Every team has a story, a path that allowed them to get to where they are now. Some design successful robots, while others develop outreach programs that revolutionize FIRST in their community. Few are able to do both with balance and efficiency. Sustaining such a program takes dedication, teamwork, and most of all inspiration. Inspiration is unique in that it can mean different things to different people, leading to discovery and innovation. It starts small, perhaps with a single person, but can take them on a journey that reaches people all over the world. MARS started with the inspiration of a few, and has become a success story in West Virginia and around the world.

Our team was founded in 2008, and within a year, we had established ourselves both on the field and in our community. We created the first chapter in our history, The MARS Plan, which would one day inspire more people than we could ever imagine.

The MARS Plan is comprised of four key concepts: Community, Barriers, Partnerships, and Sustainability. These concepts form the basis of all our outreach activities. To begin, we find a rural or disadvantaged community which would benefit from STEM programs. Then we assess the barriers we will face and how to overcome them. Next, we develop partnerships within the community to ensure that the outreach receives proper funding and support, and finally we identify strategies to make it sustainable for years to come.

Initially, The MARS Plan was designed with the mission to spread FIRST and STEM throughout our state. In 2008, there were only 17 FLL teams in 4 of 55 WV counties, and 1 statewide event. Now there are over 100 FLL teams in 25 WV counties participating in 7 events, demonstrating that The MARS Plan *does* work. We provide bi-weekly mentoring sessions to teams during the FLL build season, support 3 qualifier events and host our own qualifier and scrimmage. We also help our partners at NASA run the State Tournament. With the help of The MARS Plan, 4-H, and NASA we have been able to start, mentor or support 8 Jr. FLL, over 100 FLL, 6 FTC, and 5 FRC teams in WV and surrounding areas.

In the next step of our journey, we are focusing on building an FTC presence in the state to give FLL students the opportunity to continue in FIRST. We are currently working with NASA to establish an FTC/FRC team in every county.

Encouraged by success in our home state, we decided to expand our story by focusing on how we could use The MARS Plan to help rural communities around the world. During the 2014 season, our team member Pragya was inspired by her experience in MARS to start a program in her family’s home country, India. We spent the following year developing a plan to bring FIRST to the rural community of Jakhal. Last summer, she generated interest in robotics through presentations at 10 different schools in the region. Last fall, Ben, one of our alumni, started a gap year from Princeton University, in Varanasi, India where he is working at a fee free school for underprivileged children. We provided him with an FLL kit so he could start FLL teams at the school. We are currently working on a syllabus and lesson plans to be used by Ben’s successors and later Pragya over the summer when she starts her gap year in India.

While we strive to inspire STEM on a global level, we do not lose focus of our local initiatives. We have been involved in hundreds of community events and we continue to seek out more each year, including read aloud programs at the public library and children’s science museum, 4-H classes, and parades. We have hosted STEM camps at our practice facility where our team members served as mentors to middle school children.We have also regularly participated in a career day that is attended by all middle schools in our county. We have been asked to attend science fairs at local elementary schools to do robot demonstrations and inspire the children to study math and science so that one day they might create their own robots. We held a SUGO bot class for girls in the Expanding Your Horizons program, a day long workshop that provides STEM activities for elementary and middle school girls. We participate in the October Sky festival which celebrates The Rocket Boys, and the State Fair where we distribute FIRST brochures and provide information on how to start teams with our help. Our robots have taken part in ribbon cutting ceremonies and have been the focus of local newspaper articles and a 15 minute long PBS documentary. As a fundraiser, we attend the local farmers’ markets and sell FIRST LED Light Bulbs, which gives us another opportunity to spread the word about FIRST. Finally, to help promote FIRST to government officials, 3 of our team members attended Team Rush’s National Advocacy Conference. We met with West Virginia Senators Manchin and Capito, and U.S. Representative McKinley. At the Teaming to Win conference, we spoke with Rep. McKinley again to promote FIRST programs in the state.

Our partners are what allows our story to flourish. They make all that we accomplish possible. However, this is not a one way street. They support us and we strive to support them in many ways. One of our closest partners is 4-H. They are a major resource for enabling us to spread FIRST. By involving them in FIRST, we not only help them to expand their program, but we also help them to meet their STEM mandates. Our partnership with the Monongalia County Board of Education (BOE) helps us spread FIRST, and in return our impact has encouraged students to do better in math, science and reading. The BOE has supplied us with a building where we host STEM Camps and have built practice fields to be used by FTC and FRC teams. They provide us with a space to hold biweekly FLL mentoring sessions. Funding from the United Way helps provide access to our programs for students from every economic stratum. Another of our major partners, NASA, helps us by funding Jr. FLL, FLL, FTC, VEX, and FRC teams, sponsoring our FRC team, allowing us to use their 3D printers, and providing internship opportunities; last year 6 out of the 20 open slots were filled by MARS students. In addition, NASA contracts us to build LEGO models of their MMS and GPM satellites. We sell these as a fundraiser for the team. We received a grant and were contracted by NASA to hire teachers to write the curriculum for the MMS and GPM models. With NASA, this past year we assisted the second smallest school in WV in securing grant funding to build a full size MMS satellite model and assisted them in constructing parts. The entire project team from that school will attend the MMS launch this March in Florida. We also work with NASA to train referees and judges for the state JrFLL/FLL qualifiers and the state tournament. We serve as referees, judges and volunteers for each of these events.

Our partnership with West Virginia University has proved to be a phenomenal opportunity for both organizations. Their funding enables many of our annual outreach events and they provide us with 3 workshop spaces. This year we hosted the first ever 24-hour FRC offseason endurance event, which was also the first FRC event in WV. WVU provided full support for this event including funding, an on-site college fair, and 4 full tuition scholarships. There have been so many great things we have been able to achieve through our strategic partners and they have helped us to further the appreciation for STEM not only in our state, but in our surrounding states and even throughout the world.

What started as a small robotics team with an idea has grown to become an international program with a mission. It is a mission to create a world that embodies the ideals of FIRST, where entire communities are graciously professional and competing industries work together to beat each other at their best. A community where inspiration and individualism far outweighs the simplicity of conformity. It isn’t hard to see that FIRST and MARS aren’t just about the robots. It’s about building a better generation with both the knowledge and the values to create a successful world. We understand that this generation will not create itself and that we must work together to ensure that it will not flicker and fade. At the end of the day, we realize that though we may grow in number and the very words that inspired us few may grow to inspire millions. At the heart of all, that our mission is still the same: to enable people to discover, create, and inspire their own stories.