

Southern West Virginia Robotics Club





# NASA's IV&V Program Educator Resource Center



- Professional Development
- Equipment Loans
- Student Workshops
- Outreach
- STEM Competitions



# WV Robotics Alliance Mission Statement

*The WV Robotics Alliance is dedicated to **promoting STEM career pathways** through robotics competitions, internships, and scholarships for Pre K—16 students by recruiting, training, and mentoring teams, and building partnerships with post-secondary institutions with the goal of **increasing the percentage of WV students obtaining certifications and degrees which enable them to compete for STEM jobs.***

# West Virginia has 14 Competitions!

*(Black text are programs managed by the WV Robotics Alliance)*

**FLL Jr.**  
(ages 5-8)

**FLL**  
(ages 9-14)

**FTC**  
(middle-high school)

**FRC**  
(high school)

**VEX IQ**  
(elem-middle, ODTP, and TSA)

**VRC**  
(middle-high school and TSA)

**VEX U**  
(post secondary)

**Zero MS**  
(middle school summer academy)

**Zero Robotics**  
(high school)

**Urban Search and Rescue**  
Skills USA: (middle-high school)

**Mobile Robotics**  
Skills USA: (high school)

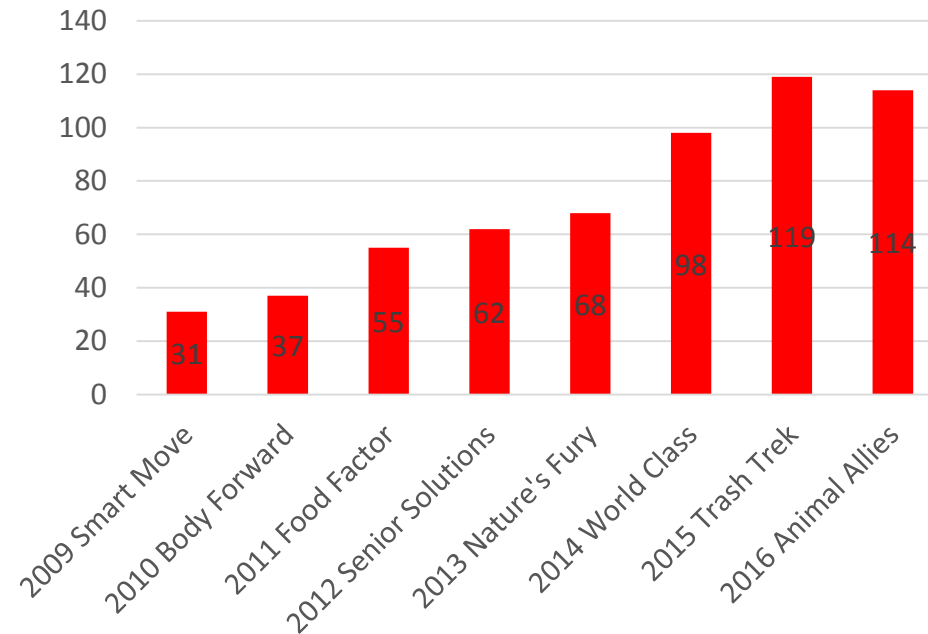
**World Robotics Olympiad**  
Summer Camp Initiative: (elementary - post secondary)



- A decade of support from WVSGC
- Ages 9-14
- Teams of 2-10 students + 2 or more adult mentors
- LEGO Mindstorms Robots
- Competitions in Fall

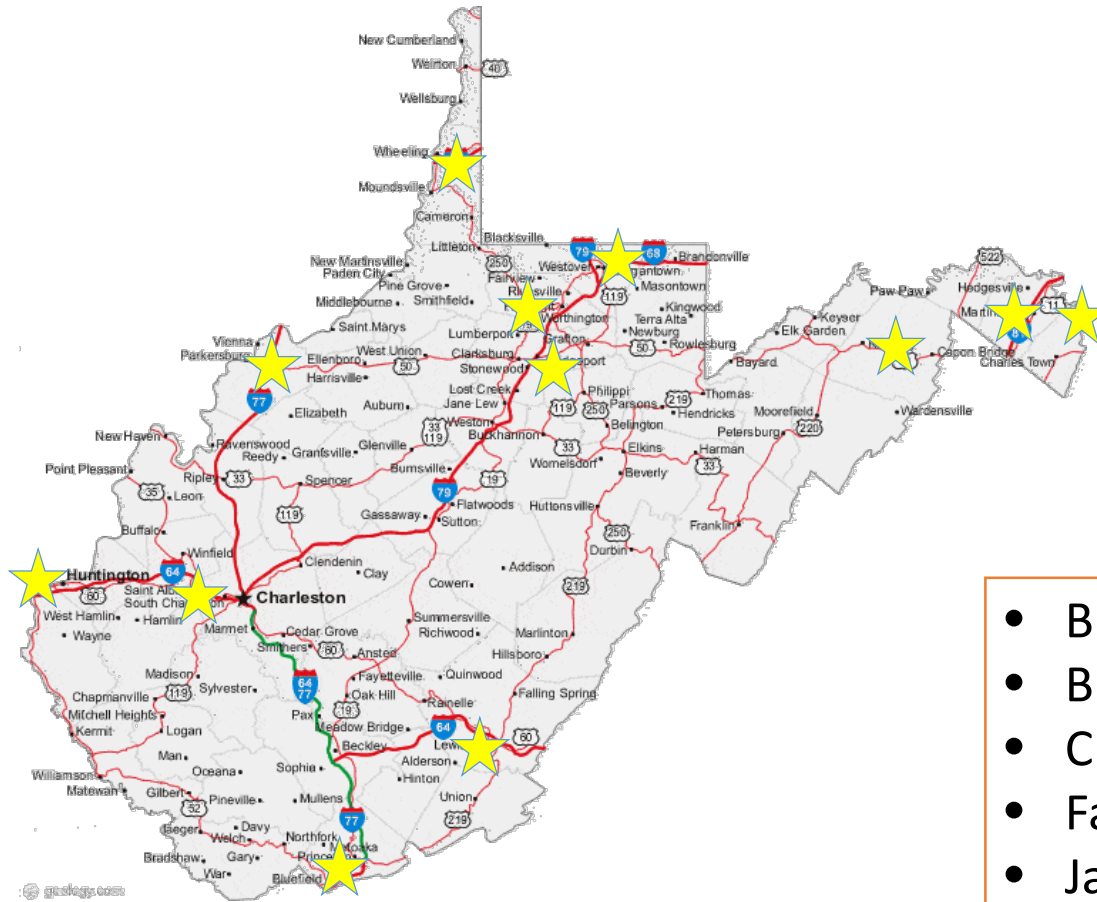


WV Team Registration



*Our largest program with the greatest number of partnering organizations across the state.*





**FIRST  
LEGO  
LEAGUE**

**FIRST  
LEGO  
LEAGUE JR.**

## 2017 Partners

### Increased number of smaller, more distributed events

- 12-16 team events to reduce logistics, overhead
- Partner collects registration and provides volunteer hospitality
- Increased autonomy with reduced dependency on NASA



- Bluefield State, *Bluefield*
- BridgeValley CTC, *S. Charleston*
- Challenger Learning Center, *Wheeling*
- Fairmont State University, *Fairmont*
- James Rumsey Tech. Institute, *Martinsburg*
- MARS / WVU, *Morgantown*
- RCBI, *Bridgeport*
- New River CTC, *Lewisburg*
- RCBI, *Huntington*
- Shepherd University, *Shepherdstown*
- WV School for the Deaf and Blind, *Romney*
- WVU-P, *Parkersburg*

# Summer Programs

*Supported and staffed by WVSGC CTC Interns*



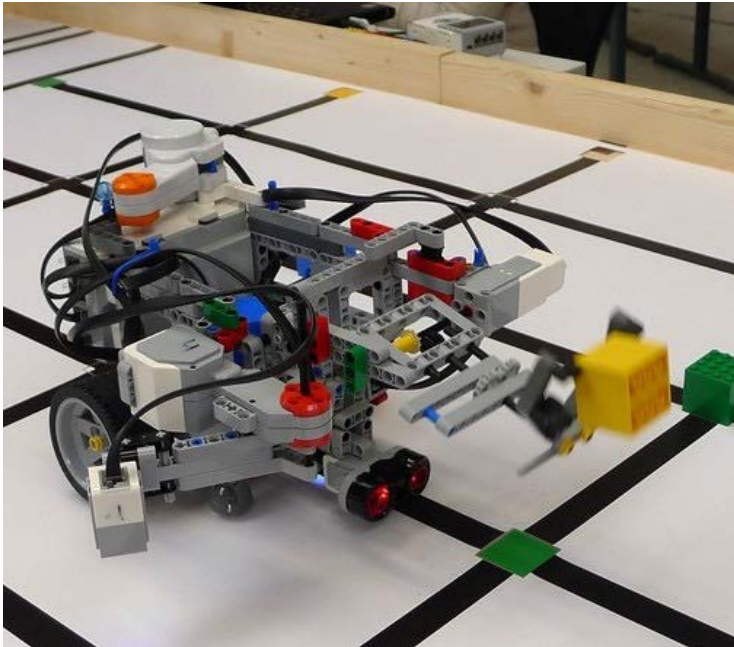
ZERO 

R  B  TICS





## 2017 Summer Camps



- NEW Competition for 2017!
- WRO will serve as our LEGO summer camp curriculum
- 5 weeks of camp with a tournament on Friday open to any WV teams
- 10 teams qualified for US Tournament in NC and likely International event in Costa Rica!

2017 Sponsors:



NASA West Virginia  
Space Grant Consortium  
WVSPACEGRANT.ORG



# ZERO ROBOTICS

## Middle School

- 3<sup>rd</sup> summer of the program
- Students program in virtual environment
- Scratch based coding
- SPHERES Robots on ISS used for competition
- WV middle school team WON in ISS finals.



ISS020E014882



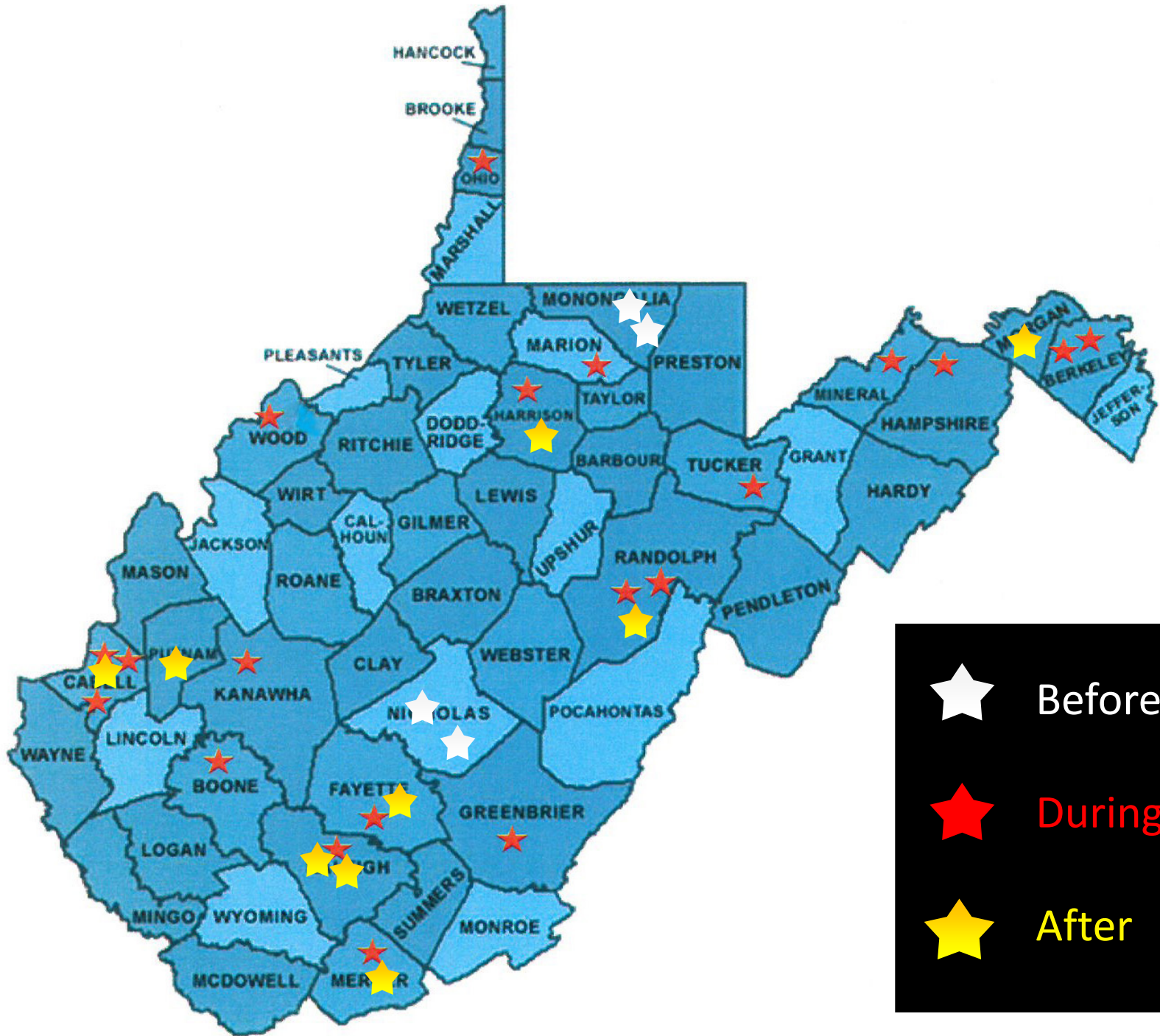


# West Virginia DEPARTMENT OF EDUCATION

Office of Diversion and Transition Programs



- Robotics as a diversion tool
- Before: Diversion Grants, Educational Robotics Project (FLL)
- During: STARS Program (VEX IQ)
- After: STARS Program (VEX IQ)





# WVDE Educational Robotics Project

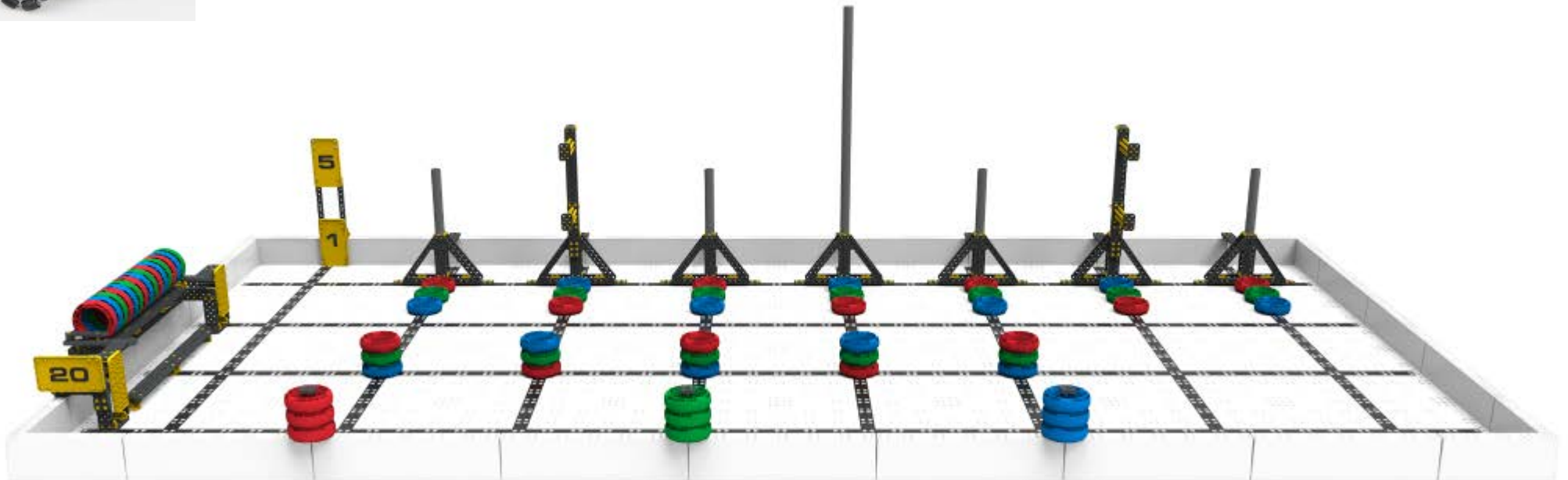
- During the school day project targeting students in:
  - Monongalia: Mountaineer Middle, Westwood
  - Nicholas: Summersville Elementary, Richwood Middle
- Complimentary support by WVDE ODTP:
  - 8th grade specialist in Mon. County
  - Technology Integration Specialist in Nicholas County.
- Leveraging our partnerships with WVDE, FIRST Robotics and the AmeriCorps VISTA program
- Research partner: West Virginia University



# VEX IQ CHALLENGE



- Elementary and Middle school platform
- Used in TSA and PLTW
- Tele-Op and Autonomous Competitions
- New teams as part of STARS Program.
- First WV Championship tournament 03/03/2018



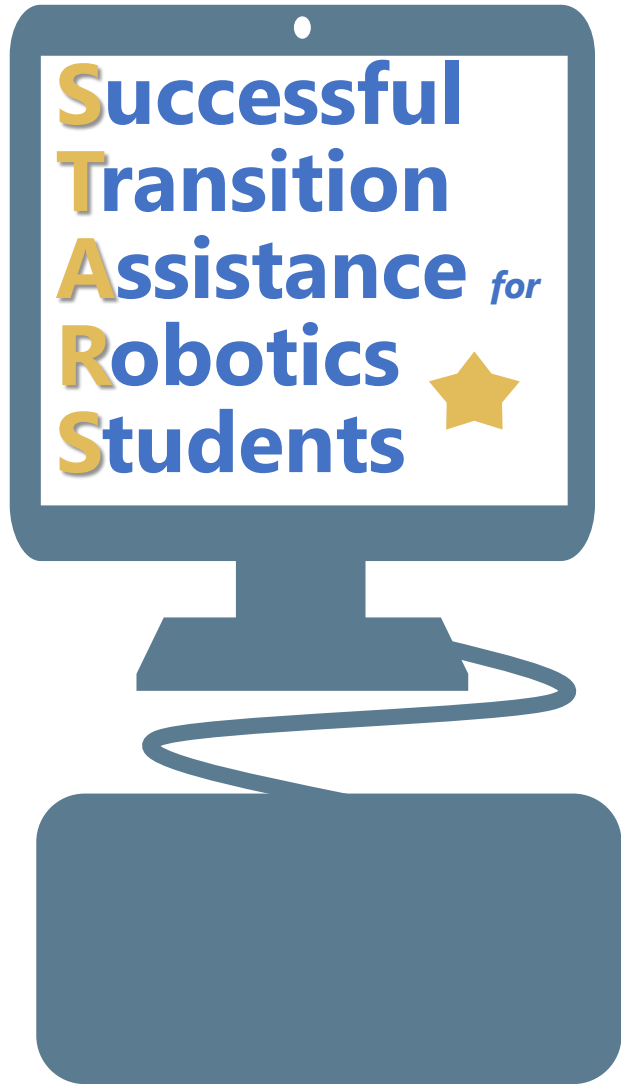
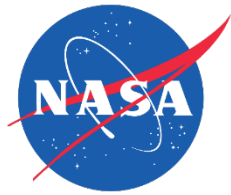
# ODTP's STARS

Successful Transition Assistance for Robotics Students



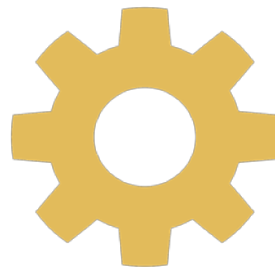
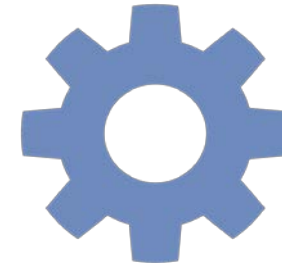
**Fall 2015 - Present:** In-school experiences provided annually for each facility

- **October 2016:** Start of STARS grant
- **Fall 2016:** Initial professional development for ODTP educators, second-year visits begin
- Annual competitions for students, Annual PD for teachers



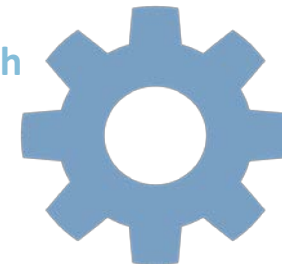
STARS is a unique partnership between the West Virginia Department of Education and the NASA IV&V Educator Resource Center (ERC) that provides opportunities in robotics education and competition for students who transition from the Office of Diversion and Transition Programs (ODTP) into WV public schools.

All ODTP students use VEX IQ robots in school. Eligible students are identified and recommended for STARS by ODTP teachers and transition specialists.



Once a student has been identified for STARS, the transition specialists acts as a liaison between the NASA IV&V ERC and the public school.

The robotics education specialist works with the public school to provide training, supplies, and regular support as they establish a robotics program.





# Future Plans and Goals for WV Robotics Alliance

- Biennial WV ROX FRC Tournament at WVU (Aug. 5-6, 2016)
- Biennial International FLL Tournament at FSU (July 7-9, 2017)
- Governor's Educational Robotics Program providing instruction and competition for all students in selected middle schools (in progress today!)
- REC Foundation District Grant for VEX in all Kanawha County Schools (grant submitted)
- VEX IQ Scrimmages and tournament
- Expanding Partnerships with Higher Education
- Academic Scholarships (FSU is first to institute)
- Increase High School Summer Internships (NASA IV&V,....)
- Increase College Internships (WV Space Grant, NASA IV&V)
- VEX Robotics recognized as a High School Sport
- Robotics programs in all 57 school districts (38/57)

[www.WVRoboticsAlliance.org](http://www.WVRoboticsAlliance.org)

[www.facebook.com/wvroboticsalliance](http://www.facebook.com/wvroboticsalliance)