

## **FIRST Impact Award - Team 2472**

<b>2024 - Team 2472</b>
<b>Team Number</b>
<b>2472</b>
<b>Team Nickname</b>
Centurions
<b>Team Location</b>
Circle Pines, MN - USA
<b>Describe the impact of the <i>FIRST</i> program on team participants within the last 3 years. This can include but is not limited to percentages of those graduating high school, attending college, in STEM careers, and in <i>FIRST</i> programs as mentors/sponsors.</b>
The Centurions is more than simply a club to its members. Here we become dedicated to FIRST and succeed because of our involvement in the program. Past members of 2472 have a 100% graduation rate. Nearly 60% of those alumni are attending college as STEM majors. As evidence of our team's impact on its members, 57% of alumni who graduated this past year returned to help assist us, and 28% have committed to mentoring our team, proving that our team continues to engage our past and present members.
<b>Describe your community along with how your team addresses its unique opportunities and circumstances.</b>
Our district is unique in that we have 5 elementary schools that funnel into our high school. We use this as an outreach opportunity, as it allows us to impact a plethora of young minds and it allows us to reach a diverse range of people in our community. Furthermore, this enables us to spread the ideals of FIRST to a far greater extent at greater ease compared to other FRC teams. We embrace this opportunity by visiting each of these schools annually and offering community education programs.
<b>Describe the team's methods, with emphasis on the past 3 years, for spreading the <i>FIRST</i> message in ways that are effective, scalable, sustainable, and creative. How does your team measure results?</b>
The Centurions provide a basis on which youth are inspired by STEAM and enabled to pursue it both now and in their future careers. A couple of ways we have measured our effect is through reaching out to our alumni and calculating statistical percentages of how many of our teammates return to our programs, graduated out of our program, and continued on to college for STEM-related majors or a STEM career. The graduation rate of our team is 100% with nearly 60% remaining engaged with STEM today.
<b>Please provide specific examples of how your team members act as role models within the <i>FIRST</i> community with emphasis on the past 3 years.</b>
The Centurions strive for kindness and gracious professionalism at every competition, we aid other teams in the pit when they need help, stand up for other teams, and cheer on others, not just our team.

Our team members act as role models at competitions and also through mentoring and assisting other FIRST teams. Several team members have served as mentors to our local FLL team, and our programming division assisted with the restart of Team 2855 by teaching them our programming prowess.

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

The Centurions have taken many steps to expand our impact in the FIRST community. We put emphasis on starting and supporting a FLL team three years ago, and it has been thriving ever since. Our team's members mentor by guiding them through the engineering process. Many members of the FLL team have joined our FRC team. We hold FLL camps during the summer to engage our community in FIRST, and our programmers have a history of helping Team 8234, The Panthinators, with their code in previous years.

**Beyond starting teams, what initiatives have you done to help inspire young people to be science and technology leaders and innovators? What results have you seen from your efforts in the past 3 years?**

The Centurions frequently work with elementary students. Our district is within 5 elementary schools and our team visits each of them on a yearly basis for various events. At these events, kids are encouraged to drive our robot and inquire about STEAM and FIRST. For 3 years now we have run a day camp for elementary schoolers where they learn about all the aspects of robotics and experience it for themselves. Several attendees have come regularly and even gone on to join our FLL team.

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

The Centurions always make it a point to become connected with other FRC and FTC teams. Not only do we want to become friends, we also build partnerships and become a resource for them, whether they need help programming or design ideas. A few of the teams we've held this contact with include Team 8234, Team 2855, and Team 4536. In addition, we've made a special partnership with John Bauer from FESTO, who helps our team with our pneumatic parts and meets with our finance division.

**Describe your team's efforts in the past 3 years to promote equity, diversity, and inclusion within your team, *FIRST*, and your communities.**

Within the past year The Centurions have emphasized improving inclusion within our team. We strive to make our team a safe place for the youth of our community. To do so, we worked to refine our written discrimination policy and ensure every team member is aware of it. Each team member is required to take an in-depth training developed by our inclusion captain to educate about diversity within our team and community, alongside the Equity, Diversity, and Inclusion training provided by FIRST.

**Explain how you ensure your team and the initiatives you have created will continue to run effectively for the foreseeable future**

Providing resources and structure are our key points to team sustainability. Elected student leadership, consistent mentor involvement, and succinct communication are a few of the many ways we create structure within our team, maintaining a strong foundation for team members despite changes. Knowledgeable and invested student leaders along with skillful mentors, training slideshows and

documents, and archived projects are examples of the many resources The Centurions provides students.

**Describe your team's innovative strategies to recruit, retain, and engage your sponsors within the past 3 years**

Our sponsors are more than a financial resource to The Centurions, as we seek to engage with them intellectually as well. We do this by meeting one on one with representatives, such as John Bauer from Festo, and attending events such as Medtronic's Jumpstart Robotics training and CAEF's Golf Tournament Fundraiser to build connections with and support them. These interactions help us to retain our sponsors, which is evident in the fact that a majority of our sponsors are long-time repeat donors.

**Highlight one area in which your team needs to improve and describe the steps actively being taken to make those improvements.**

Our team has had issues with captains taking on a lot of tasks themselves without delegating to other team members. In addition, team members felt unsure of the task or how to complete it. We've developed multiple steps to combat this issue, we've created additional training, being especially careful that it can be accessed anytime. This year we implemented a physical task board where captains and mentors write task tickets that define tasks, success criteria, and quality check progress.

**Describe your team's goals to fulfill the mission of *FIRST* and the progress you have made towards those goals.**

The Centurions seek to provide a life-changing STEAM program through creating a safe space for our team members to connect and learn. We accept failure by reflecting on the root cause in order to learn from it. We value celebrating our successes, no matter how large, as an essential aspect of progress within our team. These practices instill confidence and resilience within our teammates in addition to boosting their growth in STEAM skills.

**Briefly describe other matters of interest to the *FIRST* 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 or particularly noteworthy.**

One particular project of interest is one dubbed "Go, Baby, Go" which can be read about more within our main essay. We recognize that team dynamics and morale are important to the continued success of a team, which is why we take time to bond with one another and celebrate everyone's progress. During each session, we take time to enjoy a meal together. At the end of each session, we review our progress and recognize our successes, ensuring every member feels proud of their work.

**Judge Feedback**

Who/When	Feedback
Apr 06, 2024 01:51:36 PM EST  <b>Essay</b>	<p><b>How do you see other teams utilize outreach that our team might adapt to expand our impact?</b></p> <p><b>An area the team has an opportunity to improve.</b></p> <p><b>Something that really impressed the judges.</b></p>

Centurion - "A Roman soldier known for their valor and strength." Since the founding of The Centurions in 2007, our team has committed to engineering and amplifying lasting change within our and STEAM's community. With each circuit wired, code compiled, and outreach initiative effectively executed, The Centurions directly embody the core values of FIRST. We strive to create, build, and share STEAM culture; expand upon the messages of FIRST Robotics; establish lifelong skills and connections; engineer not only robots but also change within the community; and make a long-lasting, extended impact on everyone we can reach. Our commitment to innovation, collaboration, and inclusivity can be seen far beyond any competition, as we continue to seek to amplify both curiosity and creativity within our community.

{We are Team 2472, The Centurions} Team 2472's diverse collection of thirty-one student members, captains, and mentors make up our FRC team, The Centurions. Our team consists of the media, drive, finance, CAD, mechanical, electrical, programming, and safety divisions. Eight different student captains and co-captains, sixteen adult mentors, one student president, and three coaches oversee The Centurions, keeping us on track and on time to meet milestones set by the team as well as FIRST deadlines. Our team structure allows our members to learn and pursue robotics while encouraging other STEAM-related pastimes; likewise, this allows us to flourish and stay flexible during build season, empowering our teammates to achieve greater performances at every competition we attend.

{Our Communication And Organization} Maintaining thorough communication and having organized resources are key factors to team sustainability. Teammates, parents, mentors, captains, and The Centennial Robotics Booster Club all communicate through The Centurions' Discord server. We organize team members into division-specific Discord text channels. This enables division members, leaders, and mentors to easily and quickly address concerns and questions to their entire division. In addition, this also extends to our student's parents who also have their own section of our Discord server. In terms of resources, all of our files are organized within a Google Drive folder which every team member has access to, whether they are at robotics or remotely contributing to a project. Recently The Centurions have been struggling as our school security challenges have forced us to rethink our use of an outside account on our school computers, and we've taken it as an opportunity to partner with our district's tech department. Since we had a large majority of our resources located on a non-school drive, we've had to adapt and upload or recreate all of the team resources to a new Drive to maintain maximum accessibility to students and mentors.

{First Lego League Mentoring} Since 2021, The Centurions have been committed to supporting our school district's FIRST Lego League (FLL) program, which includes 54269 The Royal Robots and 56529 Pickle Legend. Our district's FLL program began three years ago, with only one coach in their rookie year. Veteran members of The Centurions stepped up and volunteered to share their engineering expertise and mentor the FLL program. Our team members ensured that the FLL participants were supervised, organized, and guided through challenges during their competition season. With the outstanding instruction our team provided, the FLL teams had a high enrollment rate and an extremely impressive first year. The members' and mentors' dedication ultimately led to The Royal Robots and Pickle Legends' success at the competition they attended- including both teams earning the Breakthrough Award. In addition, each FLL participant continues to develop STEAM and interpersonal skills even after the season is over, with an average of 81% of participants joining The Centurions in their Freshman year.

{Robot Party & Outreach} Starting summer of 2022, The Centurions began hosting a day-long community

education program for kids in grades 2–6; we dubbed this program our “Robot Party.” In the morning, every kid comes to the “Robot Party” excited about STEAM, and our Centurion army funnels that excitement to division led stations. We’ve created six unique stations modeled after our team’s divisions, including illustrating and pressing their own button pins, building and programming Lego robots, assembling designs in CAD, playing games based on teamwork, and having the chance to drive our competition robot. “Robot Party” introduces an average of thirty kids in our community to not only STEAM but also the standards of FIRST, giving them a STEAM foundation on which they can amplify. In addition to hosting our Robot Party, we attend multiple school festivals and community celebrations at our school district’s five elementary schools every year as a team. During these outreach events, we showcase our robot and allow attendees to drive and interact with it. Not only are we spreading the message of The Centurions and FIRST, but we’re also interacting with the members of our community on a more personal level and giving them easy access to STEAM within their community.

{Robotics at The Minnesota State Fair} The Minnesota State Fair provides The Centurions with a fantastic outreach opportunity, allowing us to reach an average of five-thousand fairgoers each year. For the last several years, we have attended the Minnesota State Fair to showcase our robot, perform several robot demonstrations, and encourage curious fairgoers to foster their curiosity surrounding FIRST, robotics, and STEAM. While the robot and informational poster remain on display for the duration of the fair, we also choose one day of the fair to be there together as a team. We perform several demos throughout the day, teach fairgoers about our robot and its functions, and let them experience driving the robot for themselves. We also answer questions that fairgoers have about our team, robotics, and FIRST; building interest around our team, letting us amplify the principles of FIRST, and encouraging others to consider becoming involved with FIRST, STEAM, and robotics. During the Minnesota State Fair, we collaborate with multiple local FIRST teams, giving us an excellent opportunity to network with other teams outside of competitions or workshops. The Minnesota State Fair allows our team to showcase our robot, STEAM, FIRST, and robotics to thousands of minds outside of our local community outreach events.

{“Go Baby Go!”} The Centurions have made a significant impression within our school district’s community, who in turn have provided us with a substantial platform to promote both STEAM and FIRST. While we have done many outreach projects, the most fulfilling project we have tackled was building a mobility aid for a young boy, Isaac. Isaac is a paraplegic boy adopted from Ukraine, and it all started with one of our mentors purchasing a Power Wheel toy from a local garage sale as a vessel for a mobility aid, it inspired us to not only construct a simple mobility aid. Instead, we bonded with Isaac over his shared love for STEAM and constructed his mobility aid to perfectly suit his needs, this inspired us to collectively nickname the device “Go Baby Go!”. To convert the Power Wheel toy into a tool, we made several modifications to it, such as a rechargeable battery, a single-programmed joystick that made for a smoother control scheme, and a custom-fit seat belt for Isaac. In addition, we developed a digital joystick, controlled via phone or tablet, that increases accessibility and safety for not only Isaac and his parents. The creation of this accessibility device has greatly increased Isaac’s quality of life, as he can complete daily tasks more independently, leveling the playing field of independence for his next chapter in life.

{An Equal Future} STEAM outlets have historically limited the voices of minorities, as a result of this, The Centurions believe that anyone can flourish in a STEAM environment. We believe equality is crucial, and we embrace all of our teammates and mentors, as we yearn to inspire all kinds of young people to be innovative leaders by engaging them in exciting, mentor-supported programs. The Centurions strive to

make our teammates feel included, we have everyone on the team complete FIRST's inclusivity initiative, hold mandatory inclusivity training, promote acceptance by having a clear and enforced non-discrimination policy, along with creating our own inclusivity programs, which are built upon on a year-by-year basis and curated by the inclusivity captain, mentors, and coaches. Not only is our team outwardly accepting and non-discriminatory, but we also foster and support many under-represented groups within The Centurions.  $\frac{1}{4}$  of our team falls under the transgender umbrella, nearly  $\frac{1}{3}$  of us identify as female,  $\frac{3}{5}$  of our teammates identify as LGBTQIA+, and  $\frac{1}{3}$  of us identify as people of color. Our team ensures that nobody has an unamplified voice and that everyone is appreciated as an equal contributor to our team. We continuously ensure that all members feel accepted whilst having their own unique contributions, whether they be new recruits or veteran members of The Centurions.

{Our Promise} The Centurions' commitment is to provide our team and community with the amplification of FIRST's STEAM message through outreach and mentoring opportunities. Furthermore, our team is committed to fueling curious, young minds—the next generation of STEAM innovators—using our strong Centurion army to spread our team's love of both STEAM and robotics. Our goal isn't to build the best robot, win competitions, or score the most points; our goal is to create STEAM leaders and amplify curious minds that will take the stage to transform the world.

We're more than just an FRC team; we are The Centurions, and hope will never be our strategy. ;

