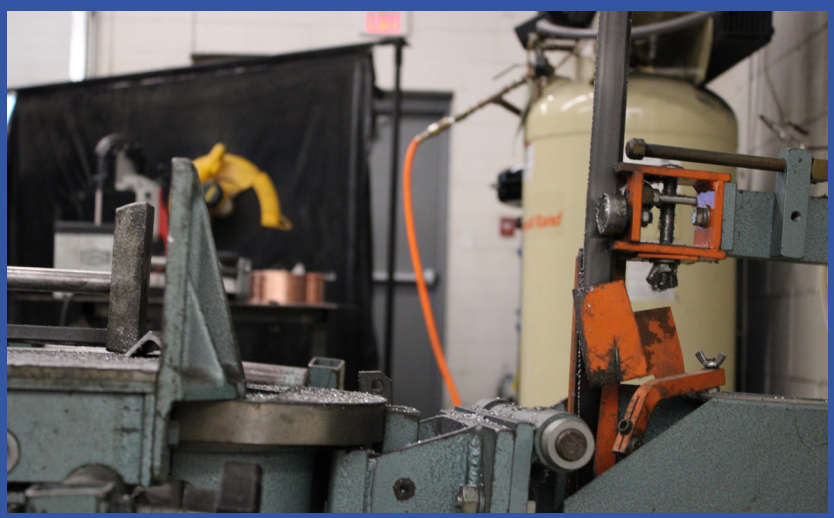
Where distance creates barriers, Leadership creates solutions.

Why F.R.E.D. Matters

In rural communities, opportunity gaps can feel permanent.

Before F.R.E.D.

- Limited access to STEAM opportunities
- Outdated shop equipment
- Few advanced technical pathways for students
- Minimal exposure to engineering careers



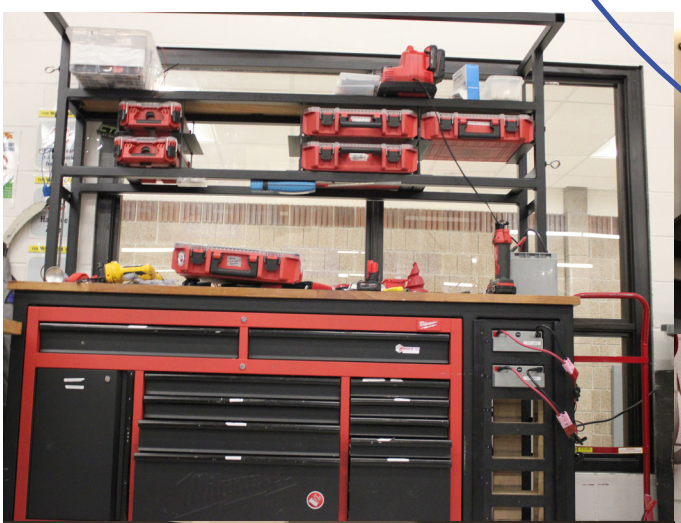
Then F.R.E.D. Stepped in

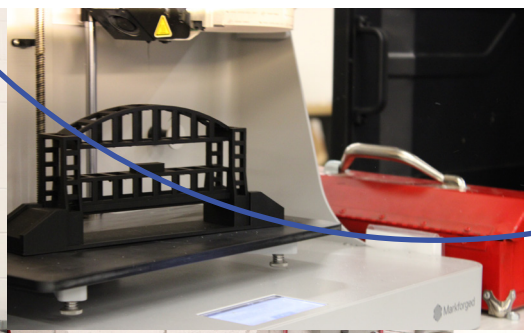
F.R.E.D. became the catalyst for change, expanding access, modernizing resources, and creating pathways that did not previously exist.

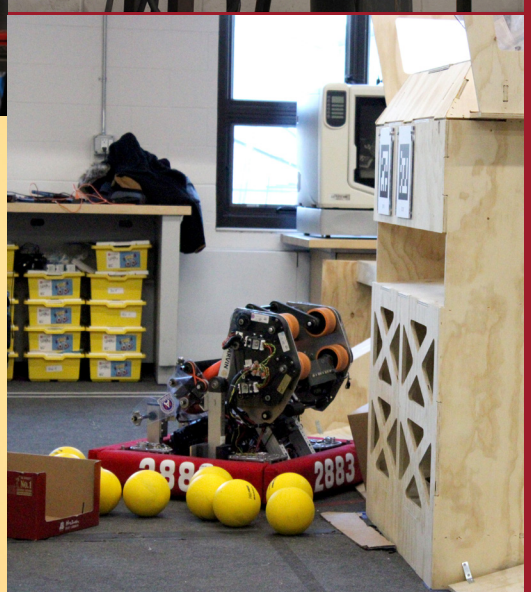
We didn't wait for opportunity. → We built it.

For many students in Warroad, F.R.E.D. is their first introduction to engineering, and their first glimpse of what is possible.

Transforming Our School







$5,000,000 Shop remodel
$ 1,000,000 in Equipment Grants

E.R.E.D. students helped write grants that secured funding for new computers and welders, replacing outdated equipment and modernizing our technical labs.

We didn't just join the program. We helped build it.

Career & technical Education is now part of the required curriculum at Warroad High School. Grad student must complete a CTE class in order to get a diploma from WHS.

We strive for manufacturing and engineering career pathways, offering students a clear pathway to a STEAM related career.

What began as a robotics team became a driving force behind educational transformation.

Team members serve on advisory boards, collaborating with administration, and help shape course offerings to align with real-world engineering skills.

Building the Pipeline

Elementary

FLL

- LEGO WeDo Kits
- 20 new Spike Kits
- Brick Bobs and Warbotics FLL Teams
- Shared workspace with entire school cross curricular
- Shared 25 XRP
- Raspberry pies
- Shared 3D printers
- Latex printers

Shared with school cross curricular

F.R.E.D.

Growing the next generation of engineers and innovators.

Students don't just participate. They Progress.

Over 1,200 outreach hours

In the last 3 years

Coffee with F.R.E.D. - F.R.E.D. visits our local coffee shop to connect with our community in a relaxed, welcoming environment. We showcase our robot, explain the engineering behind it, and invite guests to take the controls themselves. These events spark meaningful conversations about STEAM, teamwork, and innovation while building strong local support for our team.

Library STEAM Events - We bring robotics to life at community library STEAM nights! By demonstrating our robot and explaining how it was designed and built, we inspire curiosity and creativity in students of all ages. These events introduce families to the exciting world of FIRST Robotics and show that engineering is both accessible and fun.

Daycare Visits - Our daycare visits focus on introducing STEAM at an early age through excitement and interaction. These visits plant early seeds of curiosity and show that science and technology can be fun and inspiring.

Elementary Demonstrations - We visit our elementary students to give them an engaging introduction to robotics and teamwork. Through live robot demonstrations and student participation, we explain the basics of engineering, programming, and problem-solving. Our goal is to inspire the next generation of innovators and future FRC members.

Scoops Ice Cream Parlor - We shared our passion for robotics with the community by informing members of the community on STEAM and FIRST mission through trivia.

Unified champions - Our upcoming Unified Champions initiative will partner with students with disability's to create inclusive robotics experiences. By promoting teamwork, accessibility, and shared achievement, we aim to ensure that STEAM opportunities are welcoming and empowering for everyone in our community.

Outreach in Action

We engage toddlers, grandparents, and everyone in between.


Caribou COFFEE


2883


2883


COFFEE
Pastry

Robots Without Borders

[redacted]

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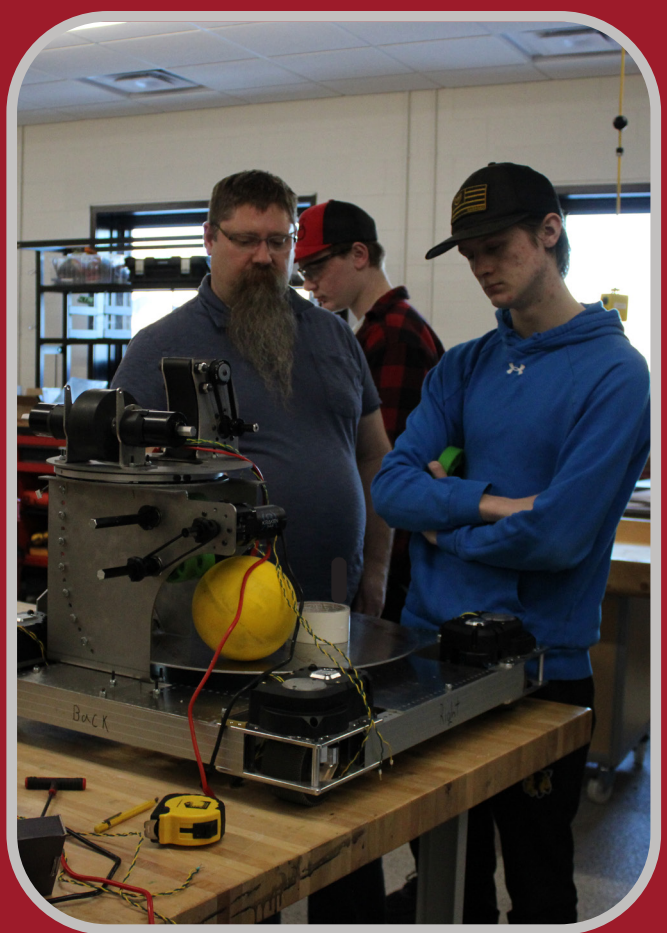
Students and mentors travel across the Canadian border to assist nearby teams.

Currently 6 members and mentors.

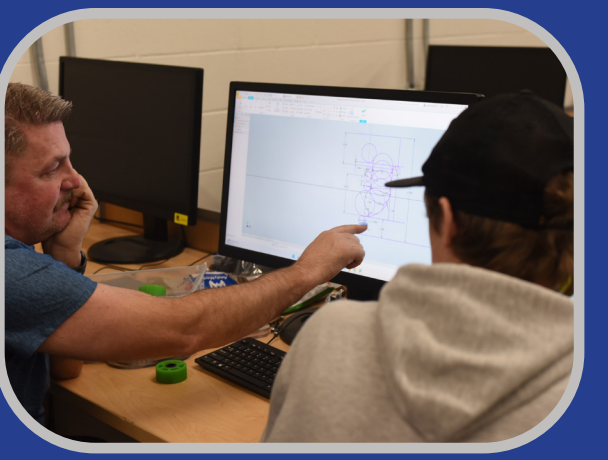


Removing barriers and bringing FIRST Opportunities beyond borders.

Mentorship knows no borders.

- Different communities, country's, and cities

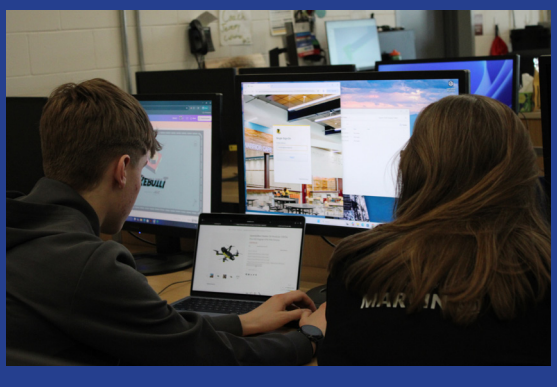
Cross-border mentorship strengthens regional collaboration.



Student Leadership

Buddy Program (Started 2022)

New members are paired with veteran members for guidance and support.



Professionalism 101 (Introduced in 2022)

The class equips students with essential skills:

- Communication skills
- Conflict resolution
- Public speaking

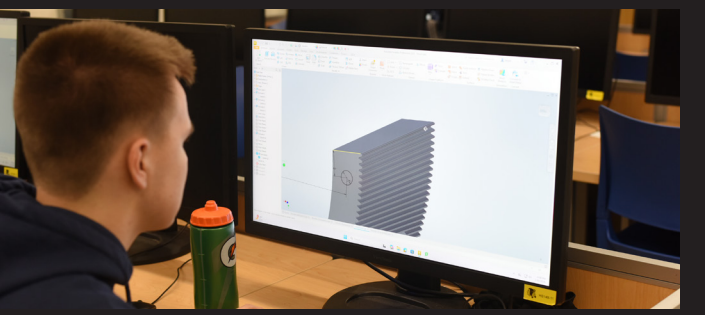
Mental Health Program

In 2025 we introduce a 9 week mental health program shareable with all teams along with all the other leadership programs listed because a student in robotics had lost their brother to suicide. The program talks about the basics of mental health, coping mechanisms and so much more.

Developing leaders who inspire and create.

Fabrication Training

Student design in CAD, operate CNC mills, fabricate components, and mentor peers, fostering hands-on leadership.



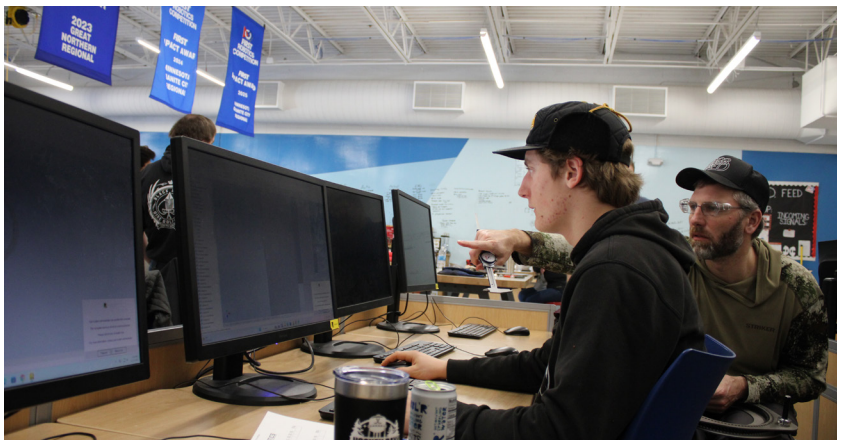
Pilot Program (coming in fall of 2026)

- Manufacturing
- Programming
- Certification MSSC
- Excite program

Train the trainer (fall of 2026)

Our students teach, lead, and present.
This devolves leaders at every level.

71% of alumni purse STEAM careers
95% attend or graduate college



MEASURABLE RESULTS

Total Mentors:

13

F.R.E.D. inspires interest, and delivers measurable results.

Total Members:

38

Female:	Male:
40%	60%

SPONSORS SUSTAINABILITY

MARVIN®

18 year partnership!

2883 FRED

HEATMOR®

Thanks to our sponsors, students
can innovate, lead, and thrive.

Competitive Excellence

Our awards honor more than robots, they celebrate leadership, teamwork, and community impact.

- 2022 Great Northern - Rank 11
- 2023 Great Northern - Rank 16
- 2024 Granite City - Rank 34

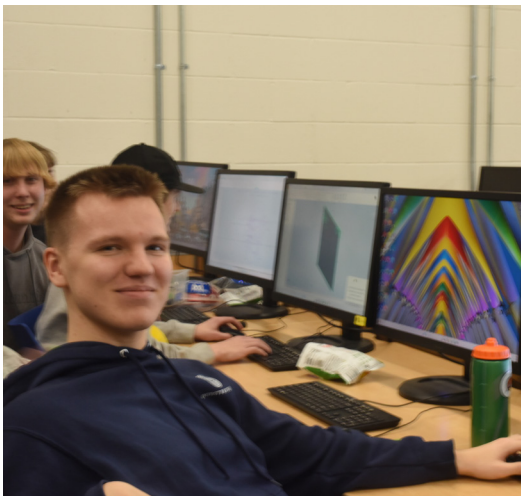
- 2023 Great Northern Regional - Winner
- 2024 2025 FIRST IMPACT AWARD - Winner

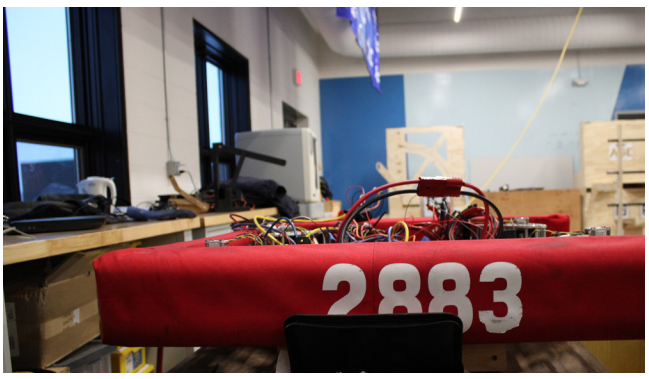
Competing with heart, building with purpose.

Engineering Process

Design —— Prototype —— Fabricate

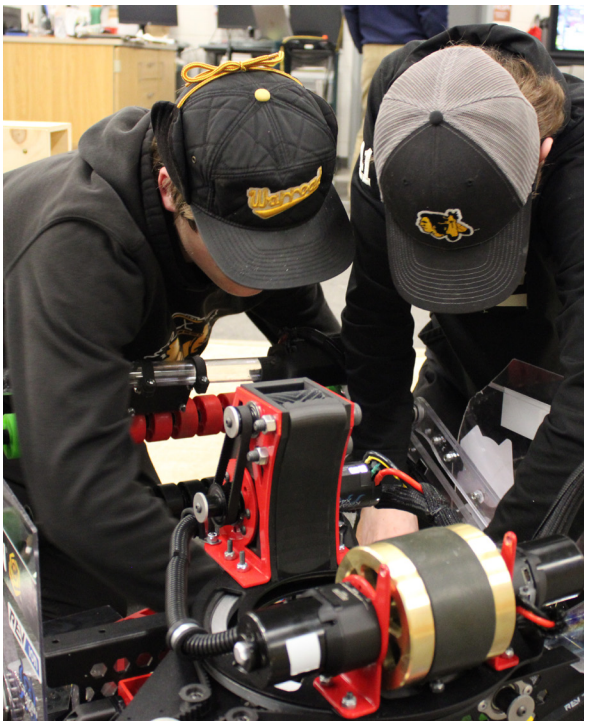
Students design in CAD, machine parts, assemble systems, and iterate continuously.





Test ——— Improve ——— Repeat

F.R.E.D. advocates for equipment which has led to engineering.



FAILURE FUELS OUR NEXT BREAKTHROUGH.

Our Robot - Baljeet

Balls enter our robot through an **intake** system that is controlled by a **chain** and **sprocket** mechanism that moves the intake in and out of our robot. Once inside, the balls are moved by green spinning wheels that guide them through the robot to the **Spindexer.**

The **Spindexer** operates using a **pulley** system that organizes the balls and transfers them into the **handoff** mechanism.

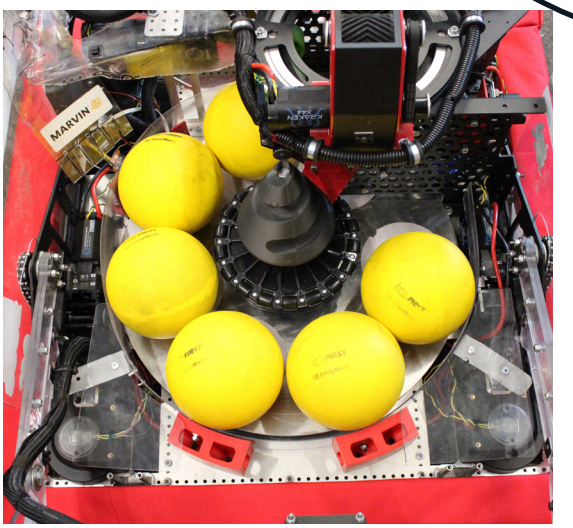
The **handoff** then moves the balls to the **turret.**

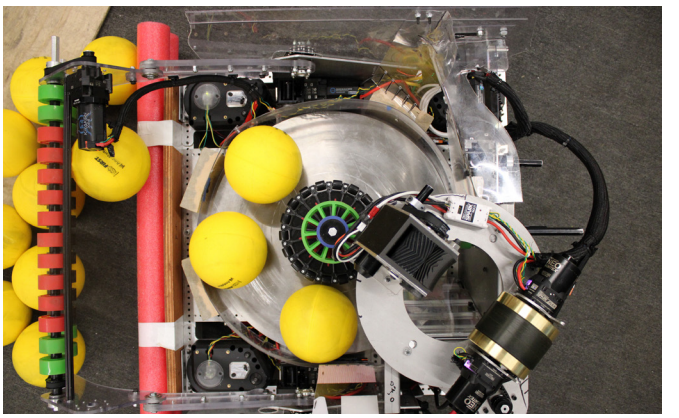
The **turret** contains a **hood** and a **flywheel** that shoot the balls toward the target.

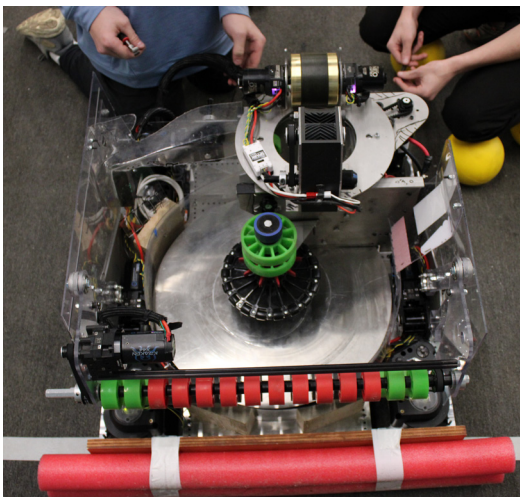
To accurately shoot the balls, we use a **Limelight** camera and a **rotational hood** which adjust to the **AprilTags**, which helps the robot aim before firing.

Our robot measures **31½ inches by 31½ inches** including the bumpers and weighs **103 pounds.**


MARVIN
REV
ROBOTICS
GENE HAAS
FOUNDATION


MARVIN

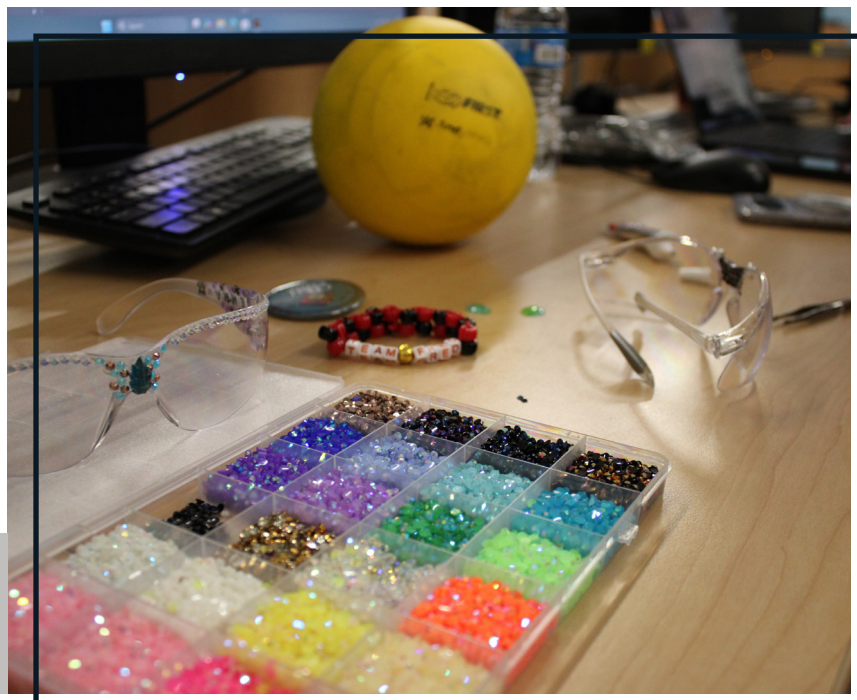


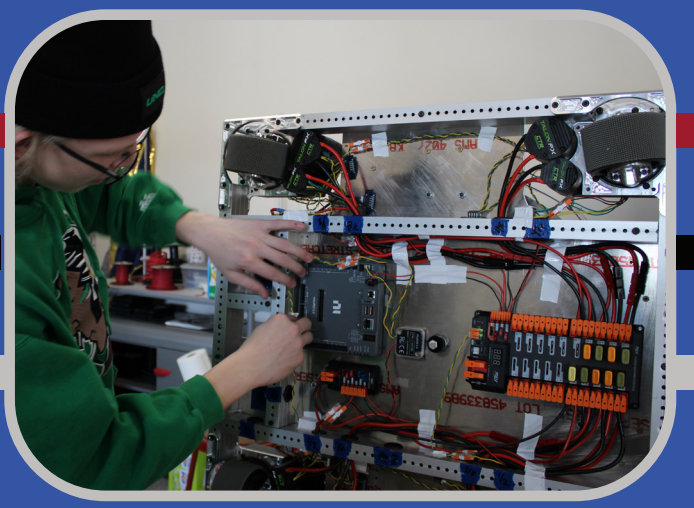


Looking Forward

Goals

- Expanding Outreach
- Increasing cross-border collaboration
- Growing female participation
- Continuing school integration
- Strengthening STEAM pipeline
- Create FRC team with Steinbach MB 2026-2028
- CTE manufacturing pathways in school 2027





Expanding outreach, strengthening STEAM, and growing collaboration, our work is not Seasonal. It is generational.

FAMILY PHOTOS


American Legion Bandette
V.F.W. Post 723


Canon

Team 2883 F.R.E.D.

We are more than a robotics team. We are a catalyst for change.

Building leaders. Transforming community

Celebrating our journey and the leaders we've grown along the way.