2019-2020 Motorola STEM Solutions for Florida's Future		
Foundation Name	**Project Title**	**Project Abstract**
Brevard Schools Foundation	Marine Science Research with Underwater Robotics	Under the guidance of retired Navy and aerospace volunteers, Marine Science students at Palm Bay Magnet High School will use Sea Perch kits from the US Office of Naval Research to build underwater robots. Working with information from the Marine Resources Council, students will innovate using Design Thinking to imagine how robotics can help with environmental issues including our local Indian River Lagoon. Coupled with research about careers that use Marine Science and technology, students will present their findings in a culminating celebration of learning.
Broward Education Foundation	South Broward High School Urban Search and Rescue Robotics	This project will provide equipment, software and professional development for high school students and teachers to support STEM initiatives through computer-aided design, computer programming and robotics. Students will use computer-aided design software to design components for the robots, using the additive manufacturing process (3D printing and laser cutting) to produce the components of the robot, assemble the robot by mounting the motors, and sensors, and finally, program the robotic brain. Students will test their designs in a controlled in environment (classroom urban search and rescue course).
Columbia County Public Schools Foundation	Preparing Students for the 21st Century Workplace	With the support of Lake City Medical Center, students will participate in hands-on activities in the STEM arena that support the growing need for high-quality engineers, scientists and information technology technicians in Florida's workforce. Through classroom visits by STEM professionals, students will have the opportunity to learn about STEM based careers, gain industry certification, vocational skills, become proficient at coding, become good digital citizens, and build and program robots.
Flagler County Education Foundation	FPC Bulldogs Robotics to F.I.R.S.T	This grant will allow for the formation of two separate competition teams, a FIRST Robotics Team focusing on the FIRST Tech Challenge, and a FIRST Robotics Competition Team, which will build a robotic that serves the purpose/focus of the year. Our students will learn, build, test and prepare both their robot and team for competition against other middle and high school teams from across the state of Florida/South Georgia. These competitions allow for our students to work in teams to solve the very real problems that they are presented with and use the problem-solving and academic skills learned in the classrooms to construct their robotics project in order to address the specific challenge offered by the FIRST Competition.
Public Education Foundation of Marion County	Silver Springs Science Center	This project's goal is to make science real for students by utilize our county's existing facility at Silver Springs Park to establish a science lab so that any teacher in the county can take their class there to do science experiments, for example, measuring nitrate concentrations in water or pH of soil and how that impacts the springs. This facility provides transportation and entry into the park for all county schools therefore having the chemicals and equipment there would allow it to be utilized to enhance the science experience for all our county's 22,500 students.

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Education Foundation of Martin County	MAPS Team Robots in Action	This project seeks to increase student skills and interest in STEM careers and fields. Students will design, build, and program prototype robots that will be based on public safety issues, designing a small robot to act as a prototype that could be used to support public safety, for example students could design a prototype search and rescue robot.
Okaloosa Public Schools Foundation	Maker Space for Building and Engineering Foundations	This project will create a makerspace at a low-income school, allowing students to utilize science technology and materials to help them develop a love for Science and Engineering. This portable "STEMM Station" will be used to house large items like digital thermometers, handheld microscopes that connect to current Google Chromebooks, large digital microscope to project overhead in whole group, Lego Sets that support curriculum and extend learning of concepts, jump mats to incorporate hands on learning and measurement and 3D printer.
Education Foundation of Palm Beach County	Farmbot to Table: Using Robots to Feed Families	This project will teach students how to become self sustainable through project-based learning as they grow their own produce. Students will use traditional and STEM based techniques to plan, design, build and maintain outdoor gardens and indoor hydroponic gardens. In order to increase production in outdoor garden, a Farmbot will be used to pick up and plant seeds and waters plants based on their needs. This Farmbot will be built and programmed by students in the Engineering Academy then tested and used to sustain the crops in partnership with the students enrolled in the Agritechonogy Program.
Investing in Kids!	ACE Mentor Program	The construction industry is experiencing a significant shortage in its work force including both professional and skilled trades people. Our objective is to reach as many interested students as possible to introduce them to careers in the design, engineering and construction industry with the desire that they pursue careers after high school either via college or through skilled training and/or apprenticeships. The desire is that these students find passion for the industry and gain fulfilling, well-paying careers in architecture, constructino and engineearing (ACE) fields.
Future Foundation for Volusia County Schools	Can we clean microplastics out of the water and the world?	Clean water is a growing problem especially related to microplastics which are extremely small particles accumulating in our waters and seem to attract toxins. Students will learn to detect microplastics using special filters and then develop a method to remove the microplastics from the estuaries, rivers and lakes. Students will consider the environmental, social and economic impacts of decisions, demonstrate creativity and innovation and work productively in teams.