

## Chairman's Award - Team 5727

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2022 - Team 5727

**Team Number**

5727

**Team Nickname**

Omegabytes

**Team Location**

Spindale, North Carolina - USA

**Describe the impact of the *FIRST* 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 *FIRST* programs as mentors/sponsors.**

FIRST has helped our team learn a plethora of skills applicable in the real world and revealed new opportunities. All of the participants of our team have graduated high school and pursued college or entered the STEM-field workforce. Not only has FIRST helped our team members, but our outreach has provided STEM opportunities for our community and accelerated leadership skills. FIRST provides us a platform to gain new skills, strengthen our community, and expand our career knowledge.

**Describe your community along with how your team addresses its unique opportunities and circumstances.**

Our community is a Tier 1 county, in the top 40 distressed North Carolina counties, so we understand that we have a diverse set of struggles. We have high rates of poverty, unemployment, and population decline. Our team takes in students from all Rutherford County Schools to promote career preparation in STEM related fields for our community. An opportunity that we have had as a team is the partnership with the local community college to occupy an industrial workspace for our team to grow.

**Describe the team's methods, with emphasis on the past 3 years, for spreading the *FIRST* message in ways that are effective, scalable, sustainable, and creative. How does your team measure results?**

The Omegabytes have grown dramatically over the past three years through involvement and outreach. Our growth has helped us become more visible and successful overall. In previous years, we would focus our outreach on basic demonstrations. Now, through STEAMrollin', our outreach efforts are more directed toward activities that truly address needs within our community, by impacting our local youth. Since 2019 we've been involved in over 25 events to directly impact the members of our county.

**Please provide specific examples of how your team members act as role models within the *FIRST* community with emphasis on the past 3 years.**

Our team has volunteered at community FIRST events, such as the Carolina Isobots and STEM West tournament, and have been ambassadors for FIRST at competition events. We strive to make ourselves available at competitions to showcase 'Gracious Professionalism and Cooperation' through helping teams in need with a passion to inspire. We continually try to be a positive example to other teams and persevere through tough challenges while exhibiting our commitment to the education of our community.

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

We're bringing FIRST to our community through a variety of grants as well as using our members to mentor teams around us. We have brought FLL Discover to the Rutherford County Schools Pre-K-1st grade classrooms. In addition, we have applied for a grant to bring FLL Explore to the district's 2nd-3rd grade classrooms so that we can continue to bring new STEM activities to the youth all over our county. Once this is implemented we will have FIRST experiences available to Pre-K-12th grades.

**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?**

Three years ago, we were visiting schools as much as possible to participate in demonstrations and other events. These visits began increasing the interest for students in STEM, but we weren't building lasting relationships with the kids. Through STEAMrollin', we've adopted our first partner, the Grahamtown Community; we have hosted camps and STEM Days within this community and volunteered at their events to show the kids just how cool STEM can be and what opportunities it can create.

**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 Omegabytes have many different partnerships throughout our community. Two of our most significant business partnerships include Meta and WestRock. With Meta we have worked closely to increase exposure and launch STEAMrollin'. On the design and fabrication side of the team, our intimate partnership with WestRock has allowed us to refine the outcomes and effectiveness of our robots. We've aligned ourselves with local non-profit organizations to increase our outreach efforts.

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

The Omegabytes have focused on developing an inclusive culture by working together and bringing in mentors and students diverse in career, ethnicity, and gender. The team has spent the last three years developing and implementing STEAMrollin' throughout Rutherford County. This program was created with the purpose of connecting lower income youth with opportunities in STEAM. Regardless of background, we are inspiring them to see beyond their own perceived obstacles.

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

The Omegabytes' legacy will continue through the relationships we have cultivated. Our seniors and mentors are role models that inspire teammates to continue strong. Our mentors are employees of local businesses as well as past students. The connections we have with mentors allow us to partner with local businesses such as Meta, Trelleborg, WestRock, Fountain Electric, and many more. This positive influence allows us to be successful not only in high school, but in our future careers.

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

In the past three years, we have retained and grown our repertoire of sponsors. This creates a symbiotic relationship where the sponsors are able to engage with our team's talent pipeline, through which our members can seek local job opportunities. Our STEAMrollin' outreach events demonstrate our impact on the community, garnering their continued support and binding them in a unique way.

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

Omegabytes is striving to improve our project management and leadership structure to sustain the rapid growth within the organization. We are actively working on planning and scheduling our fabrication activities to increase confidence and competitiveness within the team. This gives us the ability to see our team's critical tasks and focus on timeliness and quality in our workmanship. Our team is further developing these skills by increasing leadership training for team captains and veterans.

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

We want the community to know that we are here to make a difference, not to check a box. The program is here to develop and encourage each individual within our team, Rutherford County, and beyond. By improving relationships with businesses in the county, we have increased the diversity of real-world skills. Omegabytes teaches real life career skills in STEAM and beyond, opening up endless possibilities for our community.

**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.**

This team is more than just an opportunity to learn more about robotics, STEAM, or future careers; it's also about new opportunities. For example, one participating student had the chance to experience the big city and Chick-fil-a for the first

time while attending a competition. Omegabytes is an outlet for many kids and more than just a fun activity. Team members gain authentic real-world experiences through connections with mentors from the business world, community events, and competition.

## Essay

From a small, converted kitchen in 2015, with 7 students and 2 mentors, a movement was born: Omegabytes FRC team 5727. Within a room of only 320 sq. ft., still cluttered with old commercial kitchen equipment, and with the kit of parts in hand, we thought this was all we needed to be a successful team. Our Outreach was nothing extraordinary, just demonstrations at schools and assisting with FIRST events. However, that old kitchen held something more; it housed the spark of what could be and the capacity of a few determined individuals to see beyond the limits of those walls. From our first smoke-spewing robot in 2015 to the one that won a THOR championship in 2021, our robots, and our team, have evolved. We've learned that there is always an opportunity to create your own change.

As could be inferred from our initial robotics experience noted above, we lacked the skills and experience to truly progress in the world of robotics. Since the 2019 season, we've placed additional emphasis on changing the culture of our program. We approached this change by utilizing the unique talents of our members. Thanks to our new structure in adding the Operations sub-team, we have now honed the individualized strengths of our members. When everyone has a definitive role, the system, as well as the members, works much more efficiently.

Similarly to how we outgrew the kitchen, our old workspace, we grew in student participation and diversity. As our numbers continue to multiply, we aim to create a comfortable environment for everyone. We've found diversity to be our catalyst for hope. It's something that allows people from all walks of life to design bolder and more extravagant ideas. We are a very diverse team consisting of over 50% female members, just under 50% people of color, and several LGBTQ+ members. This has enabled our team to rise from our novice state to our true dynamic; members talk about how their confidence has grown and how they feel more inclined to take action in and outside our team culture. Such facts illustrate how our team has grown into a family over the last 3 years.

This year, we have a grant goal of \$100,000 and an overall budget of \$249,000, in 2019 our overall budget was a total of \$20,000. Around 50% of this budget is being dedicated to the support and efforts of STEAMrollin' and the mobility of the team. Our budget permits us the freedom to push past financial barriers and carry out more ambitious plans. We have implemented FLL Discover, a kindergarten program, into all 10 elementary Rutherford County Schools. We've been nominated by FIRST North Carolina President Marie Hopper for the 2022 FIRST STEM Equity Community Innovation Grant, a prestigious grant where FIRST looks to field representatives to recommend new locations that need funding and has support in place to ensure program sustainability. With the support of our district's principals, we've applied for almost \$50,000, the maximum possible grant award, to make FLL Explore, a STEM educational resource, available to all second graders across our county's district schools. Since 2016, FIRST has awarded only 68 of these grants. These accomplishments are what give us the power of opportunity to reach communities in a unique way that otherwise would have been much harder to achieve.

The Omegabytes hail from Rutherford County, NC, which is among the most economically distressed counties in our state, as identified by the NC Dept. of Commerce. Over 34% of youth in our county live below the poverty line. Despite socio-economic challenges, the 7,652 students in our 19 schools benefit from the Rutherford County Schools' emphasis on STEAM education. This includes a 1:1 initiative that began in 2010, RCS has grown, and can now provide take-home devices for every student. To contribute to closing the equity gap in STEAM education, the Omegabytes focus on routine exposure of our community's youth to STEAM-related activities including, but going far beyond, team competition. We recognize STEAM proficiency is crucial to learning, working, and living in today's world. Providing opportunities that are unbiased and welcoming, our team empowers the 39.7% minority population of our school system. Our impact aids in eradicating the cycle of poverty especially for young kids, changing their perspective on life for the better. To make a lasting change in our communities, we need to adapt, connect, transform, and diversify. Focusing on the exposure of youth to FIRST and STEAM supplements the gap of education escalated by COVID. When COVID shut us down for most of 2020, we emerged with another shift in emphasis. It was at an outreach event that a kid asked "are you coming back?" that we wanted to answer with an enthusiastic yes. With this, STEAMrollin' was born. We're not just building robots but we're building lives; our STEAMrollin' outreach project serves as the vehicle for change. With activities that explore science, technology, engineering, art, math, and innovation, STEAMrollin' takes those activities to K-12 youth in their neighborhoods and helps them see the world through a fun and engaging lens. Our association with students as young as 3 years old matters, after all, the more support there is, the more secure future developments become. We are not just checking a box, but making a difference in people's lives. We're establishing a community that doesn't just leave behind footprints but stands beside them.

In 2020, we partnered with the Grahamtown Team, a non-profit organization that benefits an impoverished neighborhood in our community. Given how they provide different programs and services that support the development and healthy living in the community, we are able to amplify their efforts with our Outreach. Through STEAMrollin' we inspire the next generation to live life with passion, perseverance, and persistence by investing in kids' futures. To continue our commitments to our community, we are persistent in our presence within their community. STEAMrollin', our STEAM lab on wheels, engages students from all backgrounds while reaching out to educators and professionals to ignite hope inside local communities. We have been successful with creating and developing a culture that's inclusive to the community.

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By building a pipeline of local talent and shining a light on all the untapped potential our communities hold, we are improving the future of our community. An integral component of our team that gives us the ability to follow through with our aspirations is our partnership with businesses and mentors that are engaged in STEAM-related careers. Now twenty mentors strong, our connection with them provides us with an undeniable chance to expand our knowledge. Whether it be professional development or unique perspectives that lead to new conclusions, mentors are a key to a forward-looking path. Aiding in our growth as a team at experienced and personal levels, they also connect with us in ways that have tremendous impacts on the community and increase the capacity that we operate. Sponsors like Meta, Rutherford County Schools, Trelleborg, and more also significantly impacted our influence. They not only provide funds but also contribute materials and publicity. For example, Touchstone makes our game pieces, WestRock can fabricate anything we design, and Meta provides publicity as well as donations. Everyone who invests in us magnifies our ability to improve our community. Instead of using educational programs like Tinkercad and Swift, we switched to using applications leading businesses and industries use such as SolidWorks/OnShape and Java. Their work with us inspires pronounced levels of respect and honor for science and technology.

The sustainability plan of our team comes with proper exposure. This is precisely why we are so set on meeting lofty goals on expansion and outreach. Recently, our team was given the opportunity to present at the county school board meeting. In the 30 minutes that we were provided, we left a powerful impression on everyone attending. We spoke of how we're overcoming barriers, both personal and team-related, despite the odds being stacked against us. As expressed by one of our captains, "As a first-generation Mexican-American growing up without a lot of money, did I really even have a chance at being successful? However, joining this robotics team has completely changed my perspective on life. I realized the numbers and statistics were not the determining factors for success." This new outlook on life has allowed him to be accepted into programs and schools that were once just a dream. Triumphs like our captain's are what inspires our team to continue to provide a distinctly consistent environment of stability, even through a global pandemic. Sustainability is largely achieved through passing down our legacy to transform our successors to new heights, rather than just living in the moment and acting imprudently. In keeping with this spirit of longevity, we are able to progress even further not only individually, but as a team.

In 2015, the Omegabytes was founded, and since the inception of our team, we have evolved. Growing the team over the past few years, we have learned that's what it takes to create a stronger, more impactful team. With a wonderful group of students, mentors, and organizations supporting us and our aspirations, we've not only survived the global Covid-19 pandemic but also thrived. We chose to do the work and learn. STEAMrollin' program's impact has broadened drastically and we have only begun to tap into our potential. We're not just working for the future, but also for the here and now. Spreading a sense of belonging and security to other people, gaining trust, and showing endearment to those who need it the most; we are a family that everyone can find themselves a part of.