

***FIRST* Impact Award - Team 2883**

2025 - Team 2883
Team Number
2883
Team Nickname
F.R.E.D (FIRST Robotics Engineering and Design)
Team Location
Warroad, MN - USA
Describe the impact of the <i>FIRST</i> program on team participants within the last 3 years. Think about percentages of those graduating high school, attending college, in STEM careers, leadership skills, and serving as mentors/sponsors in <i>FIRST</i> programs.
“FRED builds leaders one robot at a time” this is Team 2883 mission. Our goal is to create original and innovative thinkers. 100% of team members have graduated, 71% of alumni members are pursuing careers in STEM related fields. In the last 3 years 95% of former FRED members are attending or have graduated college. Our mentors give back to our team. 92% of current FRED mentors graduated with STEM related degrees. 32% of alumni FRED members are FIRST mentors or volunteers.
Describe your community along with its unique opportunities and circumstances. Think about your geographic region, diversity of town/school, language barriers, socioeconomic barriers, and cultural expectations.
Warroad is a town of 1800 right on the Canadian border. In this area, FRC teams fluctuate in size annually. Our Robots without Borders program attracts students and mentors from Manitoba that otherwise would need to drive hundreds of miles to connect with FIRST. We are an FRC incubator not only for rookies but to stabilize and sustain veteran teams in Roseau County. This year we opened our doors to Team 5172, assuring new students the opportunity to explore and be inspired by STEM.
Describe the team's methods, with emphasis on the past 3 years, for spreading the <i>FIRST</i> Mission in ways that are effective, scalable, sustainable, and creative.
We are in high demand to showcase FIRST and STEM. We host 12 outreach events annually, and are featured in our town's festivals, parades and celebrations. Our coffee shop event "What's Brewing with FRED" features alumni and current members, making FIRST relatable to all. New this year, we are organizing Robotics trivia nights at our local ice cream parlor, to build our pipeline of engaged students and community members.
Describe your team's goals and the progress you have made towards them to fulfill <i>FIRST's</i> Vision.
Warroad will continue to thrive only if we continue to inspire youth to get involved early and stay connected. We host STEM nights and we peer mentor 2 FLL teams. Our FRED Mascot Contest attracted 147 entries, encouraging kids grades K through 6th to help us develop a team mascot. We create various

STEM activities to plant a seed with our elementary and middle school students to introduce and inspire STEM interest and future careers.

What impact has your team seen from your efforts described in the above question? How does your team measure impact?

This year we started a second FLL team due to the growth of students interested in LEGO League. We share workshops and resources with these 2 LEGO League teams, both of whom are in the FRED pipeline to membership. Mentors help both FLL and FRC. Students that develop from LEGO to FRC already have strong connections in place, and gain early, basic insights into designing, programming, building, and presenting. Already, 25% of the students in our FRC team participated in a LEGO League group.

Please provide specific examples of how your team and team members act as role models within the *FIRST* community with emphasis on the past 3 years. How do you share these best practices with other teams?

We export our talent! 5 FRED alumni have started/lead 30% FRC teams in North Dakota. Our trained students assist other FRC teams, especially with coding. We also fabricate parts and field elements for teams that don't have the necessary equipment within their community. In conjunction with our main sponsor, we work with teams from Northwest Minnesota and North Dakota to organize equipment and robot transportation. This includes team companionship to regionals, including the FIRST Championship.

Describe your team's initiatives to Assist, Mentor, and/or Start other *FIRST* teams with emphasis on activities within the past 3 years.

"Robots without Borders" launched in 2023 to include students in Canada and Baudette. We have multiple team members that cross the border to participate in FRED. This expanded in 2025 to Greenbush, sustaining team 5172, and ensuring new students have the opportunity to be inspired in STEM. "Robots without Borders" offers peer-mentoring of 4 ND/MN teams, from Fargo to Rolla to Moorhead. We started FRC 9474 (3R) and a FTC team in 2024; in fall 2023, we started and continued with FLL Explore 30521.

What other initiatives have you created, grown, sustained, or participated in (*FIRST* or otherwise) to help inspire young people to be science and technology leaders and innovators? What outcomes have you seen from your efforts in the past 3 years?

Our enduring partnership with Marvin helps us emphasize the importance of early exposure to STEM. We co-host events for grades pre-K to 8. FRED members are peer hosts working with 1,000 children annually. We pack and donate WE-DO Kits and STEM A la Carte to Warroad classrooms; we share materials and EV3 robots with the school in Sprague, Manitoba grades 9-12 via our "Robots without Borders" program. The demand now in Warroad for STEM has resulted in hiring (3) STEM teachers to cover grades 6-12.

Describe the partnerships and relationships that you've created with other organizations (teams, sponsors, educational institutions, government, philanthropic entities, etc.) and what you have accomplished together, with emphasis on the past 3 years.

Marvin is our primary sponsor. They teach us valuable tech skills, as they work with us to design our robot parts. Marvin and FRED partner with Northland Technical College to offer the Manufacturing Skill Standards Council Certification (MSSC), along with a degree in Mechatronics. Warroad is one of two

locations where you can get this degree. Warroad High School also offers Machine trades, MSSC class, and Certified Production Technician Certificate to prepare students for the MSSC Certification.	
Describe your team's efforts in the past 3 years to promote equity, diversity, and inclusion within your team, <i>FIRST</i>, and your communities.	
FRED has seen a significant increase in teens seeking a safe environment. In 2024, we did a mental health presentation; the response was standing room only. We expanded on this, creating a mental health support tool box. Our Mental Health Captain helps support team members in finding resources within both school and community. As a school resource, we create an inclusive atmosphere. We are known as "the group" that draws in and attracts students that struggle to find a diverse environment.	
Explain how you ensure your team and the initiatives you have created will be sustainable.	
Our "Buddy Program" pairs veteran team members with rookie members, one on one, allowing them to continuously cycle through different work areas. This allows students to get exposure to all aspects of FIRST and to hone their interest. FRED provides the connection between math, science, and life applications by partnering with local businesses. Heatmor, Marvins, and Central Boiler provide students the opportunity to gain real life experiences using internships and machines.	
Highlight one area in which your team needs to improve and describe the steps actively being taken to make those improvements.	
We have noticed that some of our team members struggle to convey their ideas, lack confidence, demonstrate neurodiversity and struggle with mental health concerns. To help overcome these challenges we created a curriculum to meet these soft-skills needs; to date, 85 members have completed Professionalism 101 and Professionalism 201, building critical thinking, project management, inclusion, and effective conflict resolution. We share these resources with other organizations and teams.	
Briefly describe other matters of interest to the <i>FIRST</i> Judges, including items that may not fit into the above topics. The judges are interested in learning about aspects of your team that may be unique, particularly noteworthy, or had a large impact.	
We are an incubator for FIRST.Our town fosters creativity and collaboration.Our team is encouraged to think big, and challenge themselves to figure out what the community needs to thrive.We drive extra miles to ensure that FIRST programs can happen for anyone who wants to participate.Drawing in kids from Canada, extending a hand to Greenbush this year.We also use rubber ducks for fun engagement, ducking cars, businesses, doors, quoting "Good Job - FRED 2883" at competitions and in our community.	
Judge Feedback	
	What areas of expansion or improvement can you recommend for FRED to consider? An area the team has an opportunity to improve. Something that really impressed the judges.
Essay	

Team 2883 FRED: A Journey of Leadership, Innovation, and Mental Health Advocacy Team 2883 FRED, located in Warroad, Minnesota with a population of 1800, is home to far more than a high school robotics team; we are a dynamic community that fosters growth, creativity, and leadership. Our mission, "building leaders one robot at a time," encapsulates our dedication not just to developing technical skills, but to cultivating individuals who are innovative, resourceful, and capable of leading in the fields of STEM. The story of FRED isn't solely about building robots; it's about building resilient, confident leaders. Our team's impact reaches beyond the confines of robotics competitions. We are helping to shape individuals who are certain for success in higher education, in the workforce, and in life. But perhaps one of the most profound aspects of our mission is our dedication to addressing mental health and providing our members with the tools to maintain their emotional well-being while navigating the challenges of school, competition, and life itself. Fostering Leadership, Innovation, and Community Building Leadership is the cornerstone of our mission. Robotics is an ideal platform for cultivating critical thinking, teamwork, and creative problem-solving—all essential traits for future leaders. FRED's impact extends far beyond the technical aspects of building robots. The true measure of our success lies in the development of our team members. To date, our high school graduation rate is 77%. Out of that 100% of FRED members have graduated high school, and 71% of alumni have pursued careers in STEM fields. These numbers are a testament to the enduring value of our program, which provides students with not only the technical skills but also the confidence and motivation to pursue higher education and career paths in rapidly evolving fields. A significant part of this success is due to the support we receive from Marvin, our main sponsor. Marvin provides us with essential tech training and collaborates with us on designing our robot components. Together with FRED, Marvin also partners with Northland Technical College to offer the Manufacturing Skill Standards Council Certification (MSSC), along with a degree in Mechatronics. Warroad is one of only two locations where this degree is available, and we are proud to have this valuable resource in our community. Additionally, Warroad High School offers Machine Trades courses, an MSSC class, and a Certified Production Technician Certificate, which helps students prepare for the MSSC certification and sets them up for success in manufacturing and technology careers. The heart of FRED is the mentorship we provide. Many of our current mentors are alumni, returning to guide the next generation. This creates a cycle of knowledge and leadership where each new member benefits from the experiences and wisdom of those who came before them. Currently, 13 of our mentors hold STEM-related degrees, and 16 of our alumni are actively involved in FIRST as mentors or volunteers. This sustained commitment to mentorship is central to our success, ensuring that each new generation of FRED members is prepared to take on leadership roles both within the team and in their future careers. FRED fosters a strong alumni network by creating a culture of mentorship and continued involvement, encouraging alumni to return and share their expertise with new members. Making an Impact Beyond Our Small Town FRED's influence extends well beyond our small town. Through our "Robots Without Borders" initiative, we work to ensure that students in rural areas, particularly those in North Dakota and Manitoba, Canada, have access to the opportunities provided by FIRST. We average 150 miles to make sure that everyone can be connected through FIRST. Through this program, we mentor FRC teams from Fargo, Rolla, and Moorhead, towns that are hundreds of miles apart. In 2025, we added FRC 5172, to sustain and keep the FIRST mission alive during a tough rebuilding year for this team. Our alumni are also helping to lead the charge: 5 FRED alumni have either started or currently lead 30% of the FRC teams in North Dakota. These initiatives exemplify the broader network we've built, one that fosters collaboration and ensures the sustainability of robotics programs across the region. Additionally, our work with FIRST LEGO League (FLL) teams set in place a pipeline for students graduating from FLL to FRC. In 2024-2025, we launched a second FLL team, and we support these teams by sharing resources, holding skills-based workshops, and mentoring students to develop the skills they need to succeed in FRC. The overlap of students and mentors across our programs ensures that our youngest FRED

members build lasting relationships and gain hands-on experience long before they step onto an FRC field. Engaging the Community: Connecting Through STEM FRED's engagement and impact is visible throughout our community. We host 12 outreach events each year, engaging toddlers through grandparents. These events range from participating in Warroad's festivals and parades to organizing STEM nights where students explore robotics and learn about STEM careers in fun and engaging environments. One of our most successful outreach efforts, where we reach 300 people annually, is "What's Brewing with FRED," a coffee shop event where alumni and current members share their experiences in robotics and discuss the potential of STEM education. It's a relaxed, informal way to robotics accessible to the broader community and encourage more students to pursue careers in technology and engineering. Our team ensures that younger students are introduced to STEM early. Who doesn't love a contest? Our FRED Mascot Contest, invited elementary and middle school students to participate in the creative process of designing our team's mascot. With 147 entries, the contest sparked curiosity and excitement, planting the seeds for future engagement in robotics and STEM fields. Through these outreach initiatives, we are laying the foundation for a long-term culture of innovation and providing students with the inspiration they need to consider STEM careers.

Prioritizing Mental Health: Creating a Supportive Environment While technical skills and leadership are at the forefront of FRED's mission, we recognize the critical importance of mental health and emotional well-being. The pressures of school, competition, and the demands of growing up can take a toll on students, and we believe that providing support in these areas is just as essential as building robots. We have prioritized mental health advocacy, making it an integral part of our team's culture. FRED's student leadership now includes a Mental Health Captain, a dedicated member who helps ensure that their peers are aware of the resources available to them and fosters an open, stigma-free conversation about mental health within our team. The creation of this role has played a pivotal part in making mental health a central focus of our team culture, ensuring that our members know they are supported and never alone in their struggles. In 2024 at 2 FRC regionals, we workshopped a mental health presentation before a standing-room-only crowd. This presentation focused on coping strategies, the importance of seeking help, and how we create a supportive environment within our team. Our extension to this is a Mental Health Support Toolbox, a resource designed to help team members access mental health resources both within our school and in the broader community. This toolbox includes practical tips for managing stress, information about local counseling services, and strategies for building emotional resilience. Our workshop and now our toolbox are crucial steps to ensure that our members not only have the technical skills to succeed but also the emotional tools to navigate the ups and downs of life.

Building an Inclusive and Supportive Team Environment At FRED, we are committed to creating an inclusive, supportive environment where every member feels valued, heard, and respected. This is exemplified by our "Buddy Program," which pairs veteran team members with rookies to help them navigate their first year in robotics. This program not only provides practical experience but also fosters a sense of belonging and community. By pairing new members with more experienced peers, we ensure that everyone has the support they need to thrive, regardless of their background or experience level. In addition to our technical training, we recognize the importance of developing soft skills, such as communication, teamwork, and professionalism. Our Professionalism 101 and 201 curriculum is designed to help our members build these essential skills, preparing them for success both within the team and in their future careers. To date, 85 team members have completed this curriculum, which has become a valuable resource that we've shared with other teams and organizations.

Preparing for the Future As FRED moves forward, we remain steadfast in our commitment to leadership development, mental health advocacy, and STEM education. We understand that the challenges our members face extend far beyond the robotics field, and we are dedicated to providing them with the tools, resources, and support they need to navigate those challenges successfully. By combining technical education, emotional

support, and leadership training, we are preparing our members to be the innovators, leaders, and change-makers of tomorrow. Our story is one of growth, mentorship, and community impact. We may be based in a small town, but our influence stretches across borders, impacting students, teams, and communities near and far. We are building more than just robots—we are building the leaders of the future, and ensuring that they have the emotional resilience and mental health support to thrive in every area of their lives. ;

