

# 2019 | ANNUAL 2020 | REPORT

Robotics Education Competition Foundation

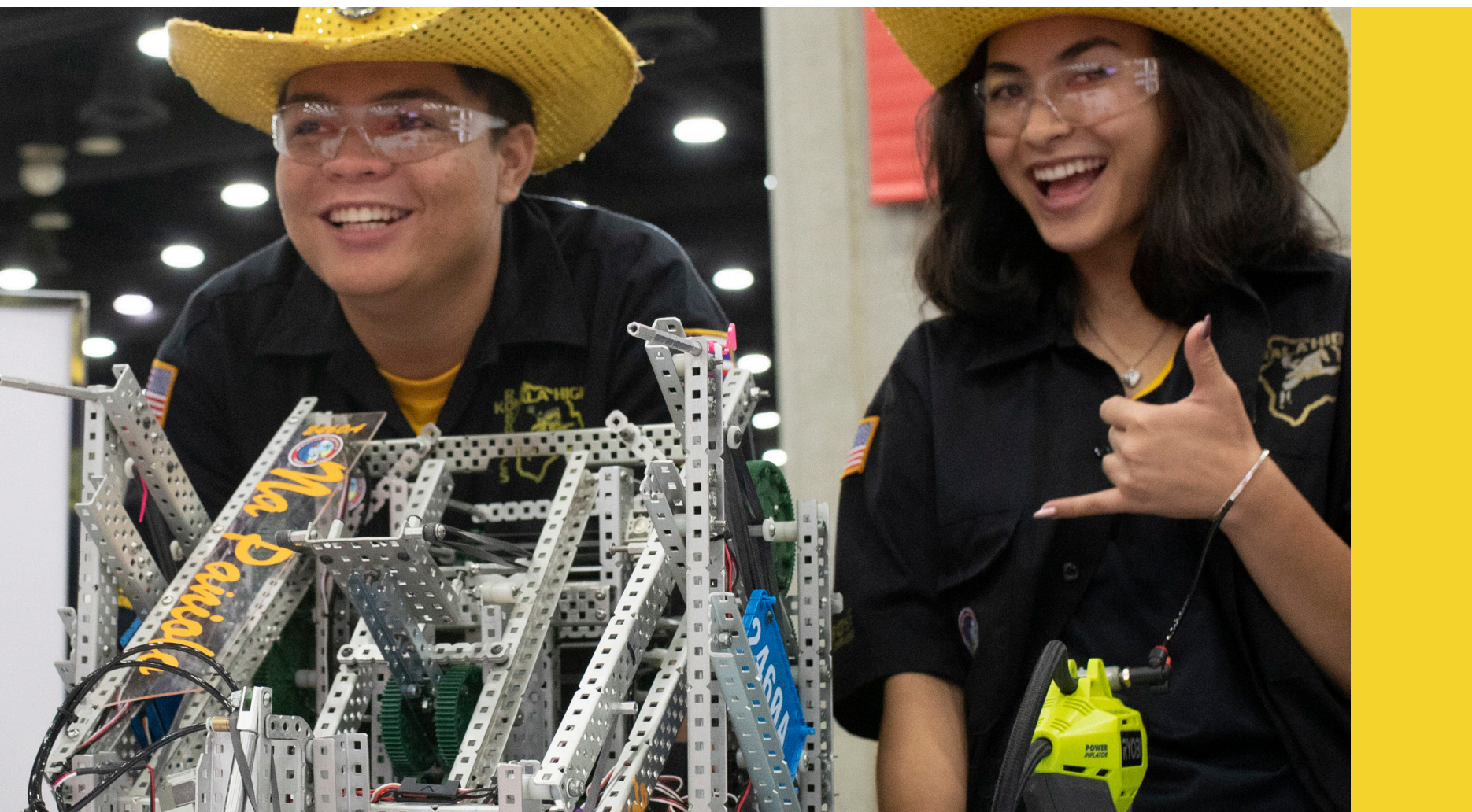
REC Foundation believes the health and safety of our students and communities will always come first. We are using our response to the pandemic to model resilience for those we serve: hundreds of thousands of student competitors from 70 countries across the globe.

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[roboticseducation.org](http://roboticseducation.org)  
[robotevents.com](http://robotevents.com)

## INTRODUCTION

On behalf of the Robotics Education and Competition Foundation, I am grateful to our growing community of teams, coaches, volunteers, mentors and sponsors for your encouragement and support of our mission and vision. The 2019 - 2020 season was our most successful with over 26,000 teams competing in over 2,800 events in 70 countries. Like much of the rest of the world, our season was impacted by the global COVID-19 outbreak. The REC Foundation believes the health and safety of our students and communities will always come first. We are using our response to the pandemic to model resilience for those we serve: hundreds of thousands of student competitors from 70 countries across the globe.



## FROM THE CEO

Although the COVID-19 outbreak prevented us from celebrating and competing in person at our annual VEX Robotics World Championship presented by Northrop Grumman Foundation, we remained committed to recognizing the incredible talent and hard work of our community. On April 25, we hosted the VEX Robotics Virtual World Celebration and the first-ever Fantasy Robotics Tournament to honor our large global community of students, coaches and volunteers.

More than 2,300 teams from around the world virtually competed in the simulated Fantasy Robotics Tournament for the VEX Robotics Competition Tower Takeover and VEX IQ Challenge Squared Away seasons. Throughout the Virtual Celebration, teams watched the matches to see who would be unveiled as the world champions, while also celebrating the season's highlights, Online Challenges winners, Inspiration All Star winners, and the 2020-21 games.

The COVID-19 outbreak has magnified the critical need for robotics and STEM education. I strongly believe that our tenacious community of innovators will come out of this crisis stronger than ever. The pandemic has revealed that now more than ever, the world needs critical thinkers, problem solvers and innovators like our diverse community of one million students around the globe.

We see this moment in history as an opportunity to be on the forefront of propelling robotics. With our diverse set of programs, the REC Foundation helps enhance STEM education and workforce talent. It's important to us to continue creating innovative and affordable programs so that all students and teachers have access to robotics either in-person or remotely.

Thank you for your continued commitment and support of our mission and vision, and we look forward to the 2020-21 season.

**DAN MANTZ**  
CEO & Chairman of the Board

## OVERVIEW

There were a total of **26,494 teams**, which represented a **11% growth** from the previous year. **13,978 VEX IQ Challenge (VIQC) teams** registered in the 2019-2020 season, which was a **21% growth** from the previous year. **VEX Robotics Competition (VRC) team growth** only represented a **1% growth with over 12,300 registered teams**. Over **2,800 events** happened in the United States and internationally, an increase from the previous year by over **450 competitions**.



23%

accounted for the STEM workforce total in the U.S. in 2019

Source: <https://www.luc.edu/irj/stories/creatingpathwaystostemcareersforblackandlatinxstudents/>



65%

of today's students will grow up having careers that do not exist yet, According to the Department of Labor

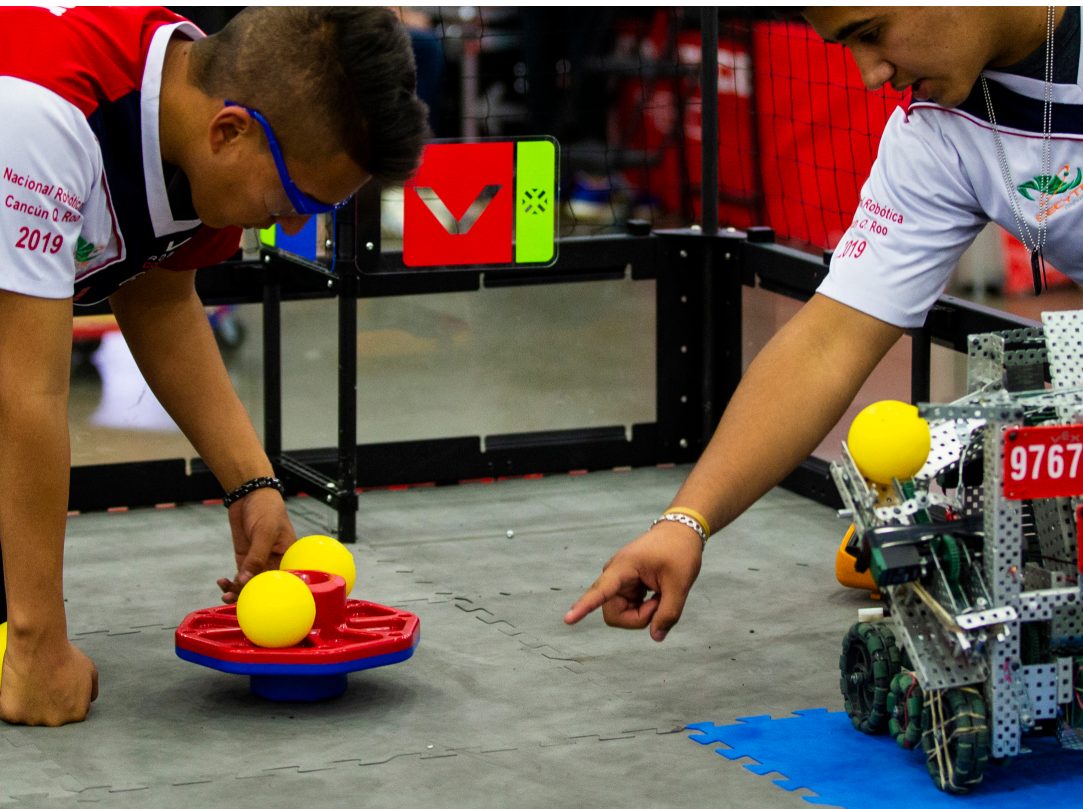
Source: [https://gems.education.purdue.edu/wp-content/uploads/2019/02/STEM\\_in\\_Schools\\_v1-2.pdf](https://gems.education.purdue.edu/wp-content/uploads/2019/02/STEM_in_Schools_v1-2.pdf)



80%

Students said their STEM career knowledge increased because of their afterschool experience

\*Source: STEM Ready America: Inspiring and Preparing Students for Success with Afterschool and Summer Learning. Retrieved from <http://stemreadyamerica.org/multi-state-evaluation-finds-evidence-that-investment-in-afterschool-stem-works/>



*"Workers will need to have the appropriate skills enabling them to thrive in the workplace of the future and the ability to continue to retrain throughout their lives."*

- World Economic Forum Report

Source: [iste.org/explore/iste-blog/preparing-students-for-jobs-that-dont-exist](https://iste.org/explore/iste-blog/preparing-students-for-jobs-that-dont-exist)

## PROGRAMS

The REC Foundation continues to work with partners and bring our students the most innovative, rigorous and fun STEM experiences. This year we added four new programs to expand our reach earlier in elementary school, diversify our hands-on STEM experiences, and to increase the rigor in secondary and collegiate programs.

### Factory Automation Competition (FAC) Program

The Factory Automation Competition (FAC) Program is a classroom-based competition that provides students with the essential and desirable skills needed for today's advanced manufacturing careers. Students progress from high school to the workforce and beyond by engaging in hands-on curriculum using a simulated manufacturing workcell with five-axis robots.

### Workforce Development

The REC Foundation aims to improve Workforce Development Education and interest by: Providing a clear path for students to prepare for advanced manufacturing careers and closing manufacturing skills gaps for many employers.

### VEX GO

The REC Foundation launched the VEX GO Challenge for its pilot year in 2020-21.! This classroom challenge uses the VEX GO product, tailored for grades 3-4. The VEX GO Challenge exposes young students to computer science (CS) and science, technology, engineering and math (STEM) concepts through hands-on fun!

### VEX AI Competition

The VEX AI Competition for high school and university-level students pushes the boundaries of robotics competitions. Separate from VEX Robotics Competition and VEX U competitions, the VEX AI Competition Pilot Program opened for registration for university-level students in Fall 2020.

### Diversity and Inclusion

The REC Foundation continued to focus on overcoming barriers to entry for our programs. Highlights include Girl Powered, Deaf and Hard of Hearing, and Native American initiatives.

### Girl Powered

Across U.S. and around the world, Girl Powered is part of a vibrant and growing community now encompassing over 150 Girl Powered workshops to coincide with the International Day of the Girl. Many of our partners such as Google hosted a Girl Powered Event at their Sunnyvale, CA campus in support of the REC Foundation and VEX Robotics Girl Powered Initiative to increase female participation in robotics and STEM.

### Deaf and Hard of Hearing

- \$50,000 in funding from Northrop Grumman Foundation to help expand this initiative.
- Texas Workforce Commission Grant to expand to Texas with partnership with Austin School for the Deaf

### Native American Initiatives

Another Diversity and Inclusion effort underway for the REC Foundation is our Native American Initiative. Through a partnership with Apache Behavioral Health Services, we identified schools on Native American Reservations that were interested in starting up robotics programs. Building Hope [video](#) highlights how robotics can change the lives of students.

*"Nearly two-thirds (65%) of teachers surveyed say they use digital learning told to teach every day, and 57% of students say they use them to learn every day."*

Source: [newshools.org/wp-content/uploads/2019/09/gallup-ed-tech-use-in-schools-2.pdf](https://newshools.org/wp-content/uploads/2019/09/gallup-ed-tech-use-in-schools-2.pdf)

*Parents reporting that their child takes part in a STEM activity at least once a week increased from 77 percent in 2014 to 82 percent in 2020.*

Source: <http://afterschoolalliance.org/documents/AA3PM/AA3PM-STEM-Report-2021.pdf>

## FINANCIAL HIGHLIGHTS

Revenue and Support:	Total	Program Services	General Operating Expenses	Fundraising
Contributions and Grants	\$6,927,797.00	\$6,927,797.00		
Event Income	\$3,420,387.00	\$3,420,387.00		
<b>Total Revenue and Support</b>	<b>\$10,348,184.00</b>	<b>\$10,348,184.00</b>		

Expenses:	Total	Program Services	General Operating Expenses	Fundraising
Compensation and Benefits	\$3,903,955.00	\$2,732,769.00	\$814,946.00	\$356,240.00
Advertising and Promotion	\$188,572.00			\$188,572.00
Office Expense	\$13,414.00	\$11,938.00	\$1,476.00	
Occupancy	\$190,338.00	\$169,401.00	\$20,937.00	
Travel	\$347,734.00	\$347,734.00		
Depreciation	\$11,670.00	\$11,670.00		
Insurance	\$6,482.00	\$5,769.00	\$713.00	
Event Expenses	\$3,425,166.00	\$3,425,166.00	\$138,206.00	
Other Expenses	\$1,256,423.00	\$1,118,217.00		
<b>Total Expenses</b>	<b>\$9,343,754.00</b>	<b>\$7,822,664.00</b>	<b>\$976,278.00</b>	<b>\$544,812.00</b>
<b>Total</b>	<b>\$1,004,430.00</b>			

## OUR SPONSORS

The Robotics Education & Competition Foundation is grateful for the generous support of our sponsors who partner year-round to provide team grants, and support local tournaments, state championships, and the VEX Robotics World Championship. We value their commitment to advancing student interest and engagement in STEM.

- Autodesk
- Cheniere
- Dell
- Google
- Hexbug
- Innovation First International
- MathWorks
- Microchip
- NASA
- Nissan
- Nordson
- Northrop Grumman Foundation
- Palmetto Partners
- Rack Solutions
- Robomatter
- RobotMesh
- Tennessee Valley Robotics
- Tesla
- Texas Instruments
- Toyota
- TVA
- UPS
- VEX Robotics





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